

FLAT CREEK WATERSHED TMDL
FOR OXYGEN DEMAND

SUBSEGMENT 081504

SURVEYED JULY 18-20, 2000

Louisiana Department of Environmental Quality
Office of Environmental Assessment
Environmental Technology Division
Engineering Services Group 2

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EXECUTIVE SUMMARY

This report presents the results of a watershed based, calibrated modeling analysis of Flat Creek. The modeling was conducted to establish a total maximum daily load (TMDL) for oxygen-demanding pollutants for the Flat Creek watershed. The model extends from the headwaters southeast of Jonesboro, Louisiana to the confluence with Castor Creek. Flat Creek is in subsegment 081504 located in the Ouachita River Basin. There were no point sources included in the modeling effort. The Village of Sikes (LAG540647) discharges 20,000 gallons per day of treated sanitary sewage into a tributary of Flat Creek. The Village of Sikes will receive monthly average effluent limits of 30 mg/L BOD₅ (Statewide Sanitary Effluent Limitations Policy) and 15 mg/L NH₃-N (LTP).

Flat Creek was not listed on any 303(d) list; however, Flat Creek was part of the 1999 ambient sampling program and was found to not be meeting its designated use of Fish and Wildlife Propagation. It is, however, meeting its designated uses of Primary and Secondary Contact Recreation. The suspected causes of impairment are copper, mercury, metals, organic enrichment/low DO, and salinity/TDS/chlorides. Natural and unknown sources are the suspected sources of impairment.

Input data for the calibration model for DO was developed from the survey conducted in July 2000. A satisfactory calibration was achieved.

LA-QUAL was the water quality model used in this analysis. In 1999, the Louisiana Department of Environmental Quality and Wiland Consulting, Inc. developed LA-QUAL based on QUAL-TX Version 3.4. The program was converted from a DOS-based program to a Windows-based program with a graphical interface and enhanced graphic output. Other program modifications specific to the needs of Louisiana and the Louisiana DEQ were also made. LA-QUAL is a user-oriented model and is intended to provide the basis for evaluating TMDLs in the State of Louisiana.

The current state standard requires a DO of 5.0 mg/L throughout the year. Dissolved oxygen criteria of 3.0 mg/L June-October and 5.0 mg/L November-May were also analyzed. Model projections were performed for the current and less stringent criteria using the seasons of June-October and November-May.

To meet the current DO criterion of 5.0 mg/L year-round, a 115% reduction of nonpoint loading is required year-round. This reduction includes some of the natural background load and indicates that the current standard is inappropriate for this stream. The LDEQ will pursue a UAA for Flat Creek. The resulting TMDL is shown below.

Calculation of the TMDL for the current DO criterion of 5.0 mg/L year-round			
Load description	WLA (lbs/day) (oxygen-demanding pollutants)	LA (lbs/day) (oxygen-demanding pollutants)	Reserve/ MOS Load (lbs/day)
Point Source loads	22		6
Headwater / Tributary loads		10	
Benthic loads		2,171	0
SUB-TOTAL	22	2,181	6
TMDL = WLA + LA + MOS			
		2,209	

To meet the criteria of 3.0 mg/L June-October and 5.0 mg/L November-May, a 60% reduction of man-made nonpoint loading is required year-round. The resulting TMDL is shown below.

Calculation of the TMDL for DO criteria of 3.0 mg/L June-October and 5.0 mg/L November-May			
Load description	WLA (lbs/day) (oxygen-demanding pollutants)	LA (lbs/day) (oxygen-demanding pollutants)	Reserve/ MOS Load (lbs/day)
Point Source loads	22		6
Headwater / Tributary loads		10	
Benthic loads		3,784	0
SUB-TOTAL	22	3,794	6
TMDL = WLA + LA + MOS			
		3,822	

In accordance with Section 106 of the federal Clean Water Act and under the authority of the Louisiana Environmental Quality Act, the LDEQ has established a comprehensive program for monitoring the quality of the state's surface waters. The LDEQ Surveillance Section collects surface water samples at various locations, utilizing appropriate sampling methods and procedures for ensuring the quality of the data collected. The objectives of the surface water monitoring program are to determine the quality of the state's surface waters, to develop a long-term data base for water quality trend analysis, and to monitor the effectiveness of pollution controls. The data obtained through the surface water

monitoring program is used to develop the state's biennial 305(b) report (*Water Quality Inventory*) and the 303(d) list of impaired waters. This information is also utilized in establishing priorities for the LDEQ nonpoint source program.

The LDEQ has implemented a watershed approach to surface water quality monitoring. Through this approach, the entire state is sampled over a five-year cycle with two targeted basins sampled each year. Long-term trend monitoring sites at various locations on the larger rivers and Lake Pontchartrain are sampled throughout the five-year cycle. Sampling is conducted on a monthly basis or more frequently if necessary to yield at least 12 samples per site each year. Sampling sites are located where they are considered to be representative of the waterbody. Under the current monitoring schedule, targeted basins follow the TMDL priorities. In this manner, the first TMDLs will have been implemented by the time the first priority basins will be monitored again in the second five-year cycle. This will allow the LDEQ to determine whether there has been any improvement in water quality following implementation of the TMDLs. As the monitoring results are evaluated at the end of each year, waterbodies may be added to or removed from the 303(d) list. The sampling schedule for the first five-year cycle is shown below.

- 1998 - Mermentau and Vermilion-Teche River Basins
- 1999 - Calcasieu and Ouachita River Basins
- 2000 - Barataria and Terrebonne Basins
- 2001 - Lake Pontchartrain Basin and Pearl River Basin
- 2002 - Red and Sabine River Basins

(Atchafalaya and Mississippi Rivers will be sampled continuously.)
Mermentau and Vermilion-Teche Basins will be sampled again in 2003.

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1.0 Introduction

Flat Creek is in the Ouachita River Basin. Streams located in the Basin have priority for TMDL development this year. Flat Creek was not listed on any 303(d) list; however, Flat Creek was part of the 1999 ambient sampling program and was found to not be meeting its designated use of Fish and Wildlife Propagation. It is, however, meeting its designated uses of Primary and Secondary Contact Recreation. The suspected causes of impairment are copper, mercury, metals, organic enrichment/low DO, and salinity/TDS/chlorides. Natural and unknown sources are the suspected sources of impairment (Appendix A).

A survey of Flat Creek was conducted July 18-20, 2000. A calibrated water quality model for the entire watershed was developed and projections were modeled to quantify the reductions which would be necessary for Flat Creek to comply with its water quality criteria. This report presents a total maximum daily load (TMDL) for oxygen-demanding pollutants for Flat Creek.

2.0 Study Area Description

2.1 General Information

Flat Creek is in subsegment 081504 located in the Ouachita River Basin. The basin is in the northeastern part of Louisiana and consists of rich alluvial plains cultivated in cotton and soybeans. The northwest corner of the basin is forested in pine, which is commercially harvested. (LDEQ, 1987). The land use for the Flat Creek watershed is summarized below in Table 1, and a land use map is in Appendix J.

Table 1. Land Uses in the Flat Creek Watershed, Subsegment 081504

LAND USE TYPE	NUMBER OF ACRES	% OF TOTAL AREA
Agricultural land	1803	2
Forest land	54665	61
Rangeland	18881	21
Water	2097	2
Wetland	12722	14
TOTAL	90168	100

The model for Flat Creek extends from the headwaters southeast of Jonesboro, Louisiana to the confluence with Castor Creek. There were no point sources included in the modeling effort. The Village of Sikes (LAG540647) discharges 20,000 gallons per day of treated sanitary sewage into a tributary of Flat Creek. The Village of Sikes will receive effluent limits of 30 mg/L BOD₅ (Statewide Sanitary Effluent Limitations Policy) and 15 mg/L NH₃-N (LTP).

2.2 Water Quality Standards

The Water Quality criteria and designated uses for the Flat Creek watershed are shown in Table 2.

Table 2. Water Quality Numerical Criteria and Designated Uses

Subsegment	081504
Stream Description	Flat Creek - Headwaters to Castor Creek
Designated Uses	A B C
Criteria:	
Cl	25 mg/L
SO ₄	25 mg/L
DO	5.0 mg/L year-round
pH	6.0 - 8.5
BAC	1 (Primary Contact Recreation)
Temperature	32°C
TDS	100 mg/L

USES: A – primary contact recreation; B – secondary contact recreation; C – propagation of fish and wildlife

2.3 Wastewater Discharges

No point sources were included in this modeling analysis. The discharger inventory for Flat Creek was reviewed, and only one facility was found. The discharger inventory review is shown in Appendix B. The Village of Sikes (LAG540647) discharges 20,000 gallons per day of treated sanitary sewage into a tributary of Flat Creek. The Village of Sikes will receive effluent limits of 30 mg/L BOD₅ (Statewide Sanitary Effluent Limitations Policy) and 15 mg/L NH₃-N (LTP).

2.4 Water Quality Conditions/Assessment

Flat Creek was not listed on any 303(d) list; however, Flat Creek was part of the 1999 ambient sampling program and was found to not be meeting its designated use of Fish and Wildlife Propagation. It is, however, meeting its designated uses of Primary and Secondary Contact Recreation. The suspected causes of impairment are copper, mercury, metals, organic enrichment/low DO, and salinity/TDS/chlorides. Natural and unknown sources are the suspected sources of impairment.

2.5 Prior Studies

There were no previous studies performed on Flat Creek.

3.0 Documentation of Calibration Model

3.1 Model Description

3.1.1 Program Description

"Simulation models are used extensively in water quality planning and pollution control. Models are applied to answer a variety of questions, support watershed planning and analysis and develop total maximum daily loads (TMDLs). . . . Receiving water models simulate the movement and transformation of pollutants through lakes, streams, rivers, estuaries, or nearshore ocean areas. . . . Receiving water models are used to examine the interactions between loadings and response, evaluate loading capacities (LCs), and test various loading scenarios. . . . A fundamental concept for the analysis of receiving waterbody response to point and nonpoint source inputs is the principle of mass balance (or continuity). Receiving water models typically develop a mass balance for one or more constituents, taking into account three factors: transport through the system, reactions within the system, and inputs into the system." (EPA841-B-97-006, pp. 1-30)

LA-QUAL was the water quality model used in this analysis. In 1999, the Louisiana Department of Environmental Quality and Wiland Consulting, Inc. developed LA-QUAL based on QUAL-TX Version 3.4. The program was converted from a DOS-based program to a Windows-based program with a graphical interface and enhanced graphic output. Other program modifications specific to the needs of Louisiana and the Louisiana DEQ were also made. LA-QUAL is a user-oriented model and is intended to provide the basis for evaluating TMDLs in the State of Louisiana.

The development of a TMDL for oxygen-demanding pollutants generally occurs in 3 stages. 1) Data Collection Activities, 2) Calibration Model Development, 3) Projection Modeling and TMDL.

Stage 1 encompasses the data collection activities. These activities may include gathering such information as stream cross-sections, stream flow, stream water chemistry, stream temperature and dissolved oxygen at various locations on the stream, location of the stream centerline and the boundaries of the watershed which drains into the stream, and other physical and chemical factors which are associated with the stream. Additional data gathering activities include gathering all available information on each facility which discharges pollutants into the stream, gathering all available stream water quality chemistry and flow data from other agencies and groups, gathering population statistics for the watershed to assist in developing projections of future loadings to the waterbody, land use and crop rotation data where available, and any other information which may have some bearing on the quality of the waters within the watershed. During Stage 1, any data available from reference or least impacted streams which can be used to gauge the relative health of the watershed is also collected.

Stage 2 involves organizing all of this data into one or more useable forms from which the input data required by the model can be obtained or derived. Water quality samples,

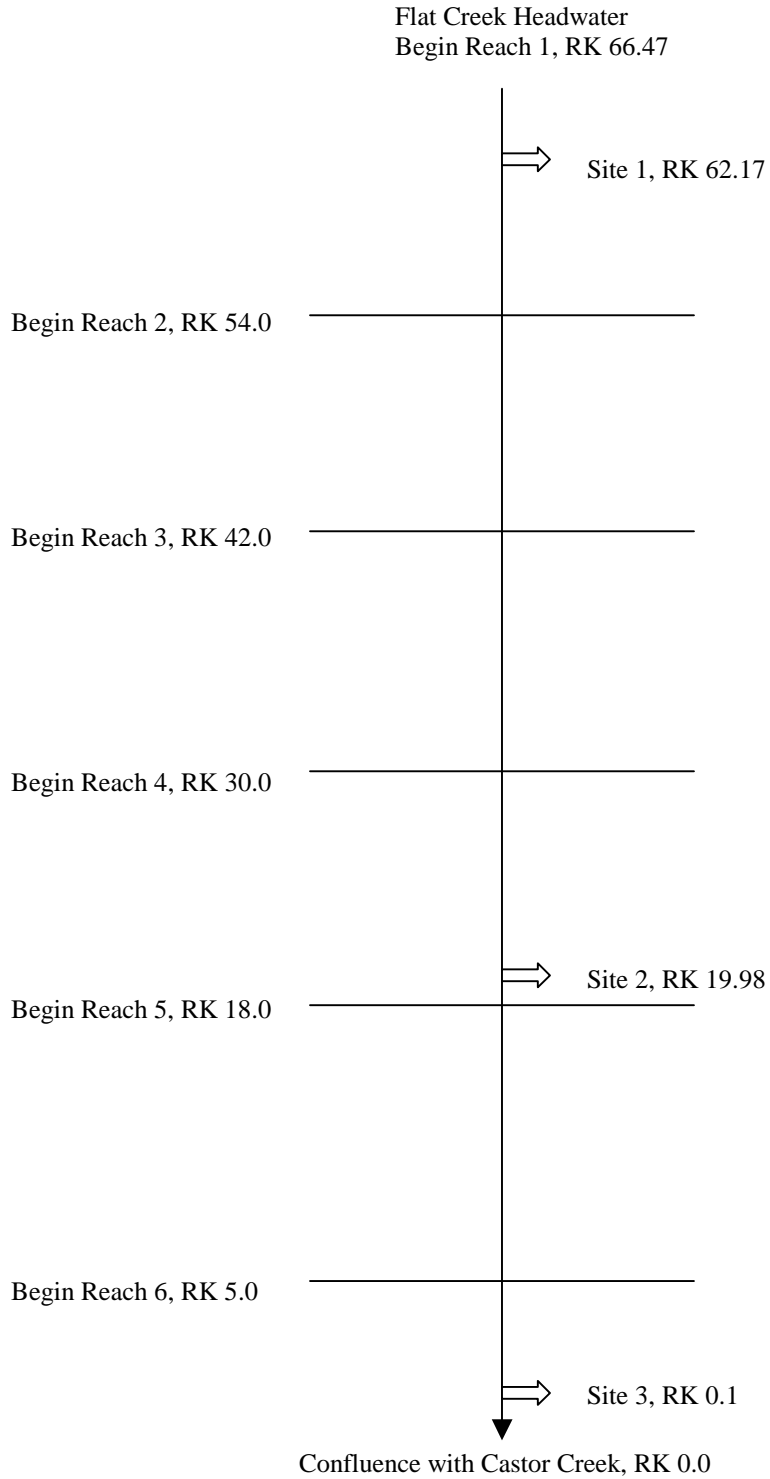
field measurements, and historical data must be analyzed and statistically evaluated in order to determine a set of conditions which have actually been measured in the watershed. The findings are then input to the model. Best professional judgement is used to determine initial estimates for parameters which were not or could not be measured in the field. These estimated variables are adjusted in sequential runs of the model until the model reproduces the field conditions which were measured. In other words, the model produces a value of the dissolved oxygen, temperature, or other parameter which matches the measured value within an acceptable margin of error at the locations along the stream where the measurements were actually made. When this happens, the model is said to be calibrated to the actual stream conditions. At this point, the model should confirm that there is an impairment and give some indications of the causes of the impairment. If a second set of measurements is available for slightly different conditions, the calibrated model is run with these conditions to see if the calibration holds for both sets of data. When this happens, the model is said to be verified.

Stage 3 covers the projection modeling which results in the TMDL. The critical conditions of flow and temperature are determined for the waterbody and the maximum pollutant discharge conditions from the point sources are determined. These conditions are then substituted into the model along with any related condition changes which are required to perform worst case scenario predictions. At this point, the loadings from the point and nonpoint sources (increased by an acceptable margin of safety) are run at various levels and distributions until the model output shows that dissolved oxygen criteria are achieved. It is critical that a balanced distribution of the point and nonpoint source loads be made in order to predict any success in future achievement of water quality standards. At the end of Stage 3, a TMDL is produced which shows the point source permit limits and the amount of reduction in man-made nonpoint source pollution which must be achieved to attain water quality standards. The man-made portion of the NPS pollution is estimated from the difference between the calibration loads and the loads observed on reference or least impacted streams.

3.1.2 Vector Diagram

A vector diagram of the modeled area is shown in Figure 1. Distances were measured in river kilometers (RK).

Figure 1. Vector Diagram of Flat Creek



3.2 Calibration Model Input Discussion

Inputs for the calibration model are presented in Tables 3 to 13. Appendix C contains survey notes, stream geometry calculations, continuous monitor data, water quality data, and BOD calculations.

Table 3. Calibration, Data Type 3 - Program Constants			
Description of Constant	Value	Result	Source/Justification
Maximum iteration limit	200.0		Standard
KL Minimum	0.7	Minimum KL to be used.	The minimum KL of 2.3 ft/day converted to 0.70 m/day.
Inhibition control value	3.0	Inhibits all decay rate except SOD for low DO.	Standard LA modeling procedure.
Ocean exchange ratio	0.0	Set 0% tidal exchange at lower boundary.	This was done to allow dispersion in the model but not to force the bottom element through the boundary conditions.
Hydraulic calculation method	2.0	Sets the Hydraulic calc. to width and depth coef.	The low slopes in this waterbody cause a substantial amount of water to be present during critical flow conditions, making the Leopold relationships inaccurate. This method allows the model to predict a more accurate depth and width during low flow conditions.
Settling rate units	2.0	Sets the units to 1/day	
K2 Max	25.0	Max K2 at 20 C allowed for any computational element	EPA Policy in the absence of a measured value.
NCM Oxygen Uptake	1.0	Oxygen Uptake Rate per Unit of NBOD decay.	Standard LA modeling procedure.

Table 4. Calibration, Data Type 9 - Advective Hydraulic Coefficients

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Flat Creek, Headwaters (RK 66.47) to RK 54.0	Width Coef "A"	Unitless	0.10	Yields constant stream geometry
		Width Exp "B"	Unitless	0.40	Yields constant stream geometry
		Width Const "C"	Meter	4.572	Zero flow cross section at Site 1
		Depth Coef "D"	Unitless	0.10	Yields constant stream geometry
		Depth Exp "E"	Unitless	0.40	Yields constant stream geometry
		Depth Const "F"	Meter	0.2560	Zero flow cross section at Site 1
		Manning's "n"	Unitless	0.04	Sluggish stream. Environmental Engineering P.E. Examination Guide & Handbook, W. Christopher King, PhD., P.E., DEE, 1996, p. 113
2	Flat Creek, RK 54.0 to RK 42.0	Width Coef "A"	Unitless	0.10	Yields constant stream geometry
		Width Exp "B"	Unitless	0.40	Yields constant stream geometry
		Width Const "C"	Meter	4.572	Zero flow cross section at Site 1
		Depth Coef "D"	Unitless	0.10	Yields constant stream geometry
		Depth Exp "E"	Unitless	0.40	Yields constant stream geometry
		Depth Const "F"	Meter	0.2560	Zero flow cross section at Site 1
		Manning's "n"	Unitless	0.04	Same as Reach 1.
3	Flat Creek, RK 42.0 to RK 30.0	Width Coef "A"	Unitless	0.10	Yields constant stream geometry
		Width Exp "B"	Unitless	0.40	Yields constant stream geometry
		Width Const "C"	Meter	5.578	Zero flow cross section at Site 2
		Depth Coef "D"	Unitless	0.10	Yields constant stream geometry
		Depth Exp "E"	Unitless	0.40	Yields constant stream geometry
		Depth Const "F"	Meter	0.32	Zero flow cross section at Site 2
		Manning's "n"	Unitless	0.04	Same as Reach 1.
4	Flat Creek, RK 30.0 to RK 18.0	Width Coef "A"	Unitless	0.10	Yields constant stream geometry
		Width Exp "B"	Unitless	0.40	Yields constant stream geometry
		Width Const "C"	Meter	5.578	Zero flow cross section at Site 2
		Depth Coef "D"	Unitless	0.10	Yields constant stream geometry
		Depth Exp "E"	Unitless	0.40	Yields constant stream geometry
		Depth Const "F"	Meter	0.32	Zero flow cross section at Site 2
		Manning's "n"	Unitless	0.04	Same as Reach 1.
5	Flat Creek, RK 18.0 to RK 5.0	Width Coef "A"	Unitless	0.10	Yields constant stream geometry
		Width Exp "B"	Unitless	0.40	Yields constant stream geometry
		Width Const "C"	Meter	9.618	Interpolation between Sites 2 & 3
		Depth Coef "D"	Unitless	0.10	Yields constant stream geometry
		Depth Exp "E"	Unitless	0.40	Yields constant stream geometry
		Depth Const "F"	Meter	0.869	Interpolation between Sites 2 & 3
		Manning's "n"	Unitless	0.04	Same as Reach 1.
6	Flat Creek, RK 5.0 to RK 0.0	Width Coef "A"	Unitless	0.10	Yields constant stream geometry
		Width Exp "B"	Unitless	0.40	Yields constant stream geometry
		Width Const "C"	Meter	13.655	Zero flow cross section at Site 3
		Depth Coef "D"	Unitless	0.10	Yields constant stream geometry
		Depth Exp "E"	Unitless	0.40	Yields constant stream geometry
		Depth Const "F"	Meter	1.4173	Zero flow cross section at Site 3
		Manning's "n"	Unitless	0.04	Same as Reach 1.

Table 5. Calibration, Data Type 10 - Dispersive Hydraulic Coefficients

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Flat Creek, Headwaters (RK 66.47) to RK 54.0	Tidal Range	Fraction	0	There are no tidal influences.
		Dispersion "A"	m ² /s	2.0	Historically used by LDEQ.
		Dispersion "B"	Unitless		
		Dispersion "C"	Unitless		
		Dispersion "D"	Unitless		
2	Flat Creek, RK 54.0 to RK 42.0	Tidal Range	Fraction	0	There are no tidal influences.
		Dispersion "A"	m ² /s	2.0	Historically used by LDEQ.
		Dispersion "B"	Unitless		
		Dispersion "C"	Unitless		
		Dispersion "D"	Unitless		
3	Flat Creek, RK 42.0 to RK 30.0	Tidal Range	Fraction	0	There are no tidal influences.
		Dispersion "A"	m ² /s	2.0	Historically used by LDEQ.
		Dispersion "B"	Unitless		
		Dispersion "C"	Unitless		
		Dispersion "D"	Unitless		
4	Flat Creek, RK 30.0 to RK 18.0	Tidal Range	Fraction	0	There are no tidal influences.
		Dispersion "A"	m ² /s	2.0	Historically used by LDEQ.
		Dispersion "B"	Unitless		
		Dispersion "C"	Unitless		
		Dispersion "D"	Unitless		
5	Flat Creek, RK 18.0 to RK 5.0	Tidal Range	Fraction	0	There are no tidal influences.
		Dispersion "A"	m ² /s	2.0	Historically used by LDEQ.
		Dispersion "B"	Unitless		
		Dispersion "C"	Unitless		
		Dispersion "D"	Unitless		
6	Flat Creek, RK 5.0 to RK 0.0	Tidal Range	Fraction	0	There are no tidal influences.
		Dispersion "A"	m ² /s	2.0	Historically used by LDEQ.
		Dispersion "B"	Unitless		
		Dispersion "C"	Unitless		
		Dispersion "D"	Unitless		

Table 6. Calibration, Data Type 11 - Initial Conditions

Reach #	REACH DESCRIPTION	Initial Parameter	Units	Value	Source/Justification
1	Flat Creek, Headwaters (RK 66.47) to RK 54.0	Temperature	°C	26.55	Site 1, average from continuous monitor
		Salinity	ppt		
		Dissolved O ₂	mg/l	0.98	Site 1, used in situ reading since the continuous monitor data appeared to be erroneous at Site 1.
		NH ₃ -N	mg/l		
		NO ₂₊₃ - N	mg/l		
		Chlorophyll a	ug/l		
2	Flat Creek, RK 54.0 to RK 42.0	Temperature	°C	26.55	Site 1, average from continuous monitor
		Salinity	ppt		
		Dissolved O ₂	mg/l	0.98	Site 1, used in situ reading since the continuous monitor data appeared to be erroneous at Site 1.
		NH ₃ -N	mg/l		
		NO ₂₊₃ - N	mg/l		
		Chlorophyll a	ug/l		
3	Flat Creek, RK 42.0-RK 30.0	Temperature	°C	28.08	Site 2, average from continuous monitor
		Salinity	ppt		
		Dissolved O ₂	mg/l	0.63	Site 2, used in situ reading for consistency since in situ had to be used for Reaches 1 and 2.
		NH ₃ -N	mg/l		
		NO ₂₊₃ - N	mg/l		
		Chlorophyll a	ug/l		
4	Flat Creek, RK 30.0-RK 18.0	Temperature	°C	28.08	Site 2, average from continuous monitor
		Salinity	ppt		
		Dissolved O ₂	mg/l	0.63	Site 2, used in situ reading for consistency since in situ had to be used for Reaches 1 and 2.
		NH ₃ -N	mg/l		
		NO ₂₊₃ - N	mg/l		
		Chlorophyll a	ug/l		
5	Flat Creek, RK 18.0-RK 5.0	Temperature	°C	28.8	Interpolated between Sites 2 & 3. Used averages from continuous monitors.
		Salinity	ppt		
		Dissolved O ₂	mg/l	1.65	Interpolated between Sites 2 & 3. Used in situ readings.
		NH ₃ -N	mg/l		
		NO ₂₊₃ - N	mg/l		
		Chlorophyll a	ug/l		
6	Flat Creek, RK 5.0-RK 0.0	Temperature	°C	29.51	Site 3, average from continuous monitor
		Salinity	ppt		
		Dissolved O ₂	mg/l	2.67	Site 3, used in situ reading for consistency since in situ had to used for Reaches 1 and 2.
		NH ₃ -N	mg/l		
		NO ₂₊₃ - N	mg/l		
		Chlorophyll a	ug/l		

Table 7. Calibration, Data Type 12 - Reaeration, Sediment Oxygen Demand and BOD Coefficients

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Flat Creek, Headwaters (RK 66.47) to RK 54.0	K ₂ option	Unitless	15	Louisiana Equation
		Oxygen Transfer coef.	m/day	0.0	
		Background SOD	g/m ² -day	3.6	Calibration
		Aerobic BOD decay	1/day	0.04	Calculated from Site 1 lab data
		BOD Settling rate	1/day	0.1	Lab data indicates there is TSS reduction from site to site.
		BOD conv. to SOD	Fraction	0.0	
2	Flat Creek, RK 54.0 to RK 42.0	K ₂ option	Unitless	15	Louisiana Equation
		Oxygen Transfer coef.	m/day	0.0	
		Background SOD	g/m ² -day	3.5	Calibration
		Aerobic BOD decay	1/day	0.04	Calculated from Site 1 lab data
		BOD Settling rate	1/day	0.1	Lab data indicates there is TSS reduction from site to site.
		BOD conv. to SOD	Fraction	0.0	
3	Flat Creek, RK 42.0-RK 30.0	K ₂ option	Unitless	15	Louisiana Equation
		Oxygen Transfer coef.	m/day	0.0	
		Background SOD	g/m ² -day	3.3	Calibration
		Aerobic BOD decay	1/day	0.03	Calculated from Site 2 lab data
		BOD Settling rate	1/day	0.1	Lab data indicates there is TSS reduction from site to site.
		BOD conv. to SOD	Fraction	0.00	
4	Flat Creek, RK 30.0-RK 18.0	K ₂ option	Unitless	15	Louisiana Equation
		Oxygen Transfer coef.	m/day	0.0	
		Background SOD	g/m ² -day	3.3	Calibration
		Aerobic BOD decay	1/day	0.03	Calculated from Site 2 lab data
		BOD Settling rate	1/day	0.1	Lab data indicates there is TSS reduction from site to site.
		BOD conv. to SOD	Fraction	0.00	
5	Flat Creek, RK 18.0-RK 5.0	K ₂ option	Unitless	15	Louisiana Equation
		Oxygen Transfer coef.	m/day	0.0	
		Background SOD	g/m ² -day	2.5	Calibration
		Aerobic BOD decay	1/day	0.04	Interpolated between sites 2 & 3. Used lab data.
		BOD Settling rate	1/day	0.1	Lab data indicates there is TSS reduction from site to site.
		BOD conv. to SOD	Fraction	0.00	
6	Flat Creek, RK 5.0-RK 0.0	K ₂ option	Unitless	15	Louisiana Equation
		Oxygen Transfer coef.	m/day	0.0	
		Background SOD	g/m ² -day	1.6	Calibration
		Aerobic BOD decay	1/day	0.05	Calculated from Site 3 lab data
		BOD Settling rate	1/day	0.1	Lab data indicates there is TSS reduction from site to site.
		BOD conv. to SOD	Fraction	0.0	

Table 8. Calibration, Data Type 15 - Coliform and Nonconservative (NBOD) Coefficients					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Flat Creek, Headwaters (RK 66.47) to RK 54.0	NCM Decay	1/day	0.04	Calculated from Site 1 lab data
		NCM Settling Rate	1/day	0.05	
2	Flat Creek, RK 54.0 to RK 42.0	NCM Decay	1/day	0.04	Calculated from Site 1 lab data
		NCM Settling Rate	1/day	0.05	
3	Flat Creek, RK 42.0 to RK 30.0	NCM Decay	1/day	0.05	Calculated from Site 2 lab data
		NCM Settling Rate	1/day	0.05	
4	Flat Creek, RK 30.0 to RK 18.0	NCM Decay	1/day	0.05	Calculated from Site 2 lab data
		NCM Settling Rate	1/day	0.05	
5	Flat Creek, RK 18.0 to RK 5.0	NCM Decay	1/day	0.07	Interpolated between Sites 2 & 3. Used lab data.
		NCM Settling Rate	1/day	0.05	
6	Flat Creek, RK 5.0 to RK 0.0	NCM Decay	1/day	0.09	Calculated from Site 3 lab data
		NCM Settling Rate	1/day	0.05	

Table 9. Calibration, Data Type 19 - Nonpoint Source Data

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Flat Creek, Headwaters (RK 66.47) to RK 54.0	BOD	kg/day	33.5	Determined during calibration.
		Org.-N	kg/day		
		Coliform	#/day		
		Nonconservative material (NBOD)	kg/day	4.8	Determined during calibration.
		Dissolved O ₂	kg/day		
2	Flat Creek, RK 54.0 to RK 42.0	BOD	kg/day	31	Determined during calibration.
		Org.-N	kg/day		
		Coliform	#/day		
		Nonconservative material (NBOD)	kg/day	3.2	Determined during calibration.
		Dissolved O ₂	kg/day		
3	Flat Creek, RK 42.0 to RK 30.0	BOD	kg/day	46	Determined during calibration.
		Org.-N	kg/day		
		Coliform	#/day		
		Nonconservative material (NBOD)	kg/day	4.0	Determined during calibration.
		Dissolved O ₂	kg/day		
4	Flat Creek, RK 30.0 to RK 18.0	BOD	kg/day	46	Determined during calibration.
		Org.-N	kg/day		
		Coliform	#/day		
		Nonconservative material (NBOD)	kg/day	2.4	Determined during calibration.
		Dissolved O ₂	kg/day		
5	Flat Creek, RK 18.0 to RK 5.0	BOD	kg/day	220	Determined during calibration.
		Org.-N	kg/day		
		Coliform	#/day		
		Nonconservative material (NBOD)	kg/day	21.0	Determined during calibration.
		Dissolved O ₂	kg/day		
6	Flat Creek, RK 5.0 to 0.0	BOD	kg/day	172	Determined during calibration.
		Org.-N	kg/day		
		Coliform	#/day		
		Nonconservative material (NBOD)	kg/day	26.0	Determined during calibration.
		Dissolved O ₂	kg/day		

Table 10. Calibration, Data Type 20 - Headwater Data for Flow, Temperature, Salinity, and Conservatives					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Flat Creek, Headwaters (RK 66.47) to RK 54.0	Element # of headwater		1	
		Headwater name		Flat Creek headwater	
		Headwater flow	cms	0.00028 (=0.01 ft ³ /s)	There was no flow during the survey.
		Temperature	°C	26.554	Average from continuous monitor at Site 1
		Salinity	ppt		
		Conservative Matl. I (chloride)	mg/l	5.10	Lab data from Site 1
		Conservative Matl. II	mg/l		

Table 11. Calibration, Data Type 21 - Headwater Data for DO, BOD, and Nitrogen					
Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Flat Creek, Headwaters (RK 66.47) to RK 54.0	Element # of headwater		1	
		Dissolved O ₂	mg/l	0.98	Site 1, used in situ reading since the continuous monitor data appeared to be erroneous.
		BOD	mg/l	15.66	Calculated from Site 1 lab data

Table 12. Calibration, Data Type 22 - Headwater Data for Phosphorus, Chlorophyll, Coliform, and Nonconservative (NBOD)					
Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Flat Creek, Headwaters (RK 66.47) to RK 54.0	Element # of headwater		1	
		NCM (NBOD)	mg/l	3.79	Calculated from Site 1 lab data

Table 13. Calibration, Data Type 27 - Lower Boundary Conditions					
Reach #	NAME	Parameter	Units	Value	Source/Justification
		Temperature	°C	29.51	Average from the continuous monitor at Site 3
		Conservative Matl. I	mg/l		
		Conservative Matl. II	mg/l		
		Dissolved O ₂	mg/l	2.67	Used in situ reading at Site 3 for consistency since in situ data had to be used for reaches 1 and 2.
		BOD	mg/l	8.75	Calculated from the lab data at Site 3
		Nonconservative (NBOD)	mg/l	1.3	Calculated from the lab data at Site 3

3.3 Calibration Model Discussion and Results

There was no flow in Flat Creek or its tributaries during the July 2000 survey. Very good calibration was achieved for CBOD, NBOD, and DO as shown in Figures 2-4 below. The vertical lines in the plots are as follows: Begin Reach 2, Begin Reach 3, Begin Reach 4, Begin Reach 5, and Begin Reach 6. The calibration model input and output are presented in Appendix D.

Figure 2. CBOD Calibration Plot

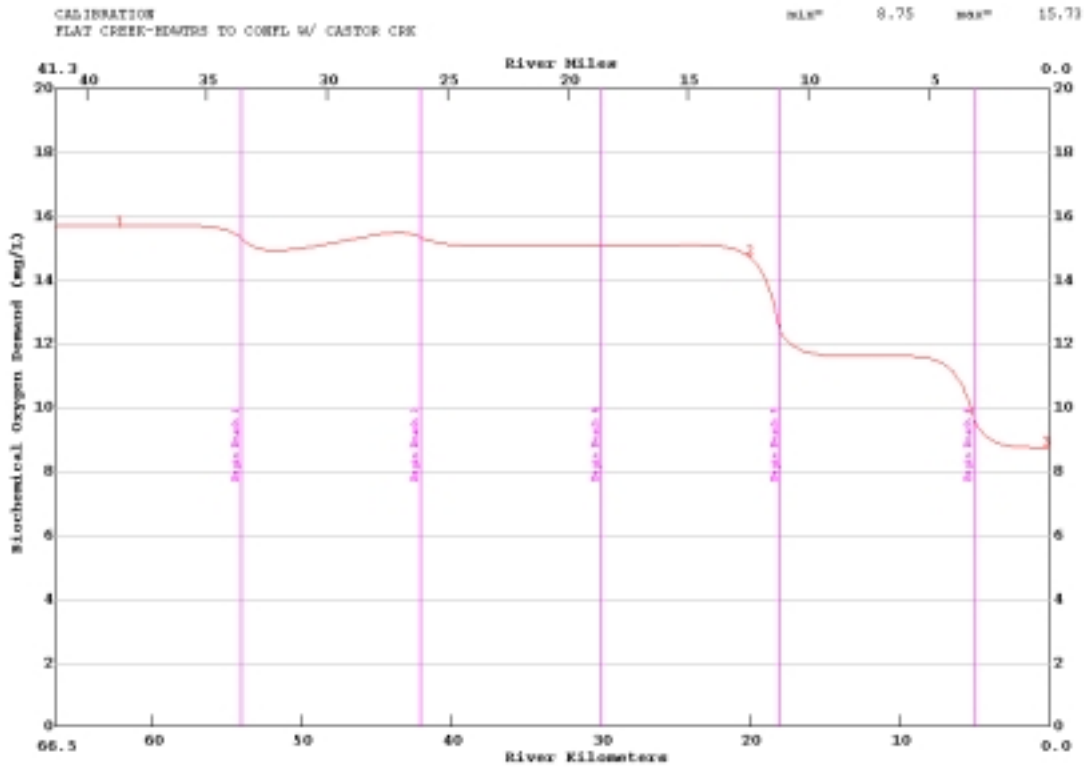


Figure 3. NBOD Calibration Plot

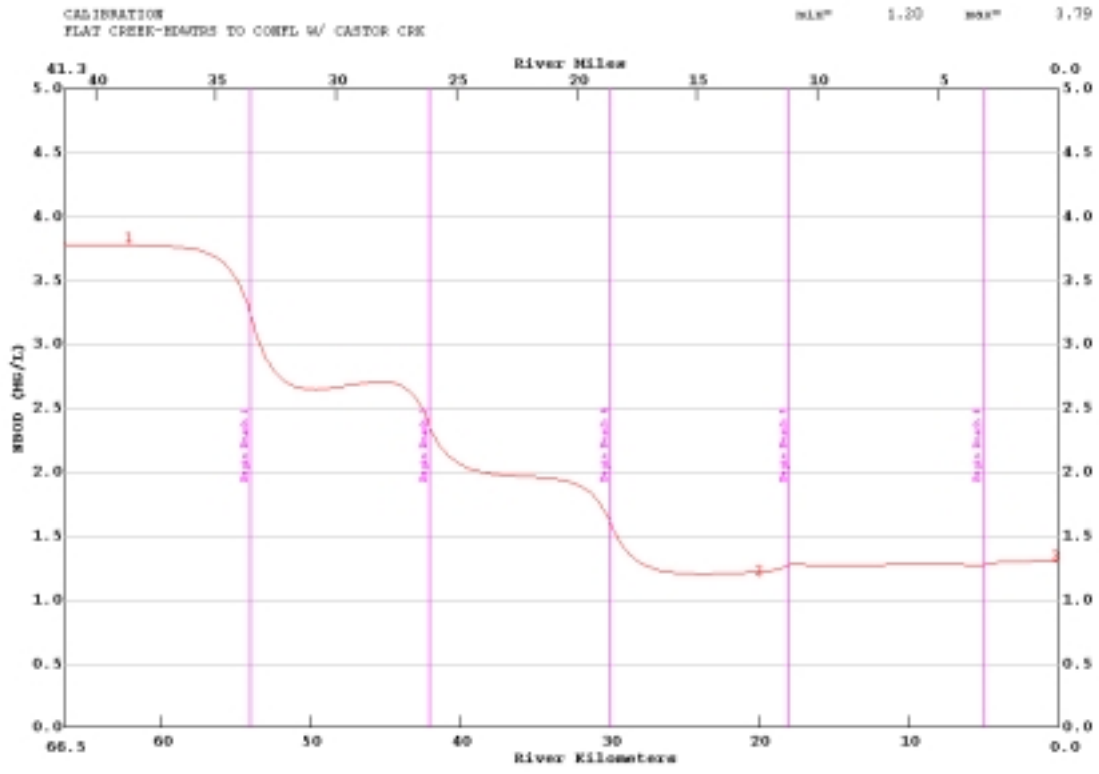
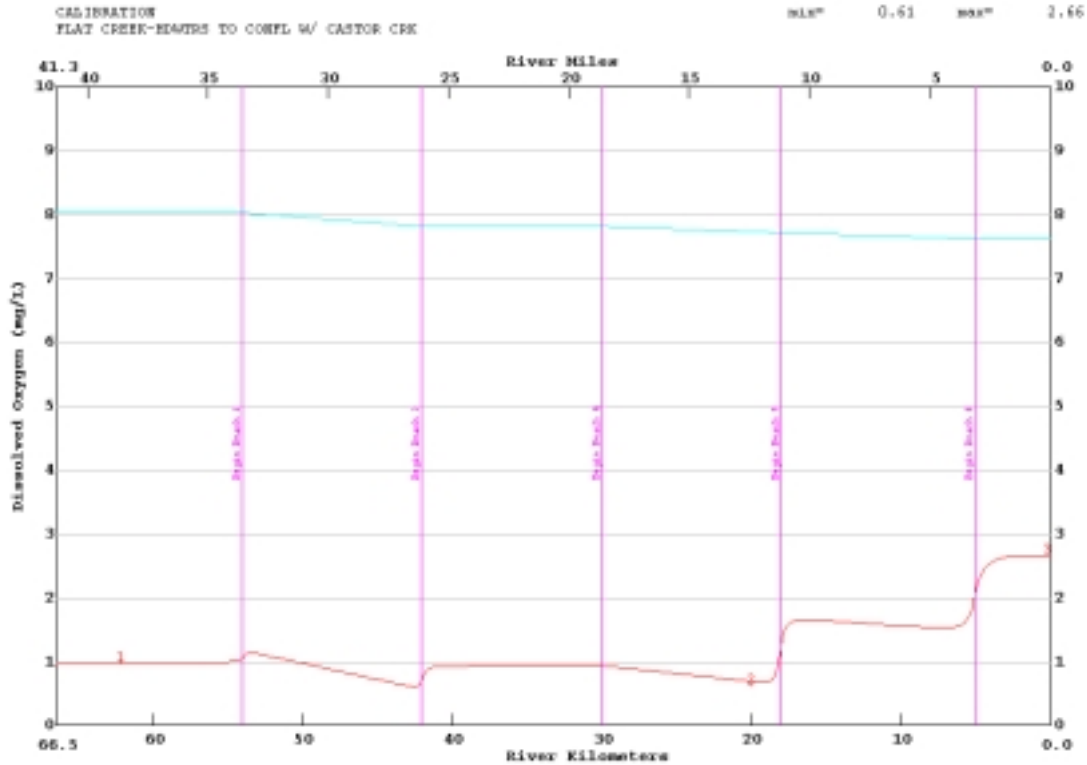


Figure 4. DO Calibration Plot



4.0 Water Quality Projections

Projections were performed at the current year-round DO criterion of 5.0 mg/L in addition to the criteria of 3.0 mg/L June-October and 5.0 mg/L November-May. A no load run with only natural background loading was performed for June-October since it was the critical season.

4.1 Critical Conditions

4.1.1 Seasonality and Margin of Safety

The Clean Water Act requires the consideration of seasonal variation of conditions affecting the constituent of concern, and the inclusion of a margin of safety (MOS) in the development of a TMDL. For the Flat Creek TMDL, an analysis of LDEQ long-term ambient data has been employed to determine critical seasonal conditions and an appropriate margin of safety has been used.

Critical conditions for dissolved oxygen were determined for Flat Creek using long term water quality data from the station on the LDEQ Ambient Monitoring Network. The critical conditions for dissolved oxygen concentrations were those of negligible nonpoint runoff and low stream flow combined with high temperature.

When the rainfall runoff (and nonpoint loading) and stream flow are high, turbulence is higher due to the higher flow and the temperature is lowered by the runoff. In addition, runoff coefficients are higher in cooler weather due to reduced evaporation and evapotranspiration, so that the high flow periods of the year tend to be the cooler periods. DO saturation rates are, of course, much higher when water temperatures are cooler, but BOD decay rates are much lower. For these reasons, periods of high loading are periods of higher reaeration and dissolved oxygen but not necessarily periods of high BOD decay.

This phenomenon was interpreted in TMDL modeling by assuming that the annual nonpoint loading, rather than loading for any particular day, is responsible for the accumulated benthic blanket in the stream, which is, in turn, expressed as SOD and/or resuspended BOD in the model. This accumulated loading has its greatest impact on the stream during periods of higher temperature and lower flow. The man-made portion of the nonpoint source loading is the difference between the calibration load and the reference stream load where the calibration load is higher.

The 7Q10 for both summer and winter is 0.0 cfs. Critical summer conditions were simulated in the Flat Creek dissolved oxygen TMDL projection modeling by using an estimated 7Q10 flow of 0.1 cfs for the headwaters as stated in the LTP and the 90th percentile temperature for the summer season. Model loading was from sediment oxygen demand and resuspension of sediments. Critical winter conditions were simulated by using an estimated 7Q10 flow of 1.0 cfs as stated in the LTP and the 90th percentile temperature for the winter season. Model loading was from sediment oxygen demand and resuspension of sediments.

In reality, the highest temperatures occur in July-August, and the lowest stream flows occur in October-November. The model is established as if these conditions happened at the same time. Other conservative assumptions regarding rates and loadings are also made during the modeling process. The combination of these conservative measures constitutes an implicit margin of safety and accounts for model uncertainty and data inadequacies.

The Flat Creek modeling analysis did not include any point source dischargers. An explicit margin of safety for nonpoint sources was not used in this analysis. The watershed is composed of hilly forested land which will probably not be developed for other uses, and the pasture land will likely remain unchanged. Furthermore, there are no urban areas which could spread to the undeveloped land. The majority of the Flat Creek watershed is encompassed by Jackson and Winn Parishes. Tables 14 and 15 below show population data for Jackson and Winn Parishes and indicate little or no increase in population in this area. Future growth in the Flat Creek watershed is not expected.

Table 14. Population Data for Jackson Parish

 * Missouri State Census Data Center *
 * Population Trends Report, 1960-1995 *

=====
 COUNTY: 22049, Jackson, LA
 =====

Time Period	Net Change Total Pop	% Chg	Natural Increase	Net Migration	Total Pop End of Period
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POST 1990 ESTIMATES:

04/01/90-07/01/90	-23	-0.1	20	-43	15,682
07/01/90-07/01/91	-137	-0.9	29	-162	15,545
07/01/91-07/01/92	90	0.6	6	86	15,635
07/01/92-07/01/93	-63	-0.4	-15	-47	15,572
07/01/93-07/01/94	111	0.7	4	100	15,683
07/01/94-07/01/95	39	0.2	-26	59	15,722

04/01/90-07/01/95	17	0.1	18	-7	15,722

LONG TERM TRENDS:

1960-1990	-123	-0.8			15,705
-1960					15,828
1960-1970	135	0.9			15,963
1970-1980	1,358	8.5			17,321
1980-1990	-1,616	-9.3			15,705
1980-1985	-353	-2.0			16,968
1985-1990	-1,263	-7.4			15,705

=====

Time Period	Rank Total Population Start of Period	Change in Rank Total Pop	Rank Change in Population	Rank % Change in Population
1960-1990	1754.0	-188.0	2192.0	2178.0
1960-1970	1754.0	-4.0	1672.5	1680.0
1970-1980	1758.0	-70.0	1872.5	1887.0
1980-1990	1828.0	-114.0	2752.0	2646.0
1980-1985	1828.0	-42.0	2459.5	2382.0
1985-1990	1870.0	-72.0	2750.5	2697.0

1990-1995	1942.0	-60.0	2471.5	2484.0
1990-1992	1942.0	-22.0	2592.5	2506.0
1992-1994	1964.0	-23.0	2355.5	2379.0
1994-1995	1987.0	-15.0	2244.5	2240.0

=====

Source: U.S. Bureau of the Census

NOTE: Figures for years ending in '0' are census counts.
 All others are official Census Bureau estimates.

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 Report Produced by the Urban Information Center
 University of Missouri-St. Louis, March, 1996
 =====

To access via WWW, start at the URL
<http://www.oseda.missouri.edu/cgi-bin/uiccont?mscdc/reports/poptrends@secure>

Table 15. Population Data for Winn Parish

 * Missouri State Census Data Center *
 * Population Trends Report, 1960-1995 *

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 COUNTY: 22127, Winn, LA
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Time Period	Net Change Total Pop	% Chg	Natural Increase	Net Migration	Total Pop End of Period
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POST 1990 ESTIMATES:

04/01/90-07/01/90	-22	-0.1	5	-27	16,247
07/01/90-07/01/91	-253	-1.6	58	-310	15,994
07/01/91-07/01/92	267	1.7	78	190	16,261
07/01/92-07/01/93	615	3.8	33	584	16,876
07/01/93-07/01/94	119	0.7	4	92	16,995
07/01/94-07/01/95	33	0.2	24	2	17,028

04/01/90-07/01/95	759	4.7	202	531	17,028

LONG TERM TRENDS:

1960-1990	235	1.5			16,269
-1960					16,034
1960-1970	335	2.1			16,369
1970-1980	884	5.4			17,253
1980-1990	-984	-5.7			16,269
1980-1985	-342	-2.0			16,911
1985-1990	-642	-3.8			16,269

=====

Time Period	Rank Total Population Start of Period	Change in Rank Total Pop	Rank Change in Population	Rank % Change in Population
1960-1990	1737.0	-169.5	2083.5	2085.0
1960-1970	1737.0	3.0	1560.0	1556.0
1970-1980	1734.0	-98.0	2106.5	2145.0
1980-1990	1832.0	-74.5	2506.0	2328.0
1980-1985	1832.0	-42.0	2444.0	2365.0
1985-1990	1874.0	-32.5	2340.5	2175.0
1990-1995	1906.5	7.5	1661.5	1417.0
1990-1992	1906.5	-7.5	2361.5	2355.0
1992-1994	1914.0	24.0	1115.0	540.0
1994-1995	1890.0	-9.0	2281.5	2297.5

=====

Source: U.S. Bureau of the Census

NOTE: Figures for years ending in '0' are census counts.
 All others are official Census Bureau estimates.

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 Report Produced by the Urban Information Center
 University of Missouri-St. Louis, March, 1996
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To access via WWW, start at the URL
<http://www.oseda.missouri.edu/cgi-bin/uiccont?mscdc/reports/poptrends@secure>

4.2 Projection Model Input Discussion

Projections were run at both the current DO criterion of 5.0 mg/L year-round and the criteria of 3.0 mg/L June-October and 5.0 mg/L November-May. The parameters that changed for projections are summarized below.

4.2.1 Projections, Data Type 9 – Advective Hydraulic Coefficients

There was no flow in Flat Creek during the July 2000 survey. It is expected that the flows used in the projection runs will not cause a change in stream geometry; therefore, the coefficients for the projection runs remained the same as those used in calibration.

4.2.2 Projections, Data Type 11 – Initial Conditions

The 90th percentile temperatures at water quality monitoring station 0806 were used (Appendix E). The DO values were set to the DO criteria.

4.2.3 Projections, Data Type 12 – Sediment Oxygen Demand

SOD values were reduced from the calibration values in order to meet the DO criteria.

4.2.4 Projections, Data Type 19 – Nonpoint Source Data

Nonpoint CBOD and NBOD were reduced from calibration values in order to meet the DO criteria.

4.2.5 Projections, Data Type 20 – Headwater Data for Flow and Temperature

The 7Q10 for June-October is 0.0 cfs. Therefore, a flow of 0.0028 cms (0.1 cfs) was used as stated in the LTP. The 7Q10 for November-May is also 0.0 cfs, so a flow of 0.028 cms (1.0 cfs) was used. The 90th percentile temperatures at water quality monitoring station 0806 were used.

4.2.6 Projections, Data Type 21 – Headwater Data for DO

DO values were set to the DO criteria.

4.2.7 Projections, Data Type 27 – Lower Boundary Conditions

The 90th percentile temperatures at water quality monitoring station 0806 were used.

4.3 Projection Model Results

The results of the three projection model scenarios are shown in Table 16 below.

Table 16. Nonpoint Load Reductions Required

MONTHS	DO CRITERIA	NONPOINT LOAD REDUCTIONS REQUIRED
June-October	3.0 mg/L	60%
June-October	5.0 mg/L	115%
November-May	5.0 mg/L	15%

To meet the current DO criterion of 5.0 mg/L year-round, a 115% reduction of nonpoint loading is required year-round. This reduction includes some of the natural background load and indicates that the current standard is inappropriate for this stream. The LDEQ will pursue a UAA for Flat Creek. DO plots are shown in Figures 5-7. Model input and output for the projection runs are presented in Appendices F-H.

Figure 5. DO Plot for Projection Run, 3.0 mg/L DO June-October

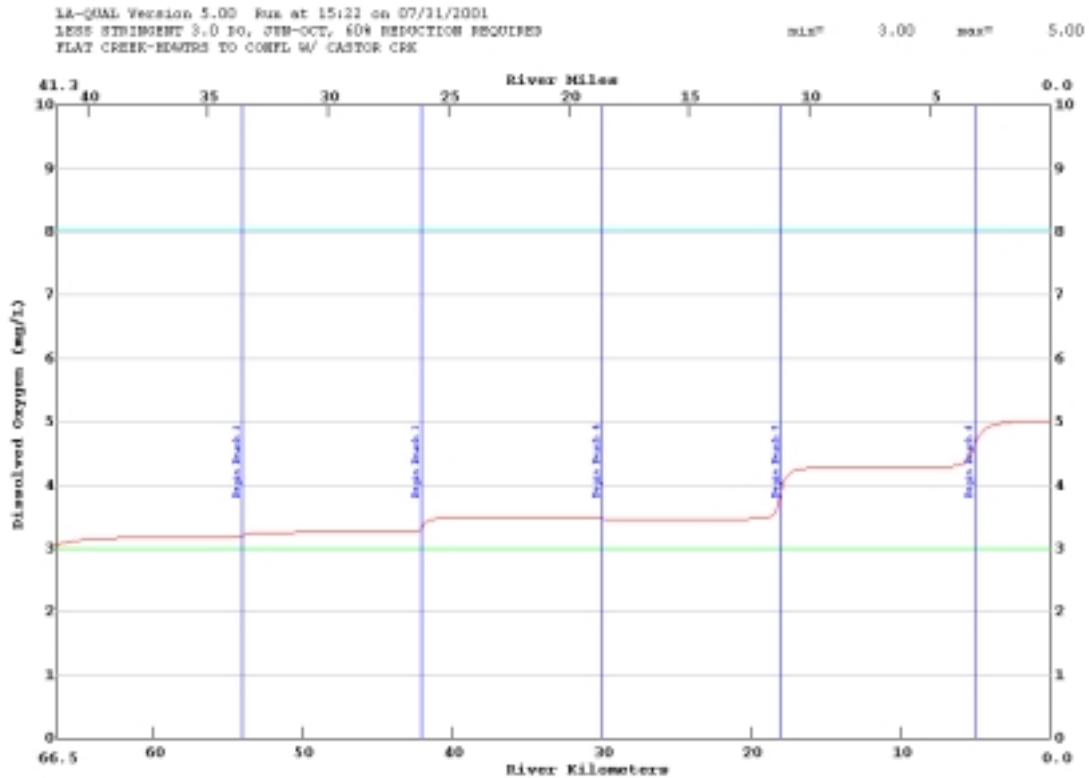


Figure 6. DO Plot for Projection Run, 5.0 mg/L DO June-October

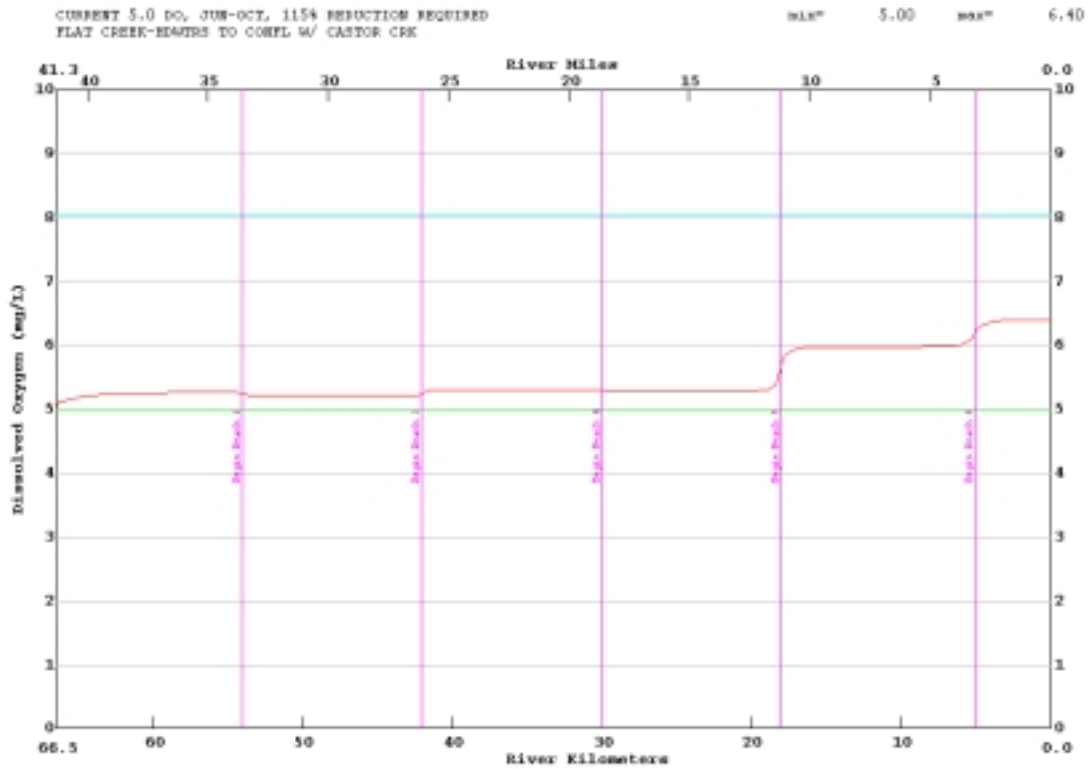
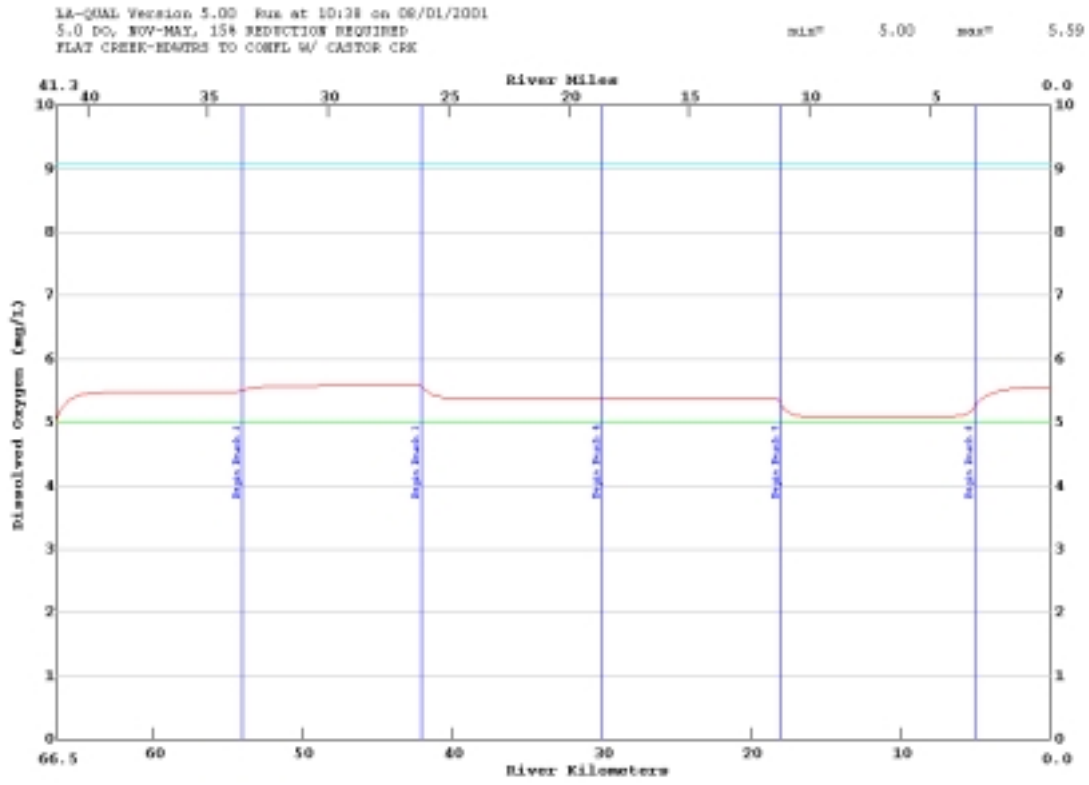


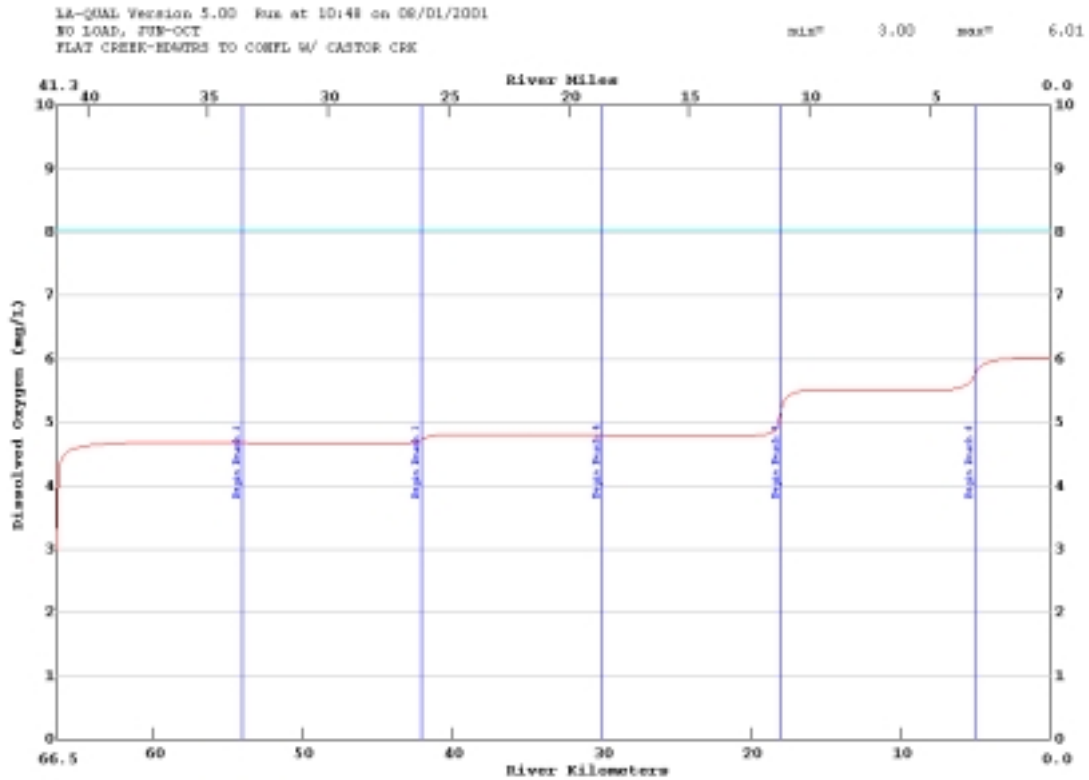
Figure 7. DO Plot for Projection Run, 5.0 mg/L DO November-May



4.3.1 No Load Scenario

A no load scenario was run for the June-October season since it was the critical season for Flat Creek. The CBOD nonpoint load, NBOD nonpoint load, and SOD were reduced to natural background levels. The current DO criterion of 5.0 mg/L could not be attained as shown in Figure 8. However, the 3.0 mg/L criterion was met indicating that the current criterion of 5.0 mg/L is inappropriate for Flat Creek. The model input/output and loading spreadsheet for the no load run can be found in Appendix J.

Figure 8. DO Plot of the No Load Run for June-October



4.4 Calculated TMDLs, WLAs and LAs

4.4.1 Outline of TMDL Calculations

An outline of the TMDL calculations is provided to assist in understanding the calculations in the Appendices. Slight variances may occur based on individual cases.

4.4.1.1 The natural background benthic loading was estimated from reference stream resuspension (nonpoint CBOD and NBOD), and SOD load data (Smythe, 1997).

4.4.1.2 The calibration man-made benthic loading was determined as follows:

- Calibration resuspension and SOD loads were summed for each reach as gm O₂/m²-day to get the calibration benthic loading.
- The natural background benthic loading was subtracted from the calibration benthic loading to obtain the man-made calibration benthic loading.

4.4.1.3 Projection benthic loads are determined by trial and error during the modeling process using a uniform percent reduction for resuspension and SOD. Point sources are reduced as necessary to subsequently more stringent levels of treatment consistent with the size of the treatment facility as much as possible. Point source design flows are increased to obtain an explicit MOS of 20%. Headwater and tributary concentrations of CBOD, NBOD, and DO range from reference stream levels to calibration levels based on the character of the headwater.

- The projection benthic loading at 20°C is calculated as the sum of the projection resuspension and SOD components expressed as gm O₂/m²-day.
- The natural background benthic load is subtracted from the projection benthic load to obtain the man-made projection benthic load for each reach.
- The percent reduction of man-made loads for each reach is determined from the difference between the projected man-made non-point load and the man-made non-point load found during calibration.
- The projection loads are computed in units of lb/d for each reach.

4.4.1.4 The total stream loading capacity at critical water temperature is calculated as the sum of:

- Headwater and tributary CBOD and NBOD loading in lb/d.
 - The natural and man-made projection benthic loading for all reaches of the stream is converted to the loading at critical temperature and summed in lb/d.
- Point source CBOD and NBOD loading in lb/d.
- The margin of safety in lb/d.

4.4.2 Flat Creek TMDL

Annual TMDLs for the oxygen demanding constituents (CBOD, NBOD and SOD) have been calculated for the current and less stringent DO criteria. Since there are no point sources and the summer season is the critical season for Flat Creek, the annual TMDLs have been calculated using the two summer projection runs.

To meet the current DO criterion of 5.0 mg/L year-round, a 115% reduction of nonpoint loading is required year-round. This reduction includes some of the natural background load and indicates that the current standard is inappropriate for this stream. The LDEQ will pursue a UAA for Flat Creek. The resulting TMDL is shown below in Table 17.

Table 17. Calculation of the TMDL for the current DO criterion of 5.0 mg/L year-round			
Load description	WLA (lbs/day) (oxygen-demanding pollutants)	LA (lbs/day) (oxygen-demanding pollutants)	Reserve/ MOS Load (lbs/day)
Point Source loads	22		6
Headwater / Tributary loads		10	
Benthic loads		2,171	0
SUB-TOTAL	22	2,181	6
TMDL = WLA + LA + MOS			
		2,209	

To meet the DO criteria of 3.0 mg/L June-October and 5.0 mg/L November-May, a 60% reduction of man-made nonpoint loading is required year-round. The resulting TMDL is shown below in Table 18. Intermediate calculations for both TMDLs are shown in Appendix I.

Table 18. Calculation of the TMDL for DO criteria of 3.0 mg/L June-October and 5.0 mg/L November-May			
Load description	WLA (lbs/day) (oxygen-demanding pollutants)	LA (lbs/day) (oxygen-demanding pollutants)	Reserve/ MOS Load (lbs/day)
Point Source loads	22		6
Headwater / Tributary loads		10	
Benthic loads		3,784	0
SUB-TOTAL	22	3,794	6
TMDL = WLA + LA + MOS			
		3,822	

5.0 Sensitivity Analysis

All modeling studies necessarily involve uncertainty and some degree of approximation. It is therefore of value to consider the sensitivity of the model output to changes in model coefficients and in the hypothesized relationships among the parameters of the model. LA-QUAL allows multiple parameters to be varied with a single run. The model adjusts each parameter up or down by the percentage given in the input set. Parameters were varied by +/- 30%, except temperature, which was adjusted +/- 2 degrees Celsius. The rest of the parameters listed in the sensitivity section are held at their original value. Thus the sensitivity of each parameter is reviewed separately.

A sensitivity analysis of the model's minimum DO was performed on the calibration and showed that DO is most sensitive to reaeration, benthic demand, and initial temperature. The sensitivity analysis is shown below in Table 19.

Table 19. Sensitivity Analysis

Base Model Minimum DO = 0.61

Parameter	%Param Chg	Min D.O.	%D.O. Chg	%Param Chg	Min D.O.	%D.O. Chg
Stream Baseflow	30.	0.61	0.0	-30.	0.61	0.0
Stream Velocity	30.	0.58	-4.4	-30.	0.64	4.7
Stream Depth	30.	0.61	0.7	-30.	0.61	-0.8
Stream Dispersion	30.	0.61	0.0	-30.	0.61	0.0
Stream Reaeration	30.	0.98	60.6	-30.	0.00	-100.0
BOD Decay Rate	30.	0.59	-3.6	-30.	0.64	4.1
BOD Settling Rate	30.	0.63	2.7	-30.	0.58	-4.3
Benthic Demand	30.	0.00	-100.0	-30.	0.98	60.6
Nonconservative Decay	30.	0.61	0.0	-30.	0.61	0.0
Initial Temperature	2.	0.00	-100.0	-2.	0.98	60.6
Headwater Flow	30.	0.61	0.0	-30.	0.61	0.0
Headwater Temperature	2.	0.61	0.0	-2.	0.61	0.0
Headwater DO	30.	0.61	0.0	-30.	0.61	0.0
Headwater BOD	30.	0.61	0.0	-30.	0.61	0.0
Headwater Nonconservative	30.	0.61	0.0	-30.	0.61	0.0
Lower Boundary Temperature	2.	0.61	0.0	-2.	0.61	0.0
Lower Boundary DO	30.	0.61	0.0	-30.	0.61	0.0
Lower Boundary BOD	30.	0.61	0.0	-30.	0.61	0.0
Lower Boundary Nonconservative	30.	0.61	0.0	-30.	0.61	0.0
Nonconservative Settling	30.	0.61	0.4	-30.	0.61	-0.6

6.0 Conclusions

To meet the current DO criterion of 5.0 mg/L year-round, a 115% reduction of nonpoint loading is required year-round. This reduction includes some of the natural background load and indicates that the current standard is inappropriate for this stream. The LDEQ will pursue a UAA for Flat Creek.

To meet the DO criteria of 3.0 mg/L June-October and 5.0 mg/L November-May, a 60% reduction of man-made nonpoint loading is required year-round. The LDEQ will work with cooperating agencies and stakeholders to implement best management practices through the Section 319 Nonpoint Source Management Program.

In accordance with Section 106 of the federal Clean Water Act and under the authority of the Louisiana Environmental Quality Act, the LDEQ has established a comprehensive program for monitoring the quality of the state's surface waters. The LDEQ Surveillance Section collects surface water samples at various locations, utilizing appropriate sampling methods and procedures for ensuring the quality of the data collected. The objectives of the surface water monitoring program are to determine the quality of the state's surface waters, to develop a long-term data base for water quality trend analysis, and to monitor the effectiveness of pollution controls. The data obtained through the surface water monitoring program is used to develop the state's biennial 305(b) report (*Water Quality Inventory*) and the 303(d) list of impaired waters. This information is also utilized in establishing priorities for the LDEQ nonpoint source program.

The LDEQ has implemented a watershed approach to surface water quality monitoring. Through this approach, the entire state is sampled over a five-year cycle with two targeted basins sampled each year. Long-term trend monitoring sites at various locations on the larger rivers and Lake Pontchartrain are sampled throughout the five-year cycle. Sampling is conducted on a monthly basis or more frequently if necessary to yield at least 12 samples per site each year. Sampling sites are located where they are considered to be representative of the waterbody. Under the current monitoring schedule, targeted basins follow the TMDL priorities. In this manner, the first TMDLs will have been implemented by the time the first priority basins will be monitored again in the second five-year cycle. This will allow the LDEQ to determine whether there has been any improvement in water quality following implementation of the TMDLs. As the monitoring results are evaluated at the end of each year, waterbodies may be added to or removed from the 303(d) list. The sampling schedule for the first five-year cycle is shown below.

- 1998 - Mermentau and Vermilion-Teche River Basins
- 1999 - Calcasieu and Ouachita River Basins
- 2000 - Barataria and Terrebonne Basins
- 2001 - Lake Pontchartrain Basin and Pearl River Basin
- 2002 - Red and Sabine River Basins

(Atchafalaya and Mississippi Rivers will be sampled continuously.)
Mermentau and Vermilion-Teche Basins will be sampled again in 2003.

7.0 References

Louisiana Department of Environmental Quality. 1987. State of Louisiana Water Quality Management Plan: Volume 4, *Basin/Segment Boundaries and Inventories*. LDEQ, Office of Water Resources, Water Pollution Control Division, Baton Rouge, Louisiana.

Louisiana Department of Environmental Quality. 2000. Environmental Regulatory Code: Part IX, *Water Quality Regulations*. Baton Rouge, Louisiana.

Louisiana Department of Environmental Quality. Louisiana Total Maximum Daily Load Technical Procedures (LTP), September 8, 2000. Office of Environmental Assessment, Environmental Technology Division, Engineering Group 2, Baton Rouge, Louisiana.

Smythe, E. deEtte. *Overview of the 1995 Reference Streams*. Louisiana Department of Environmental Quality. Baton Rouge, LA: August 15, 1997.

Appendix A – Water Quality Assessment of Flat Creek



Department of Environmental Quality

Statewide Water Quality Assessments

Flat Creek-Headwaters to Castor Creek

LA081504_00



Overall Use Support
Water Body Type
Water Body Size
303(d) List
When Assessed

Partial
River
13 Miles
NO
2000

Designated Uses	Support
Primary Contact Recreation	Fully
Secondary Contact Recreation	Fully
Fish and Wildlife Propagation	Not supporting
Suspected Causes of Impairment	
Copper	
Mercury	
Metals	
Organic enrichment/Low DO	
Salinity/TDS/chlorides	
Suspected Sources of Impairment	
Source Unknown	
Natural Sources	

◀ Back

Source:

<http://www.deq.state.la.us/planning/305b/2000/305db/show2.asp?WBID=LA081504>

Appendix B – Discharger Review

Flat Creek Dischargers

BASIN SEG	FACILITY	COMPANY	Facility Info	REC_WATER	FILE_NUM
815		SIKES VILLAGE OF	BOD5 monthly avg=30 mg/L. No limits for NH3-N and DO. 20,000 gpd of treated sanitary sewage. Facility is 1.1 miles from Flat Creek.	Caney Branch-Flat Creek	LAG540647

Discarded Facilities:

407		BRUCE FORTENBERRY DAIRY	Nothing in "A" folder. There is no "F" folder.	NAT. DRAINAGE-FLAT BRANCH-BIG CK	GP5559
	BROOKSHIRE'S FOOD STORE #17	BROOKSHIRE GROCERY CO	Nothing in "A" folder. There is no "F" folder.	FLAT RIVER	GP18466
	ALEXNDRIA PLT	HECK INDUSTRIES	No permit found. There is no "F" folder.	FLAT BAYOU	GP10129
	RAPIDES PH HWY DEPT	RAPIDES PH POLICE JURY	No permit found. There is no "F" folder.	FLAT BAYOU	GP11517
		THE HARDAWAY CO	Stormwater. No permit found. There is no "F" folder	FLAT RIVER	GP14120
81501	EROS SEWER FACILITY	EROS, TOWN OF	This is a different Flat Creek in another subsegment.	FLAT CREEK-BAYOU CASTOR-LITTLE RIVE	LAG560012
815	NORMAN THORNTON #1	AJ&J THORNTON OIL INC CODE T040	No permit or application found.		GP11741
815	C Z FEE TRACT A	AJ&J THORNTON OIL INC	No permit or application found.	COCHRAN CREEK	GP11742
815		HOGAN EXPLORATION	No permit or application found.	UNNAMED STREAM	GP6482
815	CLARKS GRAYSON STP	CLARKS VILLAGE OF	This is in another subsegment.	HURRICANE CREEK-B. CASTOR	LA0082210

Appendix C - Survey Notes, Stream Geometry Calculations, Continuous Monitor Data,
Water Quality Data, and BOD Calculations

FLAT CREEK SURVEY NOTES
7/18/00-7/20-00

Survey Leader: Corey Schwartzenburg

Survey Crew: C. Schwartzenburg, R. Brignac

7/18/00 Schwartzenburg, Brignac

FLCR 1 Flat Creek @ Hwy 147

- Deployed monitor @ 1130, Hydrolab DataSonde 37752
- 100% Canopy
- No measurable flow

FLCR 2 Flat Creek @ Hwy 127

- Deployed monitor @ 1210, Hydrolab DataSonde 37757
- 90% Canopy
- Possible Flow

FLCR 3 Flat Creek @ confluence w/ Castor Creek approx. 100 yds. Upstream

- Deployed monitor @ 1350, Hydrolab DataSonde 37753
- 90% Canopy
- No measurable flow

7/19/00 Schwartzenburg, Brignac

FLCR 1 Flat Creek @ Hwy 147

- Weather: Hot & Sunny
- Tape Down: 10.05 ft.
- Poured Dye and there was no flow
- Water Quality taken @ 0905
- Insitu Reading, Quanta-QT00132
 - pH: 6.10
 - Temp: 26.70 C
 - Cond: 93
 - DO: 0.98
 - DO%: 11.9
 - Batt: 4.1
- Representative cross section was taken
- GPS'd site (A)

FLCR 2 Flat Creek @ Hwy 127

- Weather: Hot & Sunny
- Tape Down: 11.2 ft.
- Poured Dye and it went 5ft. in 20 min., windaided, 3 min. no movement
- Water Quality taken @ 1015

- Insitu Reading, Quanta-QT00132
 - pH: 6.40
 - Temp: 26.83 C
 - Cond: 118
 - DO: 0.63
 - DO%: 8.7
 - Batt: 4.0
- Representative cross section was taken
- GPS'd site (A)

FLCR 3 Flat Creek @ confluence w/ Castor Creek approx. 100yds. upstream

- Weather: Sunny & Hot
- Tape Down: none
- Poured Dye and there was no flow
- Water Quality taken @ 1205
- Insitu Reading, Quanta-QT00132
 - pH: 6.20
 - Temp: 29.12 C
 - Cond: 81
 - DO: 2.67
 - DO%: 34.8
 - Batt: 4.1
- Representative cross section was taken
- GPS'd site (A)

7/20/00 Schwartzenburg, Brignac

FLCR 1 Flat Creek @ Hwy 147

- Picked up monitor @ 1030, Hydrolab DataSonde 37752

FLCR 2 Flat Creek @ Hwy 127

- Picked up monitor @ 1000, Hydrolab DataSonde 37757

***FLCR 3 Flat Creek @ confluence w/ Castor Creek approx. 100 yds.
upstream***

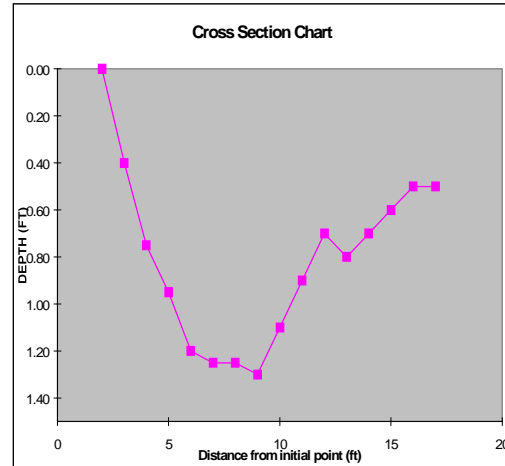
- Picked up monitor @ 0900, Hydrolab DataSonde 37753

STREAM CROSS-SECTION SPREADSHEET

Site Number: FLCR1 Subsegment: 081504 Waterbody: Flat Creek
 Site Description: Flat Creek @ HWY 147
 Type of Equipment: Fathometer Hydrotrac Manual
 Initial Bank: RDB LDB
 Tapedown: 10.05
 Gauge Height: _____
 Date: 7/19/2000

WIDTH ¹ (ft):	15.00
AREA ² (ft ²):	12.65
AVG. DEPTH ³ (ft):	0.84

Subsection	Distance from initial point (ft)	Width ⁴ (ft)	Depth (ft)	Area ⁵ (sq.ft.)	Area of element as % of Total Area ^{6&7}
1	2.0	0.50	0.00	0.00	0.00%
2	3.0	1.00	0.40	0.40	3.16%
3	4.0	1.00	0.75	0.75	5.93%
4	5.0	1.00	0.95	0.95	7.51%
5	6.0	1.00	1.20	1.20	9.49%
6	7.0	1.00	1.25	1.25	9.88%
7	8.0	1.00	1.25	1.25	9.88%
8	9.0	1.00	1.30	1.30	10.28%
9	10.0	1.00	1.10	1.10	8.70%
10	11.0	1.00	0.90	0.90	7.11%
11	12.0	1.00	0.70	0.70	5.53%
12	13.0	1.00	0.80	0.80	6.32%
13	14.0	1.00	0.70	0.70	5.53%
14	15.0	1.00	0.60	0.60	4.74%
15	16.0	1.00	0.50	0.50	3.95%
16	17.0	0.50	0.50	0.25	1.98%
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
Total		15.00		12.65	100.00%



Data Collection Crew		Office Data Work	
Measurement made by:	<u>R. Brignac</u>	Data Inputted by/Date:	<u>Schwartzburg/7-21-00</u>
Notetaker/Recorder:	<u>C. Schwartzburg</u>	Data Input Checked by / Date:	<u>Brignac / 7-21-00</u>
Other: _____			

- Note 1: WIDTH (ft) = sum of the width column
- Note 2: AREA (sq.ft.) = sum of the area column
- Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
- Note 4: Width of element
- Note 5: Area=Width*Depth for element
- Note 6: Percent area = element area/total area x 100%
- Note 7: Percent area should be less than 10% as per USGS standard.

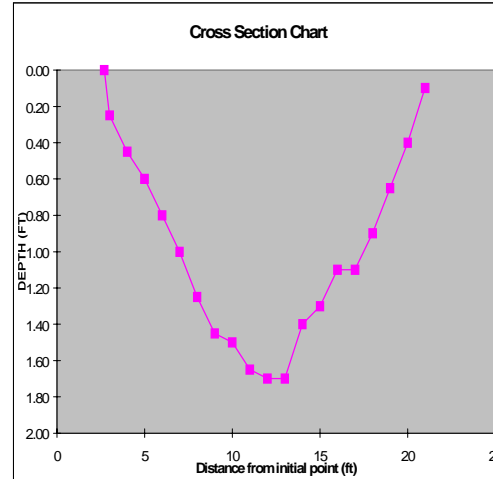
STREAM CROSS-SECTION SPREADSHEET

Site Number: FLCR 2 Subsegment: 081504 Waterbody: Flat Creek
 Site Description: Flat Creek @ HWY 127
 Type of Equipment: Fathometer Hydrotrac Manual
 Initial Bank: RDB LDB
 Tapedown: 11.20
 Gauge Height: _____

WIDTH ¹ (ft):	18.30
AREA ⁵ (ft ²):	19.16
AVG. DEPTH ³ (ft):	1.05

Date: 7/19/2000

Subsection	Distance from initial point (ft)	Width ⁴ (ft)	Depth (ft)	Area ⁵ (sq.ft.)	Area of element as % of Total Area ^{6&7}
1	2.7	0.15	0.00	0.00	0.00%
2	3.0	0.65	0.25	0.16	0.85%
3	4.0	1.00	0.45	0.45	2.35%
4	5.0	1.00	0.60	0.60	3.13%
5	6.0	1.00	0.80	0.80	4.17%
6	7.0	1.00	1.00	1.00	5.22%
7	8.0	1.00	1.25	1.25	6.52%
8	9.0	1.00	1.45	1.45	7.57%
9	10.0	1.00	1.50	1.50	7.83%
10	11.0	1.00	1.65	1.65	8.61%
11	12.0	1.00	1.70	1.70	8.87%
12	13.0	1.00	1.70	1.70	8.87%
13	14.0	1.00	1.40	1.40	7.31%
14	15.0	1.00	1.30	1.30	6.78%
15	16.0	1.00	1.10	1.10	5.74%
16	17.0	1.00	1.10	1.10	5.74%
17	18.0	1.00	0.90	0.90	4.70%
18	19.0	1.00	0.65	0.65	3.39%
19	20.0	1.00	0.40	0.40	2.09%
20	21.0	0.50	0.10	0.05	0.26%
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
Total		18.30		19.16	100.00%



Data Collection Crew	Office Data Work
Measurement made by: <u>C. Schwartzburg</u>	Data Inputted by / Date: <u>Schwartzburg/7-21-00</u>
Notetaker/Recorder: <u>R. Brignac</u>	Data Input Checked by / Date: <u>Brignac/7-21-00</u>
Other: _____	

- Note 1: WIDTH (ft) = sum of the width column
- Note 2: AREA (sq.ft.) = sum of the area column
- Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
- Note 4: Width of element
- Note 5: Area=Width*Depth for element
- Note 6: Percent area = element area/total area x 100%
- Note 7: Percent area should be less than 10% as per USGS standard.

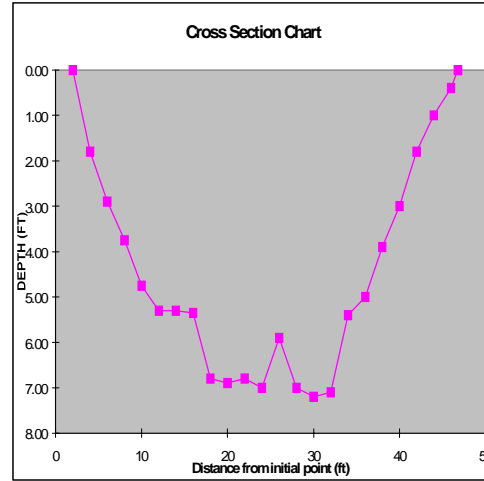
STREAM CROSS-SECTION SPREADSHEET

Site Number: FLCR3 Subsegment: 081504 Waterbody: Flat Creek
 Site Description: Flat Creek @ Confluence w/ Castor Creek Approx. 100 yds. Upstream
 Type of Equipment: Fathometer Hydrotrac Manual
 Initial Bank: RDB LDB
 Tapedown: _____
 Gauge Height: _____

WIDTH ¹ (ft):	44.80
AREA ⁵ (ft ²):	208.46
AVG. DEPTH ³ (ft):	4.65

Date: 7/19/2000

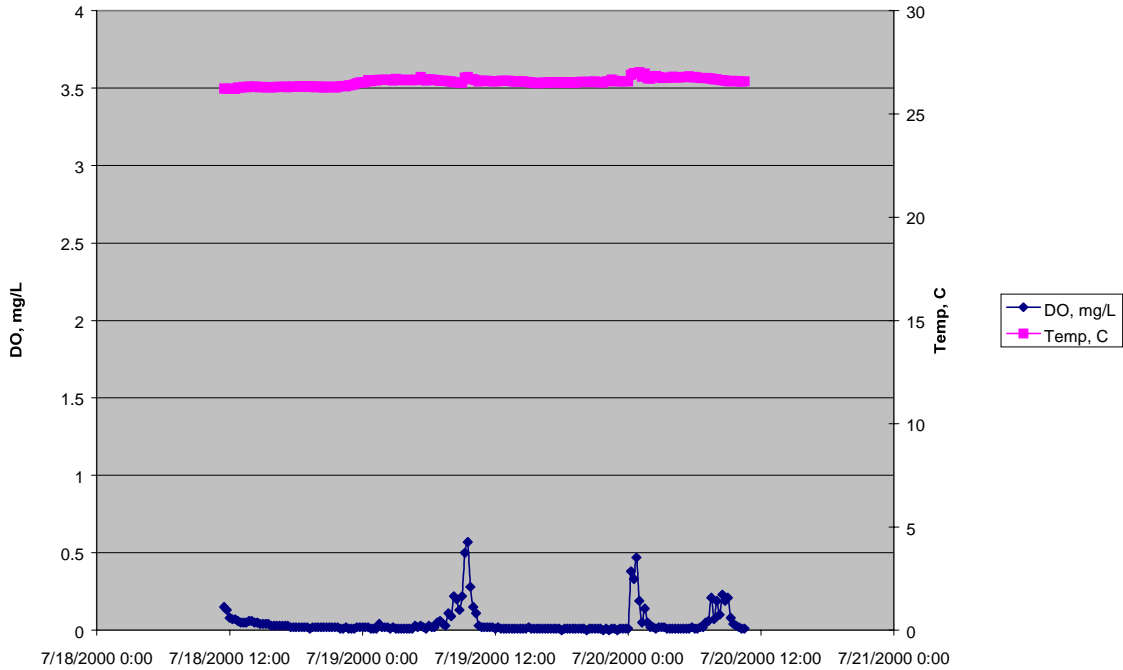
Subsection	Distance from initial point (ft)	Width ⁴ (ft)	Depth (ft)	Area ⁵ (sq.ft.)	Area of element as % of Total Area ^{6,7}
1	2.0	1.00	0.00	0.00	0.00%
2	4.0	2.00	1.80	3.60	1.73%
3	6.0	2.00	2.90	5.80	2.78%
4	8.0	2.00	3.75	7.50	3.60%
5	10.0	2.00	4.75	9.50	4.56%
6	12.0	2.00	5.30	10.60	5.08%
7	14.0	2.00	5.30	10.60	5.08%
8	16.0	2.00	5.35	10.70	5.13%
9	18.0	2.00	6.80	13.60	6.52%
10	20.0	2.00	6.90	13.80	6.62%
11	22.0	2.00	6.80	13.60	6.52%
12	24.0	2.00	7.00	14.00	6.72%
13	26.0	2.00	5.90	11.80	5.66%
14	28.0	2.00	7.00	14.00	6.72%
15	30.0	2.00	7.20	14.40	6.91%
16	32.0	2.00	7.10	14.20	6.81%
17	34.0	2.00	5.40	10.80	5.18%
18	36.0	2.00	5.00	10.00	4.80%
19	38.0	2.00	3.90	7.80	3.74%
20	40.0	2.00	3.00	6.00	2.88%
21	42.0	2.00	1.80	3.60	1.73%
22	44.0	2.00	1.00	2.00	0.96%
23	46.0	1.40	0.40	0.56	0.27%
24	46.8	0.40	0.00	0.00	0.00%
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
Total		44.80		208.46	100.00%



Data Collection Crew		Office Data Work	
Measurement made by:	<u>R. Brignac</u>	Data Inputted by / Date:	<u>Schwartzburg/7-21-00</u>
Notetaker/Recorder:	<u>C. Schwartzburg</u>	Data Input Checked by / Date:	<u>Brignac/7-21-00</u>
Other:			

- Note 1: WIDTH (ft) = sum of the width column
- Note 2: AREA (sq.ft.) = sum of the area column
- Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
- Note 4: Width of element
- Note 5: Area=Width*Depth for element
- Note 6: Percent area = element area/total area x 100%
- Note 7: Percent area should be less than 10% as per USGS standard.

Flat Creek, Site 1



DataSonde 4a 37752

Log File Name : Flat Creek Site 1

Setup Date (MMDDYY) : 071700
 Setup Time (HHMMSS) : 093226
 Starting Date (MMDDYY) : 071800
 Starting Time (HHMMSS) : 010000
 Stopping Date (MMDDYY) : 072100
 Stopping Time (HHMMSS) : 010000
 Interval (HHMMSS) : 001500
 Sensor warmup (HHMMSS) : 000200
 Circltr warmup (HHMMSS) : 000200

Average DO: 0.0475
 Median DO: 0.02
 Avg temp: 26.554
 Median temp: 26.58

Date MMDDYY	Time HHMMSS	Date+Time	HH	MM	SS	Time	Temp øC	DO% Sat	DO mg/l	SpCond æS/cm	pH Units	IBatt Volts
7/18/2000	113000	7/18/2000 11:30	11	30	0	11:30 AM	26.23	1.9	0.15	100.9	6.68	11.1
7/18/2000	114500	7/18/2000 11:45	11	45	0	11:45 AM	26.21	1.6	0.13	101.2	6.67	11.1
7/18/2000	120000	7/18/2000 12:00	12	0	0	12:00 PM	26.23	1	0.08	100.3	6.68	11.2
7/18/2000	121500	7/18/2000 12:15	12	15	0	12:15 PM	26.21	0.9	0.07	102.1	6.68	11.1
7/18/2000	123000	7/18/2000 12:30	12	30	0	12:30 PM	26.21	0.8	0.07	102.6	6.69	11.1
7/18/2000	124500	7/18/2000 12:45	12	45	0	12:45 PM	26.28	0.8	0.06	101	6.67	11.2
7/18/2000	130000	7/18/2000 13:00	13	0	0	1:00 PM	26.27	0.7	0.05	101.2	6.67	11.2
7/18/2000	131500	7/18/2000 13:15	13	15	0	1:15 PM	26.31	0.6	0.05	101.9	6.67	11.1

7/18/2000	133000	7/18/2000 13:30	13	30	0	1:30 PM	26.3	0.6	0.05	101.9	6.68	11.1
7/18/2000	134500	7/18/2000 13:45	13	45	0	1:45 PM	26.33	0.7	0.06	102	6.67	11.1
7/18/2000	140000	7/18/2000 14:00	14	0	0	2:00 PM	26.31	0.7	0.06	101.2	6.67	11.2
7/18/2000	141500	7/18/2000 14:15	14	15	0	2:15 PM	26.33	0.6	0.05	100.6	6.67	11.1
7/18/2000	143000	7/18/2000 14:30	14	30	0	2:30 PM	26.32	0.6	0.05	101.9	6.67	11.1
7/18/2000	144500	7/18/2000 14:45	14	45	0	2:45 PM	26.3	0.5	0.04	101.5	6.68	11.3
7/18/2000	150000	7/18/2000 15:00	15	0	0	3:00 PM	26.32	0.6	0.04	101.9	6.67	11.2
7/18/2000	151500	7/18/2000 15:15	15	15	0	3:15 PM	26.3	0.5	0.04	102.9	6.68	11.1
7/18/2000	153000	7/18/2000 15:30	15	30	0	3:30 PM	26.3	0.5	0.04	101.8	6.67	11.1
7/18/2000	154500	7/18/2000 15:45	15	45	0	3:45 PM	26.29	0.4	0.03	102.4	6.68	11.2
7/18/2000	160000	7/18/2000 16:00	16	0	0	4:00 PM	26.29	0.4	0.03	102.9	6.68	11.2
7/18/2000	161500	7/18/2000 16:15	16	15	0	4:15 PM	26.31	0.3	0.03	102.5	6.68	11
7/18/2000	163000	7/18/2000 16:30	16	30	0	4:30 PM	26.32	0.4	0.03	101.8	6.67	11.1
7/18/2000	164500	7/18/2000 16:45	16	45	0	4:45 PM	26.32	0.3	0.03	101.5	6.67	11.1
7/18/2000	170000	7/18/2000 17:00	17	0	0	5:00 PM	26.33	0.3	0.03	101.8	6.66	11.1
7/18/2000	171500	7/18/2000 17:15	17	15	0	5:15 PM	26.3	0.3	0.03	102	6.67	11.1
7/18/2000	173000	7/18/2000 17:30	17	30	0	5:30 PM	26.32	0.3	0.02	101.3	6.66	11.1
7/18/2000	174500	7/18/2000 17:45	17	45	0	5:45 PM	26.33	0.2	0.02	101.9	6.66	10.8
7/18/2000	180000	7/18/2000 18:00	18	0	0	6:00 PM	26.32	0.3	0.02	99.6	6.67	11
7/18/2000	181500	7/18/2000 18:15	18	15	0	6:15 PM	26.33	0.3	0.02	101	6.66	11.1
7/18/2000	183000	7/18/2000 18:30	18	30	0	6:30 PM	26.35	0.3	0.02	100.2	6.65	11.2
7/18/2000	184500	7/18/2000 18:45	18	45	0	6:45 PM	26.35	0.2	0.02	100.9	6.66	11.1
7/18/2000	190000	7/18/2000 19:00	19	0	0	7:00 PM	26.31	0.2	0.02	101.1	6.67	11.1
7/18/2000	191500	7/18/2000 19:15	19	15	0	7:15 PM	26.35	0.2	0.01	100.4	6.65	11.1
7/18/2000	193000	7/18/2000 19:30	19	30	0	7:30 PM	26.33	0.3	0.02	101.6	6.67	11.1
7/18/2000	194500	7/18/2000 19:45	19	45	0	7:45 PM	26.3	0.2	0.02	101	6.67	11.1
7/18/2000	200000	7/18/2000 20:00	20	0	0	8:00 PM	26.33	0.2	0.02	101.6	6.68	11.1
7/18/2000	201500	7/18/2000 20:15	20	15	0	8:15 PM	26.33	0.2	0.02	101.6	6.67	11.1
7/18/2000	203000	7/18/2000 20:30	20	30	0	8:30 PM	26.28	0.2	0.02	102.6	6.68	11.2
7/18/2000	204500	7/18/2000 20:45	20	45	0	8:45 PM	26.29	0.2	0.02	102	6.68	11.1
7/18/2000	210000	7/18/2000 21:00	21	0	0	9:00 PM	26.33	0.2	0.02	101.8	6.67	11.1
7/18/2000	211500	7/18/2000 21:15	21	15	0	9:15 PM	26.31	0.2	0.02	102.8	6.68	11.2
7/18/2000	213000	7/18/2000 21:30	21	30	0	9:30 PM	26.28	0.2	0.02	102.8	6.68	11.2
7/18/2000	214500	7/18/2000 21:45	21	45	0	9:45 PM	26.31	0.2	0.02	101.8	6.67	11.2
7/18/2000	220000	7/18/2000 22:00	22	0	0	10:00 PM	26.35	0.2	0.01	103.9	6.68	11.1
7/18/2000	221500	7/18/2000 22:15	22	15	0	10:15 PM	26.35	0.2	0.01	102.7	6.69	11.1
7/18/2000	223000	7/18/2000 22:30	22	30	0	10:30 PM	26.34	0.2	0.02	102.8	6.68	11.1
7/18/2000	224500	7/18/2000 22:45	22	45	0	10:45 PM	26.39	0.2	0.01	101.7	6.68	11.2
7/18/2000	230000	7/18/2000 23:00	23	0	0	11:00 PM	26.4	0.2	0.01	102	6.68	11.1
7/18/2000	231500	7/18/2000 23:15	23	15	0	11:15 PM	26.43	0.2	0.01	102	6.68	11.1
7/18/2000	233000	7/18/2000 23:30	23	30	0	11:30 PM	26.48	0.3	0.02	102.9	6.68	11.1
7/18/2000	234500	7/18/2000 23:45	23	45	0	11:45 PM	26.52	0.2	0.02	101.5	6.66	11.1
7/19/2000	0	7/19/2000 0:00	0	0	0	12:00 AM	26.52	0.2	0.02	101.5	6.67	11.1
7/19/2000	1500	7/19/2000 0:15	0	15	0	12:15 AM	26.53	0.2	0.02	102.3	6.67	11.1
7/19/2000	3000	7/19/2000 0:30	0	30	0	12:30 AM	26.64	0.2	0.02	101.1	6.66	11.1
7/19/2000	4500	7/19/2000 0:45	0	45	0	12:45 AM	26.58	0.1	0.01	101.6	6.66	11.2
7/19/2000	10000	7/19/2000 1:00	1	0	0	1:00 AM	26.63	0.1	0.01	101.8	6.67	11.2

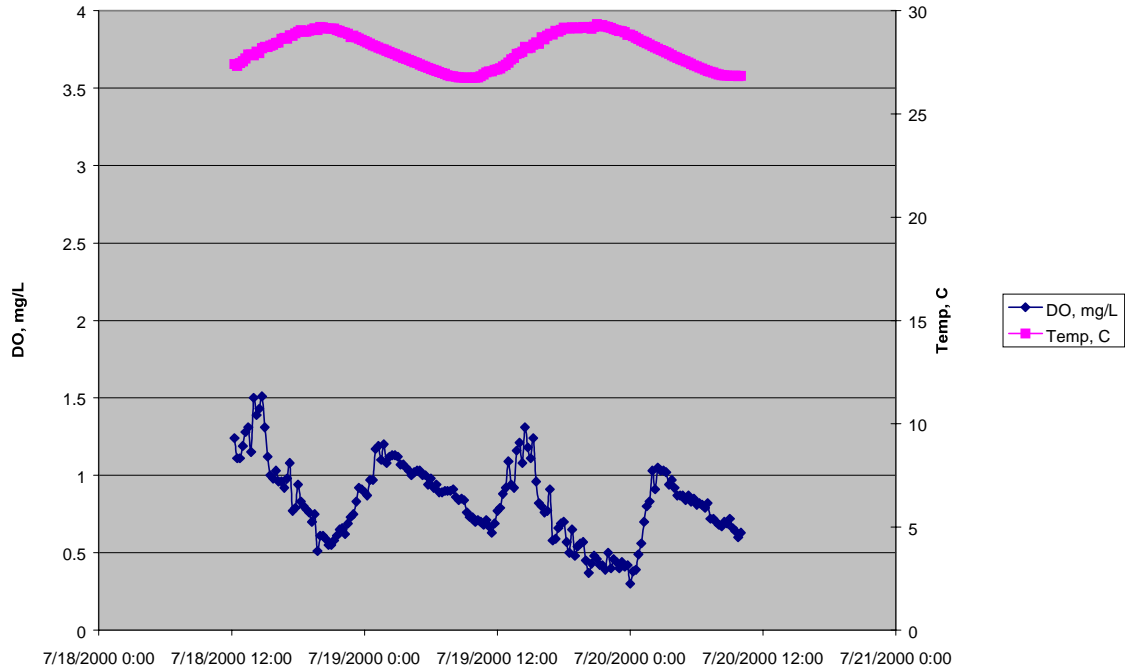
7/19/2000	11500	7/19/2000 1:15	1	15	0	1:15 AM	26.61	0.1	0.01	101.6	6.67	11.1
7/19/2000	13000	7/19/2000 1:30	1	30	0	1:30 AM	26.65	0.4	0.04	101.2	6.65	11.1
7/19/2000	14500	7/19/2000 1:45	1	45	0	1:45 AM	26.66	0.3	0.02	100.6	6.65	11.1
7/19/2000	20000	7/19/2000 2:00	2	0	0	2:00 AM	26.66	0.2	0.02	100.6	6.65	11.1
7/19/2000	21500	7/19/2000 2:15	2	15	0	2:15 AM	26.65	0.2	0.02	100.9	6.65	11.1
7/19/2000	23000	7/19/2000 2:30	2	30	0	2:30 AM	26.65	0.1	0.01	101.2	6.66	11.1
7/19/2000	24500	7/19/2000 2:45	2	45	0	2:45 AM	26.62	0.2	0.02	101.6	6.66	11.1
7/19/2000	30000	7/19/2000 3:00	3	0	0	3:00 AM	26.7	0.1	0.01	101	6.65	11.1
7/19/2000	31500	7/19/2000 3:15	3	15	0	3:15 AM	26.66	0.1	0.01	101.5	6.66	11.1
7/19/2000	33000	7/19/2000 3:30	3	30	0	3:30 AM	26.65	0.2	0.01	101.6	6.66	11.2
7/19/2000	34500	7/19/2000 3:45	3	45	0	3:45 AM	26.63	0.1	0.01	101.9	6.66	11.2
7/19/2000	40000	7/19/2000 4:00	4	0	0	4:00 AM	26.66	0.2	0.01	101.5	6.67	11.1
7/19/2000	41500	7/19/2000 4:15	4	15	0	4:15 AM	26.66	0.2	0.01	101.4	6.66	11.1
7/19/2000	43000	7/19/2000 4:30	4	30	0	4:30 AM	26.63	0.2	0.01	102.3	6.66	11.1
7/19/2000	44500	7/19/2000 4:45	4	45	0	4:45 AM	26.65	0.4	0.03	101.8	6.66	11.1
7/19/2000	50000	7/19/2000 5:00	5	0	0	5:00 AM	26.66	0.2	0.02	101	6.66	11.1
7/19/2000	51500	7/19/2000 5:15	5	15	0	5:15 AM	26.79	0.3	0.03	99	6.63	10.9
7/19/2000	53000	7/19/2000 5:30	5	30	0	5:30 AM	26.69	0.2	0.02	101.1	6.65	11.1
7/19/2000	54500	7/19/2000 5:45	5	45	0	5:45 AM	26.62	0.2	0.01	101	6.66	11.1
7/19/2000	60000	7/19/2000 6:00	6	0	0	6:00 AM	26.68	0.4	0.03	99.8	6.64	11.2
7/19/2000	61500	7/19/2000 6:15	6	15	0	6:15 AM	26.67	0.3	0.02	100.7	6.65	11.1
7/19/2000	63000	7/19/2000 6:30	6	30	0	6:30 AM	26.65	0.3	0.02	100.1	6.64	11.1
7/19/2000	64500	7/19/2000 6:45	6	45	0	6:45 AM	26.63	0.6	0.05	99	6.64	11.2
7/19/2000	70000	7/19/2000 7:00	7	0	0	7:00 AM	26.6	0.7	0.06	99.5	6.64	11.1
7/19/2000	71500	7/19/2000 7:15	7	15	0	7:15 AM	26.6	0.5	0.04	99.8	6.63	11.1
7/19/2000	73000	7/19/2000 7:30	7	30	0	7:30 AM	26.61	0.4	0.03	98.8	6.62	11.1
7/19/2000	74500	7/19/2000 7:45	7	45	0	7:45 AM	26.58	1.4	0.11	99.5	6.62	11
7/19/2000	80000	7/19/2000 8:00	8	0	0	8:00 AM	26.57	1.1	0.09	99.4	6.63	10.8
7/19/2000	81500	7/19/2000 8:15	8	15	0	8:15 AM	26.54	2.7	0.22	97.3	6.62	11.1
7/19/2000	83000	7/19/2000 8:30	8	30	0	8:30 AM	26.52	2.6	0.2	99.2	6.63	11.1
7/19/2000	84500	7/19/2000 8:45	8	45	0	8:45 AM	26.54	1.7	0.13	98.3	6.63	11.1
7/19/2000	90000	7/19/2000 9:00	9	0	0	9:00 AM	26.5	2.7	0.22	100.2	6.64	11.1
7/19/2000	91500	7/19/2000 9:15	9	15	0	9:15 AM	26.76	6.2	0.5	93.2	6.63	11.1
7/19/2000	93000	7/19/2000 9:30	9	30	0	9:30 AM	26.79	7.2	0.57	92.4	6.58	11.1
7/19/2000	94500	7/19/2000 9:45	9	45	0	9:45 AM	26.68	3.5	0.28	94.2	6.58	11
7/19/2000	100000	7/19/2000 10:00	10	0	0	10:00 AM	26.69	1.9	0.15	92.9	6.56	11
7/19/2000	101500	7/19/2000 10:15	10	15	0	10:15 AM	26.63	1.4	0.11	93.7	6.55	11
7/19/2000	103000	7/19/2000 10:30	10	30	0	10:30 AM	26.56	0.4	0.03	96.4	6.58	11.1
7/19/2000	104500	7/19/2000 10:45	10	45	0	10:45 AM	26.6	0.3	0.02	94.7	6.56	11.1
7/19/2000	110000	7/19/2000 11:00	11	0	0	11:00 AM	26.6	0.2	0.02	94.1	6.56	11
7/19/2000	111500	7/19/2000 11:15	11	15	0	11:15 AM	26.61	0.2	0.02	93.8	6.55	11
7/19/2000	113000	7/19/2000 11:30	11	30	0	11:30 AM	26.59	0.2	0.02	94.4	6.56	11.1
7/19/2000	114500	7/19/2000 11:45	11	45	0	11:45 AM	26.58	0.2	0.02	94.1	6.55	11
7/19/2000	120000	7/19/2000 12:00	12	0	0	12:00 PM	26.59	0.1	0.01	93.7	6.55	11.1
7/19/2000	121500	7/19/2000 12:15	12	15	0	12:15 PM	26.59	0.2	0.02	93.6	6.55	11.1
7/19/2000	123000	7/19/2000 12:30	12	30	0	12:30 PM	26.6	0.1	0.01	93.5	6.55	11.1
7/19/2000	124500	7/19/2000 12:45	12	45	0	12:45 PM	26.61	0.2	0.01	93.3	6.55	11.1

7/19/2000	130000	7/19/2000 13:00	13	0	0	1:00 PM	26.6	0.1	0.01	93.7	6.55	11.1
7/19/2000	131500	7/19/2000 13:15	13	15	0	1:15 PM	26.6	0.1	0.01	93.8	6.55	11.1
7/19/2000	133000	7/19/2000 13:30	13	30	0	1:30 PM	26.59	0.1	0.01	94	6.55	11.1
7/19/2000	134500	7/19/2000 13:45	13	45	0	1:45 PM	26.57	0.2	0.01	94.3	6.56	11.1
7/19/2000	140000	7/19/2000 14:00	14	0	0	2:00 PM	26.56	0.2	0.01	94.5	6.56	11.1
7/19/2000	141500	7/19/2000 14:15	14	15	0	2:15 PM	26.57	0.2	0.01	94.6	6.56	11.1
7/19/2000	143000	7/19/2000 14:30	14	30	0	2:30 PM	26.58	0.1	0.01	94.5	6.56	11.1
7/19/2000	144500	7/19/2000 14:45	14	45	0	2:45 PM	26.56	0.1	0.01	94.5	6.56	11.1
7/19/2000	150000	7/19/2000 15:00	15	0	0	3:00 PM	26.54	0.2	0.02	94.8	6.56	11.1
7/19/2000	151500	7/19/2000 15:15	15	15	0	3:15 PM	26.52	0.1	0.01	95.2	6.56	11.1
7/19/2000	153000	7/19/2000 15:30	15	30	0	3:30 PM	26.51	0.1	0.01	95.2	6.57	11.1
7/19/2000	154500	7/19/2000 15:45	15	45	0	3:45 PM	26.48	0.1	0.01	95.7	6.57	11.1
7/19/2000	160000	7/19/2000 16:00	16	0	0	4:00 PM	26.49	0.2	0.01	95.4	6.57	11.1
7/19/2000	161500	7/19/2000 16:15	16	15	0	4:15 PM	26.51	0.1	0.01	95.2	6.56	11.1
7/19/2000	163000	7/19/2000 16:30	16	30	0	4:30 PM	26.53	0.1	0.01	94.8	6.56	11
7/19/2000	164500	7/19/2000 16:45	16	45	0	4:45 PM	26.51	0.2	0.01	95.1	6.56	11.1
7/19/2000	170000	7/19/2000 17:00	17	0	0	5:00 PM	26.52	0.2	0.01	95.3	6.57	11.1
7/19/2000	171500	7/19/2000 17:15	17	15	0	5:15 PM	26.55	0.2	0.01	95.1	6.57	11.1
7/19/2000	173000	7/19/2000 17:30	17	30	0	5:30 PM	26.55	0.2	0.01	95.1	6.57	11.1
7/19/2000	174500	7/19/2000 17:45	17	45	0	5:45 PM	26.5	0.1	0.01	96.1	6.57	11.1
7/19/2000	180000	7/19/2000 18:00	18	0	0	6:00 PM	26.52	0.1	0	95.7	6.57	11.1
7/19/2000	181500	7/19/2000 18:15	18	15	0	6:15 PM	26.52	0.1	0.01	95.2	6.55	11.1
7/19/2000	183000	7/19/2000 18:30	18	30	0	6:30 PM	26.52	0.1	0.01	95.7	6.56	11.1
7/19/2000	184500	7/19/2000 18:45	18	45	0	6:45 PM	26.52	0.1	0.01	96.1	6.57	11.1
7/19/2000	190000	7/19/2000 19:00	19	0	0	7:00 PM	26.5	0.2	0.01	96.4	6.57	11.1
7/19/2000	191500	7/19/2000 19:15	19	15	0	7:15 PM	26.52	0.1	0.01	96	6.57	11.1
7/19/2000	193000	7/19/2000 19:30	19	30	0	7:30 PM	26.53	0.2	0.01	96.1	6.57	11.1
7/19/2000	194500	7/19/2000 19:45	19	45	0	7:45 PM	26.56	0.1	0.01	95.9	6.56	11.1
7/19/2000	200000	7/19/2000 20:00	20	0	0	8:00 PM	26.55	0.1	0.01	95.9	6.56	11.1
7/19/2000	201500	7/19/2000 20:15	20	15	0	8:15 PM	26.56	0.1	0	96	6.56	11.1
7/19/2000	203000	7/19/2000 20:30	20	30	0	8:30 PM	26.54	0.1	0.01	96.1	6.57	11.1
7/19/2000	204500	7/19/2000 20:45	20	45	0	8:45 PM	26.56	0.1	0.01	96.1	6.56	11.1
7/19/2000	210000	7/19/2000 21:00	21	0	0	9:00 PM	26.57	0.1	0.01	96.7	6.57	11.1
7/19/2000	211500	7/19/2000 21:15	21	15	0	9:15 PM	26.54	0.1	0.01	96.8	6.57	11.1
7/19/2000	213000	7/19/2000 21:30	21	30	0	9:30 PM	26.53	0.1	0.01	96.9	6.58	11.1
7/19/2000	214500	7/19/2000 21:45	21	45	0	9:45 PM	26.52	0.1	0	97.4	6.58	11.1
7/19/2000	220000	7/19/2000 22:00	22	0	0	10:00 PM	26.58	0.1	0.01	96.8	6.57	11.1
7/19/2000	221500	7/19/2000 22:15	22	15	0	10:15 PM	26.58	0.1	0	96.7	6.57	11.1
7/19/2000	223000	7/19/2000 22:30	22	30	0	10:30 PM	26.67	0.2	0.01	97.3	6.57	11.1
7/19/2000	224500	7/19/2000 22:45	22	45	0	10:45 PM	26.62	0.2	0.01	97.7	6.58	11.1
7/19/2000	230000	7/19/2000 23:00	23	0	0	11:00 PM	26.59	0	0	98.2	6.59	11
7/19/2000	231500	7/19/2000 23:15	23	15	0	11:15 PM	26.58	0.1	0.01	98.5	6.59	11.1
7/19/2000	233000	7/19/2000 23:30	23	30	0	11:30 PM	26.59	0.1	0.01	98.4	6.59	11
7/19/2000	234500	7/19/2000 23:45	23	45	0	11:45 PM	26.59	0.1	0.01	98.6	6.59	11.1
7/20/2000	0	7/20/2000 0:00	0	0	0	12:00 AM	26.58	0.2	0.01	98.6	6.59	11.1
7/20/2000	1500	7/20/2000 0:15	0	15	0	12:15 AM	26.9	4.7	0.38	97.3	6.59	11
7/20/2000	3000	7/20/2000 0:30	0	30	0	12:30 AM	26.97	4.1	0.33	97.6	6.6	11.1

7/20/2000	4500	7/20/2000 0:45	0	45	0	12:45 AM	26.97	5.9	0.47	97.1	6.58	11
7/20/2000	10000	7/20/2000 1:00	1	0	0	1:00 AM	27.02	2.4	0.19	97.3	6.59	11
7/20/2000	11500	7/20/2000 1:15	1	15	0	1:15 AM	26.81	0.6	0.05	98.9	6.59	11
7/20/2000	13000	7/20/2000 1:30	1	30	0	1:30 AM	26.96	1.8	0.14	97.9	6.59	11
7/20/2000	14500	7/20/2000 1:45	1	45	0	1:45 AM	26.73	0.6	0.05	99.1	6.59	11
7/20/2000	20000	7/20/2000 2:00	2	0	0	2:00 AM	26.71	0.2	0.02	99.2	6.59	11
7/20/2000	21500	7/20/2000 2:15	2	15	0	2:15 AM	26.83	0.2	0.02	98.8	6.59	11.1
7/20/2000	23000	7/20/2000 2:30	2	30	0	2:30 AM	26.84	0.2	0.01	98.9	6.58	11.1
7/20/2000	24500	7/20/2000 2:45	2	45	0	2:45 AM	26.79	0.2	0.02	100.1	6.59	11
7/20/2000	30000	7/20/2000 3:00	3	0	0	3:00 AM	26.74	0.2	0.02	99.6	6.59	11.1
7/20/2000	31500	7/20/2000 3:15	3	15	0	3:15 AM	26.75	0.2	0.02	99.6	6.59	11.1
7/20/2000	33000	7/20/2000 3:30	3	30	0	3:30 AM	26.77	0.1	0.01	99.8	6.59	11.1
7/20/2000	34500	7/20/2000 3:45	3	45	0	3:45 AM	26.75	0.2	0.01	99.9	6.6	11.1
7/20/2000	40000	7/20/2000 4:00	4	0	0	4:00 AM	26.81	0.1	0.01	99.4	6.59	11.1
7/20/2000	41500	7/20/2000 4:15	4	15	0	4:15 AM	26.78	0.2	0.01	100	6.59	11
7/20/2000	43000	7/20/2000 4:30	4	30	0	4:30 AM	26.77	0.2	0.01	100	6.59	11.1
7/20/2000	44500	7/20/2000 4:45	4	45	0	4:45 AM	26.78	0.1	0.01	99.9	6.59	11.1
7/20/2000	50000	7/20/2000 5:00	5	0	0	5:00 AM	26.8	0.1	0.01	99.2	6.59	11.1
7/20/2000	51500	7/20/2000 5:15	5	15	0	5:15 AM	26.8	0.1	0.01	99.3	6.58	11.1
7/20/2000	53000	7/20/2000 5:30	5	30	0	5:30 AM	26.83	0.2	0.01	99.1	6.57	11.1
7/20/2000	54500	7/20/2000 5:45	5	45	0	5:45 AM	26.78	0.3	0.02	99.2	6.58	11.1
7/20/2000	60000	7/20/2000 6:00	6	0	0	6:00 AM	26.79	0.1	0.01	99.2	6.58	11
7/20/2000	61500	7/20/2000 6:15	6	15	0	6:15 AM	26.77	0.2	0.01	99.4	6.57	11
7/20/2000	63000	7/20/2000 6:30	6	30	0	6:30 AM	26.74	0.2	0.02	99.8	6.57	11.1
7/20/2000	64500	7/20/2000 6:45	6	45	0	6:45 AM	26.74	0.3	0.02	98.9	6.57	11.1
7/20/2000	70000	7/20/2000 7:00	7	0	0	7:00 AM	26.75	0.6	0.05	97.4	6.55	11
7/20/2000	71500	7/20/2000 7:15	7	15	0	7:15 AM	26.73	0.8	0.06	97.6	6.55	11
7/20/2000	73000	7/20/2000 7:30	7	30	0	7:30 AM	26.71	2.6	0.21	96.9	6.54	11.1
7/20/2000	74500	7/20/2000 7:45	7	45	0	7:45 AM	26.68	0.8	0.07	97.7	6.54	11.1
7/20/2000	80000	7/20/2000 8:00	8	0	0	8:00 AM	26.68	2.4	0.19	97	6.54	11.1
7/20/2000	81500	7/20/2000 8:15	8	15	0	8:15 AM	26.64	1.3	0.1	97.6	6.54	11
7/20/2000	83000	7/20/2000 8:30	8	30	0	8:30 AM	26.63	2.9	0.23	97.1	6.54	11
7/20/2000	84500	7/20/2000 8:45	8	45	0	8:45 AM	26.62	2.4	0.19	97.1	6.54	11
7/20/2000	90000	7/20/2000 9:00	9	0	0	9:00 AM	26.59	2.6	0.21	97.6	6.55	11.1
7/20/2000	91500	7/20/2000 9:15	9	15	0	9:15 AM	26.59	1	0.08	96.8	6.53	11
7/20/2000	93000	7/20/2000 9:30	9	30	0	9:30 AM	26.6	0.5	0.04	96.9	6.53	11.1
7/20/2000	94500	7/20/2000 9:45	9	45	0	9:45 AM	26.59	0.3	0.03	97.6	6.54	11
7/20/2000	100000	7/20/2000 10:00	10	0	0	10:00 AM	26.59	0.2	0.02	97.3	6.54	11
7/20/2000	101500	7/20/2000 10:15	10	15	0	10:15 AM	26.56	0.1	0.01	98.3	6.55	11
7/20/2000	103000	7/20/2000 10:30	10	30	0	10:30 AM	26.58	0.1	0.01	96.2	6.54	11

Recovery finished at 072100 071444

Flat Creek, Site 2



DataSonde 4a 37757

Log File Name : Flat Creek Site 2

Setup Date (MMDDYY) : 071700
 Setup Time (HHMMSS) : 123435
 Starting Date (MMDDYY) : 071800
 Starting Time (HHMMSS) : 010000
 Stopping Date (MMDDYY) : 072100
 Stopping Time (HHMMSS) : 010000
 Interval (HHMMSS) : 001500
 Sensor warmup (HHMMSS) : 000200
 Circltr warmup (HHMMSS) : 000200

Average DO: 0.8298
 Median DO: 0.83
 Avg temp: 28.08
 Median temp: 28.16

Date MMDDYY	Time+Date	Time HHMMSS	hh	mm	ss	Time	Temp øC	DO% Sat	DO mg/l	pH Units	SpCond æS/cm	IBatt Volts
7/18/2000	7/18/2000 12:15	121500	12	15	0	12:15 PM	27.41	15.7	1.24	6.83	99.7	11.1
7/18/2000	7/18/2000 12:30	123000	12	30	0	12:30 PM	27.34	14.1	1.11	6.79	101.5	11.5
7/18/2000	7/18/2000 12:45	124500	12	45	0	12:45 PM	27.46	14.1	1.11	6.77	100.8	11.5
7/18/2000	7/18/2000 13:00	130000	13	0	0	1:00 PM	27.55	15.1	1.19	6.77	101.4	11.4
7/18/2000	7/18/2000 13:15	131500	13	15	0	1:15 PM	27.69	16.3	1.28	6.77	100.7	11.5
7/18/2000	7/18/2000 13:30	133000	13	30	0	1:30 PM	27.88	16.7	1.31	6.78	100.9	11.5
7/18/2000	7/18/2000 13:45	134500	13	45	0	1:45 PM	27.88	14.7	1.15	6.78	100.8	11.5
7/18/2000	7/18/2000 14:00	140000	14	0	0	2:00 PM	27.85	19.2	1.5	6.78	101.8	11.5

7/18/2000	7/18/2000 14:15	141500	14	15	0	2:15 PM	28.01	17.8	1.39	6.78	101.3	11.4
7/18/2000	7/18/2000 14:30	143000	14	30	0	2:30 PM	27.95	18.3	1.43	6.79	102.3	11.5
7/18/2000	7/18/2000 14:45	144500	14	45	0	2:45 PM	28.19	19.3	1.51	6.78	101.9	11.5
7/18/2000	7/18/2000 15:00	150000	15	0	0	3:00 PM	28.26	16.8	1.31	6.78	101.5	11.4
7/18/2000	7/18/2000 15:15	151500	15	15	0	3:15 PM	28.24	14.5	1.12	6.78	101.3	11.5
7/18/2000	7/18/2000 15:30	153000	15	30	0	3:30 PM	28.31	12.8	1	6.77	101	11.4
7/18/2000	7/18/2000 15:45	154500	15	45	0	3:45 PM	28.35	12.6	0.98	6.77	101.7	11.5
7/18/2000	7/18/2000 16:00	160000	16	0	0	4:00 PM	28.44	13.3	1.03	6.76	101.6	11.5
7/18/2000	7/18/2000 16:15	161500	16	15	0	4:15 PM	28.45	12.4	0.96	6.74	102	11.5
7/18/2000	7/18/2000 16:30	163000	16	30	0	4:30 PM	28.64	12.5	0.96	6.75	101	11.5
7/18/2000	7/18/2000 16:45	164500	16	45	0	4:45 PM	28.68	11.9	0.92	6.75	101.4	11.5
7/18/2000	7/18/2000 17:00	170000	17	0	0	5:00 PM	28.65	12.7	0.98	6.76	101.7	11.5
7/18/2000	7/18/2000 17:15	171500	17	15	0	5:15 PM	28.81	14.1	1.08	6.75	101.8	11.5
7/18/2000	7/18/2000 17:30	173000	17	30	0	5:30 PM	28.79	10	0.77	6.74	101	11.5
7/18/2000	7/18/2000 17:45	174500	17	45	0	5:45 PM	28.9	10.3	0.79	6.75	101.8	11.5
7/18/2000	7/18/2000 18:00	180000	18	0	0	6:00 PM	28.98	12.2	0.94	6.75	102	11.5
7/18/2000	7/18/2000 18:15	181500	18	15	0	6:15 PM	29.05	10.8	0.83	6.74	100.9	11.5
7/18/2000	7/18/2000 18:30	183000	18	30	0	6:30 PM	28.98	10.5	0.8	6.75	100.4	11.5
7/18/2000	7/18/2000 18:45	184500	18	45	0	6:45 PM	28.98	10.1	0.78	6.74	100.6	11.4
7/18/2000	7/18/2000 19:00	190000	19	0	0	7:00 PM	29.03	9.9	0.76	6.74	101.1	11.5
7/18/2000	7/18/2000 19:15	191500	19	15	0	7:15 PM	29.08	9.1	0.7	6.74	101	11.5
7/18/2000	7/18/2000 19:30	193000	19	30	0	7:30 PM	29.15	9.8	0.75	6.73	101.6	11.5
7/18/2000	7/18/2000 19:45	194500	19	45	0	7:45 PM	29.06	6.6	0.51	6.73	100.5	11.4
7/18/2000	7/18/2000 20:00	200000	20	0	0	8:00 PM	29.22	8	0.61	6.73	100.5	11.5
7/18/2000	7/18/2000 20:15	201500	20	15	0	8:15 PM	29.19	8	0.61	6.73	101.1	11.5
7/18/2000	7/18/2000 20:30	203000	20	30	0	8:30 PM	29.15	7.7	0.59	6.73	101.2	11.5
7/18/2000	7/18/2000 20:45	204500	20	45	0	8:45 PM	29.14	7.2	0.55	6.73	101.2	11.5
7/18/2000	7/18/2000 21:00	210000	21	0	0	9:00 PM	29.14	7.2	0.55	6.73	101.5	11.5
7/18/2000	7/18/2000 21:15	211500	21	15	0	9:15 PM	29.13	7.6	0.58	6.73	101.6	11.5
7/18/2000	7/18/2000 21:30	213000	21	30	0	9:30 PM	29.06	7.9	0.61	6.73	101.9	11.5
7/18/2000	7/18/2000 21:45	214500	21	45	0	9:45 PM	29.02	8.5	0.65	6.72	102.5	11.5
7/18/2000	7/18/2000 22:00	220000	22	0	0	10:00 PM	28.96	8.6	0.66	6.72	102.9	11.5
7/18/2000	7/18/2000 22:15	221500	22	15	0	10:15 PM	28.93	8	0.62	6.72	103	11.5
7/18/2000	7/18/2000 22:30	223000	22	30	0	10:30 PM	28.88	9	0.69	6.72	103.3	11.5
7/18/2000	7/18/2000 22:45	224500	22	45	0	10:45 PM	28.73	9.5	0.73	6.73	103.3	11.5
7/18/2000	7/18/2000 23:00	230000	23	0	0	11:00 PM	28.79	9.8	0.75	6.72	103.2	11.4
7/18/2000	7/18/2000 23:15	231500	23	15	0	11:15 PM	28.71	10.7	0.83	6.73	103.6	11.5
7/18/2000	7/18/2000 23:30	233000	23	30	0	11:30 PM	28.65	11.9	0.92	6.74	103.4	11.5
7/18/2000	7/18/2000 23:45	234500	23	45	0	11:45 PM	28.59	11.8	0.91	6.74	104	11.5
7/19/2000	7/19/2000 0:00	0	0	0	0	12:00 AM	28.52	11.6	0.89	6.74	103.9	11.5
7/19/2000	7/19/2000 0:15	1500	0	15	0	12:15 AM	28.46	11.2	0.87	6.74	104.3	11.5
7/19/2000	7/19/2000 0:30	3000	0	30	0	12:30 AM	28.4	12.5	0.97	6.75	104.3	11.5
7/19/2000	7/19/2000 0:45	4500	0	45	0	12:45 AM	28.33	12.5	0.97	6.75	104.3	11.5
7/19/2000	7/19/2000 1:00	10000	1	0	0	1:00 AM	28.28	15.1	1.17	6.74	104.4	11.5
7/19/2000	7/19/2000 1:15	11500	1	15	0	1:15 AM	28.22	15.3	1.19	6.75	104.3	11.5
7/19/2000	7/19/2000 1:30	13000	1	30	0	1:30 AM	28.16	14.1	1.1	6.75	104.8	11.4
7/19/2000	7/19/2000 1:45	14500	1	45	0	1:45 AM	28.12	15.4	1.2	6.76	104.9	11.4

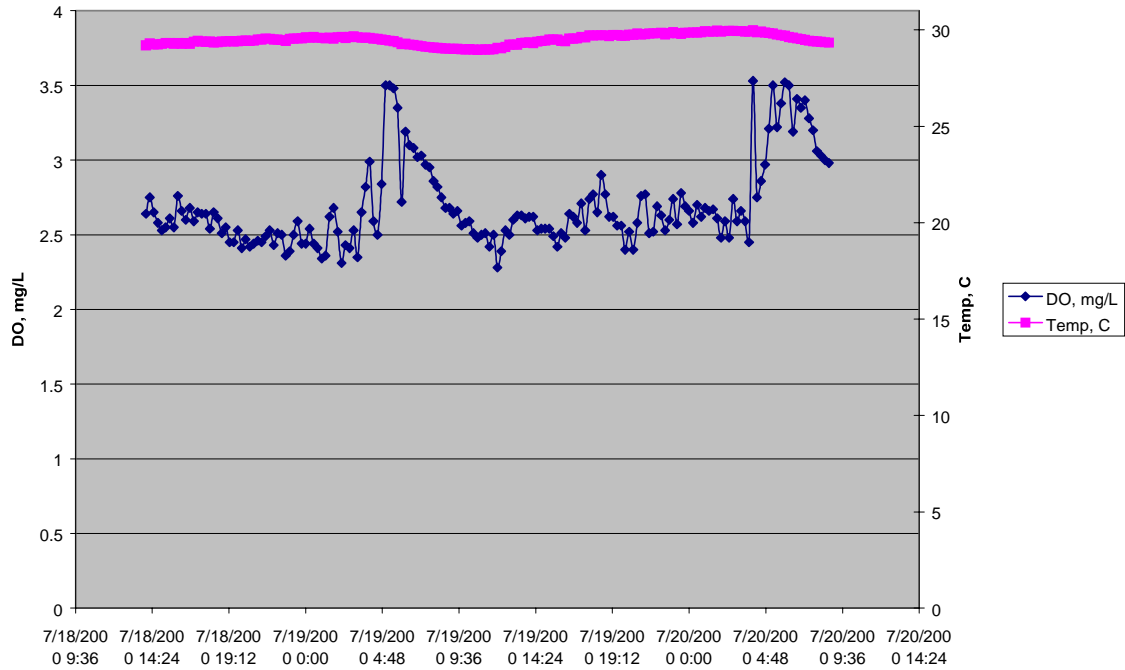
7/19/2000	7/19/2000 2:00	20000	2	0	0	2:00 AM	28.06	13.8	1.08	6.75	105.1	11.5
7/19/2000	7/19/2000 2:15	21500	2	15	0	2:15 AM	28	14.3	1.12	6.76	105.2	11.5
7/19/2000	7/19/2000 2:30	23000	2	30	0	2:30 AM	27.94	14.4	1.13	6.77	105.2	11.4
7/19/2000	7/19/2000 2:45	24500	2	45	0	2:45 AM	27.89	14.4	1.13	6.76	105.5	11.4
7/19/2000	7/19/2000 3:00	30000	3	0	0	3:00 AM	27.83	14.3	1.12	6.77	105.7	11.5
7/19/2000	7/19/2000 3:15	31500	3	15	0	3:15 AM	27.78	13.6	1.07	6.77	106	11.5
7/19/2000	7/19/2000 3:30	33000	3	30	0	3:30 AM	27.72	13.6	1.07	6.77	105.8	11.5
7/19/2000	7/19/2000 3:45	34500	3	45	0	3:45 AM	27.67	13.4	1.05	6.77	106.2	11.5
7/19/2000	7/19/2000 4:00	40000	4	0	0	4:00 AM	27.62	13	1.03	6.77	106.4	11.4
7/19/2000	7/19/2000 4:15	41500	4	15	0	4:15 AM	27.56	12.6	1	6.77	107.3	11.5
7/19/2000	7/19/2000 4:30	43000	4	30	0	4:30 AM	27.5	12.9	1.02	6.76	106.9	11.5
7/19/2000	7/19/2000 4:45	44500	4	45	0	4:45 AM	27.46	13.1	1.03	6.77	107.2	11.5
7/19/2000	7/19/2000 5:00	50000	5	0	0	5:00 AM	27.39	13	1.03	6.77	107.5	11.5
7/19/2000	7/19/2000 5:15	51500	5	15	0	5:15 AM	27.34	12.6	1	6.77	107.7	11.5
7/19/2000	7/19/2000 5:30	53000	5	30	0	5:30 AM	27.29	12.7	1	6.77	108	11.4
7/19/2000	7/19/2000 5:45	54500	5	45	0	5:45 AM	27.23	11.8	0.94	6.77	108.4	11.4
7/19/2000	7/19/2000 6:00	60000	6	0	0	6:00 AM	27.18	12.3	0.98	6.77	108.6	11.5
7/19/2000	7/19/2000 6:15	61500	6	15	0	6:15 AM	27.13	11.5	0.92	6.78	108.7	11.4
7/19/2000	7/19/2000 6:30	63000	6	30	0	6:30 AM	27.08	11.8	0.94	6.79	108.7	11.5
7/19/2000	7/19/2000 6:45	64500	6	45	0	6:45 AM	27.03	11.2	0.89	6.76	109.1	11.4
7/19/2000	7/19/2000 7:00	70000	7	0	0	7:00 AM	26.98	11.1	0.89	6.77	109.2	11.5
7/19/2000	7/19/2000 7:15	71500	7	15	0	7:15 AM	26.94	11.3	0.9	6.77	109.6	11.4
7/19/2000	7/19/2000 7:30	73000	7	30	0	7:30 AM	26.88	11.3	0.9	6.79	109.3	11.5
7/19/2000	7/19/2000 7:45	74500	7	45	0	7:45 AM	26.84	11.3	0.9	6.79	109.6	11.5
7/19/2000	7/19/2000 8:00	80000	8	0	0	8:00 AM	26.83	11.4	0.91	6.78	110.2	11.5
7/19/2000	7/19/2000 8:15	81500	8	15	0	8:15 AM	26.8	10.8	0.86	6.81	110.3	11.5
7/19/2000	7/19/2000 8:30	83000	8	30	0	8:30 AM	26.78	10.5	0.84	6.77	110.8	11.5
7/19/2000	7/19/2000 8:45	84500	8	45	0	8:45 AM	26.77	10.7	0.85	6.79	111.4	11.5
7/19/2000	7/19/2000 9:00	90000	9	0	0	9:00 AM	26.75	10.5	0.84	6.78	110.2	11.4
7/19/2000	7/19/2000 9:15	91500	9	15	0	9:15 AM	26.76	9.5	0.76	6.78	110.2	11.5
7/19/2000	7/19/2000 9:30	93000	9	30	0	9:30 AM	26.75	9.1	0.73	6.8	110	11.5
7/19/2000	7/19/2000 9:45	94500	9	45	0	9:45 AM	26.76	9.1	0.73	6.8	109.8	11.4
7/19/2000	7/19/2000 10:00	100000	10	0	0	10:00 AM	26.76	8.8	0.7	6.77	109.9	11.5
7/19/2000	7/19/2000 10:15	101500	10	15	0	10:15 AM	26.77	8.9	0.71	6.78	110.2	11.5
7/19/2000	7/19/2000 10:30	103000	10	30	0	10:30 AM	26.83	8.8	0.7	6.78	109.6	11.4
7/19/2000	7/19/2000 10:45	104500	10	45	0	10:45 AM	26.91	8.5	0.68	6.78	109.5	11.4
7/19/2000	7/19/2000 11:00	110000	11	0	0	11:00 AM	27.01	8.9	0.71	6.78	109.5	11.4
7/19/2000	7/19/2000 11:15	111500	11	15	0	11:15 AM	27.06	8.4	0.67	6.78	109.1	11.5
7/19/2000	7/19/2000 11:30	113000	11	30	0	11:30 AM	27.06	7.9	0.63	6.78	109.4	11.4
7/19/2000	7/19/2000 11:45	114500	11	45	0	11:45 AM	27.14	8.7	0.69	6.78	110.6	11.5
7/19/2000	7/19/2000 12:00	120000	12	0	0	12:00 PM	27.16	9.7	0.77	6.79	110	11.5
7/19/2000	7/19/2000 12:15	121500	12	15	0	12:15 PM	27.21	10	0.79	6.79	110.2	11.5
7/19/2000	7/19/2000 12:30	123000	12	30	0	12:30 PM	27.31	11.1	0.88	6.79	110.1	11.4
7/19/2000	7/19/2000 12:45	124500	12	45	0	12:45 PM	27.38	11.7	0.92	6.8	109.4	11.5
7/19/2000	7/19/2000 13:00	130000	13	0	0	1:00 PM	27.48	13.8	1.09	6.79	110	11.4
7/19/2000	7/19/2000 13:15	131500	13	15	0	1:15 PM	27.64	12	0.94	6.8	109.5	11.4
7/19/2000	7/19/2000 13:30	133000	13	30	0	1:30 PM	27.71	11.8	0.92	6.81	109.6	11.5

7/19/2000	7/19/2000 13:45	134500	13	45	0	1:45 PM	27.9	14.8	1.16	6.81	110.5	11.5
7/19/2000	7/19/2000 14:00	140000	14	0	0	2:00 PM	27.94	15.5	1.21	6.82	110.4	11.4
7/19/2000	7/19/2000 14:15	141500	14	15	0	2:15 PM	28.01	13.8	1.08	6.81	110.2	11.4
7/19/2000	7/19/2000 14:30	143000	14	30	0	2:30 PM	28.26	16.9	1.31	6.82	110.7	11.5
7/19/2000	7/19/2000 14:45	144500	14	45	0	2:45 PM	28.18	15.2	1.18	6.82	110.5	11.5
7/19/2000	7/19/2000 15:00	150000	15	0	0	3:00 PM	28.22	14.2	1.11	6.81	111.1	11.4
7/19/2000	7/19/2000 15:15	151500	15	15	0	3:15 PM	28.35	15.9	1.24	6.82	110.3	11.5
7/19/2000	7/19/2000 15:30	153000	15	30	0	3:30 PM	28.47	12.5	0.96	6.8	110.3	11.4
7/19/2000	7/19/2000 15:45	154500	15	45	0	3:45 PM	28.4	10.6	0.82	6.79	110.1	11.4
7/19/2000	7/19/2000 16:00	160000	16	0	0	4:00 PM	28.71	10.4	0.8	6.8	110.5	11.5
7/19/2000	7/19/2000 16:15	161500	16	15	0	4:15 PM	28.61	9.9	0.76	6.79	110.2	11.5
7/19/2000	7/19/2000 16:30	163000	16	30	0	4:30 PM	28.79	10	0.77	6.8	110.2	11.5
7/19/2000	7/19/2000 16:45	164500	16	45	0	4:45 PM	28.88	11.9	0.91	6.79	110.1	11.4
7/19/2000	7/19/2000 17:00	170000	17	0	0	5:00 PM	28.84	7.6	0.58	6.78	110	11.4
7/19/2000	7/19/2000 17:15	171500	17	15	0	5:15 PM	29.02	7.8	0.59	6.79	109.6	11.4
7/19/2000	7/19/2000 17:30	173000	17	30	0	5:30 PM	28.98	8.6	0.66	6.78	109.8	11.4
7/19/2000	7/19/2000 17:45	174500	17	45	0	5:45 PM	29.07	9	0.69	6.78	109.8	11.4
7/19/2000	7/19/2000 18:00	180000	18	0	0	6:00 PM	29.18	9.2	0.7	6.79	109.6	11.5
7/19/2000	7/19/2000 18:15	181500	18	15	0	6:15 PM	29.15	7.4	0.57	6.78	110	11.5
7/19/2000	7/19/2000 18:30	183000	18	30	0	6:30 PM	29.15	6.6	0.5	6.77	110.1	11.5
7/19/2000	7/19/2000 18:45	184500	18	45	0	6:45 PM	29.2	8.5	0.65	6.78	110.3	11.4
7/19/2000	7/19/2000 19:00	190000	19	0	0	7:00 PM	29.18	6.3	0.48	6.78	109.8	11.4
7/19/2000	7/19/2000 19:15	191500	19	15	0	7:15 PM	29.14	7	0.54	6.77	110.4	11.5
7/19/2000	7/19/2000 19:30	193000	19	30	0	7:30 PM	29.18	7.3	0.56	6.77	110	11.5
7/19/2000	7/19/2000 19:45	194500	19	45	0	7:45 PM	29.21	7.5	0.57	6.77	109.8	11.4
7/19/2000	7/19/2000 20:00	200000	20	0	0	8:00 PM	29.17	5.9	0.45	6.76	109.8	11.5
7/19/2000	7/19/2000 20:15	201500	20	15	0	8:15 PM	29.22	4.9	0.37	6.76	109.5	11.4
7/19/2000	7/19/2000 20:30	203000	20	30	0	8:30 PM	29.13	5.6	0.43	6.77	110.5	11.5
7/19/2000	7/19/2000 20:45	204500	20	45	0	8:45 PM	29.23	6.2	0.48	6.77	110.3	11.5
7/19/2000	7/19/2000 21:00	210000	21	0	0	9:00 PM	29.34	6	0.46	6.77	109.9	11.5
7/19/2000	7/19/2000 21:15	211500	21	15	0	9:15 PM	29.26	5.5	0.42	6.77	109.3	11.4
7/19/2000	7/19/2000 21:30	213000	21	30	0	9:30 PM	29.3	5.5	0.42	6.77	109.5	11.4
7/19/2000	7/19/2000 21:45	214500	21	45	0	9:45 PM	29.24	5.1	0.39	6.77	110	11.4
7/19/2000	7/19/2000 22:00	220000	22	0	0	10:00 PM	29.21	6.6	0.5	6.76	110.6	11.4
7/19/2000	7/19/2000 22:15	221500	22	15	0	10:15 PM	29.17	5.3	0.4	6.77	110.8	11.4
7/19/2000	7/19/2000 22:30	223000	22	30	0	10:30 PM	29.11	6	0.46	6.77	111.1	11.5
7/19/2000	7/19/2000 22:45	224500	22	45	0	10:45 PM	29.06	5.8	0.44	6.76	110.7	11.5
7/19/2000	7/19/2000 23:00	230000	23	0	0	11:00 PM	29.02	5.2	0.4	6.77	110.9	11.4
7/19/2000	7/19/2000 23:15	231500	23	15	0	11:15 PM	29.01	5.7	0.44	6.77	111.6	11.4
7/19/2000	7/19/2000 23:30	233000	23	30	0	11:30 PM	28.96	5.4	0.41	6.77	110.9	11.5
7/19/2000	7/19/2000 23:45	234500	23	45	0	11:45 PM	28.83	5.5	0.42	6.77	111.8	11.4
7/20/2000	7/20/2000 0:00	0	0	0	0	12:00 AM	28.83	3.9	0.3	6.77	111.5	11.5
7/20/2000	7/20/2000 0:15	1500	0	15	0	12:15 AM	28.78	5	0.38	6.78	112	11.4
7/20/2000	7/20/2000 0:30	3000	0	30	0	12:30 AM	28.7	5.1	0.39	6.78	111.4	11.4
7/20/2000	7/20/2000 0:45	4500	0	45	0	12:45 AM	28.63	6.3	0.49	6.78	111.6	11.4
7/20/2000	7/20/2000 1:00	10000	1	0	0	1:00 AM	28.55	7.2	0.56	6.79	112.8	11.4
7/20/2000	7/20/2000 1:15	11500	1	15	0	1:15 AM	28.49	9.1	0.7	6.79	112.4	11.5

7/20/2000	7/20/2000 1:30	13000	1	30	0	1:30 AM	28.43	10.4	0.8	6.79	112.5	11.4
7/20/2000	7/20/2000 1:45	14500	1	45	0	1:45 AM	28.36	10.7	0.83	6.79	112.9	11.4
7/20/2000	7/20/2000 2:00	20000	2	0	0	2:00 AM	28.29	13.2	1.03	6.8	113	11.4
7/20/2000	7/20/2000 2:15	21500	2	15	0	2:15 AM	28.23	11.7	0.91	6.79	113.3	11.4
7/20/2000	7/20/2000 2:30	23000	2	30	0	2:30 AM	28.16	13.5	1.05	6.79	113.1	11.5
7/20/2000	7/20/2000 2:45	24500	2	45	0	2:45 AM	28.1	13.2	1.03	6.81	113.6	11.4
7/20/2000	7/20/2000 3:00	30000	3	0	0	3:00 AM	28.04	13.2	1.03	6.8	113.9	11.4
7/20/2000	7/20/2000 3:15	31500	3	15	0	3:15 AM	27.98	13	1.02	6.8	114	11.5
7/20/2000	7/20/2000 3:30	33000	3	30	0	3:30 AM	27.92	12.1	0.94	6.81	114.2	11.4
7/20/2000	7/20/2000 3:45	34500	3	45	0	3:45 AM	27.85	12.3	0.97	6.81	114.1	11.4
7/20/2000	7/20/2000 4:00	40000	4	0	0	4:00 AM	27.78	11.7	0.92	6.81	114.7	11.5
7/20/2000	7/20/2000 4:15	41500	4	15	0	4:15 AM	27.72	11	0.87	6.81	114.8	11.4
7/20/2000	7/20/2000 4:30	43000	4	30	0	4:30 AM	27.66	11.1	0.87	6.81	115.3	11.4
7/20/2000	7/20/2000 4:45	44500	4	45	0	4:45 AM	27.6	11	0.87	6.81	115.3	11.5
7/20/2000	7/20/2000 5:00	50000	5	0	0	5:00 AM	27.55	10.7	0.84	6.81	115.8	11.4
7/20/2000	7/20/2000 5:15	51500	5	15	0	5:15 AM	27.49	11	0.87	6.81	116.1	11.5
7/20/2000	7/20/2000 5:30	53000	5	30	0	5:30 AM	27.42	10.5	0.83	6.81	115.6	11.5
7/20/2000	7/20/2000 5:45	54500	5	45	0	5:45 AM	27.36	10.7	0.85	6.81	116.1	11.5
7/20/2000	7/20/2000 6:00	60000	6	0	0	6:00 AM	27.31	10.3	0.81	6.81	116.5	11.4
7/20/2000	7/20/2000 6:15	61500	6	15	0	6:15 AM	27.25	10.3	0.82	6.82	116.7	11.4
7/20/2000	7/20/2000 6:30	63000	6	30	0	6:30 AM	27.2	10.2	0.81	6.83	117	11.4
7/20/2000	7/20/2000 6:45	64500	6	45	0	6:45 AM	27.14	9.9	0.79	6.82	117.2	11.4
7/20/2000	7/20/2000 7:00	70000	7	0	0	7:00 AM	27.08	10.3	0.82	6.81	117.7	11.5
7/20/2000	7/20/2000 7:15	71500	7	15	0	7:15 AM	27.04	9.1	0.72	6.81	117.9	11.4
7/20/2000	7/20/2000 7:30	73000	7	30	0	7:30 AM	27	9.1	0.72	6.84	117.9	11.4
7/20/2000	7/20/2000 7:45	74500	7	45	0	7:45 AM	26.95	8.8	0.7	6.82	118.5	11.4
7/20/2000	7/20/2000 8:00	80000	8	0	0	8:00 AM	26.91	8.5	0.68	6.82	119	11.4
7/20/2000	7/20/2000 8:15	81500	8	15	0	8:15 AM	26.89	8.4	0.67	6.81	118.7	11.4
7/20/2000	7/20/2000 8:30	83000	8	30	0	8:30 AM	26.87	8.7	0.7	6.82	118.5	11.4
7/20/2000	7/20/2000 8:45	84500	8	45	0	8:45 AM	26.86	8.6	0.69	6.82	118.5	11.4
7/20/2000	7/20/2000 9:00	90000	9	0	0	9:00 AM	26.85	9	0.72	6.81	117.9	11.4
7/20/2000	7/20/2000 9:15	91500	9	15	0	9:15 AM	26.85	8.3	0.66	6.81	117.9	11.4
7/20/2000	7/20/2000 9:30	93000	9	30	0	9:30 AM	26.86	8	0.64	6.84	118	11.4
7/20/2000	7/20/2000 9:45	94500	9	45	0	9:45 AM	26.84	7.5	0.6	6.83	117.9	11.4
7/20/2000	7/20/2000 10:00	100000	10	0	0	10:00 AM	26.85	7.8	0.63	6.82	118.8	11.4

Recovery finished at 072100 071951

Flat Creek, Site 3



DataSonde 4a 37753

Log File Name : Flat Creek Site 3
 Setup Date (MMDDYY) : 071700
 Setup Time (HHMMSS) : 094220
 Starting Date (MMDDYY) : 071800
 Starting Time (HHMMSS) : 010000
 Stopping Date (MMDDYY) : 072100
 Stopping Time (HHMMSS) : 010000
 Interval (HHMMSS) : 001500
 Sensor warmup (HHMMSS) : 000200
 Circltr warmup (HHMMSS) : 000200

Average DO: 2.69
 Median DO: 2.61
 Avg temp: 29.51
 Median temp: 29.51

Date	Time	hh	mm	ss	Time	Date+Time	Temp øC	DO% Sat	DO mg/l	SpCond æS/cm	pH Units	Batt Volts
7/18/2000	140000	14	00	00	2:00 PM	7/18/2000 14:00	29.21	34.5	2.64	81.1	6.71	11.1
7/18/2000	141500	14	15	00	2:15 PM	7/18/2000 14:15	29.3	35.9	2.75	81.4	6.7	11.1
7/18/2000	143000	14	30	00	2:30 PM	7/18/2000 14:30	29.25	34.7	2.65	81.4	6.68	11.1
7/18/2000	144500	14	45	00	2:45 PM	7/18/2000 14:45	29.26	33.8	2.58	81.7	6.67	11.1
7/18/2000	150000	15	00	00	3:00 PM	7/18/2000 15:00	29.28	33.1	2.53	81.6	6.67	11.1
7/18/2000	151500	15	15	00	3:15 PM	7/18/2000 15:15	29.33	33.5	2.55	81.5	6.67	11.1
7/18/2000	153000	15	30	00	3:30 PM	7/18/2000 15:30	29.33	34.2	2.61	81.6	6.67	11.1
7/18/2000	154500	15	45	00	3:45 PM	7/18/2000 15:45	29.29	33.4	2.55	81.4	6.66	11.1

7/18/2000	160000	16	0	0	4:00 PM	7/18/2000 16:00	29.33	36.2	2.76	81.5	6.67	11.1
7/18/2000	161500	16	15	0	4:15 PM	7/18/2000 16:15	29.28	34.8	2.66	81.4	6.66	11
7/18/2000	163000	16	30	0	4:30 PM	7/18/2000 16:30	29.32	34.1	2.6	81.6	6.66	11.1
7/18/2000	164500	16	45	0	4:45 PM	7/18/2000 16:45	29.29	35.1	2.68	81.4	6.66	11.1
7/18/2000	170000	17	0	0	5:00 PM	7/18/2000 17:00	29.39	34	2.59	81.6	6.66	11.1
7/18/2000	171500	17	15	0	5:15 PM	7/18/2000 17:15	29.45	34.8	2.65	81.4	6.66	11.1
7/18/2000	173000	17	30	0	5:30 PM	7/18/2000 17:30	29.4	34.7	2.64	81.6	6.66	11.1
7/18/2000	174500	17	45	0	5:45 PM	7/18/2000 17:45	29.38	34.6	2.64	81.6	6.65	11.1
7/18/2000	180000	18	0	0	6:00 PM	7/18/2000 18:00	29.41	33.3	2.54	81.6	6.65	11.1
7/18/2000	181500	18	15	0	6:15 PM	7/18/2000 18:15	29.35	34.7	2.65	81.5	6.64	11.1
7/18/2000	183000	18	30	0	6:30 PM	7/18/2000 18:30	29.37	34.2	2.61	81.6	6.65	11.1
7/18/2000	184500	18	45	0	6:45 PM	7/18/2000 18:45	29.4	32.9	2.51	81.4	6.64	11.1
7/18/2000	190000	19	0	0	7:00 PM	7/18/2000 19:00	29.41	33.5	2.55	81.5	6.64	11
7/18/2000	191500	19	15	0	7:15 PM	7/18/2000 19:15	29.43	32.1	2.45	81.5	6.64	11
7/18/2000	193000	19	30	0	7:30 PM	7/18/2000 19:30	29.4	32.1	2.45	81.5	6.64	11.1
7/18/2000	194500	19	45	0	7:45 PM	7/18/2000 19:45	29.42	33.2	2.53	81.5	6.64	11.1
7/18/2000	200000	20	0	0	8:00 PM	7/18/2000 20:00	29.44	31.7	2.41	81.4	6.64	11
7/18/2000	201500	20	15	0	8:15 PM	7/18/2000 20:15	29.46	32.5	2.47	81.4	6.63	11
7/18/2000	203000	20	30	0	8:30 PM	7/18/2000 20:30	29.44	31.8	2.42	81.4	6.63	11.1
7/18/2000	204500	20	45	0	8:45 PM	7/18/2000 20:45	29.45	32	2.44	81.7	6.64	11
7/18/2000	210000	21	0	0	9:00 PM	7/18/2000 21:00	29.51	32.3	2.46	81.6	6.64	11.1
7/18/2000	211500	21	15	0	9:15 PM	7/18/2000 21:15	29.5	32.2	2.45	81.7	6.64	11.1
7/18/2000	213000	21	30	0	9:30 PM	7/18/2000 21:30	29.56	32.8	2.49	81.8	6.63	11
7/18/2000	214500	21	45	0	9:45 PM	7/18/2000 21:45	29.54	33.2	2.53	81.7	6.64	11
7/18/2000	220000	22	0	0	10:00 PM	7/18/2000 22:00	29.5	32	2.43	81.5	6.63	11
7/18/2000	221500	22	15	0	10:15 PM	7/18/2000 22:15	29.5	33	2.51	81.6	6.63	11
7/18/2000	223000	22	30	0	10:30 PM	7/18/2000 22:30	29.48	32.9	2.5	81.4	6.63	11
7/18/2000	224500	22	45	0	10:45 PM	7/18/2000 22:45	29.43	31	2.36	81.3	6.62	11
7/18/2000	230000	23	0	0	11:00 PM	7/18/2000 23:00	29.54	31.5	2.39	81.4	6.63	11.1
7/18/2000	231500	23	15	0	11:15 PM	7/18/2000 23:15	29.55	32.9	2.5	81.5	6.62	11
7/18/2000	233000	23	30	0	11:30 PM	7/18/2000 23:30	29.56	34.1	2.59	81.6	6.63	11
7/18/2000	234500	23	45	0	11:45 PM	7/18/2000 23:45	29.57	32.1	2.44	81.5	6.63	11.1
7/19/2000	0	0	0	0	12:00 AM	7/19/2000 0:00	29.62	32.1	2.44	81.7	6.63	11.1
7/19/2000	1500	0	15	0	12:15 AM	7/19/2000 0:15	29.59	33.4	2.54	81.6	6.63	11.1
7/19/2000	3000	0	30	0	12:30 AM	7/19/2000 0:30	29.64	32.2	2.44	81.7	6.62	11
7/19/2000	4500	0	45	0	12:45 AM	7/19/2000 0:45	29.59	31.8	2.41	81.5	6.62	11.1
7/19/2000	10000	1	0	0	1:00 AM	7/19/2000 1:00	29.59	30.8	2.34	81.5	6.62	11.1
7/19/2000	11500	1	15	0	1:15 AM	7/19/2000 1:15	29.56	31	2.36	81.8	6.62	11.1
7/19/2000	13000	1	30	0	1:30 AM	7/19/2000 1:30	29.6	34.5	2.62	81.1	6.62	11.1
7/19/2000	14500	1	45	0	1:45 AM	7/19/2000 1:45	29.54	35.2	2.68	80.7	6.62	11.1
7/19/2000	20000	2	0	0	2:00 AM	7/19/2000 2:00	29.63	33.3	2.52	81.3	6.63	11.1
7/19/2000	21500	2	15	0	2:15 AM	7/19/2000 2:15	29.65	30.4	2.31	81.4	6.63	11.1
7/19/2000	23000	2	30	0	2:30 AM	7/19/2000 2:30	29.58	32	2.43	81.4	6.62	11.1
7/19/2000	24500	2	45	0	2:45 AM	7/19/2000 2:45	29.64	31.7	2.41	81.4	6.63	11
7/19/2000	30000	3	0	0	3:00 AM	7/19/2000 3:00	29.67	33.3	2.53	81.6	6.63	11.1
7/19/2000	31500	3	15	0	3:15 AM	7/19/2000 3:15	29.63	30.9	2.35	81.5	6.64	11
7/19/2000	33000	3	30	0	3:30 AM	7/19/2000 3:30	29.59	34.9	2.65	81.3	6.62	11

7/19/2000	34500	3	45	0	3:45 AM	7/19/2000 3:45	29.6	37.2	2.82	81.5	6.65	11.1
7/19/2000	40000	4	0	0	4:00 AM	7/19/2000 4:00	29.59	39.4	2.99	81.5	6.69	11.1
7/19/2000	41500	4	15	0	4:15 AM	7/19/2000 4:15	29.55	34.1	2.59	81.4	6.67	11.1
7/19/2000	43000	4	30	0	4:30 AM	7/19/2000 4:30	29.54	32.9	2.5	81.6	6.67	11.1
7/19/2000	44500	4	45	0	4:45 AM	7/19/2000 4:45	29.5	37.3	2.84	81.8	6.69	11.1
7/19/2000	50000	5	0	0	5:00 AM	7/19/2000 5:00	29.48	46	3.5	81.8	6.68	11
7/19/2000	51500	5	15	0	5:15 AM	7/19/2000 5:15	29.45	45.9	3.5	82.1	6.7	11.1
7/19/2000	53000	5	30	0	5:30 AM	7/19/2000 5:30	29.42	45.7	3.48	82.2	6.72	11.1
7/19/2000	54500	5	45	0	5:45 AM	7/19/2000 5:45	29.36	43.9	3.35	81.7	6.68	11
7/19/2000	60000	6	0	0	6:00 AM	7/19/2000 6:00	29.27	35.6	2.72	80.8	6.64	11.1
7/19/2000	61500	6	15	0	6:15 AM	7/19/2000 6:15	29.29	41.8	3.19	81.8	6.7	11.1
7/19/2000	63000	6	30	0	6:30 AM	7/19/2000 6:30	29.25	40.6	3.1	81.7	6.68	11.1
7/19/2000	64500	6	45	0	6:45 AM	7/19/2000 6:45	29.23	40.3	3.08	81.8	6.68	11.1
7/19/2000	70000	7	0	0	7:00 AM	7/19/2000 7:00	29.19	39.5	3.02	81.7	6.68	11.1
7/19/2000	71500	7	15	0	7:15 AM	7/19/2000 7:15	29.16	39.6	3.03	81.7	6.68	11
7/19/2000	73000	7	30	0	7:30 AM	7/19/2000 7:30	29.13	38.7	2.97	81.6	6.68	11.1
7/19/2000	74500	7	45	0	7:45 AM	7/19/2000 7:45	29.11	38.5	2.95	81.6	6.68	11.1
7/19/2000	80000	8	0	0	8:00 AM	7/19/2000 8:00	29.09	37.3	2.86	81.6	6.67	11.1
7/19/2000	81500	8	15	0	8:15 AM	7/19/2000 8:15	29.07	36.7	2.82	81.4	6.66	11
7/19/2000	83000	8	30	0	8:30 AM	7/19/2000 8:30	29.06	35.9	2.75	81.4	6.66	11
7/19/2000	84500	8	45	0	8:45 AM	7/19/2000 8:45	29.04	35	2.68	81.4	6.65	11.1
7/19/2000	90000	9	0	0	9:00 AM	7/19/2000 9:00	29.03	34.9	2.68	81.2	6.65	11.1
7/19/2000	91500	9	15	0	9:15 AM	7/19/2000 9:15	29.02	34.4	2.64	81.4	6.65	11.1
7/19/2000	93000	9	30	0	9:30 AM	7/19/2000 9:30	29.02	34.6	2.66	81.5	6.66	11.1
7/19/2000	94500	9	45	0	9:45 AM	7/19/2000 9:45	29	33.4	2.56	81.4	6.64	11
7/19/2000	100000	10	0	0	10:00 AM	7/19/2000 10:00	28.99	33.6	2.58	81.2	6.63	11.1
7/19/2000	101500	10	15	0	10:15 AM	7/19/2000 10:15	29.01	33.8	2.59	81.4	6.64	11.1
7/19/2000	103000	10	30	0	10:30 AM	7/19/2000 10:30	28.99	32.6	2.51	81.1	6.64	11.1
7/19/2000	104500	10	45	0	10:45 AM	7/19/2000 10:45	28.96	32.3	2.48	80.8	6.63	11.1
7/19/2000	110000	11	0	0	11:00 AM	7/19/2000 11:00	28.99	32.6	2.5	81.1	6.64	11
7/19/2000	111500	11	15	0	11:15 AM	7/19/2000 11:15	28.99	32.6	2.51	81.2	6.63	11
7/19/2000	113000	11	30	0	11:30 AM	7/19/2000 11:30	28.99	31.5	2.42	81.1	6.63	11.1
7/19/2000	114500	11	45	0	11:45 AM	7/19/2000 11:45	29	32.6	2.5	81	6.63	11
7/19/2000	120000	12	0	0	12:00 PM	7/19/2000 12:00	29.08	29.7	2.28	80.8	6.62	11.1
7/19/2000	121500	12	15	0	12:15 PM	7/19/2000 12:15	29.05	31.2	2.39	80.6	6.62	11
7/19/2000	123000	12	30	0	12:30 PM	7/19/2000 12:30	29.12	33	2.53	80.8	6.63	11
7/19/2000	124500	12	45	0	12:45 PM	7/19/2000 12:45	29.24	32.7	2.5	80.9	6.63	11
7/19/2000	130000	13	0	0	1:00 PM	7/19/2000 13:00	29.25	34	2.6	81	6.64	11
7/19/2000	131500	13	15	0	1:15 PM	7/19/2000 13:15	29.24	34.3	2.63	81	6.63	11
7/19/2000	133000	13	30	0	1:30 PM	7/19/2000 13:30	29.33	34.5	2.63	81.3	6.64	10.9
7/19/2000	134500	13	45	0	1:45 PM	7/19/2000 13:45	29.34	34.2	2.61	81.1	6.64	11
7/19/2000	140000	14	0	0	2:00 PM	7/19/2000 14:00	29.35	34.3	2.62	81.2	6.64	10.9
7/19/2000	141500	14	15	0	2:15 PM	7/19/2000 14:15	29.32	34.4	2.62	80.9	6.63	11.1
7/19/2000	143000	14	30	0	2:30 PM	7/19/2000 14:30	29.39	33.2	2.53	81	6.64	11
7/19/2000	144500	14	45	0	2:45 PM	7/19/2000 14:45	29.43	33.3	2.54	81	6.63	10.9
7/19/2000	150000	15	0	0	3:00 PM	7/19/2000 15:00	29.45	33.4	2.54	80.9	6.63	11
7/19/2000	151500	15	15	0	3:15 PM	7/19/2000 15:15	29.51	33.3	2.54	81.2	6.64	11

7/19/2000	153000	15	30	0	3:30 PM	7/19/2000 15:30	29.5	32.7	2.49	80.9	6.63	11
7/19/2000	154500	15	45	0	3:45 PM	7/19/2000 15:45	29.51	31.9	2.42	80.9	6.63	11
7/19/2000	160000	16	0	0	4:00 PM	7/19/2000 16:00	29.44	33	2.51	81.2	6.63	11
7/19/2000	161500	16	15	0	4:15 PM	7/19/2000 16:15	29.42	32.5	2.48	81	6.63	11
7/19/2000	163000	16	30	0	4:30 PM	7/19/2000 16:30	29.55	34.7	2.64	81.1	6.64	11.1
7/19/2000	164500	16	45	0	4:45 PM	7/19/2000 16:45	29.55	34.5	2.62	81.2	6.64	11.1
7/19/2000	170000	17	0	0	5:00 PM	7/19/2000 17:00	29.56	34	2.58	81.2	6.64	10.9
7/19/2000	171500	17	15	0	5:15 PM	7/19/2000 17:15	29.64	35.7	2.71	81.2	6.64	11.1
7/19/2000	173000	17	30	0	5:30 PM	7/19/2000 17:30	29.61	33.3	2.53	81.3	6.64	11.1
7/19/2000	174500	17	45	0	5:45 PM	7/19/2000 17:45	29.73	36.1	2.74	81.4	6.65	11
7/19/2000	180000	18	0	0	6:00 PM	7/19/2000 18:00	29.71	36.6	2.77	81.3	6.64	11.1
7/19/2000	181500	18	15	0	6:15 PM	7/19/2000 18:15	29.73	35	2.65	81.5	6.64	11.1
7/19/2000	183000	18	30	0	6:30 PM	7/19/2000 18:30	29.73	38.3	2.9	81.5	6.65	11.1
7/19/2000	184500	18	45	0	6:45 PM	7/19/2000 18:45	29.73	36.6	2.77	81.4	6.65	11
7/19/2000	190000	19	0	0	7:00 PM	7/19/2000 19:00	29.68	34.6	2.62	81.4	6.65	10.9
7/19/2000	191500	19	15	0	7:15 PM	7/19/2000 19:15	29.74	34.5	2.62	81.2	6.64	10.9
7/19/2000	193000	19	30	0	7:30 PM	7/19/2000 19:30	29.74	33.7	2.56	81.2	6.63	11
7/19/2000	194500	19	45	0	7:45 PM	7/19/2000 19:45	29.7	33.8	2.56	81.3	6.63	11
7/19/2000	200000	20	0	0	8:00 PM	7/19/2000 20:00	29.7	31.7	2.4	81.5	6.62	11
7/19/2000	201500	20	15	0	8:15 PM	7/19/2000 20:15	29.75	33.2	2.52	81.4	6.62	11
7/19/2000	203000	20	30	0	8:30 PM	7/19/2000 20:30	29.75	31.7	2.4	81.1	6.62	11
7/19/2000	204500	20	45	0	8:45 PM	7/19/2000 20:45	29.81	34.1	2.58	81.3	6.63	10.9
7/19/2000	210000	21	0	0	9:00 PM	7/19/2000 21:00	29.77	36.5	2.76	81.3	6.64	11.1
7/19/2000	211500	21	15	0	9:15 PM	7/19/2000 21:15	29.78	36.6	2.77	81.4	6.64	10.9
7/19/2000	213000	21	30	0	9:30 PM	7/19/2000 21:30	29.81	33.2	2.51	81.4	6.62	10.9
7/19/2000	214500	21	45	0	9:45 PM	7/19/2000 21:45	29.82	33.2	2.52	81.4	6.62	11
7/19/2000	220000	22	0	0	10:00 PM	7/19/2000 22:00	29.82	35.5	2.69	81.2	6.63	11
7/19/2000	221500	22	15	0	10:15 PM	7/19/2000 22:15	29.86	34.7	2.63	81.3	6.63	11
7/19/2000	223000	22	30	0	10:30 PM	7/19/2000 22:30	29.76	33.4	2.53	81.3	6.63	11
7/19/2000	224500	22	45	0	10:45 PM	7/19/2000 22:45	29.83	34.4	2.6	81.3	6.64	11
7/19/2000	230000	23	0	0	11:00 PM	7/19/2000 23:00	29.89	36.3	2.74	81.3	6.64	11.1
7/19/2000	231500	23	15	0	11:15 PM	7/19/2000 23:15	29.84	34	2.57	81.3	6.64	10.9
7/19/2000	233000	23	30	0	11:30 PM	7/19/2000 23:30	29.8	36.7	2.78	81.3	6.64	11
7/19/2000	234500	23	45	0	11:45 PM	7/19/2000 23:45	29.86	35.5	2.69	81.3	6.63	10.9
7/20/2000	0	0	0	0	12:00 AM	7/20/2000 0:00	29.86	35.1	2.66	81.2	6.64	10.9
7/20/2000	1500	0	15	0	12:15 AM	7/20/2000 0:15	29.88	34.1	2.58	81.3	6.64	11
7/20/2000	3000	0	30	0	12:30 AM	7/20/2000 0:30	29.87	35.6	2.7	81.3	6.63	10.9
7/20/2000	4500	0	45	0	12:45 AM	7/20/2000 0:45	29.88	34.7	2.62	81.3	6.64	11
7/20/2000	10000	1	0	0	1:00 AM	7/20/2000 1:00	29.94	35.5	2.68	81.5	6.64	11.1
7/20/2000	11500	1	15	0	1:15 AM	7/20/2000 1:15	29.91	35.1	2.66	81.4	6.63	10.9
7/20/2000	13000	1	30	0	1:30 AM	7/20/2000 1:30	29.92	35.4	2.67	81.4	6.63	11
7/20/2000	14500	1	45	0	1:45 AM	7/20/2000 1:45	29.97	34.6	2.61	81.3	6.62	11
7/20/2000	20000	2	0	0	2:00 AM	7/20/2000 2:00	29.92	32.8	2.48	81.5	6.63	11
7/20/2000	21500	2	15	0	2:15 AM	7/20/2000 2:15	29.94	34.3	2.59	81.5	6.63	11
7/20/2000	23000	2	30	0	2:30 AM	7/20/2000 2:30	29.96	32.9	2.48	81.4	6.63	11
7/20/2000	24500	2	45	0	2:45 AM	7/20/2000 2:45	29.96	36.3	2.74	81.5	6.63	11
7/20/2000	30000	3	0	0	3:00 AM	7/20/2000 3:00	29.94	34.2	2.59	81.4	6.63	11

7/20/2000	31500	3	15	0	3:15 AM	7/20/2000 3:15	29.94	35.2	2.66	81.5	6.64	11
7/20/2000	33000	3	30	0	3:30 AM	7/20/2000 3:30	29.92	34.3	2.59	81.6	6.64	10.9
7/20/2000	34500	3	45	0	3:45 AM	7/20/2000 3:45	29.92	32.4	2.45	81.5	6.65	10.9
7/20/2000	40000	4	0	0	4:00 AM	7/20/2000 4:00	29.99	46.7	3.53	81.5	6.7	11
7/20/2000	41500	4	15	0	4:15 AM	7/20/2000 4:15	29.88	36.4	2.75	81.5	6.64	10.9
7/20/2000	43000	4	30	0	4:30 AM	7/20/2000 4:30	29.93	37.8	2.86	81.6	6.66	11
7/20/2000	44500	4	45	0	4:45 AM	7/20/2000 4:45	29.87	39.3	2.97	81.7	6.68	10.9
7/20/2000	50000	5	0	0	5:00 AM	7/20/2000 5:00	29.85	42.4	3.21	81.4	6.7	11
7/20/2000	51500	5	15	0	5:15 AM	7/20/2000 5:15	29.81	46.3	3.5	81.7	6.7	11
7/20/2000	53000	5	30	0	5:30 AM	7/20/2000 5:30	29.76	42.5	3.22	81.6	6.69	10.9
7/20/2000	54500	5	45	0	5:45 AM	7/20/2000 5:45	29.73	44.5	3.38	81.7	6.69	10.9
7/20/2000	60000	6	0	0	6:00 AM	7/20/2000 6:00	29.7	46.4	3.52	81.7	6.71	10.9
7/20/2000	61500	6	15	0	6:15 AM	7/20/2000 6:15	29.64	46.2	3.5	81.4	6.7	11
7/20/2000	63000	6	30	0	6:30 AM	7/20/2000 6:30	29.6	42	3.19	81.5	6.7	10.9
7/20/2000	64500	6	45	0	6:45 AM	7/20/2000 6:45	29.56	44.9	3.41	81.6	6.71	10.9
7/20/2000	70000	7	0	0	7:00 AM	7/20/2000 7:00	29.53	44.1	3.35	81.6	6.71	10.9
7/20/2000	71500	7	15	0	7:15 AM	7/20/2000 7:15	29.49	44.7	3.4	81.6	6.7	10.9
7/20/2000	73000	7	30	0	7:30 AM	7/20/2000 7:30	29.45	43.1	3.28	81.5	6.7	10.9
7/20/2000	74500	7	45	0	7:45 AM	7/20/2000 7:45	29.42	42	3.2	81.7	6.69	11
7/20/2000	80000	8	0	0	8:00 AM	7/20/2000 8:00	29.4	40.1	3.06	81.5	6.68	10.9
7/20/2000	81500	8	15	0	8:15 AM	7/20/2000 8:15	29.38	39.8	3.03	81.5	6.68	11
7/20/2000	83000	8	30	0	8:30 AM	7/20/2000 8:30	29.36	39.4	3	81.4	6.67	11
7/20/2000	84500	8	45	0	8:45 AM	7/20/2000 8:45	29.34	39.1	2.98	81.5	6.67	11

Recovery finished at 072100 072025

Wednesday, October 04, 2000

**Louisiana Department of Environmental Quality
 Ambient/WQ BOD Survey Data**

Name of Survey: Flat Creek
Validated By: ES
Validation Date: 8/11/00

Site:	Lab ID:	Analysis	Result	Date Started:	Date Read:	Analyst:
FLCR1	AA24088	Field Depth	0.3 M	7/19/00	7/19/00	CS
		Field Gage Height	NR ft		7/19/00	CS
		Field pH	6.10		7/19/00	CS
		Field Temp.	26.70 degree s C		7/19/00	CS
		Field D.O.	0.98 ppm		7/19/00	CS
		Field Conductivity	93 umhos		7/19/00	CS
		Field Secchi Disc	NR inches		7/19/00	CS
		Field Salinity	NR ppt		7/19/00	CS
		TSS	114.0 ppm	7/21/00	7/21/00	CT
		TDS	94 ppm	7/20/00	7/20/00	CT
		Alkalinity	28.5 ppm		7/20/00	NVA
		Turbidity	85 NTU		7/20/00	NVA
		Specific Conductance	99.99 umhos/ cm	7/24/00	7/24/00	CT
		Color	230 PCU	7/20/00	7/20/00	SBW
		Chloride (IC)	5.1 ppm	8/2/00	8/2/00	CM
		Sulfate	7.2 ppm		8/2/00	CM
	AA24089	Sodium	4.0 ppm	8/11/00	8/11/00	DR
	AA24090	Hardness	38.0 ppm	7/20/00	7/20/00	NVA
		Nitrate+Nitrite-Nitrogen	0.04 ppm		7/20/00	DBB
		Total Phosphorus	0.15 ppm	7/25/00	7/25/00	DBH
		TKN	1.82 ppm		7/25/00	DBH
		Ammonia-Nitrogen	0.39 ppm	7/31/00	7/31/00	MSR
	AA24091	TOC	20.3 ppm	7/25/00	7/26/00	NVA
	AA24092	pH (60 Day BOD)	6.46 pH Units	9/18/00	9/18/00	SBW
		TOC (60 Day BOD)	14.2 ppm	9/21/00	9/21/00	NVA
		BOD60-Reading 1	0.6 ppm	7/20/00	7/21/00	SBW
		BOD60-Reading 2	2.0 ppm		7/24/00	SBW
		BOD60-Reading 3	3.4 ppm		7/27/00	SBW
		BOD60-Reading 4	7.1 ppm		7/31/00	SBW
		BOD60-Reading 5	8.2 ppm		8/4/00	SBW
		BOD60-Reading 6	9.9 ppm		8/9/00	SBW
		BOD60-Reading 7	12.4 ppm		8/18/00	SBW
		BOD60-Reading 8	14.5 ppm		8/29/00	SBW
		BOD60-Reading 9	16.3 ppm		9/8/00	SBW
		BOD60-Final Reading	17.8 ppm		9/18/00	SBW
		NO2NO3- Initial Reading	0.04 ppm		7/20/00	DB
		NO2NO3- Reading 1	0.02 ppm	7/26/00	7/26/00	DBH
		NO2NO3- Reading 2	0.02 ppm		7/26/00	DBH
		NO2NO3- Reading 3	0.06 ppm	7/27/00	7/27/00	DBH
		NO2NO3- Reading 4	0.40 ppm	8/9/00	8/9/00	DBH
Site:	Lab ID:	Analysis	Result	Date Started:	Date Read:	Analyst:

Site:	Lab ID:	Analysis	Result	Date Started:	Date Read:	Analyst:	
FLCR1	AA24092	NO2NO3- Reading 5	0.40 ppm	8/9/00	8/9/00	DBH	
		NO2NO3- Reading 6	0.42 ppm		8/9/00	DBH	
		NO2NO3- Reading 7	0.51 ppm	8/18/00	8/18/00	DBH	
		NO2NO3- Reading 8	0.64 ppm	8/31/00	8/31/00	DBH	
		NO2NO3- Reading 9	0.74 ppm	9/8/00	9/8/00	DBH	
		NO2NO3-Final Reading	0.83 ppm	9/20/00	9/20/00	DBH	
		TKN (60 Day BOD)	0.89 ppm	10/2/00	10/2/00	DBH	
FLCR2	AA24093	Field Depth	.15 M	7/19/00	7/19/00	CS	
		Field Gage Height	NR ft		7/19/00	CS	
		Field pH	6.40		7/19/00	CS	
		Field Temp.	26.83 degree s C		7/19/00	CS	
		Field D.O.	.63 ppm		7/19/00	CS	
		Field Conductivity	118 umhos		7/19/00	CS	
		Field Secchi Disc	NR inches		7/19/00	CS	
		Field Salinity	NR ppt		7/19/00	CS	
		TSS	22.7 ppm	7/21/00	7/21/00	CT	
		TDS	79 ppm	7/20/00	7/20/00	CT	
		Alkalinity	45.3 ppm		7/20/00	NVA	
		Turbidity	21 NTU		7/20/00	NVA	
		Specific Conductance	99.99 umhos/ cm	7/24/00	7/24/00	CT	
		Color	110 PCU	7/20/00	7/20/00	SBW	
		Chloride (IC)	4.6 ppm	8/2/00	8/2/00	CM	
		Sulfate	4.2 ppm		8/2/00	CM	
		AA24094	Sodium	4.6 ppm	8/11/00	8/11/00	DR
		AA24095	Hardness	48.9 ppm	7/20/00	7/20/00	NVA
			Nitrate+Nitrite-Nitrogen	0.07 ppm		7/20/00	DBB
			Total Phosphorus	0.12 ppm	7/25/00	7/25/00	DBH
			TKN	0.99 ppm		7/25/00	DBH
			Ammonia-Nitrogen	Not detected	7/31/00	7/31/00	MSR
		AA24096	TOC	16.2 ppm	7/25/00	7/26/00	NVA
		AA24097	pH (60 Day BOD)	6.64 pH Units	9/18/00	9/18/00	SBW
			TOC (60 Day BOD)	10.7 ppm	9/21/00	9/21/00	NVA
			BOD60-Reading 1	0.6 ppm	7/20/00	7/21/00	SBW
			BOD60-Reading 2	1.8 ppm		7/24/00	SBW
	BOD60-Reading 3	2.6 ppm		7/27/00	SBW		
	BOD60-Reading 4	4.4 ppm		7/31/00	SBW		
	BOD60-Reading 5	6.0 ppm		8/4/00	SBW		
	BOD60-Reading 6	7.4 ppm		8/9/00	SBW		
	BOD60-Reading 7	9.3 ppm		8/18/00	SBW		
	BOD60-Reading 8	11.0 ppm		8/29/00	SBW		
	BOD60-Reading 9	12.4 ppm		9/8/00	SBW		
	BOD60-Final Reading	13.7 ppm		9/18/00	SBW		
	NO2NO3- Initial Reading	0.07 ppm		7/20/00	DB		
	NO2NO3- Reading 1	0.07 ppm	7/26/00	7/26/00	DBH		
	NO2NO3- Reading 2	0.08 ppm		7/26/00	DBH		
Site:	Lab ID:	Analysis	Result	Date Started:	Date Read:	Analyst:	
FLCR2	AA24097	NO2NO3- Reading 3	0.06 ppm	7/27/00	7/27/00	DBH	

	NO2NO3- Reading 4	0.10 ppm	8/2/00	8/2/00	DBH
	NO2NO3- Reading 5	0.16 ppm	8/9/00	8/9/00	DBH
	NO2NO3- Reading 6	0.17 ppm		8/9/00	DBH
	NO2NO3- Reading 7	0.22 ppm	8/18/00	8/18/00	DBH
	NO2NO3- Reading 8	0.28 ppm	8/31/00	8/31/00	DBH
	NO2NO3- Reading 9	0.29 ppm	9/8/00	9/8/00	DBH
	NO2NO3-Final Reading	0.30 ppm	9/20/00	9/20/00	DBH
	TKN (60 Day BOD)	0.64 ppm	10/2/00	10/2/00	DBH
AA24098	TSS	Not detected	7/21/00	7/21/00	CT
	TDS	Not detected	7/20/00	7/20/00	CT
	Alkalinity	2.2 ppm		7/20/00	NVA
	Turbidity	Not detected		7/20/00	NVA
	Specific Conductance	1.573 umhos/cm	7/24/00	7/24/00	CT
	Color	Not detected	7/20/00	7/20/00	SBW
	Chloride (IC)	3.7 ppm	8/2/00	8/2/00	CM
	Sulfate	not detected		8/2/00	CM
AA24099	Sodium	ND ppm	8/11/00	8/11/00	DR
AA24100	Hardness	Not detected	7/20/00	7/20/00	NVA
	Nitrate+Nitrite-Nitrogen	0.04 ppm		7/20/00	DBB
	Total Phosphorus	Not detected	7/25/00	7/25/00	DBH
	TKN	ND ppm		7/25/00	DBH
	Ammonia-Nitrogen	Not detected	8/1/00	8/1/00	MSR
AA24101	TOC	Not detected	7/25/00	7/26/00	NVA
AA24102	pH (60 Day BOD)	4.52 pH Units	9/18/00	9/18/00	SBW
	TOC (60 Day BOD)	Not detected	9/21/00	9/21/00	NVA
	BOD60-Reading 1	0 ppm	7/20/00	7/21/00	SBW
	BOD60-Reading 2	0 ppm		7/24/00	SBW
	BOD60-Reading 3	0 ppm		7/27/00	SBW
	BOD60-Reading 4	0 ppm		7/31/00	SBW
	BOD60-Reading 5	0 ppm		8/4/00	SBW
	BOD60-Reading 6	0.2 ppm		8/9/00	SBW
	BOD60-Reading 7	0.2 ppm		8/18/00	SBW
	BOD60-Reading 8	0.2 ppm		8/29/00	SBW
	BOD60-Reading 9	0.2 ppm		9/8/00	SBW
	BOD60-Final Reading	0.2 ppm		9/18/00	SBW
	NO2NO3- Initial Reading	0.07 ppm		7/20/00	DB
	NO2NO3- Reading 1	0.02 ppm	7/26/00	7/26/00	DBH
	NO2NO3- Reading 2	0.02 ppm		7/26/00	DBH
	NO2NO3- Reading 3	0.02 ppm	7/27/00	7/27/00	DBH
	NO2NO3- Reading 4	0.03 ppm	8/2/00	8/2/00	DBH
	NO2NO3- Reading 5	0.03 ppm	8/9/00	8/9/00	DBH
	NO2NO3- Reading 6	0.03 ppm		8/9/00	DBH

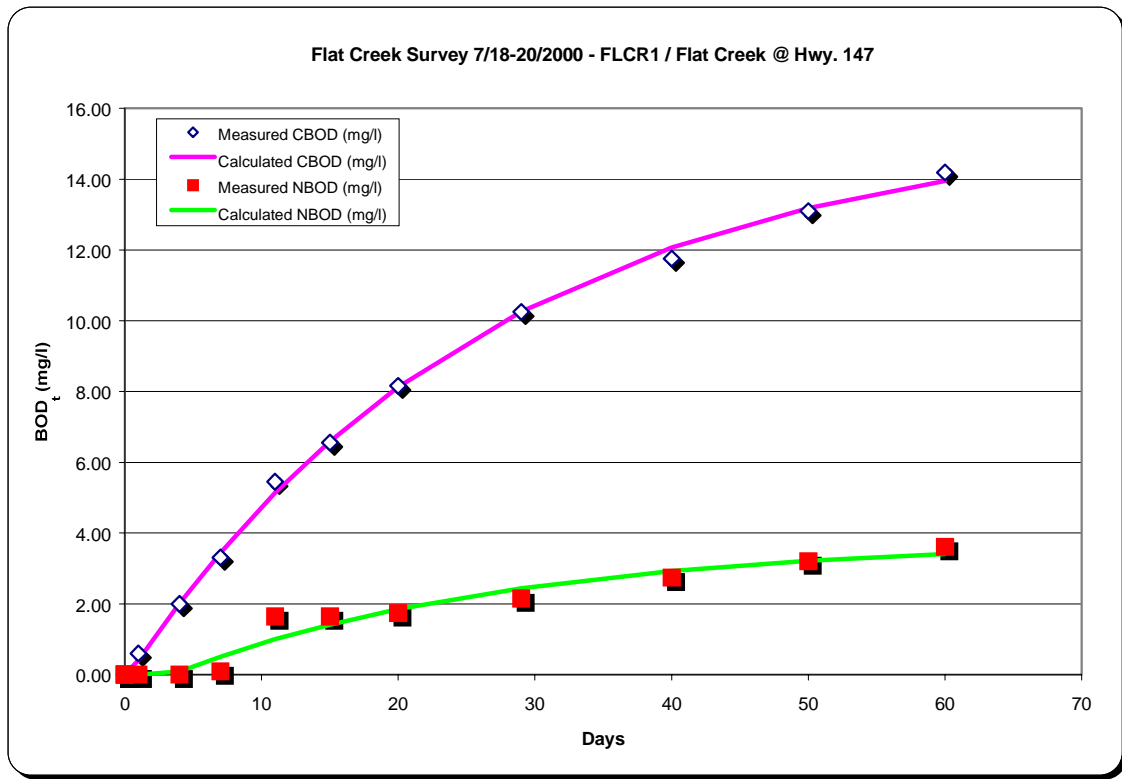
Site:	Lab ID:	Analysis	Result	Date Started:	Date Read:	Analyst:
		NO2NO3- Reading 7	ND ppm	8/18/00	8/18/00	DBH
		NO2NO3- Reading 8	0.02 ppm	8/31/00	8/31/00	DBH
FLCR2	AA24102	NO2NO3- Reading 9	0.023 ppm	9/8/00	9/8/00	DBH
		NO2NO3-Final Reading	ND ppm	9/20/00	9/20/00	DBH
		TKN (60 Day BOD)	Not detected	10/2/00	10/2/00	DBH
	AA24103	TSS	23.0 ppm	7/21/00	7/21/00	CT
		TDS	72 ppm	7/20/00	7/20/00	CT
		Alkalinity	45.6 ppm		7/20/00	NVA
		Turbidity	22 NTU		7/20/00	NVA
		Specific Conductance	99.99 umhos/cm	7/24/00	7/24/00	CT
		Color	110 PCU	7/20/00	7/20/00	SBW
		Chloride (IC)	4.5 ppm	8/2/00	8/2/00	CM
		Sulfate	4.2 ppm		8/2/00	CM
	AA24104	Sodium	4.4 ppm	8/11/00	8/11/00	DR
	AA24105	Hardness	49.1 ppm	7/20/00	7/20/00	NVA
		Nitrate+Nitrite-Nitrogen	0.05 ppm		7/20/00	DBB
		Total Phosphorus	0.13 ppm	7/25/00	7/25/00	DBH
		TKN	0.98 ppm		7/25/00	DBH
		Ammonia-Nitrogen	Not detected	8/1/00	8/1/00	MSR
	AA24106	TOC	15.7 ppm	7/25/00	7/26/00	NVA
	AA24107	pH (60 Day BOD)	6.55 pH	9/18/00	9/18/00	SBW
		TOC (60 Day BOD)	10.5 ppm	9/21/00	9/21/00	NVA
		BOD60-Reading 1	0.6 ppm	7/20/00	7/21/00	SBW
		BOD60-Reading 2	1.9 ppm		7/24/00	SBW
		BOD60-Reading 3	2.7 ppm		7/27/00	SBW
		BOD60-Reading 4	4.5 ppm		7/31/00	SBW
		BOD60-Reading 5	6.1 ppm		8/4/00	SBW
		BOD60-Reading 6	7.5 ppm		8/9/00	SBW
		BOD60-Reading 7	9.3 ppm		8/18/00	SBW
		BOD60-Reading 8	10.9 ppm		8/29/00	SBW
		BOD60-Reading 9	12.3 ppm		9/8/00	SBW
		BOD60-Final Reading	13.4 ppm		9/18/00	SBW
		NO2NO3- Initial Reading	0.05 ppm		7/20/00	DB
		NO2NO3- Reading 1	0.05 ppm	7/26/00	7/26/00	DBH
		NO2NO3- Reading 2	0.05 ppm		7/26/00	DBH
		NO2NO3- Reading 3	0.06 ppm	7/27/00	7/27/00	DBH
		NO2NO3- Reading 4	0.11 ppm	8/2/00	8/2/00	DBH
		NO2NO3- Reading 5	0.17 ppm	8/9/00	8/9/00	DBH
		NO2NO3- Reading 6	0.18 ppm		8/9/00	DBH
		NO2NO3- Reading 7	0.22 ppm	8/18/00	8/18/00	DBH
		NO2NO3- Reading 8	0.28 ppm	8/31/00	8/31/00	DBH
		NO2NO3- Reading 9	0.31 ppm	9/8/00	9/8/00	DBH
		NO2NO3-Final Reading	0.30 ppm	9/20/00	9/20/00	DBH
		TKN (60 Day BOD)	0.78 ppm	10/2/00	10/2/00	DBH
FLCR3	AA24108	Field Depth	1.0 M	7/19/00	7/19/00	CS
		Field Gage Height	NR ft		7/19/00	CS

Site:	Lab ID:	Analysis	Field pH	Result	Date Started:	Date Read:	Analyst:
FLCR3	AA24108	Field Temp.	6.20	29.12 degree s C	7/19/00	7/19/00	CS
		Field D.O.	2.67	ppm		7/19/00	CS
		Field Conductivity	81	umhos		7/19/00	CS
		Field Secchi Disc	NR	inches		7/19/00	CS
		Field Salinity	NR	ppt		7/19/00	CS
		TSS	7.0	ppm	7/21/00	7/21/00	CT
		TDS	67	ppm	7/20/00	7/20/00	CT
		Alkalinity	26.1	ppm		7/20/00	NVA
		Turbidity	17	NTU		7/20/00	NVA
		Specific Conductance	84.90	umhos/cm	7/24/00	7/24/00	CT
		Color	110	PCU	7/20/00	7/20/00	SBW
		Chloride (IC)	5.9	ppm	8/2/00	8/2/00	CM
		Sulfate	4.7	ppm		8/2/00	CM
	AA24109	Sodium	5.8	ppm	8/11/00	8/11/00	DR
	AA24110	Hardness	24.9	ppm	7/20/00	7/20/00	NVA
		Nitrate+Nitrite-Nitrogen	0.04	ppm		7/20/00	DBB
		Total Phosphorus	0.14	ppm	7/25/00	7/25/00	DBH
		TKN	0.68	ppm		7/25/00	DBH
		Ammonia-Nitrogen	Not detected	ppm	8/1/00	8/1/00	MSR
	AA24111	TOC	12.8	ppm	7/25/00	7/26/00	NVA
	AA24112	pH (60 Day BOD)	6.60	pH Units	9/18/00	9/18/00	SBW
		TOC (60 Day BOD)	10.0	ppm	9/21/00	9/21/00	NVA
		BOD60-Reading 1	0.8	ppm	7/20/00	7/21/00	SBW
		BOD60-Reading 2	2.2	ppm		7/24/00	SBW
		BOD60-Reading 3	2.8	ppm		7/27/00	SBW
		BOD60-Reading 4	3.5	ppm		7/31/00	SBW
		BOD60-Reading 5	4.6	ppm		8/4/00	SBW
		BOD60-Reading 6	5.8	ppm		8/9/00	SBW
		BOD60-Reading 7	7.2	ppm		8/18/00	SBW
		BOD60-Reading 8	8.2	ppm		8/29/00	SBW
		BOD60-Reading 9	9.2	ppm		9/8/00	SBW
		BOD60-Final Reading	10.0	ppm		9/18/00	SBW
		NO2NO3- Initial Reading	0.04	ppm		7/20/00	DB
		NO2NO3- Reading 1	0.02	ppm	7/26/00	7/26/00	DBH
		NO2NO3- Reading 2	0.02	ppm		7/26/00	DBH
		NO2NO3- Reading 3	0.02	ppm	7/27/00	7/27/00	DBH
		NO2NO3- Reading 4	0.03	ppm	8/2/00	8/2/00	DBH
		NO2NO3- Reading 5	0.08	ppm	8/9/00	8/9/00	DBH
		NO2NO3- Reading 6	0.17	ppm		8/9/00	DBH
		NO2NO3- Reading 7	0.24	ppm	8/18/00	8/18/00	DBH
		NO2NO3- Reading 8	0.31	ppm	8/31/00	8/31/00	DBH
		NO2NO3- Reading 9	0.31	ppm	9/8/00	9/8/00	DBH
		NO2NO3-Final Reading	0.32	ppm	9/20/00	9/20/00	DBH
		TKN (60 Day BOD)	0.50	ppm	10/2/00	10/2/00	DBH

BOD Analysis for: Flat Creek Survey 7/18-20/2000 - FLCR1 / Flat Creek @ Hwy. 147

Measured Data					Calculated Data	
Days	Total BOD (mg/l)	NOx as N (mg/l)	NBOD (mg/l)	CBOD (mg/l)	NBOD (mg/l)	CBOD (mg/l)
Note 1	Note 2	Note 3	Note 4	Note 5	Note 6	Note 7
0		0.04				
0	0.00	0.00			0.00	0.00
0	0.00	0.00			0.00	0.00
0	0.00	0.00			0.00	0.00
0	0.00	0.00			0.00	0.00
1	0.6	0.02	0.00	0.60	0.00	0.41
4	2	0.02	0.00	2.00	0.08	2.01
7	3.4	0.06	0.09	3.31	0.51	3.45
11	7.1	0.4	1.65	5.45	1.00	5.13
15	8.2	0.4	1.65	6.55	1.42	6.58
20	9.9	0.42	1.74	8.16	1.85	8.12
29	12.4	0.51	2.15	10.25	2.44	10.26
40	14.5	0.64	2.74	11.76	2.93	12.07
50	16.3	0.74	3.20	13.10	3.22	13.18
60	17.8	0.83	3.61	14.19	3.41	13.95
					3.79	15.66
					0.04	0.04
					3.45	0.29

3.79	15.66	UBOD (mg/l)
0.04	0.04	k rate (1/day)
3.45	0.29	Lag time (days)

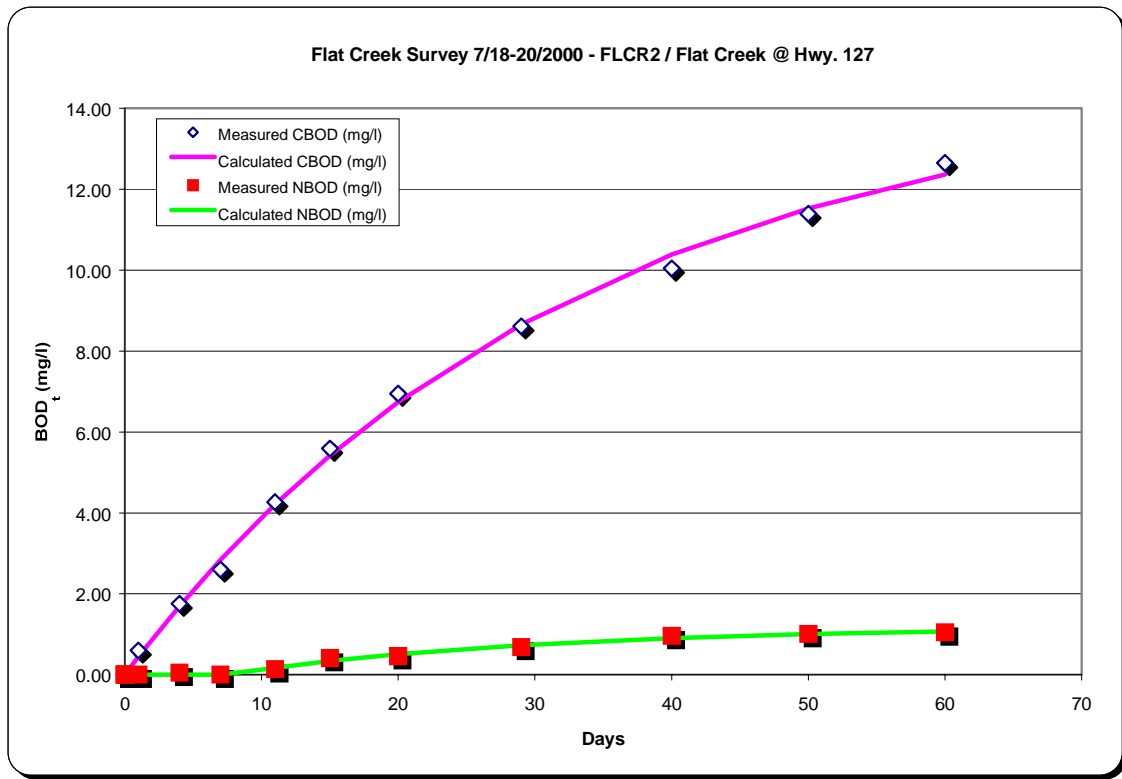


- Note 1 - Days from the BOD test start date.
- Note 2 - Measured total BOD at time in "Days" column.
- Note 3 - Measured (NO₂ + NO₃ as nitrogen) at time in "Days" column.
- Note 4 - Calculated by multiplying the measured (NO₂ +NO₃ as nitrogen) minus the day zero (NO₂ +NO₃ as nitrogen) by 4.57.
- Note 5 - Determined by subtracting the calculated NBOD from the measured total BOD.
- Note 6 - Calculated from the formula {NBODt=UNBOD[1-e-(k(t-lag))]} using the listed values of UNBOD, k decay rate and lag time.
- Note 7 - Calculated from the formula {CBODt=UCBOD[1-e-(k(t-lag))]} using the listed values of UCBOD, k decay rate and lag time.

BOD Analysis for: Flat Creek Survey 7/18-20/2000 - FLCR2 / Flat Creek @ Hwy. 127

Measured Data					Calculated Data	
Days	Total BOD (mg/l)	NOx as N (mg/l)	NBOD (mg/l)	CBOD (mg/l)	NBOD (mg/l)	CBOD (mg/l)
Note 1	Note 2	Note 3	Note 4	Note 5	Note 6	Note 7
0		0.07				
0	0.00	0.00			0.00	0.00
0	0.00	0.00			0.00	0.00
0	0.00	0.00			0.00	0.00
0	0.00	0.00			0.00	0.00
1	0.6	0.07	0.00	0.60	0.00	0.44
4	1.8	0.08	0.05	1.75	0.00	1.70
7	2.6	0.06	0.00	2.60	0.00	2.84
11	4.4	0.1	0.14	4.26	0.17	4.21
15	6	0.16	0.41	5.59	0.33	5.42
20	7.4	0.17	0.46	6.94	0.50	6.74
29	9.3	0.22	0.69	8.61	0.73	8.66
40	11	0.28	0.96	10.04	0.90	10.39
50	12.4	0.29	1.01	11.39	1.00	11.53
60	13.7	0.3	1.05	12.65	1.07	12.37
					1.18	14.71
					0.05	0.03
					7.63	0.00

1.18	14.71	UBOD (mg/l)
0.05	0.03	k rate (1/day)
7.63	0.00	Lag time (days)

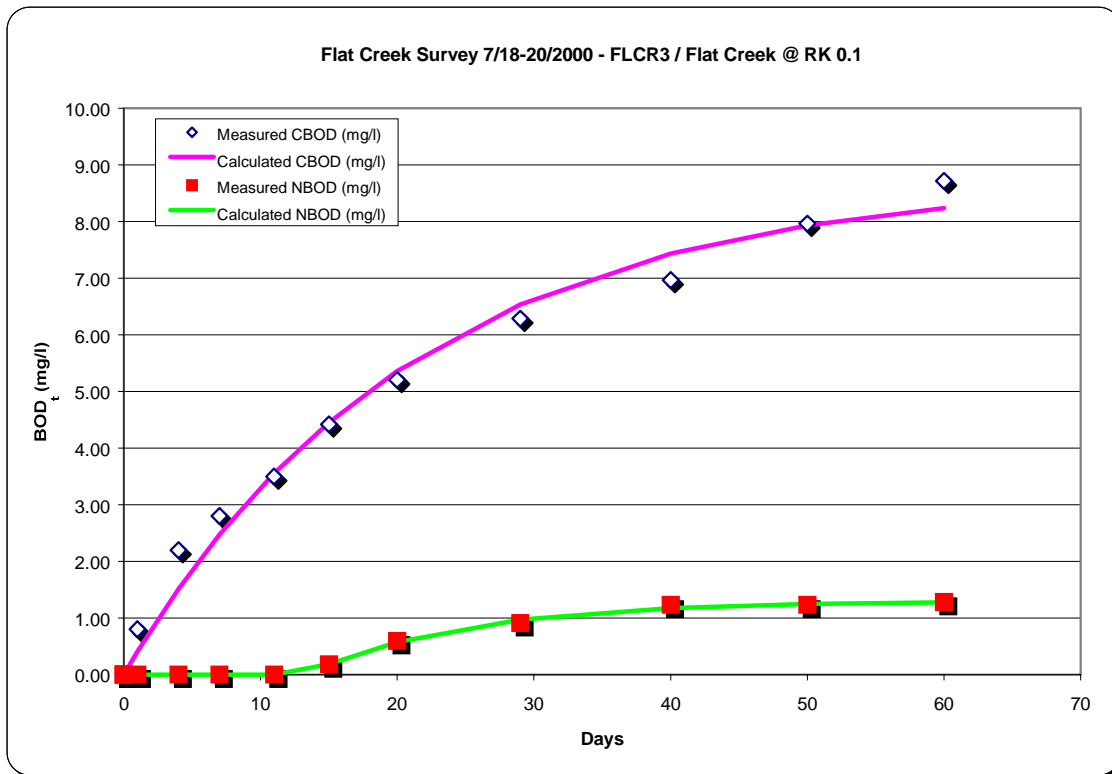


- Note 1 - Days from the BOD test start date.
- Note 2 - Measured total BOD at time in "Days" column.
- Note 3 - Measured (NO₂ + NO₃ as nitrogen) at time in "Days" column.
- Note 4 - Calculated by multiplying the measured (NO₂ +NO₃ as nitrogen) minus the day zero (NO₂ +NO₃ as nitrogen) by 4.57.
- Note 5 - Determined by subtracting the calculated NBOD from the measured total BOD.
- Note 6 - Calculated from the formula {NBODt=UNBOD[1-e-(k(t-lag))]} using the listed values of UNBOD, k decay rate and lag time.
- Note 7 - Calculated from the formula {CBODt=UCBOD[1-e-(k(t-lag))]} using the listed values of UCBOD, k decay rate and lag time.

BOD Analysis for: Flat Creek Survey 7/18-20/2000 - FLCR3 / Flat Creek @ RK 0.1

Measured Data					Calculated Data	
Days	Total BOD (mg/l)	NO _x as N (mg/l)	NBOD (mg/l)	CBOD (mg/l)	NBOD (mg/l)	CBOD (mg/l)
Note 1	Note 2	Note 3	Note 4	Note 5	Note 6	Note 7
0		0.04				
0	0.00	0.00			0.00	0.00
0	0.00	0.00			0.00	0.00
0	0.00	0.00			0.00	0.00
0	0.00	0.00			0.00	0.00
1	0.8	0.02	0.00	0.80	0.00	0.41
4	2.2	0.02	0.00	2.20	0.00	1.51
7	2.8	0.02	0.00	2.80	0.00	2.47
11	3.5	0.03	0.00	3.50	0.00	3.56
15	4.6	0.08	0.18	4.42	0.18	4.45
20	5.8	0.17	0.59	5.21	0.58	5.36
29	7.2	0.24	0.91	6.29	0.97	6.54
40	8.2	0.31	1.23	6.97	1.17	7.44
50	9.2	0.31	1.23	7.97	1.25	7.93
60	10	0.32	1.28	8.72	1.28	8.24
					1.30	8.75
					0.09	0.05
					13.27	0.00

1.30	8.75	UBOD (mg/l)
0.09	0.05	k rate (1/day)
13.27	0.00	Lag time (days)



- Note 1 - Days from the BOD test start date.
- Note 2 - Measured total BOD at time in "Days" column.
- Note 3 - Measured (NO₂ + NO₃ as nitrogen) at time in "Days" column.
- Note 4 - Calculated by multiplying the measured (NO₂ +NO₃ as nitrogen) minus the day zero (NO₂ +NO₃ as nitrogen) by 4.57.
- Note 5 - Determined by subtracting the calculated NBOD from the measured total BOD.
- Note 6 - Calculated from the formula {NBOD_t=UNBOD[1-e^{-k(t-lag)}]}; using the listed values of UNBOD, k decay rate and lag time.
- Note 7 - Calculated from the formula {CBOD_t=UCBOD[1-e^{-k(t-lag)}]}; using the listed values of UCBOD, k decay rate and lag time.

Appendix D – Calibration Model Input and Output

```

CNTROL01      FLAT CREEK DISSOLVED OXYGEN MODEL
CNTROL02      CALIBRATION
CNTROL03 YES  ECHO DATA INPUT
CNTROL04 NO   INTERMEDIATE SUMMARY
CNTROL05 YES  CAPSULE SUMMARY
CNTROL06 YES  FINAL REPORT
CNTROL07 YES  LOADING SUMMARY
CNTROL08 YES  SPECIAL REPORT
CNTROL09 NO   LINE PRINTER PLOT
CNTROL10 YES  GRAPHICS CAPABILITY
CNTROL11 NO   SEQUENCING OUTPUT
CNTROL12 YES  METRIC UNITS
CNTROL13 YES  OXYGEN DEPENDENT RATES
CNTROL14 NO   SENSITIVITY ANALYSIS
CNTROL15 YES  OVERLAY PLOT
ENDATA01
MODOPT01 NO   TEMPERATURE
MODOPT02 NO   SALINITY
MODOPT03 YES  CONSERVATIVE MATERIAL I = CHLORIDES           IN MG/L
MODOPT04 NO   CONSERVATIVE MATERIAL II = SULFATES          IN MG/L
MODOPT05 YES  DISSOLVED OXYGEN
MODOPT06 YES  BIOCHEMICAL OXYGEN DEMAND
MODOPT07 NO   NITROGEN
MODOPT08 NO   PHOSPHORUS
MODOPT09 NO   CHLOROPHYLL A
MODOPT10 NO   MACROPHYTES
MODOPT11 NO   COLIFORM
MODOPT12 YES  NONCONSERVATIVE MATERIAL = NBOD              IN MG/L
ENDATA02
PROGRAM MAXIMUM ITERATION LIMIT      = 200.0
PROGRAM PLOT TYPE                     = 3.0
PROGRAM FINAL REPORT TYPE             = 1.0
PROGRAM SPECIAL REPORT TYPE          = 3.0
PROGRAM BOD OXYGEN UPTAKE RATE        = 1.0
PROGRAM KL MINIMUM                   = 0.7
PROGRAM NCM OXYGEN UPTAKE RATE        = 1.0
PROGRAM INHIBITION CONTROL VALUE     = 3.0
PROGRAM DISPERSION EQUATION           = 1.0
PROGRAM OCEAN EXCHANGE RATIO         = 0.0
PROGRAM TIDE HEIGHT                  = 0.0
PROGRAM HYDRAULIC CALCULATION METHOD  = 2.0
PROGRAM SETTLING RATE UNITS           = 2.0
PROGRAM K2 MAXIMUM                   = 25.0
ENDATA03
ENDATA04
ENDATA05
ENDATA06
ENDATA07
REACH ID 1 FC FLAT CREEK RK 66.47-54.0      66.47    54.0  0.197937
REACH ID 2 FC FLAT CREEK RK 54.0-42.0      54.0     42.0   0.200
REACH ID 3 FC FLAT CREEK RK 42.0-30.0      42.0     30.0   0.200
REACH ID 4 FC FLAT CREEK RK 30.0-18.0      30.0     18.0   0.200
REACH ID 5 FC FLAT CREEK RK 18.0-5.0       18.0     5.0    0.200
REACH ID 6 FC FLAT CREEK RK 5.0-0.0        5.0      0.0    0.200
ENDATA08
HYDR-1 1 0.1000 0.4000 4.572 0.1000 0.4000 0.2560 0.04
HYDR-1 2 0.1000 0.4000 4.572 0.1000 0.4000 0.2560 0.04
HYDR-1 3 0.1000 0.4000 5.578 0.1000 0.4000 0.3200 0.04
HYDR-1 4 0.1000 0.4000 5.578 0.1000 0.4000 0.3200 0.04
HYDR-1 5 0.1000 0.4000 9.618 0.1000 0.4000 0.8690 0.04
HYDR-1 6 0.1000 0.4000 13.655 0.1000 0.4000 1.4173 0.04
ENDATA09
HYDR-2 1 0.000 2.000 0.000 0.000 0.000
HYDR-2 2 0.000 2.000 0.000 0.000 0.000
HYDR-2 3 0.000 2.000 0.000 0.000 0.000
HYDR-2 4 0.000 2.000 0.000 0.000 0.000
HYDR-2 5 0.000 2.000 0.000 0.000 0.000
HYDR-2 6 0.000 2.000 0.000 0.000 0.000
ENDATA10
INITIAL 1 26.55 0.0 0.98 0.000 0.000 0.00 00.00 0.00
INITIAL 2 26.55 0.0 0.98 0.000 0.000 0.00 00.00 0.00
  
```

INITIAL	3	28.08	0.0	0.63	0.000	0.000	0.00	00.00	0.00
INITIAL	4	28.08	0.0	0.63	0.000	0.000	0.00	00.00	0.00
INITIAL	5	28.80	0.0	1.65	0.000	0.000	0.00	00.00	0.00
INITIAL	6	29.51	0.0	2.67	0.000	0.000	0.00	00.00	0.00

ENDATA11

COEF-1	1	15.0	0.00	0.0	0.0	3.60	0.040	0.10	0.00
COEF-1	2	15.0	0.00	0.0	0.0	3.50	0.040	0.10	0.00
COEF-1	3	15.0	0.00	0.0	0.0	3.30	0.030	0.10	0.00
COEF-1	4	15.0	0.00	0.0	0.0	3.30	0.030	0.10	0.00
COEF-1	5	15.0	0.00	0.0	0.0	2.50	0.040	0.10	0.00
COEF-1	6	15.0	0.00	0.0	0.0	1.60	0.050	0.10	0.00

ENDATA12

ENDATA13

ENDATA14

COEF-4	1	0.000	0.040	0.05	0.00
COEF-4	2	0.000	0.040	0.05	0.00
COEF-4	3	0.000	0.050	0.05	0.00
COEF-4	4	0.000	0.050	0.05	0.00
COEF-4	5	0.000	0.070	0.05	0.00
COEF-4	6	0.000	0.090	0.05	0.00

ENDATA15

ENDATA16

ENDATA17

ENDATA18

NONPOINT	1	0033.50	0.00	0.0	0004.8	0.0
NONPOINT	2	0031.00	0.00	0.0	0003.2	0.0
NONPOINT	3	0046.00	0.00	0.0	0004.0	0.0
NONPOINT	4	0046.00	0.00	0.0	0002.4	0.0
NONPOINT	5	0220.00	0.00	0.0	0021.0	0.0
NONPOINT	6	0172.00	0.00	0.0	0026.0	0.0

ENDATA19

HDWTR-1	1	Flat Creek headwater	0.	0.00028	26.554	0.0	5.1	0.0
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ENDATA20

HDWTR-2	1	0.98	15.66	0.00	0.000	0.00
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ENDATA21

HDWTR-3	1	0.00	0.00	0.00	3.790
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ENDATA22

ENDATA23

ENDATA24

ENDATA25

ENDATA26

LOWER BC TEMPERATURE	=	29.51
LOWER BC SALINITY	=	0.00
LOWER BC CONSERVATIVE MATERIAL I	=	0.00
LOWER BC CONSERVATIVE MATERIAL II	=	0.00
LOWER BC DISSOLVED OXYGEN	=	2.67
LOWER BC BIOCHEMICAL OXYGEN DEMAND	=	8.75
LOWER BC ORGANIC NITROGEN	=	0.00
LOWER BC AMMONIA NITROGEN	=	0.00
LOWER BC NITRATE + NITRITE	=	0.00
LOWER BC PHOSPHORUS	=	0.00
LOWER BC CHLOROPHYLL A	=	0.00
LOWER BC COLIFORM	=	0.00
LOWER BC NONCONSERVATIVE MATERIAL	=	1.30

ENDATA27

ENDATA28

ENDATA29

NUMBER OF PLOTS =	1
NUMBER OF REACHES IN PLOT 1 =	6
PLOT RCH	1 2 3 4 5 6
	INCREMENT = 1.0

ENDATA30

OVERLAY 1	FLATCREEKOVRLAYFILEFORMAT.TXT	FLAT CREEK-HDWTRS TO CONFL W/ CASTOR CRK
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ENDATA31

LA-QUAL for Windows Version 3.02
 Louisiana Department of Environmental Quality

Output produced at 12:36 on 12/28/2000

\$\$\$ DATA TYPE 1 (TITLES AND CONTROL CARDS) \$\$\$

CARD TYPE		CONTROL TITLES
CNTROL01		FLAT CREEK DISSOLVED OXYGEN MODEL
CNTROL02		CALIBRATION
CNTROL03	YES	ECHO DATA INPUT
CNTROL04	NO	INTERMEDIATE SUMMARY
CNTROL05	YES	CAPSULE SUMMARY
CNTROL06	YES	FINAL REPORT
CNTROL07	YES	LOADING SUMMARY
CNTROL08	YES	SPECIAL REPORT
CNTROL09	NO	LINE PRINTER PLOT
CNTROL10	YES	GRAPHICS CAPABILITY
CNTROL11	NO	SEQUENCING OUTPUT
CNTROL12	YES	METRIC UNITS
CNTROL13	YES	OXYGEN DEPENDENT RATES
CNTROL14	NO	SENSITIVITY ANALYSIS
CNTROL15	YES	OVERLAY PLOT
ENDATA01		

\$\$\$ DATA TYPE 2 (MODEL OPTIONS) \$\$\$

CARD TYPE		MODEL OPTION	
MODOPT01	NO	TEMPERATURE	
MODOPT02	NO	SALINITY	
MODOPT03	YES	CONSERVATIVE MATERIAL I = CHLORIDES	IN MG/L
MODOPT04	NO	CONSERVATIVE MATERIAL II = SULFATES	IN MG/L
MODOPT05	YES	DISSOLVED OXYGEN	
MODOPT06	YES	BIOCHEMICAL OXYGEN DEMAND	
MODOPT07	NO	NITROGEN	
MODOPT08	NO	PHOSPHORUS	
MODOPT09	NO	CHLOROPHYLL A	
MODOPT10	NO	MACROPHYTES	
MODOPT11	NO	COLIFORM	
MODOPT12	YES	NONCONSERVATIVE MATERIAL = NBOD	IN MG/L
ENDATA02			

\$\$\$ DATA TYPE 3 (PROGRAM CONSTANTS) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT		VALUE
PROGRAM	MAXIMUM ITERATION LIMIT	=	200.00000
PROGRAM	PLOT TYPE	=	3.00000
PROGRAM	FINAL REPORT TYPE	=	1.00000
PROGRAM	SPECIAL REPORT TYPE	=	3.00000
PROGRAM	BOD OXYGEN UPTAKE RATE	=	1.00000
PROGRAM	KL MINIMUM	=	0.70000
PROGRAM	NCM OXYGEN UPTAKE RATE	=	1.00000
PROGRAM	INHIBITION CONTROL VALUE	=	3.00000
PROGRAM	DISPERSION EQUATION	=	1.00000
PROGRAM	OCEAN EXCHANGE RATIO	=	0.00000
PROGRAM	TIDE HEIGHT	=	0.00000
PROGRAM	HYDRAULIC CALCULATION METHOD	=	2.00000
PROGRAM	SETTLING RATE UNITS	=	2.00000
PROGRAM	K2 MAXIMUM	=	25.00000
ENDATA03			

\$\$\$ DATA TYPE 4 (TEMPERATURE CORRECTION CONSTANTS FOR RATE COEFFICIENTS) \$\$\$

CARD TYPE	RATE CODE	THETA VALUE
ENDATA04		

\$\$\$ CONSTANTS TYPE 5 (TEMPERATURE DATA) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
ENDATA05		

\$\$\$ DATA TYPE 6 (ALGAE CONSTANTS) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
ENDATA06		

\$\$\$ DATA TYPE 7 (MACROPHYTE CONSTANTS) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
ENDATA07		

\$\$\$ DATA TYPE 8 (REACH IDENTIFICATION DATA) \$\$\$

CARD TYPE	REACH	ID	NAME	BEGIN REACH km	END REACH km	ELEM LENGTH km	REACH LENGTH km	ELEMS PER RCH	BEGIN ELEM NUM	END ELEM NUM
REACH ID	1	FC	FLAT CREEK RK 66.47-54.0	66.47	54.00	0.1979	12.47	63	1	63
REACH ID	2	FC	FLAT CREEK RK 54.0-42.0	54.00	42.00	0.2000	12.00	60	64	123
REACH ID	3	FC	FLAT CREEK RK 42.0-30.0	42.00	30.00	0.2000	12.00	60	124	183
REACH ID	4	FC	FLAT CREEK RK 30.0-18.0	30.00	18.00	0.2000	12.00	60	184	243
REACH ID	5	FC	FLAT CREEK RK 18.0-5.0	18.00	5.00	0.2000	13.00	65	244	308
REACH ID	6	FC	FLAT CREEK RK 5.0-0.0	5.00	0.00	0.2000	5.00	25	309	333

ENDATA08

\$\$\$ DATA TYPE 9 (ADVECTIVE HYDRAULIC COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	WIDTH "A"	WIDTH "B"	WIDTH "C"	DEPTH "D"	DEPTH "E"	DEPTH "F"	SLOPE	MANNINGS "N"
HYDR-1	1	FC	0.100	0.400	4.572	0.100	0.400	0.256	0.00000	0.040
HYDR-1	2	FC	0.100	0.400	4.572	0.100	0.400	0.256	0.00000	0.040
HYDR-1	3	FC	0.100	0.400	5.578	0.100	0.400	0.320	0.00000	0.040
HYDR-1	4	FC	0.100	0.400	5.578	0.100	0.400	0.320	0.00000	0.040
HYDR-1	5	FC	0.100	0.400	9.618	0.100	0.400	0.869	0.00000	0.040
HYDR-1	6	FC	0.100	0.400	13.655	0.100	0.400	1.417	0.00000	0.040

ENDATA09

\$\$\$ DATA TYPE 10 (DISPERSIVE HYDRAULIC COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"
HYDR	1	FC	0.00	2.000	0.000	0.000	0.000
HYDR	2	FC	0.00	2.000	0.000	0.000	0.000
HYDR	3	FC	0.00	2.000	0.000	0.000	0.000
HYDR	4	FC	0.00	2.000	0.000	0.000	0.000
HYDR	5	FC	0.00	2.000	0.000	0.000	0.000
HYDR	6	FC	0.00	2.000	0.000	0.000	0.000

ENDATA10

\$\$\$ DATA TYPE 11 (INITIAL CONDITIONS) \$\$\$

CARD TYPE	REACH	ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
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INITIAL	1	FC	26.55	0.00	0.98	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	2	FC	26.55	0.00	0.98	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	3	FC	28.08	0.00	0.63	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	4	FC	28.08	0.00	0.63	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	5	FC	28.80	0.00	1.65	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	6	FC	29.51	0.00	2.67	0.00	0.00	0.00	0.00	0.00	0.00
ENDATA11											

\$\$\$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	K2 OPT	K2 "A"	K2 "B"	K2 "C"	BKGRND SOD	AEROB BOD DECAY	BOD SETT	BOD CONV TO SOD	ANAER BOD DECAY
COEF-1	1	FC	15.	0.000	0.000	0.000	3.600	0.040	0.100	0.000	0.000
COEF-1	2	FC	15.	0.000	0.000	0.000	3.500	0.040	0.100	0.000	0.000
COEF-1	3	FC	15.	0.000	0.000	0.000	3.300	0.030	0.100	0.000	0.000
COEF-1	4	FC	15.	0.000	0.000	0.000	3.300	0.030	0.100	0.000	0.000
COEF-1	5	FC	15.	0.000	0.000	0.000	2.500	0.040	0.100	0.000	0.000
COEF-1	6	FC	15.	0.000	0.000	0.000	1.600	0.050	0.100	0.000	0.000
ENDATA12											

\$\$\$ DATA TYPE 13 (NITROGEN AND PHOSPHORUS COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	ORG-N DECA	ORG-N SETT	ORGN CONV TO NH3 SRCE	NH3 DECA	NH3 SRCE	PHOS SRCE	DENIT RATE
ENDATA13									

\$\$\$ DATA TYPE 14 (ALGAE AND MACROPHYTE COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	SECCHI DEPTH	ALGAE: CHL A	ALGAE SETT	ALG CONV TO SOD	ALGAE GROW	ALGAE RESP	MACRO GROW	MACRO RESP
ENDATA14										

\$\$\$ DATA TYPE 15 (COLIFORM AND NONCONSERVATIVE COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	COLIFORM DIE-OFF	NCM DECAY	NCM SETT	NCM CONV TO SOD
COEF-4	1	FC	0.00	0.04	0.05	0.00
COEF-4	2	FC	0.00	0.04	0.05	0.00
COEF-4	3	FC	0.00	0.05	0.05	0.00

COEF-4	4	FC	0.00	0.05	0.05	0.00
COEF-4	5	FC	0.00	0.07	0.05	0.00
COEF-4	6	FC	0.00	0.09	0.05	0.00

ENDATA15

\$\$\$ DATA TYPE 16 (INCREMENTAL DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) \$\$\$

CARD TYPE	REACH	ID	OUTFLOW	INFLOW	TEMP	SALIN	CM-I	CM-II	INFLOW/DIST
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ENDATA16

\$\$\$ DATA TYPE 17 (INCREMENTAL DATA FOR DO, BOD, AND NITROGEN) \$\$\$

CARD TYPE	REACH	ID	DO	BOD	ORG-N	NH3	NO3+2
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ENDATA17

\$\$\$ DATA TYPE 18 (INCREMENTAL DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) \$\$\$

CARD TYPE	REACH	ID	PHOS	CHL A	COLI	NCM
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ENDATA18

\$\$\$ DATA TYPE 19 (NONPOINT SOURCE DATA) \$\$\$

CARD TYPE	REACH	ID	BOD	ORG-N	COLI	NCM	DO
NONPOINT	1	FC	33.50	0.00	0.00	4.80	0.00
NONPOINT	2	FC	31.00	0.00	0.00	3.20	0.00
NONPOINT	3	FC	46.00	0.00	0.00	4.00	0.00
NONPOINT	4	FC	46.00	0.00	0.00	2.40	0.00
NONPOINT	5	FC	220.00	0.00	0.00	21.00	0.00
NONPOINT	6	FC	172.00	0.00	0.00	26.00	0.00

ENDATA19

\$\$\$ DATA TYPE 20 (HEADWATER FOR FLOW, TEMPERATURE, SALINITY AND CONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	UNIT	FLOW	TEMP	SALIN	CM-I	CM-II
HDWTR-1	1	Flat Creek headwater	0	0.00028	26.554	0.000	5.100	0.000

ENDATA20

\$\$\$ DATA TYPE 21 (HEADWATER DATA FOR DO, BOD, AND NITROGEN) \$\$\$

CARD TYPE	ELEMENT	NAME	DO	BOD	ORG-N	NH3	NO3+2
HDWTR-2	1	Flat Creek headwater	0.98	15.66	0.00	0.00	0.00

ENDATA21

\$\$\$ DATA TYPE 22 (HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
HDWTR-3	1	Flat Creek headwater	0.00	0.00	0.00	3.79

ENDATA22

\$\$\$ DATA TYPE 23 (JUNCTION DATA) \$\$\$

CARD TYPE	JUNCTION ELEMENT	UPSTRM ELEMENT	NAME
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ENDATA23

\$\$\$ DATA TYPE 24 (WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	FLOW	TEMP	SAL	CM-I	CM-II
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ENDATA24

\$\$\$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) \$\$\$

CARD TYPE	ELEMENT	NAME	DO	BOD	% BOD RMVL	ORG-N	NH3	% NITRIF	NO3+2
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ENDATA25

\$\$\$ DATA TYPE 26 (WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
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ENDATA26

\$\$\$ DATA TYPE 27 (LOWER BOUNDARY CONDITIONS) \$\$\$

CARD TYPE	CONSTITUENT	CONCENTRATION
LOWER BC	TEMPERATURE	= 29.510 deg C
LOWER BC	SALINITY	= 0.000 ppt
LOWER BC	CONSERVATIVE MATERIAL I	= 0.000 MG/L
LOWER BC	CONSERVATIVE MATERIAL II	= 0.000 MG/L
LOWER BC	DISSOLVED OXYGEN	= 2.670 mg/L
LOWER BC	BIOCHEMICAL OXYGEN DEMAND	= 8.750 mg/L
LOWER BC	ORGANIC NITROGEN	= 0.000 mg/L
LOWER BC	AMMONIA NITROGEN	= 0.000 mg/L
LOWER BC	NITRATE + NITRITE	= 0.000 mg/L
LOWER BC	PHOSPHORUS	= 0.000 mg/L
LOWER BC	CHLOROPHYLL A	= 0.000 µg/L
LOWER BC	COLIFORM	= 0.000 #/100 mL
LOWER BC	NONCONSERVATIVE MATERIAL	= 1.300 MG/L

ENDATA27

\$\$\$ DATA TYPE 28 (FLOW AUGMENTATION DATA) \$\$\$

CARD TYPE	REACH	AVAIL HDWS	TARGET	ORDER OF AVAIL SOURCES
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ENDATA28

\$\$\$ DATA TYPE 29 (SENSITIVITY ANALYSIS DATA) \$\$\$

CARD TYPE	PARAMETER	COL 1	COL 2	COL 3	COL 4	COL 5	COL 6	COL 7	COL 8
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ENDATA29

\$\$\$ DATA TYPE 30 (PLOT CONTROL CARDS) \$\$\$

NUMBER OF PLOTS = 1
 NUMBER OF REACHES IN PLOT 1 = 6 INCREMENT = 1.00
 PLOT RCH 1 2 3 4 5 6
 ENDATA30

\$\$\$ DATA TYPE 31 (OVERLAY PLOT DATA) \$\$\$

OVERLAY 1 FLATCREEKOVRLAYFILEFORMAT.TXT FLAT CREEK-HDWTRS TO CONFL W/ CASTOR CRK
 ENDDATA31

1

.....NO ERRORS DETECTED IN INPUT DATA
HYDRAULIC CALCULATIONS COMPLETED
TRIDIAGONAL MATRIX TERMS INITIALIZED
OXYGEN DEPENDENT RATES CONVERGENT IN 7 ITERATIONS
CONSTITUENT CALCULATIONS COMPLETED
GRAPHICS DATA FOR PLOT 1 WRITTEN TO UNIT 11

1

CAPSULE SUMMARY
 Flat Creek headwater

DIST	FLOW	TEMP	SALN	DO	EBOD	ORGN	NH3	CHLA	REAER	CBOD	CBOD	NH3	SOD
km	cms	deg C	ppt	mg/L	mg/L	mg/L	mg/L	µg/L	1/da	1/da	1/da	1/da	
HDWTR	0.000	26.6	0.0	1.0	15.7	0.0	0.0	0.0					
66.27	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
66.07	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
65.88	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
65.68	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
65.48	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
65.28	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
65.08	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
64.89	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
64.69	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
64.49	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
64.29	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
64.09	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
63.90	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
63.70	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
63.50	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
63.30	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
63.11	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
62.91	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
62.71	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
62.51	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
62.31	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
62.12	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
61.92	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44

61.72	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
61.52	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
61.32	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
61.13	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
60.93	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
60.73	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
60.53	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
60.33	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
60.14	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
59.94	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
59.74	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
59.54	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
59.34	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
59.15	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
58.95	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
58.75	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
58.55	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
58.35	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
58.16	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
57.96	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
57.76	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
57.56	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
57.36	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
57.17	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
56.97	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
56.77	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
56.57	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
56.38	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
56.18	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
55.98	0.000	26.5	0.0	1.0	15.7	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
55.78	0.000	26.5	0.0	1.0	15.6	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
55.58	0.000	26.5	0.0	1.0	15.6	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
55.39	0.000	26.5	0.0	1.0	15.6	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
55.19	0.000	26.5	0.0	1.0	15.6	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
54.99	0.000	26.5	0.0	1.0	15.6	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
54.79	0.000	26.5	0.0	1.0	15.5	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
54.59	0.000	26.5	0.0	1.0	15.5	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
54.40	0.000	26.5	0.0	1.0	15.4	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
54.20	0.000	26.5	0.0	1.0	15.4	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
54.00	0.000	26.5	0.0	1.0	15.3	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.44
53.80	0.000	26.6	0.0	1.1	15.2	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.30
53.60	0.000	26.6	0.0	1.1	15.2	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.30
53.40	0.000	26.6	0.0	1.1	15.1	0.0	0.0	0.0	3.05	0.03	0.12	0.00	5.31
53.20	0.000	26.7	0.0	1.1	15.1	0.0	0.0	0.0	3.06	0.03	0.12	0.00	5.32
53.00	0.000	26.7	0.0	1.1	15.0	0.0	0.0	0.0	3.06	0.03	0.12	0.00	5.33
52.80	0.000	26.7	0.0	1.1	15.0	0.0	0.0	0.0	3.06	0.03	0.12	0.00	5.34
52.60	0.000	26.7	0.0	1.1	15.0	0.0	0.0	0.0	3.06	0.03	0.12	0.00	5.35
52.40	0.000	26.8	0.0	1.1	15.0	0.0	0.0	0.0	3.06	0.03	0.12	0.00	5.36
52.20	0.000	26.8	0.0	1.1	14.9	0.0	0.0	0.0	3.06	0.03	0.12	0.00	5.36
52.00	0.000	26.8	0.0	1.1	14.9	0.0	0.0	0.0	3.06	0.03	0.12	0.00	5.37
51.80	0.000	26.8	0.0	1.1	14.9	0.0	0.0	0.0	3.07	0.03	0.12	0.00	5.38

51.60	0.000	26.9	0.0	1.1	14.9	0.0	0.0	0.0	3.07	0.03	0.12	0.00	5.39
51.40	0.000	26.9	0.0	1.0	14.9	0.0	0.0	0.0	3.07	0.03	0.12	0.00	5.40
51.20	0.000	26.9	0.0	1.0	14.9	0.0	0.0	0.0	3.07	0.03	0.12	0.00	5.41
51.00	0.000	26.9	0.0	1.0	14.9	0.0	0.0	0.0	3.07	0.03	0.12	0.00	5.42
50.80	0.000	27.0	0.0	1.0	15.0	0.0	0.0	0.0	3.07	0.03	0.12	0.00	5.42
50.60	0.000	27.0	0.0	1.0	15.0	0.0	0.0	0.0	3.07	0.03	0.12	0.00	5.43
50.40	0.000	27.0	0.0	1.0	15.0	0.0	0.0	0.0	3.07	0.03	0.12	0.00	5.44
50.20	0.000	27.0	0.0	1.0	15.0	0.0	0.0	0.0	3.08	0.03	0.12	0.00	5.45
50.00	0.000	27.1	0.0	1.0	15.0	0.0	0.0	0.0	3.08	0.03	0.12	0.00	5.46
49.80	0.000	27.1	0.0	1.0	15.0	0.0	0.0	0.0	3.08	0.03	0.12	0.00	5.47
49.60	0.000	27.1	0.0	1.0	15.0	0.0	0.0	0.0	3.08	0.03	0.12	0.00	5.48
49.40	0.000	27.1	0.0	0.9	15.0	0.0	0.0	0.0	3.08	0.03	0.12	0.00	5.49
49.20	0.000	27.2	0.0	0.9	15.1	0.0	0.0	0.0	3.08	0.03	0.12	0.00	5.49
49.00	0.000	27.2	0.0	0.9	15.1	0.0	0.0	0.0	3.08	0.03	0.12	0.00	5.50
48.80	0.000	27.2	0.0	0.9	15.1	0.0	0.0	0.0	3.09	0.03	0.12	0.00	5.51
48.60	0.000	27.2	0.0	0.9	15.1	0.0	0.0	0.0	3.09	0.03	0.12	0.00	5.52
48.40	0.000	27.3	0.0	0.9	15.1	0.0	0.0	0.0	3.09	0.02	0.12	0.00	5.53
48.20	0.000	27.3	0.0	0.9	15.1	0.0	0.0	0.0	3.09	0.02	0.12	0.00	5.54
48.00	0.000	27.3	0.0	0.9	15.2	0.0	0.0	0.0	3.09	0.02	0.12	0.00	5.55
47.80	0.000	27.3	0.0	0.9	15.2	0.0	0.0	0.0	3.09	0.02	0.12	0.00	5.56
47.60	0.000	27.4	0.0	0.9	15.2	0.0	0.0	0.0	3.09	0.02	0.12	0.00	5.57
47.40	0.000	27.4	0.0	0.8	15.2	0.0	0.0	0.0	3.10	0.02	0.12	0.00	5.57
47.20	0.000	27.4	0.0	0.8	15.2	0.0	0.0	0.0	3.10	0.02	0.12	0.00	5.58
47.00	0.000	27.4	0.0	0.8	15.3	0.0	0.0	0.0	3.10	0.02	0.12	0.00	5.59
46.80	0.000	27.5	0.0	0.8	15.3	0.0	0.0	0.0	3.10	0.02	0.12	0.00	5.60
46.60	0.000	27.5	0.0	0.8	15.3	0.0	0.0	0.0	3.10	0.02	0.12	0.00	5.61
46.40	0.000	27.5	0.0	0.8	15.3	0.0	0.0	0.0	3.10	0.02	0.12	0.00	5.62
46.20	0.000	27.5	0.0	0.8	15.3	0.0	0.0	0.0	3.10	0.02	0.12	0.00	5.63
46.00	0.000	27.6	0.0	0.8	15.3	0.0	0.0	0.0	3.11	0.02	0.12	0.00	5.64
45.80	0.000	27.6	0.0	0.8	15.4	0.0	0.0	0.0	3.11	0.02	0.12	0.00	5.65
45.60	0.000	27.6	0.0	0.8	15.4	0.0	0.0	0.0	3.11	0.02	0.12	0.00	5.66
45.40	0.000	27.6	0.0	0.7	15.4	0.0	0.0	0.0	3.11	0.02	0.12	0.00	5.66
45.20	0.000	27.7	0.0	0.7	15.4	0.0	0.0	0.0	3.11	0.02	0.12	0.00	5.67
45.00	0.000	27.7	0.0	0.7	15.4	0.0	0.0	0.0	3.11	0.02	0.12	0.00	5.68
44.80	0.000	27.7	0.0	0.7	15.4	0.0	0.0	0.0	3.11	0.02	0.12	0.00	5.69
44.60	0.000	27.7	0.0	0.7	15.5	0.0	0.0	0.0	3.12	0.02	0.12	0.00	5.70
44.40	0.000	27.8	0.0	0.7	15.5	0.0	0.0	0.0	3.12	0.02	0.12	0.00	5.71
44.20	0.000	27.8	0.0	0.7	15.5	0.0	0.0	0.0	3.12	0.02	0.12	0.00	5.72
44.00	0.000	27.8	0.0	0.7	15.5	0.0	0.0	0.0	3.12	0.02	0.12	0.00	5.73
43.80	0.000	27.9	0.0	0.7	15.5	0.0	0.0	0.0	3.12	0.02	0.12	0.00	5.74
43.60	0.000	27.9	0.0	0.7	15.5	0.0	0.0	0.0	3.12	0.02	0.12	0.00	5.75
43.40	0.000	27.9	0.0	0.6	15.5	0.0	0.0	0.0	3.12	0.02	0.12	0.00	5.76
43.20	0.000	27.9	0.0	0.6	15.5	0.0	0.0	0.0	3.13	0.02	0.12	0.00	5.77
43.00	0.000	28.0	0.0	0.6	15.5	0.0	0.0	0.0	3.13	0.02	0.12	0.00	5.78
42.80	0.000	28.0	0.0	0.6	15.5	0.0	0.0	0.0	3.13	0.02	0.12	0.00	5.78
42.60	0.000	28.0	0.0	0.6	15.4	0.0	0.0	0.0	3.13	0.02	0.12	0.00	5.79
42.40	0.000	28.0	0.0	0.6	15.4	0.0	0.0	0.0	3.13	0.02	0.12	0.00	5.80
42.20	0.000	28.1	0.0	0.6	15.4	0.0	0.0	0.0	3.13	0.02	0.12	0.00	5.81
42.00	0.000	28.1	0.0	0.7	15.3	0.0	0.0	0.0	3.13	0.02	0.12	0.00	5.82
41.80	0.000	28.1	0.0	0.8	15.3	0.0	0.0	0.0	2.51	0.02	0.12	0.00	5.49
41.60	0.000	28.1	0.0	0.9	15.3	0.0	0.0	0.0	2.51	0.02	0.12	0.00	5.49

31.20	0.000	28.1	0.0	0.9	15.1	0.0	0.0	0.0	2.51	0.02	0.12	0.00	5.49
31.00	0.000	28.1	0.0	0.9	15.1	0.0	0.0	0.0	2.51	0.02	0.12	0.00	5.49
30.80	0.000	28.1	0.0	0.9	15.1	0.0	0.0	0.0	2.51	0.02	0.12	0.00	5.49
30.60	0.000	28.1	0.0	0.9	15.1	0.0	0.0	0.0	2.51	0.02	0.12	0.00	5.49
30.40	0.000	28.1	0.0	0.9	15.1	0.0	0.0	0.0	2.51	0.02	0.12	0.00	5.49
30.20	0.000	28.1	0.0	0.9	15.1	0.0	0.0	0.0	2.51	0.02	0.12	0.00	5.49
30.00	0.000	28.1	0.0	0.9	15.1	0.0	0.0	0.0	2.51	0.02	0.12	0.00	5.49
29.80	0.000	28.1	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.49
29.60	0.000	28.1	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.50
29.40	0.000	28.1	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.50
29.20	0.000	28.1	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.51
29.00	0.000	28.1	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.51
28.80	0.000	28.2	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.51
28.60	0.000	28.2	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.52
28.40	0.000	28.2	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.52
28.20	0.000	28.2	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.53
28.00	0.000	28.2	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.53
27.80	0.000	28.2	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.53
27.60	0.000	28.2	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.54
27.40	0.000	28.2	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.54
27.20	0.000	28.2	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.55
27.00	0.000	28.3	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.55
26.80	0.000	28.3	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.56
26.60	0.000	28.3	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.56
26.40	0.000	28.3	0.0	0.9	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.56
26.20	0.000	28.3	0.0	0.8	15.1	0.0	0.0	0.0	2.52	0.02	0.12	0.00	5.57
26.00	0.000	28.3	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.57
25.80	0.000	28.3	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.58
25.60	0.000	28.3	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.58
25.40	0.000	28.4	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.59
25.20	0.000	28.4	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.59
25.00	0.000	28.4	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.59
24.80	0.000	28.4	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.60
24.60	0.000	28.4	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.60
24.40	0.000	28.4	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.61
24.20	0.000	28.4	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.61
24.00	0.000	28.4	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.61
23.80	0.000	28.5	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.62
23.60	0.000	28.5	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.62
23.40	0.000	28.5	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.63
23.20	0.000	28.5	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.63
23.00	0.000	28.5	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.64
22.80	0.000	28.5	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.64
22.60	0.000	28.5	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.64
22.40	0.000	28.5	0.0	0.8	15.1	0.0	0.0	0.0	2.53	0.02	0.12	0.00	5.65
22.20	0.000	28.5	0.0	0.7	15.1	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.65
22.00	0.000	28.6	0.0	0.7	15.1	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.66
21.80	0.000	28.6	0.0	0.7	15.1	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.66
21.60	0.000	28.6	0.0	0.7	15.0	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.67
21.40	0.000	28.6	0.0	0.7	15.0	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.67
21.20	0.000	28.6	0.0	0.7	15.0	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.67

21.00	0.000	28.6	0.0	0.7	15.0	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.68
20.80	0.000	28.6	0.0	0.7	14.9	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.68
20.60	0.000	28.6	0.0	0.7	14.9	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.69
20.40	0.000	28.7	0.0	0.7	14.8	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.69
20.20	0.000	28.7	0.0	0.7	14.8	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.70
20.00	0.000	28.7	0.0	0.7	14.7	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.70
19.80	0.000	28.7	0.0	0.7	14.6	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.70
19.60	0.000	28.7	0.0	0.7	14.5	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.71
19.40	0.000	28.7	0.0	0.7	14.4	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.71
19.20	0.000	28.7	0.0	0.7	14.2	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.72
19.00	0.000	28.7	0.0	0.7	14.1	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.72
18.80	0.000	28.8	0.0	0.7	13.8	0.0	0.0	0.0	2.54	0.02	0.12	0.00	5.73
18.60	0.000	28.8	0.0	0.7	13.6	0.0	0.0	0.0	2.55	0.02	0.12	0.00	5.73
18.40	0.000	28.8	0.0	0.8	13.3	0.0	0.0	0.0	2.55	0.02	0.12	0.00	5.74
18.20	0.000	28.8	0.0	0.9	12.9	0.0	0.0	0.0	2.55	0.02	0.12	0.00	5.74
18.00	0.000	28.8	0.0	1.2	12.4	0.0	0.0	0.0	2.55	0.03	0.12	0.00	5.74
17.80	0.000	28.8	0.0	1.5	12.3	0.0	0.0	0.0	0.94	0.04	0.12	0.00	4.35
17.60	0.000	28.8	0.0	1.6	12.2	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.36
17.40	0.000	28.8	0.0	1.6	12.1	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.36
17.20	0.000	28.8	0.0	1.6	12.0	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.36
17.00	0.000	28.9	0.0	1.6	11.9	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.37
16.80	0.000	28.9	0.0	1.7	11.9	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.37
16.60	0.000	28.9	0.0	1.7	11.8	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.37
16.40	0.000	28.9	0.0	1.7	11.8	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.38
16.20	0.000	28.9	0.0	1.7	11.7	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.38
16.00	0.000	28.9	0.0	1.7	11.7	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.38
15.80	0.000	28.9	0.0	1.7	11.7	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.38
15.60	0.000	28.9	0.0	1.7	11.7	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.39
15.40	0.000	28.9	0.0	1.6	11.7	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.39
15.20	0.000	29.0	0.0	1.6	11.7	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.39
15.00	0.000	29.0	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.40
14.80	0.000	29.0	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.40
14.60	0.000	29.0	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.40
14.40	0.000	29.0	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.41
14.20	0.000	29.0	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.41
14.00	0.000	29.0	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.41
13.80	0.000	29.0	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.41
13.60	0.000	29.0	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.42
13.40	0.000	29.1	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.42
13.20	0.000	29.1	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.42
13.00	0.000	29.1	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.43
12.80	0.000	29.1	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.43
12.60	0.000	29.1	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.43
12.40	0.000	29.1	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.44
12.20	0.000	29.1	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.44
12.00	0.000	29.1	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.44
11.80	0.000	29.1	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.45
11.60	0.000	29.1	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.45
11.40	0.000	29.2	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.45
11.20	0.000	29.2	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.45
11.00	0.000	29.2	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.46

10.80	0.000	29.2	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.46
10.60	0.000	29.2	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.46
10.40	0.000	29.2	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.47
10.20	0.000	29.2	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.47
10.00	0.000	29.2	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.47
9.80	0.000	29.2	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.48
9.60	0.000	29.3	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.48
9.40	0.000	29.3	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.48
9.20	0.000	29.3	0.0	1.6	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.48
9.00	0.000	29.3	0.0	1.5	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.49
8.80	0.000	29.3	0.0	1.5	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.49
8.60	0.000	29.3	0.0	1.5	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.49
8.40	0.000	29.3	0.0	1.5	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.50
8.20	0.000	29.3	0.0	1.5	11.6	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.50
8.00	0.000	29.3	0.0	1.5	11.5	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.50
7.80	0.000	29.4	0.0	1.5	11.5	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.51
7.60	0.000	29.4	0.0	1.5	11.5	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.51
7.40	0.000	29.4	0.0	1.5	11.5	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.51
7.20	0.000	29.4	0.0	1.5	11.4	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.52
7.00	0.000	29.4	0.0	1.5	11.4	0.0	0.0	0.0	0.95	0.05	0.12	0.00	4.52
6.80	0.000	29.4	0.0	1.5	11.3	0.0	0.0	0.0	0.95	0.05	0.13	0.00	4.52
6.60	0.000	29.4	0.0	1.5	11.2	0.0	0.0	0.0	0.96	0.05	0.13	0.00	4.53
6.40	0.000	29.4	0.0	1.5	11.1	0.0	0.0	0.0	0.96	0.05	0.13	0.00	4.53
6.20	0.000	29.4	0.0	1.5	11.0	0.0	0.0	0.0	0.96	0.05	0.13	0.00	4.53
6.00	0.000	29.5	0.0	1.6	10.9	0.0	0.0	0.0	0.96	0.05	0.13	0.00	4.53
5.80	0.000	29.5	0.0	1.6	10.7	0.0	0.0	0.0	0.96	0.05	0.13	0.00	4.54
5.60	0.000	29.5	0.0	1.6	10.5	0.0	0.0	0.0	0.96	0.05	0.13	0.00	4.54
5.40	0.000	29.5	0.0	1.7	10.3	0.0	0.0	0.0	0.96	0.05	0.13	0.00	4.54
5.20	0.000	29.5	0.0	1.8	10.0	0.0	0.0	0.0	0.96	0.06	0.13	0.00	4.55
5.00	0.000	29.5	0.0	2.0	9.7	0.0	0.0	0.0	0.96	0.06	0.13	0.00	4.55
4.80	0.000	29.5	0.0	2.3	9.4	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
4.60	0.000	29.5	0.0	2.4	9.3	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
4.40	0.000	29.5	0.0	2.4	9.2	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
4.20	0.000	29.5	0.0	2.5	9.1	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
4.00	0.000	29.5	0.0	2.5	9.0	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
3.80	0.000	29.5	0.0	2.6	9.0	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
3.60	0.000	29.5	0.0	2.6	8.9	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
3.40	0.000	29.5	0.0	2.6	8.9	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
3.20	0.000	29.5	0.0	2.6	8.9	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
3.00	0.000	29.5	0.0	2.6	8.8	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
2.80	0.000	29.5	0.0	2.6	8.8	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
2.60	0.000	29.5	0.0	2.6	8.8	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
2.40	0.000	29.5	0.0	2.7	8.8	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
2.20	0.000	29.5	0.0	2.7	8.8	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
2.00	0.000	29.5	0.0	2.7	8.8	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
1.80	0.000	29.5	0.0	2.7	8.8	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
1.60	0.000	29.5	0.0	2.7	8.8	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
1.40	0.000	29.5	0.0	2.7	8.8	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
1.20	0.000	29.5	0.0	2.7	8.8	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
1.00	0.000	29.5	0.0	2.7	8.8	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
0.80	0.000	29.5	0.0	2.7	8.8	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91

0.60	0.000	29.5	0.0	2.7	8.8	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
0.40	0.000	29.5	0.0	2.7	8.8	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
0.20	0.000	29.5	0.0	2.7	8.8	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91
0.00	0.000	29.5	0.0	2.7	8.8	0.0	0.0	0.0	0.59	0.08	0.13	0.00	2.91

SPECIAL REPORT: Flat Creek headwater
 HYDRAULIC PARAMETER VALUES

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	ADVCTV VELO m/s	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
1	66.47	66.27	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
2	66.27	66.07	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
3	66.07	65.88	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
4	65.88	65.68	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
5	65.68	65.48	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
6	65.48	65.28	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
7	65.28	65.08	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
8	65.08	64.89	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
9	64.89	64.69	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
10	64.69	64.49	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
11	64.49	64.29	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
12	64.29	64.09	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
13	64.09	63.90	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
14	63.90	63.70	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
15	63.70	63.50	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
16	63.50	63.30	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
17	63.30	63.11	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
18	63.11	62.91	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
19	62.91	62.71	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
20	62.71	62.51	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
21	62.51	62.31	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
22	62.31	62.12	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
23	62.12	61.92	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
24	61.92	61.72	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
25	61.72	61.52	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
26	61.52	61.32	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
27	61.32	61.13	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
28	61.13	60.93	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
29	60.93	60.73	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
30	60.73	60.53	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
31	60.53	60.33	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
32	60.33	60.14	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
33	60.14	59.94	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
34	59.94	59.74	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
35	59.74	59.54	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
36	59.54	59.34	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
37	59.34	59.15	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
38	59.15	58.95	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000

39	58.95	58.75	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
40	58.75	58.55	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
41	58.55	58.35	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
42	58.35	58.16	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
43	58.16	57.96	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
44	57.96	57.76	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
45	57.76	57.56	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
46	57.56	57.36	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
47	57.36	57.17	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
48	57.17	56.97	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
49	56.97	56.77	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
50	56.77	56.57	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
51	56.57	56.38	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
52	56.38	56.18	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
53	56.18	55.98	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
54	55.98	55.78	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
55	55.78	55.58	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
56	55.58	55.39	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
57	55.39	55.19	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
58	55.19	54.99	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
59	54.99	54.79	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
60	54.79	54.59	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
61	54.59	54.40	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
62	54.40	54.20	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
63	54.20	54.00	0.0003	0.000	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
64	54.00	53.80	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
65	53.80	53.60	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
66	53.60	53.40	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
67	53.40	53.20	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
68	53.20	53.00	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
69	53.00	52.80	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
70	52.80	52.60	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
71	52.60	52.40	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
72	52.40	52.20	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
73	52.20	52.00	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
74	52.00	51.80	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
75	51.80	51.60	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
76	51.60	51.40	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
77	51.40	51.20	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
78	51.20	51.00	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
79	51.00	50.80	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
80	50.80	50.60	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
81	50.60	50.40	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
82	50.40	50.20	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
83	50.20	50.00	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
84	50.00	49.80	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
85	49.80	49.60	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
86	49.60	49.40	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
87	49.40	49.20	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
88	49.20	49.00	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
89	49.00	48.80	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000

90	48.80	48.60	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
91	48.60	48.40	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
92	48.40	48.20	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
93	48.20	48.00	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
94	48.00	47.80	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
95	47.80	47.60	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
96	47.60	47.40	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
97	47.40	47.20	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
98	47.20	47.00	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
99	47.00	46.80	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
100	46.80	46.60	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
101	46.60	46.40	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
102	46.40	46.20	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
103	46.20	46.00	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
104	46.00	45.80	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
105	45.80	45.60	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
106	45.60	45.40	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
107	45.40	45.20	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
108	45.20	45.00	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
109	45.00	44.80	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
110	44.80	44.60	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
111	44.60	44.40	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
112	44.40	44.20	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
113	44.20	44.00	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
114	44.00	43.80	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
115	43.80	43.60	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
116	43.60	43.40	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
117	43.40	43.20	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
118	43.20	43.00	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
119	43.00	42.80	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
120	42.80	42.60	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
121	42.60	42.40	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
122	42.40	42.20	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
123	42.20	42.00	0.0003	0.000	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
124	42.00	41.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
125	41.80	41.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
126	41.60	41.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
127	41.40	41.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
128	41.20	41.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
129	41.00	40.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
130	40.80	40.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
131	40.60	40.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
132	40.40	40.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
133	40.20	40.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
134	40.00	39.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
135	39.80	39.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
136	39.60	39.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
137	39.40	39.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
138	39.20	39.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
139	39.00	38.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
140	38.80	38.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000

141	38.60	38.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
142	38.40	38.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
143	38.20	38.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
144	38.00	37.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
145	37.80	37.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
146	37.60	37.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
147	37.40	37.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
148	37.20	37.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
149	37.00	36.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
150	36.80	36.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
151	36.60	36.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
152	36.40	36.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
153	36.20	36.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
154	36.00	35.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
155	35.80	35.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
156	35.60	35.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
157	35.40	35.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
158	35.20	35.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
159	35.00	34.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
160	34.80	34.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
161	34.60	34.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
162	34.40	34.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
163	34.20	34.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
164	34.00	33.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
165	33.80	33.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
166	33.60	33.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
167	33.40	33.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
168	33.20	33.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
169	33.00	32.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
170	32.80	32.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
171	32.60	32.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
172	32.40	32.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
173	32.20	32.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
174	32.00	31.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
175	31.80	31.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
176	31.60	31.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
177	31.40	31.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
178	31.20	31.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
179	31.00	30.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
180	30.80	30.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
181	30.60	30.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
182	30.40	30.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
183	30.20	30.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
184	30.00	29.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
185	29.80	29.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
186	29.60	29.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
187	29.40	29.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
188	29.20	29.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
189	29.00	28.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
190	28.80	28.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
191	28.60	28.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000

192	28.40	28.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
193	28.20	28.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
194	28.00	27.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
195	27.80	27.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
196	27.60	27.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
197	27.40	27.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
198	27.20	27.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
199	27.00	26.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
200	26.80	26.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
201	26.60	26.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
202	26.40	26.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
203	26.20	26.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
204	26.00	25.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
205	25.80	25.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
206	25.60	25.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
207	25.40	25.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
208	25.20	25.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
209	25.00	24.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
210	24.80	24.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
211	24.60	24.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
212	24.40	24.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
213	24.20	24.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
214	24.00	23.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
215	23.80	23.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
216	23.60	23.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
217	23.40	23.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
218	23.20	23.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
219	23.00	22.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
220	22.80	22.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
221	22.60	22.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
222	22.40	22.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
223	22.20	22.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
224	22.00	21.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
225	21.80	21.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
226	21.60	21.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
227	21.40	21.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
228	21.20	21.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
229	21.00	20.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
230	20.80	20.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
231	20.60	20.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
232	20.40	20.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
233	20.20	20.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
234	20.00	19.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
235	19.80	19.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
236	19.60	19.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
237	19.40	19.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
238	19.20	19.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
239	19.00	18.80	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
240	18.80	18.60	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
241	18.60	18.40	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
242	18.40	18.20	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000

243	18.20	18.00	0.0003	0.000	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
244	18.00	17.80	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
245	17.80	17.60	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
246	17.60	17.40	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
247	17.40	17.20	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
248	17.20	17.00	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
249	17.00	16.80	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
250	16.80	16.60	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
251	16.60	16.40	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
252	16.40	16.20	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
253	16.20	16.00	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
254	16.00	15.80	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
255	15.80	15.60	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
256	15.60	15.40	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
257	15.40	15.20	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
258	15.20	15.00	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
259	15.00	14.80	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
260	14.80	14.60	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
261	14.60	14.40	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
262	14.40	14.20	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
263	14.20	14.00	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
264	14.00	13.80	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
265	13.80	13.60	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
266	13.60	13.40	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
267	13.40	13.20	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
268	13.20	13.00	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
269	13.00	12.80	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
270	12.80	12.60	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
271	12.60	12.40	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
272	12.40	12.20	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
273	12.20	12.00	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
274	12.00	11.80	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
275	11.80	11.60	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
276	11.60	11.40	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
277	11.40	11.20	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
278	11.20	11.00	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
279	11.00	10.80	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
280	10.80	10.60	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
281	10.60	10.40	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
282	10.40	10.20	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
283	10.20	10.00	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
284	10.00	9.80	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
285	9.80	9.60	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
286	9.60	9.40	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
287	9.40	9.20	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
288	9.20	9.00	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
289	9.00	8.80	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
290	8.80	8.60	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
291	8.60	8.40	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
292	8.40	8.20	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
293	8.20	8.00	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000

294	8.00	7.80	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
295	7.80	7.60	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
296	7.60	7.40	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
297	7.40	7.20	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
298	7.20	7.00	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
299	7.00	6.80	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
300	6.80	6.60	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
301	6.60	6.40	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
302	6.40	6.20	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
303	6.20	6.00	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
304	6.00	5.80	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
305	5.80	5.60	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
306	5.60	5.40	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
307	5.40	5.20	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
308	5.20	5.00	0.0003	0.000	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
309	5.00	4.80	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
310	4.80	4.60	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
311	4.60	4.40	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
312	4.40	4.20	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
313	4.20	4.00	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
314	4.00	3.80	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
315	3.80	3.60	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
316	3.60	3.40	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
317	3.40	3.20	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
318	3.20	3.00	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
319	3.00	2.80	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
320	2.80	2.60	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
321	2.60	2.40	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
322	2.40	2.20	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
323	2.20	2.00	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
324	2.00	1.80	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
325	1.80	1.60	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
326	1.60	1.40	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
327	1.40	1.20	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
328	1.20	1.00	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
329	1.00	0.80	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
330	0.80	0.60	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
331	0.60	0.40	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
332	0.40	0.20	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
333	0.20	0.00	0.0003	0.000	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000

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FINAL REPORT Flat Creek headwater FLAT CREEK DISSOLVED OXYGEN MODEL
 REACH NO. 1 FLAT CREEK RK 66.47-54.0 CALIBRATION

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
1	HDWTR	0.0003	26.55	0.00	5.1	0.0	0.98	15.66	15.66	0.00	0.00	0.00	0.00	0.0	0.	3.79

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
1	66.47	66.27	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
2	66.27	66.07	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
3	66.07	65.88	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
4	65.88	65.68	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
5	65.68	65.48	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
6	65.48	65.28	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
7	65.28	65.08	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
8	65.08	64.89	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
9	64.89	64.69	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
10	64.69	64.49	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
11	64.49	64.29	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
12	64.29	64.09	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
13	64.09	63.90	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
14	63.90	63.70	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
15	63.70	63.50	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
16	63.50	63.30	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
17	63.30	63.11	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
18	63.11	62.91	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
19	62.91	62.71	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
20	62.71	62.51	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
21	62.51	62.31	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
22	62.31	62.12	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
23	62.12	61.92	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
24	61.92	61.72	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
25	61.72	61.52	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
26	61.52	61.32	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
27	61.32	61.13	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
28	61.13	60.93	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
29	60.93	60.73	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
30	60.73	60.53	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
31	60.53	60.33	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
32	60.33	60.14	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
33	60.14	59.94	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
34	59.94	59.74	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
35	59.74	59.54	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
36	59.54	59.34	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
37	59.34	59.15	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
38	59.15	58.95	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
39	58.95	58.75	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
40	58.75	58.55	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
41	58.55	58.35	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
42	58.35	58.16	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
43	58.16	57.96	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000

44	57.96	57.76	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
45	57.76	57.56	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
46	57.56	57.36	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
47	57.36	57.17	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
48	57.17	56.97	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
49	56.97	56.77	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
50	56.77	56.57	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
51	56.57	56.38	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
52	56.38	56.18	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
53	56.18	55.98	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
54	55.98	55.78	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
55	55.78	55.58	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
56	55.58	55.39	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
57	55.39	55.19	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
58	55.19	54.99	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
59	54.99	54.79	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
60	54.79	54.59	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
61	54.59	54.40	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
62	54.40	54.20	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
63	54.20	54.00	0.0003	0.0	0.000	9.73	0.26	4.6	235.	905.7	1.2	0.	0.000	2.000	0.000
TOT						612.76				14824.	57060.3				
AVG				0.000			0.26	4.6				1.2			
CUM						612.76									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
1	66.272	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
2	66.074	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
3	65.876	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
4	65.678	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
5	65.480	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
6	65.282	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
7	65.084	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
8	64.887	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
9	64.689	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
10	64.491	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
11	64.293	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
12	64.095	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
13	63.897	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
14	63.699	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
15	63.501	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
16	63.303	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
17	63.105	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
18	62.907	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
19	62.709	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06

20	62.511	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
21	62.313	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
22	62.115	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
23	61.917	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
24	61.720	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
25	61.522	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
26	61.324	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
27	61.126	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
28	60.928	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
29	60.730	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
30	60.532	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
31	60.334	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
32	60.136	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
33	59.938	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
34	59.740	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
35	59.542	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
36	59.344	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
37	59.146	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
38	58.948	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
39	58.750	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
40	58.553	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
41	58.355	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
42	58.157	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
43	57.959	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
44	57.761	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
45	57.563	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
46	57.365	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
47	57.167	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
48	56.969	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
49	56.771	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
50	56.573	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
51	56.375	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
52	56.177	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
53	55.979	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
54	55.781	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
55	55.583	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
56	55.386	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
57	55.188	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
58	54.990	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
59	54.792	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
60	54.594	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
61	54.396	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
62	54.198	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
63	54.000	8.03	3.05	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06

20 DEG C RATE			0.04		0.00		3.60	0.00		0.00	0.00	0.00	0.00		0.00	3.78			
AVG 20 DEG C RATE		2.69		0.10					0.00										0.05

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
1	66.272	26.55	0.0	5.1	0.0	1.00	15.72	15.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
2	66.074	26.55	0.0	5.1	0.0	1.00	15.72	15.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
3	65.876	26.55	0.0	5.1	0.0	1.00	15.72	15.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
4	65.678	26.55	0.0	5.1	0.0	1.00	15.72	15.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
5	65.480	26.55	0.0	5.1	0.0	1.00	15.72	15.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
6	65.282	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
7	65.084	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
8	64.887	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
9	64.689	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
10	64.491	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
11	64.293	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
12	64.095	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
13	63.897	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
14	63.699	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
15	63.501	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
16	63.303	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
17	63.105	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
18	62.907	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
19	62.709	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
20	62.511	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
21	62.313	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
22	62.115	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
23	61.917	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
24	61.720	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
25	61.522	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
26	61.324	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
27	61.126	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
28	60.928	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
29	60.730	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
30	60.532	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
31	60.334	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
32	60.136	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
33	59.938	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
34	59.740	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
35	59.542	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
36	59.344	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
37	59.146	26.55	0.0	5.1	0.0	1.00	15.73	15.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.76
38	58.948	26.55	0.0	5.1	0.0	1.00	15.72	15.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.76
39	58.750	26.55	0.0	5.1	0.0	1.00	15.72	15.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.76
40	58.553	26.55	0.0	5.1	0.0	1.00	15.72	15.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.76
41	58.355	26.55	0.0	5.1	0.0	1.00	15.72	15.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.76
42	58.157	26.55	0.0	5.1	0.0	1.00	15.72	15.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.75
43	57.959	26.55	0.0	5.1	0.0	1.00	15.72	15.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.75
44	57.761	26.55	0.0	5.1	0.0	1.00	15.72	15.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.74
45	57.563	26.55	0.0	5.1	0.0	1.00	15.71	15.71	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.74
46	57.365	26.55	0.0	5.1	0.0	1.00	15.71	15.71	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.73

47	57.167	26.55	0.0	5.1	0.0	1.00	15.71	15.71	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.73
48	56.969	26.55	0.0	5.1	0.0	1.00	15.70	15.70	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.72
49	56.771	26.55	0.0	5.1	0.0	1.00	15.70	15.70	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.71
50	56.573	26.55	0.0	5.1	0.0	1.00	15.69	15.69	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.70
51	56.375	26.55	0.0	5.1	0.0	1.00	15.68	15.68	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.69
52	56.177	26.55	0.0	5.1	0.0	1.00	15.67	15.67	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.67
53	55.979	26.55	0.0	5.1	0.0	1.00	15.66	15.66	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.65
54	55.781	26.55	0.0	5.1	0.0	1.00	15.65	15.65	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.64
55	55.583	26.55	0.0	5.1	0.0	1.00	15.63	15.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.61
56	55.386	26.55	0.0	5.1	0.0	1.00	15.61	15.61	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.59
57	55.188	26.55	0.0	5.1	0.0	1.00	15.59	15.59	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.56
58	54.990	26.55	0.0	5.1	0.0	1.00	15.56	15.56	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.52
59	54.792	26.55	0.0	5.1	0.0	1.00	15.53	15.53	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.48
60	54.594	26.55	0.0	5.1	0.0	1.00	15.49	15.49	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.43
61	54.396	26.55	0.0	5.1	0.0	1.01	15.44	15.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.38
62	54.198	26.55	0.0	5.1	0.0	1.02	15.38	15.38	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.31
63	54.000	26.55	0.0	5.1	0.0	1.05	15.31	15.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.24

* CM-I = CHLORIDES CM-II = SULFATES NCM = NBOD
 MG/L MG/L MG/L

** g/cu m

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 FINAL REPORT Flat Creek headwater FLAT CREEK DISSOLVED OXYGEN MODEL
 REACH NO. 2 FLAT CREEK RK 54.0-42.0 CALIBRATION

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A ug/L	COLI #/100mL	NCM *
64	UPR RCH	0.0003	26.55	0.00	5.1	0.0	1.05	15.31	15.31	0.00	0.00	0.00	0.00	0.0	0.	3.24

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
64	54.00	53.80	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
65	53.80	53.60	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
66	53.60	53.40	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
67	53.40	53.20	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
68	53.20	53.00	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
69	53.00	52.80	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
70	52.80	52.60	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
71	52.60	52.40	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
72	52.40	52.20	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
73	52.20	52.00	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
74	52.00	51.80	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000

75	51.80	51.60	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
76	51.60	51.40	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
77	51.40	51.20	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
78	51.20	51.00	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
79	51.00	50.80	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
80	50.80	50.60	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
81	50.60	50.40	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
82	50.40	50.20	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
83	50.20	50.00	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
84	50.00	49.80	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
85	49.80	49.60	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
86	49.60	49.40	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
87	49.40	49.20	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
88	49.20	49.00	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
89	49.00	48.80	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
90	48.80	48.60	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
91	48.60	48.40	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
92	48.40	48.20	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
93	48.20	48.00	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
94	48.00	47.80	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
95	47.80	47.60	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
96	47.60	47.40	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
97	47.40	47.20	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
98	47.20	47.00	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
99	47.00	46.80	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
100	46.80	46.60	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
101	46.60	46.40	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
102	46.40	46.20	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
103	46.20	46.00	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
104	46.00	45.80	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
105	45.80	45.60	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
106	45.60	45.40	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
107	45.40	45.20	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
108	45.20	45.00	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
109	45.00	44.80	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
110	44.80	44.60	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
111	44.60	44.40	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
112	44.40	44.20	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
113	44.20	44.00	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
114	44.00	43.80	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
115	43.80	43.60	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
116	43.60	43.40	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
117	43.40	43.20	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
118	43.20	43.00	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
119	43.00	42.80	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
120	42.80	42.60	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
121	42.60	42.40	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
122	42.40	42.20	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
123	42.20	42.00	0.0003	0.0	0.000	9.83	0.26	4.6	238.	915.2	1.2	0.	0.000	2.000	0.000
TOT						589.66			14265.	54909.5					

AVG 0.000 0.26 4.6 1.2
 CUM 1202.41

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECA 1/da	CBOD SETT 1/da	ANBOD DECA 1/da	FULL SOD *	CORR SOD *	ORGN DECA 1/da	ORGN SETT 1/da	NH3 DECA 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECA 1/da	NCM DECA 1/da	NCM SETT 1/da
64	53.800	8.03	3.05	0.03	0.12	0.00	5.30	5.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
65	53.600	8.03	3.05	0.03	0.12	0.00	5.30	5.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
66	53.400	8.02	3.05	0.03	0.12	0.00	5.31	5.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
67	53.200	8.02	3.06	0.03	0.12	0.00	5.32	5.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
68	53.000	8.01	3.06	0.03	0.12	0.00	5.33	5.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
69	52.800	8.01	3.06	0.03	0.12	0.00	5.34	5.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
70	52.600	8.01	3.06	0.03	0.12	0.00	5.35	5.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
71	52.400	8.00	3.06	0.03	0.12	0.00	5.36	5.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
72	52.200	8.00	3.06	0.03	0.12	0.00	5.36	5.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
73	52.000	8.00	3.06	0.03	0.12	0.00	5.37	5.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
74	51.800	7.99	3.07	0.03	0.12	0.00	5.38	5.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
75	51.600	7.99	3.07	0.03	0.12	0.00	5.39	5.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
76	51.400	7.99	3.07	0.03	0.12	0.00	5.40	5.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
77	51.200	7.98	3.07	0.03	0.12	0.00	5.41	5.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
78	51.000	7.98	3.07	0.03	0.12	0.00	5.42	5.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
79	50.800	7.97	3.07	0.03	0.12	0.00	5.42	5.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
80	50.600	7.97	3.07	0.03	0.12	0.00	5.43	5.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
81	50.400	7.97	3.07	0.03	0.12	0.00	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
82	50.200	7.96	3.08	0.03	0.12	0.00	5.45	5.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
83	50.000	7.96	3.08	0.03	0.12	0.00	5.46	5.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
84	49.800	7.96	3.08	0.03	0.12	0.00	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
85	49.600	7.95	3.08	0.03	0.12	0.00	5.48	5.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
86	49.400	7.95	3.08	0.03	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
87	49.200	7.95	3.08	0.03	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
88	49.000	7.94	3.08	0.03	0.12	0.00	5.50	5.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
89	48.800	7.94	3.09	0.03	0.12	0.00	5.51	5.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
90	48.600	7.93	3.09	0.03	0.12	0.00	5.52	5.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
91	48.400	7.93	3.09	0.02	0.12	0.00	5.53	5.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
92	48.200	7.93	3.09	0.02	0.12	0.00	5.54	5.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
93	48.000	7.92	3.09	0.02	0.12	0.00	5.55	5.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
94	47.800	7.92	3.09	0.02	0.12	0.00	5.56	5.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
95	47.600	7.92	3.09	0.02	0.12	0.00	5.57	5.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
96	47.400	7.91	3.10	0.02	0.12	0.00	5.57	5.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
97	47.200	7.91	3.10	0.02	0.12	0.00	5.58	5.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
98	47.000	7.91	3.10	0.02	0.12	0.00	5.59	5.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
99	46.800	7.90	3.10	0.02	0.12	0.00	5.60	5.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
100	46.600	7.90	3.10	0.02	0.12	0.00	5.61	5.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
101	46.400	7.89	3.10	0.02	0.12	0.00	5.62	5.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
102	46.200	7.89	3.10	0.02	0.12	0.00	5.63	5.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
103	46.000	7.89	3.11	0.02	0.12	0.00	5.64	5.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
104	45.800	7.88	3.11	0.02	0.12	0.00	5.65	5.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06

105	45.600	7.88	3.11	0.02	0.12	0.00	5.66	5.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
106	45.400	7.88	3.11	0.02	0.12	0.00	5.66	5.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
107	45.200	7.87	3.11	0.02	0.12	0.00	5.67	5.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
108	45.000	7.87	3.11	0.02	0.12	0.00	5.68	5.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
109	44.800	7.87	3.11	0.02	0.12	0.00	5.69	5.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
110	44.600	7.86	3.12	0.02	0.12	0.00	5.70	5.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
111	44.400	7.86	3.12	0.02	0.12	0.00	5.71	5.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
112	44.200	7.86	3.12	0.02	0.12	0.00	5.72	5.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
113	44.000	7.85	3.12	0.02	0.12	0.00	5.73	5.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
114	43.800	7.85	3.12	0.02	0.12	0.00	5.74	5.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
115	43.600	7.84	3.12	0.02	0.12	0.00	5.75	5.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
116	43.400	7.84	3.12	0.02	0.12	0.00	5.76	5.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
117	43.200	7.84	3.13	0.02	0.12	0.00	5.77	5.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
118	43.000	7.83	3.13	0.02	0.12	0.00	5.78	5.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
119	42.800	7.83	3.13	0.02	0.12	0.00	5.78	5.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
120	42.600	7.83	3.13	0.02	0.12	0.00	5.79	5.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
121	42.400	7.82	3.13	0.02	0.12	0.00	5.80	5.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
122	42.200	7.82	3.13	0.02	0.12	0.00	5.81	5.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06
123	42.000	7.82	3.13	0.02	0.12	0.00	5.82	5.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06

20 DEG C RATE				0.04		0.00		3.50	0.00		0.00	0.00	0.00	0.00			0.00	3.78	
AVG 20 DEG C RATE	2.69				0.10					0.00									0.05

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
64	53.800	26.58	0.0	5.1	0.0	1.11	15.23	15.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.15
65	53.600	26.60	0.0	5.1	0.0	1.13	15.16	15.16	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.08
66	53.400	26.63	0.0	5.1	0.0	1.13	15.10	15.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.01
67	53.200	26.65	0.0	5.1	0.0	1.13	15.06	15.06	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.95
68	53.000	26.68	0.0	5.1	0.0	1.12	15.02	15.02	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.90
69	52.800	26.70	0.0	5.1	0.0	1.12	14.99	14.99	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.86
70	52.600	26.73	0.0	5.1	0.0	1.11	14.97	14.97	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.82
71	52.400	26.75	0.0	5.1	0.0	1.10	14.95	14.95	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.79
72	52.200	26.78	0.0	5.1	0.0	1.09	14.94	14.94	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.76
73	52.000	26.80	0.0	5.1	0.0	1.08	14.94	14.94	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.74
74	51.800	26.83	0.0	5.1	0.0	1.07	14.93	14.93	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.72
75	51.600	26.86	0.0	5.1	0.0	1.06	14.93	14.93	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.70
76	51.400	26.88	0.0	5.1	0.0	1.05	14.94	14.94	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.69
77	51.200	26.91	0.0	5.1	0.0	1.04	14.94	14.94	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.68
78	51.000	26.93	0.0	5.1	0.0	1.03	14.95	14.95	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.67
79	50.800	26.96	0.0	5.1	0.0	1.02	14.96	14.96	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.66
80	50.600	26.98	0.0	5.1	0.0	1.01	14.97	14.97	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.66
81	50.400	27.01	0.0	5.1	0.0	1.00	14.98	14.98	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.65
82	50.200	27.03	0.0	5.1	0.0	0.99	14.99	14.99	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.65
83	50.000	27.06	0.0	5.1	0.0	0.98	15.00	15.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.65

84	49.800	27.09	0.0	5.1	0.0	0.97	15.02	15.02	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.65
85	49.600	27.11	0.0	5.1	0.0	0.96	15.03	15.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.65
86	49.400	27.14	0.0	5.1	0.0	0.95	15.05	15.05	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.65
87	49.200	27.16	0.0	5.1	0.0	0.94	15.06	15.06	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.65
88	49.000	27.19	0.0	5.1	0.0	0.93	15.08	15.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.65
89	48.800	27.21	0.0	5.1	0.0	0.92	15.09	15.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.65
90	48.600	27.24	0.0	5.1	0.0	0.91	15.11	15.11	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.66
91	48.400	27.26	0.0	5.1	0.0	0.90	15.13	15.13	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.66
92	48.200	27.29	0.0	5.1	0.0	0.89	15.14	15.14	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.66
93	48.000	27.31	0.0	5.1	0.0	0.88	15.16	15.16	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.67
94	47.800	27.34	0.0	5.1	0.0	0.87	15.18	15.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.67
95	47.600	27.37	0.0	5.1	0.0	0.86	15.20	15.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.67
96	47.400	27.39	0.0	5.1	0.0	0.85	15.21	15.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.68
97	47.200	27.42	0.0	5.1	0.0	0.84	15.23	15.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.68
98	47.000	27.44	0.0	5.1	0.0	0.82	15.25	15.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.69
99	46.800	27.47	0.0	5.1	0.0	0.81	15.27	15.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.69
100	46.600	27.49	0.0	5.1	0.0	0.80	15.29	15.29	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.69
101	46.400	27.52	0.0	5.1	0.0	0.79	15.30	15.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.70
102	46.200	27.54	0.0	5.1	0.0	0.78	15.32	15.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.70
103	46.000	27.57	0.0	5.1	0.0	0.77	15.34	15.34	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.70
104	45.800	27.60	0.0	5.1	0.0	0.76	15.36	15.36	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.71
105	45.600	27.62	0.0	5.1	0.0	0.75	15.37	15.37	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.71
106	45.400	27.65	0.0	5.1	0.0	0.74	15.39	15.39	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.71
107	45.200	27.67	0.0	5.1	0.0	0.73	15.41	15.41	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.71
108	45.000	27.70	0.0	5.1	0.0	0.72	15.42	15.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.71
109	44.800	27.72	0.0	5.1	0.0	0.71	15.44	15.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.71
110	44.600	27.75	0.0	5.1	0.0	0.70	15.45	15.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.70
111	44.400	27.77	0.0	5.1	0.0	0.69	15.46	15.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.70
112	44.200	27.80	0.0	5.1	0.0	0.68	15.47	15.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.69
113	44.000	27.82	0.0	5.1	0.0	0.67	15.48	15.48	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.68
114	43.800	27.85	0.0	5.1	0.0	0.66	15.49	15.49	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.67
115	43.600	27.88	0.0	5.1	0.0	0.65	15.49	15.49	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.65
116	43.400	27.90	0.0	5.1	0.0	0.64	15.49	15.49	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.64
117	43.200	27.93	0.0	5.1	0.0	0.63	15.49	15.49	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.61
118	43.000	27.95	0.0	5.1	0.0	0.62	15.48	15.48	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.59
119	42.800	27.98	0.0	5.1	0.0	0.61	15.47	15.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.56
120	42.600	28.00	0.0	5.1	0.0	0.61	15.45	15.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.52
121	42.400	28.03	0.0	5.1	0.0	0.61	15.42	15.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.47
122	42.200	28.05	0.0	5.1	0.0	0.63	15.38	15.38	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.42
123	42.000	28.08	0.0	5.1	0.0	0.70	15.34	15.34	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.36

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

** g/cu m

1
 FINAL REPORT Flat Creek headwater
 REACH NO. 3 FLAT CREEK RK 42.0-30.0

FLAT CREEK DISSOLVED OXYGEN MODEL
 CALIBRATION

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
124	UPR RCH	0.0003	28.08	0.00	5.1	0.0	0.70	15.34	15.34	0.00	0.00	0.00	0.00	0.0	0.	2.36

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
124	42.00	41.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
125	41.80	41.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
126	41.60	41.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
127	41.40	41.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
128	41.20	41.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
129	41.00	40.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
130	40.80	40.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
131	40.60	40.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
132	40.40	40.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
133	40.20	40.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
134	40.00	39.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
135	39.80	39.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
136	39.60	39.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
137	39.40	39.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
138	39.20	39.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
139	39.00	38.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
140	38.80	38.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
141	38.60	38.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
142	38.40	38.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
143	38.20	38.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
144	38.00	37.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
145	37.80	37.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
146	37.60	37.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
147	37.40	37.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
148	37.20	37.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
149	37.00	36.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
150	36.80	36.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
151	36.60	36.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
152	36.40	36.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
153	36.20	36.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
154	36.00	35.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
155	35.80	35.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
156	35.60	35.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
157	35.40	35.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
158	35.20	35.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
159	35.00	34.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
160	34.80	34.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
161	34.60	34.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
162	34.40	34.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000

163	34.20	34.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
164	34.00	33.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
165	33.80	33.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
166	33.60	33.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
167	33.40	33.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
168	33.20	33.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
169	33.00	32.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
170	32.80	32.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
171	32.60	32.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
172	32.40	32.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
173	32.20	32.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
174	32.00	31.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
175	31.80	31.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
176	31.60	31.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
177	31.40	31.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
178	31.20	31.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
179	31.00	30.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
180	30.80	30.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
181	30.60	30.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
182	30.40	30.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
183	30.20	30.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
TOT						896.50				21688.	66981.5				
AVG				0.000			0.32	5.6				1.8			
CUM						2098.91									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
124	41.800	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
125	41.600	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
126	41.400	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
127	41.200	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
128	41.000	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
129	40.800	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
130	40.600	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
131	40.400	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
132	40.200	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
133	40.000	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
134	39.800	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
135	39.600	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
136	39.400	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
137	39.200	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
138	39.000	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
139	38.800	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
140	38.600	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
141	38.400	7.82	2.51	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
124	41.800	28.08	0.0	5.1	0.0	0.83	15.30	15.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.30
125	41.600	28.08	0.0	5.1	0.0	0.88	15.27	15.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.26
126	41.400	28.08	0.0	5.1	0.0	0.91	15.24	15.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.22
127	41.200	28.08	0.0	5.1	0.0	0.92	15.21	15.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.19
128	41.000	28.08	0.0	5.1	0.0	0.92	15.19	15.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.16
129	40.800	28.08	0.0	5.1	0.0	0.93	15.17	15.17	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.13
130	40.600	28.08	0.0	5.1	0.0	0.93	15.16	15.16	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.11
131	40.400	28.08	0.0	5.1	0.0	0.93	15.14	15.14	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.09
132	40.200	28.08	0.0	5.1	0.0	0.93	15.13	15.13	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.08
133	40.000	28.08	0.0	5.1	0.0	0.93	15.12	15.12	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.06
134	39.800	28.08	0.0	5.1	0.0	0.93	15.11	15.11	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.05
135	39.600	28.08	0.0	5.1	0.0	0.93	15.11	15.11	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.04
136	39.400	28.08	0.0	5.1	0.0	0.93	15.10	15.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.03
137	39.200	28.08	0.0	5.1	0.0	0.93	15.10	15.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.02
138	39.000	28.08	0.0	5.1	0.0	0.93	15.09	15.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.01
139	38.800	28.08	0.0	5.1	0.0	0.93	15.09	15.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.01
140	38.600	28.08	0.0	5.1	0.0	0.93	15.08	15.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.00
141	38.400	28.08	0.0	5.1	0.0	0.93	15.08	15.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.00
142	38.200	28.08	0.0	5.1	0.0	0.93	15.08	15.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.99
143	38.000	28.08	0.0	5.1	0.0	0.93	15.08	15.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.99
144	37.800	28.08	0.0	5.1	0.0	0.93	15.08	15.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.99
145	37.600	28.08	0.0	5.1	0.0	0.93	15.08	15.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.98
146	37.400	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.98
147	37.200	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.98
148	37.000	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.98
149	36.800	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.97
150	36.600	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.97
151	36.400	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.97
152	36.200	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.97
153	36.000	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.97
154	35.800	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.97
155	35.600	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.97
156	35.400	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.96
157	35.200	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.96
158	35.000	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.96
159	34.800	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.96
160	34.600	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.96
161	34.400	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.96
162	34.200	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.95
163	34.000	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.95
164	33.800	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.95
165	33.600	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.95
166	33.400	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.94
167	33.200	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.94
168	33.000	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.93
169	32.800	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.93
170	32.600	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.92
171	32.400	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.91

172	32.200	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.90
173	32.000	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.89
174	31.800	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.88
175	31.600	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.87
176	31.400	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.85
177	31.200	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.83
178	31.000	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.81
179	30.800	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.78
180	30.600	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.75
181	30.400	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.71
182	30.200	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.67
183	30.000	28.08	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.62

* CM-I = CHLORIDES MG/L CM-II = SULFATES MG/L NCM = NBOD MG/L

** g/cu m

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 FINAL REPORT Flat Creek headwater FLAT CREEK DISSOLVED OXYGEN MODEL
 REACH NO. 4 FLAT CREEK RK 30.0-18.0 CALIBRATION

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
184	UPR RCH	0.0003	28.08	0.00	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.0	0.	1.62

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
184	30.00	29.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
185	29.80	29.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
186	29.60	29.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
187	29.40	29.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
188	29.20	29.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
189	29.00	28.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
190	28.80	28.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
191	28.60	28.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
192	28.40	28.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
193	28.20	28.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
194	28.00	27.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
195	27.80	27.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
196	27.60	27.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
197	27.40	27.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
198	27.20	27.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
199	27.00	26.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000

200	26.80	26.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
201	26.60	26.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
202	26.40	26.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
203	26.20	26.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
204	26.00	25.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
205	25.80	25.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
206	25.60	25.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
207	25.40	25.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
208	25.20	25.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
209	25.00	24.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
210	24.80	24.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
211	24.60	24.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
212	24.40	24.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
213	24.20	24.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
214	24.00	23.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
215	23.80	23.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
216	23.60	23.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
217	23.40	23.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
218	23.20	23.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
219	23.00	22.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
220	22.80	22.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
221	22.60	22.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
222	22.40	22.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
223	22.20	22.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
224	22.00	21.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
225	21.80	21.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
226	21.60	21.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
227	21.40	21.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
228	21.20	21.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
229	21.00	20.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
230	20.80	20.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
231	20.60	20.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
232	20.40	20.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
233	20.20	20.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
234	20.00	19.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
235	19.80	19.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
236	19.60	19.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
237	19.40	19.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
238	19.20	19.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
239	19.00	18.80	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
240	18.80	18.60	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
241	18.60	18.40	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
242	18.40	18.20	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
243	18.20	18.00	0.0003	0.0	0.000	14.94	0.32	5.6	361.	1116.4	1.8	0.	0.000	2.000	0.000
TOT						896.50			21688.	66981.5					
AVG				0.000			0.32	5.6			1.8				
CUM						2995.41									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
184	29.800	7.81	2.52	0.02	0.12	0.00	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
185	29.600	7.81	2.52	0.02	0.12	0.00	5.50	5.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
186	29.400	7.81	2.52	0.02	0.12	0.00	5.50	5.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
187	29.200	7.81	2.52	0.02	0.12	0.00	5.51	5.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
188	29.000	7.81	2.52	0.02	0.12	0.00	5.51	5.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
189	28.800	7.81	2.52	0.02	0.12	0.00	5.51	5.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
190	28.600	7.80	2.52	0.02	0.12	0.00	5.52	5.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
191	28.400	7.80	2.52	0.02	0.12	0.00	5.52	5.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
192	28.200	7.80	2.52	0.02	0.12	0.00	5.53	5.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
193	28.000	7.80	2.52	0.02	0.12	0.00	5.53	5.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
194	27.800	7.80	2.52	0.02	0.12	0.00	5.53	5.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
195	27.600	7.80	2.52	0.02	0.12	0.00	5.54	5.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
196	27.400	7.79	2.52	0.02	0.12	0.00	5.54	5.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
197	27.200	7.79	2.52	0.02	0.12	0.00	5.55	5.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
198	27.000	7.79	2.52	0.02	0.12	0.00	5.55	5.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
199	26.800	7.79	2.52	0.02	0.12	0.00	5.56	5.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
200	26.600	7.79	2.52	0.02	0.12	0.00	5.56	5.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
201	26.400	7.79	2.52	0.02	0.12	0.00	5.56	5.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
202	26.200	7.78	2.52	0.02	0.12	0.00	5.57	5.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
203	26.000	7.78	2.53	0.02	0.12	0.00	5.57	5.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
204	25.800	7.78	2.53	0.02	0.12	0.00	5.58	5.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
205	25.600	7.78	2.53	0.02	0.12	0.00	5.58	5.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
206	25.400	7.78	2.53	0.02	0.12	0.00	5.59	5.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
207	25.200	7.78	2.53	0.02	0.12	0.00	5.59	5.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
208	25.000	7.78	2.53	0.02	0.12	0.00	5.59	5.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
209	24.800	7.77	2.53	0.02	0.12	0.00	5.60	5.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
210	24.600	7.77	2.53	0.02	0.12	0.00	5.60	5.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
211	24.400	7.77	2.53	0.02	0.12	0.00	5.61	5.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
212	24.200	7.77	2.53	0.02	0.12	0.00	5.61	5.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
213	24.000	7.77	2.53	0.02	0.12	0.00	5.61	5.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
214	23.800	7.77	2.53	0.02	0.12	0.00	5.62	5.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
215	23.600	7.76	2.53	0.02	0.12	0.00	5.62	5.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
216	23.400	7.76	2.53	0.02	0.12	0.00	5.63	5.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
217	23.200	7.76	2.53	0.02	0.12	0.00	5.63	5.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
218	23.000	7.76	2.53	0.02	0.12	0.00	5.64	5.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
219	22.800	7.76	2.53	0.02	0.12	0.00	5.64	5.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
220	22.600	7.76	2.53	0.02	0.12	0.00	5.64	5.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
221	22.400	7.75	2.53	0.02	0.12	0.00	5.65	5.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
222	22.200	7.75	2.54	0.02	0.12	0.00	5.65	5.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
223	22.000	7.75	2.54	0.02	0.12	0.00	5.66	5.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
224	21.800	7.75	2.54	0.02	0.12	0.00	5.66	5.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
225	21.600	7.75	2.54	0.02	0.12	0.00	5.67	5.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
226	21.400	7.75	2.54	0.02	0.12	0.00	5.67	5.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
227	21.200	7.74	2.54	0.02	0.12	0.00	5.67	5.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
228	21.000	7.74	2.54	0.02	0.12	0.00	5.68	5.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
229	20.800	7.74	2.54	0.02	0.12	0.00	5.68	5.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06

230	20.600	7.74	2.54	0.02	0.12	0.00	5.69	5.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
231	20.400	7.74	2.54	0.02	0.12	0.00	5.69	5.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
232	20.200	7.74	2.54	0.02	0.12	0.00	5.70	5.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
233	20.000	7.73	2.54	0.02	0.12	0.00	5.70	5.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
234	19.800	7.73	2.54	0.02	0.12	0.00	5.70	5.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
235	19.600	7.73	2.54	0.02	0.12	0.00	5.71	5.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
236	19.400	7.73	2.54	0.02	0.12	0.00	5.71	5.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
237	19.200	7.73	2.54	0.02	0.12	0.00	5.72	5.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
238	19.000	7.73	2.54	0.02	0.12	0.00	5.72	5.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
239	18.800	7.72	2.54	0.02	0.12	0.00	5.73	5.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
240	18.600	7.72	2.55	0.02	0.12	0.00	5.73	5.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
241	18.400	7.72	2.55	0.02	0.12	0.00	5.74	5.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
242	18.200	7.72	2.55	0.02	0.12	0.00	5.74	5.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.06
243	18.000	7.72	2.55	0.03	0.12	0.00	5.74	5.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.06
20 DEG C RATE					0.03		0.00		3.30	0.00		0.00	0.00	0.00	0.00		0.00	3.78	
AVG 20 DEG C RATE				2.16		0.10					0.00								0.05

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
184	29.800	28.09	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.57
185	29.600	28.10	0.0	5.1	0.0	0.93	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.52
186	29.400	28.12	0.0	5.1	0.0	0.92	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.47
187	29.200	28.13	0.0	5.1	0.0	0.92	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.43
188	29.000	28.14	0.0	5.1	0.0	0.91	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.40
189	28.800	28.15	0.0	5.1	0.0	0.91	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.37
190	28.600	28.16	0.0	5.1	0.0	0.90	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.35
191	28.400	28.18	0.0	5.1	0.0	0.90	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.33
192	28.200	28.19	0.0	5.1	0.0	0.89	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.31
193	28.000	28.20	0.0	5.1	0.0	0.89	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.29
194	27.800	28.21	0.0	5.1	0.0	0.88	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
195	27.600	28.22	0.0	5.1	0.0	0.88	15.08	15.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
196	27.400	28.24	0.0	5.1	0.0	0.88	15.08	15.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.26
197	27.200	28.25	0.0	5.1	0.0	0.87	15.08	15.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.25
198	27.000	28.26	0.0	5.1	0.0	0.87	15.08	15.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.24
199	26.800	28.27	0.0	5.1	0.0	0.86	15.08	15.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.24
200	26.600	28.28	0.0	5.1	0.0	0.86	15.08	15.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.23
201	26.400	28.30	0.0	5.1	0.0	0.85	15.09	15.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.23
202	26.200	28.31	0.0	5.1	0.0	0.85	15.09	15.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
203	26.000	28.32	0.0	5.1	0.0	0.84	15.09	15.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
204	25.800	28.33	0.0	5.1	0.0	0.84	15.09	15.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
205	25.600	28.34	0.0	5.1	0.0	0.83	15.09	15.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
206	25.400	28.36	0.0	5.1	0.0	0.83	15.09	15.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
207	25.200	28.37	0.0	5.1	0.0	0.82	15.09	15.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
208	25.000	28.38	0.0	5.1	0.0	0.82	15.10	15.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21

209	24.800	28.39	0.0	5.1	0.0	0.81	15.10	15.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
210	24.600	28.40	0.0	5.1	0.0	0.81	15.10	15.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
211	24.400	28.42	0.0	5.1	0.0	0.80	15.10	15.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
212	24.200	28.43	0.0	5.1	0.0	0.80	15.10	15.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
213	24.000	28.44	0.0	5.1	0.0	0.79	15.10	15.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
214	23.800	28.45	0.0	5.1	0.0	0.79	15.10	15.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
215	23.600	28.46	0.0	5.1	0.0	0.78	15.10	15.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
216	23.400	28.48	0.0	5.1	0.0	0.78	15.10	15.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
217	23.200	28.49	0.0	5.1	0.0	0.77	15.10	15.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
218	23.000	28.50	0.0	5.1	0.0	0.77	15.09	15.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
219	22.800	28.51	0.0	5.1	0.0	0.76	15.09	15.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
220	22.600	28.52	0.0	5.1	0.0	0.76	15.09	15.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
221	22.400	28.54	0.0	5.1	0.0	0.75	15.08	15.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
222	22.200	28.55	0.0	5.1	0.0	0.75	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
223	22.000	28.56	0.0	5.1	0.0	0.74	15.06	15.06	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
224	21.800	28.57	0.0	5.1	0.0	0.74	15.05	15.05	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
225	21.600	28.58	0.0	5.1	0.0	0.73	15.04	15.04	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
226	21.400	28.60	0.0	5.1	0.0	0.73	15.02	15.02	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
227	21.200	28.61	0.0	5.1	0.0	0.72	15.00	15.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
228	21.000	28.62	0.0	5.1	0.0	0.72	14.97	14.97	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
229	20.800	28.63	0.0	5.1	0.0	0.71	14.94	14.94	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
230	20.600	28.64	0.0	5.1	0.0	0.71	14.90	14.90	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
231	20.400	28.66	0.0	5.1	0.0	0.70	14.85	14.85	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
232	20.200	28.67	0.0	5.1	0.0	0.70	14.79	14.79	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
233	20.000	28.68	0.0	5.1	0.0	0.69	14.72	14.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
234	19.800	28.69	0.0	5.1	0.0	0.69	14.63	14.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
235	19.600	28.70	0.0	5.1	0.0	0.69	14.52	14.52	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
236	19.400	28.72	0.0	5.1	0.0	0.68	14.40	14.40	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.23
237	19.200	28.73	0.0	5.1	0.0	0.68	14.24	14.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.23
238	19.000	28.74	0.0	5.1	0.0	0.68	14.06	14.06	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.23
239	18.800	28.75	0.0	5.1	0.0	0.69	13.84	13.84	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.24
240	18.600	28.76	0.0	5.1	0.0	0.72	13.57	13.57	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.24
241	18.400	28.78	0.0	5.1	0.0	0.78	13.25	13.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.25
242	18.200	28.79	0.0	5.1	0.0	0.91	12.87	12.87	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.26
243	18.000	28.80	0.0	5.1	0.0	1.22	12.43	12.43	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

** g/cu m

1
 FINAL REPORT Flat Creek headwater
 REACH NO. 5 FLAT CREEK RK 18.0-5.0

FLAT CREEK DISSOLVED OXYGEN MODEL
 CALIBRATION

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
244	UPR RCH	0.0003	28.80	0.00	5.1	0.0	1.22	12.43	12.43	0.00	0.00	0.00	0.00	0.0	0.	1.27

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
244	18.00	17.80	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
245	17.80	17.60	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
246	17.60	17.40	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
247	17.40	17.20	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
248	17.20	17.00	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
249	17.00	16.80	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
250	16.80	16.60	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
251	16.60	16.40	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
252	16.40	16.20	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
253	16.20	16.00	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
254	16.00	15.80	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
255	15.80	15.60	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
256	15.60	15.40	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
257	15.40	15.20	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
258	15.20	15.00	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
259	15.00	14.80	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
260	14.80	14.60	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
261	14.60	14.40	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
262	14.40	14.20	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
263	14.20	14.00	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
264	14.00	13.80	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
265	13.80	13.60	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
266	13.60	13.40	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
267	13.40	13.20	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
268	13.20	13.00	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
269	13.00	12.80	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
270	12.80	12.60	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
271	12.60	12.40	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
272	12.40	12.20	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
273	12.20	12.00	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
274	12.00	11.80	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
275	11.80	11.60	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
276	11.60	11.40	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
277	11.40	11.20	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
278	11.20	11.00	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
279	11.00	10.80	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
280	10.80	10.60	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
281	10.60	10.40	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
282	10.40	10.20	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
283	10.20	10.00	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
284	10.00	9.80	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
285	9.80	9.60	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
286	9.60	9.40	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
287	9.40	9.20	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000

288	9.20	9.00	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
289	9.00	8.80	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
290	8.80	8.60	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
291	8.60	8.40	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
292	8.40	8.20	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
293	8.20	8.00	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
294	8.00	7.80	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
295	7.80	7.60	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
296	7.60	7.40	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
297	7.40	7.20	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
298	7.20	7.00	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
299	7.00	6.80	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
300	6.80	6.60	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
301	6.60	6.40	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
302	6.40	6.20	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
303	6.20	6.00	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
304	6.00	5.80	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
305	5.80	5.60	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
306	5.60	5.40	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
307	5.40	5.20	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
308	5.20	5.00	0.0003	0.0	0.000	69.43	0.87	9.6	1680.	1924.4	8.4	0.	0.000	2.000	0.000
TOT						4512.72			109172.	125083.4					
AVG				0.000			0.87	9.6			8.4				
CUM						7508.12									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
244	17.800	7.72	0.94	0.04	0.12	0.00	4.35	4.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.06
245	17.600	7.72	0.95	0.05	0.12	0.00	4.36	4.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.06
246	17.400	7.71	0.95	0.05	0.12	0.00	4.36	4.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06
247	17.200	7.71	0.95	0.05	0.12	0.00	4.36	4.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06
248	17.000	7.71	0.95	0.05	0.12	0.00	4.37	4.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06
249	16.800	7.71	0.95	0.05	0.12	0.00	4.37	4.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06
250	16.600	7.71	0.95	0.05	0.12	0.00	4.37	4.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06
251	16.400	7.71	0.95	0.05	0.12	0.00	4.38	4.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06
252	16.200	7.70	0.95	0.05	0.12	0.00	4.38	4.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06
253	16.000	7.70	0.95	0.05	0.12	0.00	4.38	4.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06
254	15.800	7.70	0.95	0.05	0.12	0.00	4.38	4.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06
255	15.600	7.70	0.95	0.05	0.12	0.00	4.39	4.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06
256	15.400	7.70	0.95	0.05	0.12	0.00	4.39	4.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06
257	15.200	7.70	0.95	0.05	0.12	0.00	4.39	4.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06
258	15.000	7.70	0.95	0.05	0.12	0.00	4.40	4.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06
259	14.800	7.69	0.95	0.05	0.12	0.00	4.40	4.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06
260	14.600	7.69	0.95	0.05	0.12	0.00	4.40	4.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06
261	14.400	7.69	0.95	0.05	0.12	0.00	4.41	4.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
244	17.800	28.81	0.0	5.1	0.0	1.47	12.25	12.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
245	17.600	28.82	0.0	5.1	0.0	1.55	12.15	12.15	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
246	17.400	28.83	0.0	5.1	0.0	1.60	12.06	12.06	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
247	17.200	28.84	0.0	5.1	0.0	1.63	11.99	11.99	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
248	17.000	28.85	0.0	5.1	0.0	1.64	11.92	11.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
249	16.800	28.87	0.0	5.1	0.0	1.65	11.86	11.86	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
250	16.600	28.88	0.0	5.1	0.0	1.66	11.82	11.82	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
251	16.400	28.89	0.0	5.1	0.0	1.66	11.78	11.78	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
252	16.200	28.90	0.0	5.1	0.0	1.66	11.75	11.75	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
253	16.000	28.91	0.0	5.1	0.0	1.66	11.72	11.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
254	15.800	28.92	0.0	5.1	0.0	1.65	11.70	11.70	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
255	15.600	28.93	0.0	5.1	0.0	1.65	11.68	11.68	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
256	15.400	28.94	0.0	5.1	0.0	1.65	11.67	11.67	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
257	15.200	28.95	0.0	5.1	0.0	1.65	11.66	11.66	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
258	15.000	28.96	0.0	5.1	0.0	1.64	11.65	11.65	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
259	14.800	28.97	0.0	5.1	0.0	1.64	11.64	11.64	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
260	14.600	28.99	0.0	5.1	0.0	1.64	11.63	11.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
261	14.400	29.00	0.0	5.1	0.0	1.63	11.63	11.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
262	14.200	29.01	0.0	5.1	0.0	1.63	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
263	14.000	29.02	0.0	5.1	0.0	1.63	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
264	13.800	29.03	0.0	5.1	0.0	1.62	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
265	13.600	29.04	0.0	5.1	0.0	1.62	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
266	13.400	29.05	0.0	5.1	0.0	1.62	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
267	13.200	29.06	0.0	5.1	0.0	1.61	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
268	13.000	29.07	0.0	5.1	0.0	1.61	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
269	12.800	29.08	0.0	5.1	0.0	1.61	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
270	12.600	29.09	0.0	5.1	0.0	1.61	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
271	12.400	29.11	0.0	5.1	0.0	1.60	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
272	12.200	29.12	0.0	5.1	0.0	1.60	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
273	12.000	29.13	0.0	5.1	0.0	1.60	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
274	11.800	29.14	0.0	5.1	0.0	1.59	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
275	11.600	29.15	0.0	5.1	0.0	1.59	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
276	11.400	29.16	0.0	5.1	0.0	1.59	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
277	11.200	29.17	0.0	5.1	0.0	1.58	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
278	11.000	29.18	0.0	5.1	0.0	1.58	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
279	10.800	29.19	0.0	5.1	0.0	1.58	11.63	11.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
280	10.600	29.20	0.0	5.1	0.0	1.57	11.63	11.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
281	10.400	29.22	0.0	5.1	0.0	1.57	11.63	11.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
282	10.200	29.23	0.0	5.1	0.0	1.57	11.63	11.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
283	10.000	29.24	0.0	5.1	0.0	1.56	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
284	9.800	29.25	0.0	5.1	0.0	1.56	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
285	9.600	29.26	0.0	5.1	0.0	1.56	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
286	9.400	29.27	0.0	5.1	0.0	1.56	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28

287	9.200	29.28	0.0	5.1	0.0	1.55	11.61	11.61	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
288	9.000	29.29	0.0	5.1	0.0	1.55	11.61	11.61	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
289	8.800	29.30	0.0	5.1	0.0	1.55	11.60	11.60	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
290	8.600	29.31	0.0	5.1	0.0	1.54	11.59	11.59	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
291	8.400	29.32	0.0	5.1	0.0	1.54	11.58	11.58	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
292	8.200	29.34	0.0	5.1	0.0	1.54	11.56	11.56	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
293	8.000	29.35	0.0	5.1	0.0	1.54	11.55	11.55	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
294	7.800	29.36	0.0	5.1	0.0	1.54	11.52	11.52	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
295	7.600	29.37	0.0	5.1	0.0	1.53	11.49	11.49	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
296	7.400	29.38	0.0	5.1	0.0	1.53	11.46	11.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
297	7.200	29.39	0.0	5.1	0.0	1.53	11.42	11.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
298	7.000	29.40	0.0	5.1	0.0	1.53	11.36	11.36	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
299	6.800	29.41	0.0	5.1	0.0	1.53	11.30	11.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
300	6.600	29.42	0.0	5.1	0.0	1.53	11.22	11.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
301	6.400	29.43	0.0	5.1	0.0	1.54	11.13	11.13	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
302	6.200	29.44	0.0	5.1	0.0	1.55	11.01	11.01	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
303	6.000	29.46	0.0	5.1	0.0	1.56	10.87	10.87	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
304	5.800	29.47	0.0	5.1	0.0	1.59	10.70	10.70	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
305	5.600	29.48	0.0	5.1	0.0	1.63	10.50	10.50	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
306	5.400	29.49	0.0	5.1	0.0	1.71	10.26	10.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
307	5.200	29.50	0.0	5.1	0.0	1.83	9.98	9.98	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
308	5.000	29.51	0.0	5.1	0.0	2.05	9.65	9.65	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27

* CM-I = CHLORIDES
 MG/L
 ** g/cu m

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

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 FINAL REPORT Flat Creek headwater FLAT CREEK DISSOLVED OXYGEN MODEL
 REACH NO. 6 FLAT CREEK RK 5.0-0.0 CALIBRATION

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
309	UPR RCH	0.0003	29.51	0.00	5.1	0.0	2.05	9.65	9.65	0.00	0.00	0.00	0.00	0.0	0.	1.27

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
309	5.00	4.80	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
310	4.80	4.60	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
311	4.60	4.40	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
312	4.40	4.20	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
313	4.20	4.00	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
314	4.00	3.80	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000

315	3.80	3.60	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
316	3.60	3.40	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
317	3.40	3.20	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
318	3.20	3.00	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
319	3.00	2.80	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
320	2.80	2.60	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
321	2.60	2.40	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
322	2.40	2.20	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
323	2.20	2.00	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
324	2.00	1.80	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
325	1.80	1.60	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
326	1.60	1.40	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
327	1.40	1.20	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
328	1.20	1.00	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
329	1.00	0.80	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
330	0.80	0.60	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
331	0.60	0.40	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
332	0.40	0.20	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
333	0.20	0.00	0.0003	0.0	0.000	160.47	1.42	13.7	3882.	2731.8	19.4	0.	0.000	2.000	0.000
TOT						4011.74				97052.	68294.0				
AVG						0.000		1.42	13.7				19.4		
CUM						11519.87									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECA 1/da	CBOD SETT 1/da	ANBOD DECA 1/da	FULL SOD *	CORR SOD *	ORGN DECA 1/da	ORGN SETT 1/da	NH3 DECA 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECA 1/da	NCM DECA 1/da	NCM SETT 1/da
309	4.800	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
310	4.600	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
311	4.400	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
312	4.200	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
313	4.000	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
314	3.800	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
315	3.600	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
316	3.400	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
317	3.200	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
318	3.000	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
319	2.800	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
320	2.600	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
321	2.400	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
322	2.200	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
323	2.000	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
324	1.800	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
325	1.600	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
326	1.400	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
327	1.200	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
328	1.000	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06

329	0.800	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
330	0.600	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
331	0.400	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
332	0.200	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
333	0.000	7.62	0.59	0.08	0.13	0.00	2.91	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.06
20 DEG C RATE				0.05		0.00		1.60	0.00		0.00	0.00	0.00	0.00			0.00	3.78	
AVG 20 DEG C RATE			0.49		0.10					0.00									0.05
* g/sq m/d			** mg/L/day																

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
309	4.800	29.51	0.0	5.1	0.0	2.26	9.42	9.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
310	4.600	29.51	0.0	5.1	0.0	2.37	9.29	9.29	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
311	4.400	29.51	0.0	5.1	0.0	2.45	9.19	9.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.29
312	4.200	29.51	0.0	5.1	0.0	2.51	9.10	9.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.29
313	4.000	29.51	0.0	5.1	0.0	2.55	9.03	9.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.29
314	3.800	29.51	0.0	5.1	0.0	2.58	8.98	8.98	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.29
315	3.600	29.51	0.0	5.1	0.0	2.60	8.93	8.93	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
316	3.400	29.51	0.0	5.1	0.0	2.62	8.89	8.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
317	3.200	29.51	0.0	5.1	0.0	2.63	8.87	8.87	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
318	3.000	29.51	0.0	5.1	0.0	2.64	8.84	8.84	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
319	2.800	29.51	0.0	5.1	0.0	2.64	8.82	8.82	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
320	2.600	29.51	0.0	5.1	0.0	2.65	8.81	8.81	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
321	2.400	29.51	0.0	5.1	0.0	2.65	8.80	8.80	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
322	2.200	29.51	0.0	5.1	0.0	2.66	8.79	8.79	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
323	2.000	29.51	0.0	5.1	0.0	2.66	8.78	8.78	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
324	1.800	29.51	0.0	5.1	0.0	2.66	8.77	8.77	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
325	1.600	29.51	0.0	5.1	0.0	2.66	8.77	8.77	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
326	1.400	29.51	0.0	5.1	0.0	2.66	8.76	8.76	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
327	1.200	29.51	0.0	5.1	0.0	2.66	8.76	8.76	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
328	1.000	29.51	0.0	5.1	0.0	2.66	8.76	8.76	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
329	0.800	29.51	0.0	5.1	0.0	2.66	8.75	8.75	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
330	0.600	29.51	0.0	5.1	0.0	2.66	8.75	8.75	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
331	0.400	29.51	0.0	5.1	0.0	2.66	8.75	8.75	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
332	0.200	29.51	0.0	5.1	0.0	2.66	8.75	8.75	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
333	0.000	29.51	0.0	5.1	0.0	2.66	8.75	8.75	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30

* CM-I = CHLORIDES
 MG/L
 ** g/cu m

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

1
 STREAM SUMMARY
 Flat Creek headwater

FLAT CREEK DISSOLVED OXYGEN MODEL
 CALIBRATION

TRAVEL TIME	=	11519.9	DAYS
MAXIMUM EFFLUENT	=	0.0	PERCENT
FLOW	=	0.0003	TO 0.0003 cms
DISPERSION	=	2.0000	TO 2.0000 sq m/s
VELOCITY	=	0.0000	TO 0.0002 m/s
DEPTH	=	0.26	TO 1.42 m
WIDTH	=	4.6	TO 13.7 m
BOD DECAY	=	0.02	TO 0.08 per day
NH3 DECAY	=	0.00	TO 0.00 per day
SDMNT OXYGEN DMND	=	2.91	TO 5.82 g/sq m/d
NH3 SOURCE	=	0.00	TO 0.00 g/sq m/d
REAERATION	=	0.59	TO 3.13 per day
BOD SETTLING	=	0.12	TO 0.13 per day
ORGN DECAY	=	0.00	TO 0.00 per day
ORGN SETTLING	=	0.00	TO 0.00 per day
TEMPERATURE	=	26.55	TO 29.51 deg C
DISSOLVED OXYGEN	=	0.61	TO 2.66 mg/L

FLAT CREEK DISSOLVED OXYGEN MODEL
 CALIBRATION

INPUT/OUTPUT LOADING SUMMARY

	FLOW cms	DO kg/d	BOD kg/d	ORG-N kg/d	NH3-N kg/d	NO3-N kg/d	PHOS kg/d	CHL A kg/d	NCM
HEADWATER INFLOW	0.000	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.1
INCREMENTAL INFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCREMENTAL OUTFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NON-POINT INPUT		0.0	548.5	0.0					61.4
WASTELoads	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WITHDRAWALS	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OUTFLOW THRU LOWER BNDRY	0.000	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0
DISPERSION THRU LOWER BNDRY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REAERATION		2302.7							
BACKGROUND BENTHAL		-2114.9							
AEROBIC BOD DECAY		-152.4	-152.4						
BOD SETTLING		0.0	-396.1						
ANAEROBIC BOD DECAY			0.0						
ORGANIC N HYDROLYSIS		0.0		0.0	0.0				
ORGANIC N SETTLING				0.0	0.0				
NH3 DECAY		0.0			0.0	0.0			
BACKGROUND NH3 SOURCE					0.0				
DENITRIFICATION			0.0			0.0			
PHOSPHORUS SOURCE							0.0		
ALGAE PHOTOSYNTHESIS		0.0			0.0	0.0	0.0	0.0	
ALGAE RESPIRATION		0.0			0.0		0.0	0.0	
ALGAE SETTLING		0.0						0.0	
MACRO PHOTOSYNTHESIS		0.0			0.0	0.0	0.0		
NCM DECAY		-34.9							-34.9
NCM SETTLING		0.0							-26.3
TOTAL INPUTS	0.000	2302.7	548.9	0.0	0.0	0.0	0.0	0.0	61.5
TOTAL OUTPUTS	0.000	-2302.3	-548.7	0.0	0.0	0.0	0.0	0.0	-61.2
NET CONVERGENCE ERROR	0.000	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.3

1

.....EXECUTION COMPLETED

Appendix E – 90th Percentile Temperature Calculations

Critical Temperature and DO Determinations:

Site Description:	Site 0806, Flat Creek southeast of Sikes, Louisiana. Jun-Oct & Nov-May
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Raw Data					Input values into shaded area	
Date			DO	Temperature		
Mo	D	Yr	(mg/L)	(C°)		
12	15	99	2.4	9.5	Summer Season 10th Percentile, DO (mg/L):	2.58
11	17	99	3.5	11.7	Winter Season 10th Percentile, DO (mg/L):	2.36
10	20	99	3.2	14.2	Annual 10th Percentile, DO (mg/L):	2.41
9	22	99	3.7	19.3		
8	18	99	2.5	26.5	Summer Season 90th Percentile, Temperature (C°):	26.5
7	21	99	2.7	26.4	Winter Season 90th Percentile, Temperature (C°):	20.0
6	16	99	5.2	24.1		
5	19	99	2.3	21.8	Summer Season Median, DO (mg/L):	3.2
4	21	99	5.9	18.8	Winter Season Median, DO (mg/L):	5.9
3	17	99	8.6	12.3	Annual Median, DO (mg/L):	3.6
2	17	99	7.9	13.1		
1	20	99	9	12.7		

Summer Seasonal Months	
6	
7	
8	
9	
10	

Winter Seasonal Months	
11	
12	
1	
2	
3	
4	
5	

Appendix F – Projection Model Input and Output for 5.0 mg/L DO June-October

```

CNTROL01      FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
CNTROL02      CURRENT 5.0 DO, JUN-OCT, 115% REDUCTION REQUIRED
CNTROL03 YES  ECHO DATA INPUT
CNTROL04 NO   INTERMEDIATE SUMMARY
CNTROL05 YES  CAPSULE SUMMARY
CNTROL06 YES  FINAL REPORT
CNTROL07 YES  LOADING SUMMARY
CNTROL08 YES  SPECIAL REPORT
CNTROL09 NO   LINE PRINTER PLOT
CNTROL10 YES  GRAPHICS CAPABILITY
CNTROL11 NO   SEQUENCING OUTPUT
CNTROL12 YES  METRIC UNITS
CNTROL13 YES  OXYGEN DEPENDENT RATES
CNTROL14 NO   SENSITIVITY ANALYSIS
CNTROL15 YES  OVERLAY PLOT
ENDATA01
MODOPT01     NO  TEMPERATURE
MODOPT02     NO  SALINITY
MODOPT03 YES  CONSERVATIVE MATERIAL I = CHLORIDES           IN MG/L
MODOPT04 NO   CONSERVATIVE MATERIAL II = SULFATES          IN MG/L
MODOPT05 YES  DISSOLVED OXYGEN
MODOPT06 YES  BIOCHEMICAL OXYGEN DEMAND
MODOPT07     NO  NITROGEN
MODOPT08     NO  PHOSPHORUS
MODOPT09     NO  CHLOROPHYLL A
MODOPT10     NO  MACROPHYTES
MODOPT11     NO  COLIFORM
MODOPT12 YES  NONCONSERVATIVE MATERIAL = NBOD              IN MG/L
ENDATA02
PROGRAM      MAXIMUM ITERATION LIMIT          =    200.0
PROGRAM      PLOT TYPE                        =         3.0
PROGRAM      FINAL REPORT TYPE                =         1.0
PROGRAM      SPECIAL REPORT TYPE              =         3.0
PROGRAM      BOD OXYGEN UPTAKE RATE           =         1.0
PROGRAM      KL MINIMUM                       =         0.7
PROGRAM      NCM OXYGEN UPTAKE RATE           =         1.0
PROGRAM      INHIBITION CONTROL VALUE         =         3.0
PROGRAM      DISPERSION EQUATION              =         1.0
PROGRAM      OCEAN EXCHANGE RATIO             =         0.0
PROGRAM      TIDE HEIGHT                      =         0.0
PROGRAM      HYDRAULIC CALCULATION METHOD     =         2.0
PROGRAM      SETTLING RATE UNITS              =         2.0
PROGRAM      K2 MAXIMUM                       =        25.0
ENDATA03
ENDATA04
ENDATA05
ENDATA06
ENDATA07
REACH ID     1  FC  FLAT CREEK RK 66.47-54.0           66.47    54.0  0.197937
REACH ID     2  FC  FLAT CREEK RK 54.0-42.0            54.0     42.0   0.200
REACH ID     3  FC  FLAT CREEK RK 42.0-30.0            42.0     30.0   0.200
REACH ID     4  FC  FLAT CREEK RK 30.0-18.0            30.0     18.0   0.200
REACH ID     5  FC  FLAT CREEK RK 18.0-5.0             18.0      5.0   0.200
REACH ID     6  FC  FLAT CREEK RK 5.0-0.0              5.0       0.0   0.200
ENDATA08
HYDR-1       1  0.1000 0.4000  4.572 0.1000 0.4000 0.2560    0.04
HYDR-1       2  0.1000 0.4000  4.572 0.1000 0.4000 0.2560    0.04
HYDR-1       3  0.1000 0.4000  5.578 0.1000 0.4000 0.3200    0.04
HYDR-1       4  0.1000 0.4000  5.578 0.1000 0.4000 0.3200    0.04
HYDR-1       5  0.1000 0.4000  9.618 0.1000 0.4000 0.8690    0.04
HYDR-1       6  0.1000 0.4000 13.655 0.1000 0.4000 1.4173    0.04
ENDATA09
HYDR-2       1  0.000 2.000    0.000    0.000    0.000
HYDR-2       2  0.000 2.000    0.000    0.000    0.000
HYDR-2       3  0.000 2.000    0.000    0.000    0.000
HYDR-2       4  0.000 2.000    0.000    0.000    0.000
HYDR-2       5  0.000 2.000    0.000    0.000    0.000
HYDR-2       6  0.000 2.000    0.000    0.000    0.000
ENDATA10
INITIAL      1    26.50    0.0  5.00    0.000  0.000  0.00  00.00  0.00
INITIAL      2    26.50    0.0  5.00    0.000  0.000  0.00  00.00  0.00
  
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INITIAL	3	26.50	0.0	5.00	0.000	0.000	0.00	00.00	0.00
INITIAL	4	26.50	0.0	5.00	0.000	0.000	0.00	00.00	0.00
INITIAL	5	26.50	0.0	5.00	0.000	0.000	0.00	00.00	0.00
INITIAL	6	26.50	0.0	5.00	0.000	0.000	0.00	00.00	0.00

ENDATA11

COEF-1	1	15.0	0.00	0.0	0.0	1.40	0.040	0.10	0.00
COEF-1	2	15.0	0.00	0.0	0.0	1.43	0.040	0.10	0.00
COEF-1	3	15.0	0.00	0.0	0.0	1.38	0.030	0.10	0.00
COEF-1	4	15.0	0.00	0.0	0.0	1.39	0.030	0.10	0.00
COEF-1	5	15.0	0.00	0.0	0.0	0.92	0.040	0.10	0.00
COEF-1	6	15.0	0.00	0.0	0.0	0.58	0.050	0.10	0.00

ENDATA12

ENDATA13

ENDATA14

COEF-4	1	0.000	0.040	0.05	0.00
COEF-4	2	0.000	0.040	0.05	0.00
COEF-4	3	0.000	0.050	0.05	0.00
COEF-4	4	0.000	0.050	0.05	0.00
COEF-4	5	0.000	0.070	0.05	0.00
COEF-4	6	0.000	0.090	0.05	0.00

ENDATA15

ENDATA16

ENDATA17

ENDATA18

NONPOINT	1	0013.00	0.00	0.0	0002.0	0.0
NONPOINT	2	0013.00	0.00	0.0	0001.0	0.0
NONPOINT	3	0019.00	0.00	0.0	0002.0	0.0
NONPOINT	4	0019.00	0.00	0.0	0001.0	0.0
NONPOINT	5	0081.00	0.00	0.0	0008.0	0.0
NONPOINT	6	0062.00	0.00	0.0	0009.0	0.0

ENDATA19

HDWTR-1	1	Flat Creek headwater	0.	0.00280	26.500	0.0	5.1	0.0
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ENDATA20

HDWTR-2	1	5.00	15.66	0.00	0.000	0.00
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ENDATA21

HDWTR-3	1	0.00	0.00	0.00	3.790
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ENDATA22

ENDATA23

ENDATA24

ENDATA25

ENDATA26

LOWER BC TEMPERATURE	=	26.50
LOWER BC SALINITY	=	0.00
LOWER BC CONSERVATIVE MATERIAL I	=	0.00
LOWER BC CONSERVATIVE MATERIAL II	=	0.00
LOWER BC DISSOLVED OXYGEN	=	2.67
LOWER BC BIOCHEMICAL OXYGEN DEMAND	=	8.75
LOWER BC ORGANIC NITROGEN	=	0.00
LOWER BC AMMONIA NITROGEN	=	0.00
LOWER BC NITRATE + NITRITE	=	0.00
LOWER BC PHOSPHORUS	=	0.00
LOWER BC CHLOROPHYLL A	=	0.00
LOWER BC COLIFORM	=	0.00
LOWER BC NONCONSERVATIVE MATERIAL	=	1.30

ENDATA27

ENDATA28

ENDATA29

NUMBER OF PLOTS = 1

NUMBER OF REACHES IN PLOT 1 = 6

INCREMENT = 1.0

PLOT RCH 1 2 3 4 5 6

ENDATA30

OVERLAY 1 FLATCREEKOVRLAYFILEFORMAT.TXT FLAT CREEK-HDWTRS TO CONFL W/ CASTOR CRK

ENDATA31

LA-QUAL for Windows Version 3.02
 Louisiana Department of Environmental Quality

Output produced at 10:33 on 12/29/2000

\$\$\$ DATA TYPE 1 (TITLES AND CONTROL CARDS) \$\$\$

CARD TYPE	CONTROL TITLES
CNTROL01	FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
CNTROL02	CURRENT 5.0 DO, JUN-OCT, 115% REDUCTION REQUIRED
CNTROL03 YES	ECHO DATA INPUT
CNTROL04 NO	INTERMEDIATE SUMMARY
CNTROL05 YES	CAPSULE SUMMARY
CNTROL06 YES	FINAL REPORT
CNTROL07 YES	LOADING SUMMARY
CNTROL08 YES	SPECIAL REPORT
CNTROL09 NO	LINE PRINTER PLOT
CNTROL10 YES	GRAPHICS CAPABILITY
CNTROL11 NO	SEQUENCING OUTPUT
CNTROL12 YES	METRIC UNITS
CNTROL13 YES	OXYGEN DEPENDENT RATES
CNTROL14 NO	SENSITIVITY ANALYSIS
CNTROL15 YES	OVERLAY PLOT
ENDATA01	

\$\$\$ DATA TYPE 2 (MODEL OPTIONS) \$\$\$

CARD TYPE	MODEL OPTION	
MODOPT01 NO	TEMPERATURE	
MODOPT02 NO	SALINITY	
MODOPT03 YES	CONSERVATIVE MATERIAL I = CHLORIDES	IN MG/L
MODOPT04 NO	CONSERVATIVE MATERIAL II = SULFATES	IN MG/L
MODOPT05 YES	DISSOLVED OXYGEN	
MODOPT06 YES	BIOCHEMICAL OXYGEN DEMAND	
MODOPT07 NO	NITROGEN	
MODOPT08 NO	PHOSPHORUS	
MODOPT09 NO	CHLOROPHYLL A	
MODOPT10 NO	MACROPHYTES	
MODOPT11 NO	COLIFORM	
MODOPT12 YES	NONCONSERVATIVE MATERIAL = NBOD	IN MG/L
ENDATA02		

\$\$\$ DATA TYPE 3 (PROGRAM CONSTANTS) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT		VALUE
PROGRAM	MAXIMUM ITERATION LIMIT	=	200.00000
PROGRAM	PLOT TYPE	=	3.00000
PROGRAM	FINAL REPORT TYPE	=	1.00000
PROGRAM	SPECIAL REPORT TYPE	=	3.00000
PROGRAM	BOD OXYGEN UPTAKE RATE	=	1.00000
PROGRAM	KL MINIMUM	=	0.70000
PROGRAM	NCM OXYGEN UPTAKE RATE	=	1.00000
PROGRAM	INHIBITION CONTROL VALUE	=	3.00000
PROGRAM	DISPERSION EQUATION	=	1.00000
PROGRAM	OCEAN EXCHANGE RATIO	=	0.00000
PROGRAM	TIDE HEIGHT	=	0.00000
PROGRAM	HYDRAULIC CALCULATION METHOD	=	2.00000
PROGRAM	SETTLING RATE UNITS	=	2.00000
PROGRAM	K2 MAXIMUM	=	25.00000
ENDATA03			

\$\$\$ DATA TYPE 4 (TEMPERATURE CORRECTION CONSTANTS FOR RATE COEFFICIENTS) \$\$\$

CARD TYPE	RATE CODE	THETA VALUE
ENDATA04		

\$\$\$ CONSTANTS TYPE 5 (TEMPERATURE DATA) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
ENDATA05		

\$\$\$ DATA TYPE 6 (ALGAE CONSTANTS) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
ENDATA06		

\$\$\$ DATA TYPE 7 (MACROPHYTE CONSTANTS) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
ENDATA07		

\$\$\$ DATA TYPE 8 (REACH IDENTIFICATION DATA) \$\$\$

CARD TYPE	REACH	ID	NAME	BEGIN REACH km	END REACH km	ELEM LENGTH km	REACH LENGTH km	ELEMS PER RCH	BEGIN ELEM NUM	END ELEM NUM
REACH ID	1	FC	FLAT CREEK RK 66.47-54.0	66.47	54.00	0.1979	12.47	63	1	63
REACH ID	2	FC	FLAT CREEK RK 54.0-42.0	54.00	42.00	0.2000	12.00	60	64	123
REACH ID	3	FC	FLAT CREEK RK 42.0-30.0	42.00	30.00	0.2000	12.00	60	124	183
REACH ID	4	FC	FLAT CREEK RK 30.0-18.0	30.00	18.00	0.2000	12.00	60	184	243
REACH ID	5	FC	FLAT CREEK RK 18.0-5.0	18.00	5.00	0.2000	13.00	65	244	308
REACH ID	6	FC	FLAT CREEK RK 5.0-0.0	5.00	0.00	0.2000	5.00	25	309	333

ENDATA08

\$\$\$ DATA TYPE 9 (ADVECTIVE HYDRAULIC COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	WIDTH "A"	WIDTH "B"	WIDTH "C"	DEPTH "D"	DEPTH "E"	DEPTH "F"	SLOPE	MANNINGS "N"
HYDR-1	1	FC	0.100	0.400	4.572	0.100	0.400	0.256	0.00000	0.040
HYDR-1	2	FC	0.100	0.400	4.572	0.100	0.400	0.256	0.00000	0.040
HYDR-1	3	FC	0.100	0.400	5.578	0.100	0.400	0.320	0.00000	0.040
HYDR-1	4	FC	0.100	0.400	5.578	0.100	0.400	0.320	0.00000	0.040
HYDR-1	5	FC	0.100	0.400	9.618	0.100	0.400	0.869	0.00000	0.040
HYDR-1	6	FC	0.100	0.400	13.655	0.100	0.400	1.417	0.00000	0.040

ENDATA09

\$\$\$ DATA TYPE 10 (DISPERSIVE HYDRAULIC COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"
HYDR	1	FC	0.00	2.000	0.000	0.000	0.000
HYDR	2	FC	0.00	2.000	0.000	0.000	0.000
HYDR	3	FC	0.00	2.000	0.000	0.000	0.000
HYDR	4	FC	0.00	2.000	0.000	0.000	0.000
HYDR	5	FC	0.00	2.000	0.000	0.000	0.000
HYDR	6	FC	0.00	2.000	0.000	0.000	0.000

ENDATA10

\$\$\$ DATA TYPE 11 (INITIAL CONDITIONS) \$\$\$

CARD TYPE	REACH	ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
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INITIAL	1	FC	26.50	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	2	FC	26.50	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	3	FC	26.50	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	4	FC	26.50	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	5	FC	26.50	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	6	FC	26.50	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
ENDATA11											

\$\$\$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	K2 OPT	K2 "A"	K2 "B"	K2 "C"	BKGRND SOD	AEROB BOD DECAY	BOD SETT	BOD CONV TO SOD	ANAER BOD DECAY
COEF-1	1	FC	15.	0.000	0.000	0.000	1.400	0.040	0.100	0.000	0.000
COEF-1	2	FC	15.	0.000	0.000	0.000	1.430	0.040	0.100	0.000	0.000
COEF-1	3	FC	15.	0.000	0.000	0.000	1.380	0.030	0.100	0.000	0.000
COEF-1	4	FC	15.	0.000	0.000	0.000	1.390	0.030	0.100	0.000	0.000
COEF-1	5	FC	15.	0.000	0.000	0.000	0.920	0.040	0.100	0.000	0.000
COEF-1	6	FC	15.	0.000	0.000	0.000	0.580	0.050	0.100	0.000	0.000
ENDATA12											

\$\$\$ DATA TYPE 13 (NITROGEN AND PHOSPHORUS COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	ORG-N DECA	ORG-N SETT	ORGN CONV TO NH3 SRCE	NH3 DECA	NH3 SRCE	PHOS SRCE	DENIT RATE
ENDATA13									

\$\$\$ DATA TYPE 14 (ALGAE AND MACROPHYTE COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	SECCHI DEPTH	ALGAE: CHL A	ALGAE SETT	ALG CONV TO SOD	ALGAE GROW	ALGAE RESP	MACRO GROW	MACRO RESP
ENDATA14										

\$\$\$ DATA TYPE 15 (COLIFORM AND NONCONSERVATIVE COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	COLIFORM DIE-OFF	NCM DECAY	NCM SETT	NCM CONV TO SOD
COEF-4	1	FC	0.00	0.04	0.05	0.00
COEF-4	2	FC	0.00	0.04	0.05	0.00
COEF-4	3	FC	0.00	0.05	0.05	0.00

COEF-4	4	FC	0.00	0.05	0.05	0.00
COEF-4	5	FC	0.00	0.07	0.05	0.00
COEF-4	6	FC	0.00	0.09	0.05	0.00

ENDATA15

\$\$\$ DATA TYPE 16 (INCREMENTAL DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) \$\$\$

CARD TYPE	REACH	ID	OUTFLOW	INFLOW	TEMP	SALIN	CM-I	CM-II	INFLOW/DIST
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ENDATA16

\$\$\$ DATA TYPE 17 (INCREMENTAL DATA FOR DO, BOD, AND NITROGEN) \$\$\$

CARD TYPE	REACH	ID	DO	BOD	ORG-N	NH3	NO3+2
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ENDATA17

\$\$\$ DATA TYPE 18 (INCREMENTAL DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) \$\$\$

CARD TYPE	REACH	ID	PHOS	CHL A	COLI	NCM
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ENDATA18

\$\$\$ DATA TYPE 19 (NONPOINT SOURCE DATA) \$\$\$

CARD TYPE	REACH	ID	BOD	ORG-N	COLI	NCM	DO
NONPOINT	1	FC	13.00	0.00	0.00	2.00	0.00
NONPOINT	2	FC	13.00	0.00	0.00	1.00	0.00
NONPOINT	3	FC	19.00	0.00	0.00	2.00	0.00
NONPOINT	4	FC	19.00	0.00	0.00	1.00	0.00
NONPOINT	5	FC	81.00	0.00	0.00	8.00	0.00
NONPOINT	6	FC	62.00	0.00	0.00	9.00	0.00

ENDATA19

\$\$\$ DATA TYPE 20 (HEADWATER FOR FLOW, TEMPERATURE, SALINITY AND CONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	UNIT	FLOW	TEMP	SALIN	CM-I	CM-II
HDWTR-1	1	Flat Creek headwater	0	0.00280	26.500	0.000	5.100	0.000

ENDATA20

\$\$\$ DATA TYPE 21 (HEADWATER DATA FOR DO, BOD, AND NITROGEN) \$\$\$

CARD TYPE	ELEMENT	NAME	DO	BOD	ORG-N	NH3	NO3+2
HDWTR-2	1	Flat Creek headwater	5.00	15.66	0.00	0.00	0.00

ENDATA21

\$\$\$ DATA TYPE 22 (HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
HDWTR-3	1	Flat Creek headwater	0.00	0.00	0.00	3.79

ENDATA22

\$\$\$ DATA TYPE 23 (JUNCTION DATA) \$\$\$

CARD TYPE	JUNCTION ELEMENT	UPSTRM ELEMENT	NAME
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ENDATA23

\$\$\$ DATA TYPE 24 (WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	FLOW	TEMP	SAL	CM-I	CM-II
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ENDATA24

\$\$\$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) \$\$\$

CARD TYPE	ELEMENT	NAME	DO	BOD	% BOD RMVL	ORG-N	NH3	% NITRIF	NO3+2
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ENDATA25

\$\$\$ DATA TYPE 26 (WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
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ENDATA26

\$\$\$ DATA TYPE 27 (LOWER BOUNDARY CONDITIONS) \$\$\$

CARD TYPE	CONSTITUENT	CONCENTRATION
LOWER BC	TEMPERATURE	= 26.500 deg C
LOWER BC	SALINITY	= 0.000 ppt
LOWER BC	CONSERVATIVE MATERIAL I	= 0.000 MG/L
LOWER BC	CONSERVATIVE MATERIAL II	= 0.000 MG/L
LOWER BC	DISSOLVED OXYGEN	= 2.670 mg/L
LOWER BC	BIOCHEMICAL OXYGEN DEMAND	= 8.750 mg/L
LOWER BC	ORGANIC NITROGEN	= 0.000 mg/L
LOWER BC	AMMONIA NITROGEN	= 0.000 mg/L
LOWER BC	NITRATE + NITRITE	= 0.000 mg/L
LOWER BC	PHOSPHORUS	= 0.000 mg/L
LOWER BC	CHLOROPHYLL A	= 0.000 µg/L
LOWER BC	COLIFORM	= 0.000 #/100 mL
LOWER BC	NONCONSERVATIVE MATERIAL	= 1.300 MG/L

ENDATA27

\$\$\$ DATA TYPE 28 (FLOW AUGMENTATION DATA) \$\$\$

CARD TYPE	REACH	AVAIL HDWS	TARGET	ORDER OF AVAIL SOURCES
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ENDATA28

\$\$\$ DATA TYPE 29 (SENSITIVITY ANALYSIS DATA) \$\$\$

CARD TYPE	PARAMETER	COL 1	COL 2	COL 3	COL 4	COL 5	COL 6	COL 7	COL 8
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ENDATA29

\$\$\$ DATA TYPE 30 (PLOT CONTROL CARDS) \$\$\$

NUMBER OF PLOTS = 1
 NUMBER OF REACHES IN PLOT 1 = 6 INCREMENT = 1.00
 PLOT RCH 1 2 3 4 5 6
 ENDATA30

\$\$\$ DATA TYPE 31 (OVERLAY PLOT DATA) \$\$\$

OVERLAY 1 FLATCREEKOVRLAYFILEFORMAT.TXT FLAT CREEK-HDWTRS TO CONFL W/ CASTOR CRK
 ENDDATA31

1

.....NO ERRORS DETECTED IN INPUT DATA
HYDRAULIC CALCULATIONS COMPLETED
TRIDIAGONAL MATRIX TERMS INITIALIZED
OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
CONSTITUENT CALCULATIONS COMPLETED
GRAPHICS DATA FOR PLOT 1 WRITTEN TO UNIT 11

1

CAPSULE SUMMARY
 Flat Creek headwater

DIST	FLOW	TEMP	SALN	DO	EBOD	ORGN	NH3	CHLA	REAER	CBOD	CBOD	NH3	SOD
km	cms	deg C	ppt	mg/L	mg/L	mg/L	mg/L	µg/L	1/da	1/da	1/da	1/da	
HDWTR	0.003	26.5	0.0	5.0	15.7	0.0	0.0	0.0					
66.27	0.003	26.5	0.0	5.1	11.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
66.07	0.003	26.5	0.0	5.1	10.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
65.88	0.003	26.5	0.0	5.1	10.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
65.68	0.003	26.5	0.0	5.1	9.7	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
65.48	0.003	26.5	0.0	5.2	9.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
65.28	0.003	26.5	0.0	5.2	8.8	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
65.08	0.003	26.5	0.0	5.2	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
64.89	0.003	26.5	0.0	5.2	8.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
64.69	0.003	26.5	0.0	5.2	7.7	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
64.49	0.003	26.5	0.0	5.2	7.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
64.29	0.003	26.5	0.0	5.2	7.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
64.09	0.003	26.5	0.0	5.2	7.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
63.90	0.003	26.5	0.0	5.2	6.8	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
63.70	0.003	26.5	0.0	5.2	6.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
63.50	0.003	26.5	0.0	5.2	6.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
63.30	0.003	26.5	0.0	5.2	6.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
63.11	0.003	26.5	0.0	5.2	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
62.91	0.003	26.5	0.0	5.2	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
62.71	0.003	26.5	0.0	5.2	5.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
62.51	0.003	26.5	0.0	5.2	5.8	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
62.31	0.003	26.5	0.0	5.2	5.7	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
62.12	0.003	26.5	0.0	5.2	5.7	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
61.92	0.003	26.5	0.0	5.2	5.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11

61.72	0.003	26.5	0.0	5.2	5.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
61.52	0.003	26.5	0.0	5.3	5.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
61.32	0.003	26.5	0.0	5.3	5.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
61.13	0.003	26.5	0.0	5.3	5.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
60.93	0.003	26.5	0.0	5.3	5.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
60.73	0.003	26.5	0.0	5.3	5.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
60.53	0.003	26.5	0.0	5.3	5.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
60.33	0.003	26.5	0.0	5.3	5.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
60.14	0.003	26.5	0.0	5.3	5.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
59.94	0.003	26.5	0.0	5.3	5.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
59.74	0.003	26.5	0.0	5.3	5.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
59.54	0.003	26.5	0.0	5.3	5.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
59.34	0.003	26.5	0.0	5.3	5.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
59.15	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
58.95	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
58.75	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
58.55	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
58.35	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
58.16	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
57.96	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
57.76	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
57.56	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
57.36	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
57.17	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
56.97	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
56.77	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
56.57	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
56.38	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
56.18	0.003	26.5	0.0	5.3	5.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
55.98	0.003	26.5	0.0	5.3	5.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
55.78	0.003	26.5	0.0	5.3	5.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
55.58	0.003	26.5	0.0	5.3	5.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
55.39	0.003	26.5	0.0	5.3	5.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
55.19	0.003	26.5	0.0	5.3	5.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
54.99	0.003	26.5	0.0	5.3	5.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
54.79	0.003	26.5	0.0	5.3	5.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
54.59	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
54.40	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
54.20	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
54.00	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.11
53.80	0.003	26.5	0.0	5.2	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.15
53.60	0.003	26.5	0.0	5.2	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.15
53.40	0.003	26.5	0.0	5.2	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.15
53.20	0.003	26.5	0.0	5.2	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.15
53.00	0.003	26.5	0.0	5.2	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.15
52.80	0.003	26.5	0.0	5.2	5.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.15
52.60	0.003	26.5	0.0	5.2	5.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.15
52.40	0.003	26.5	0.0	5.2	5.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.15
52.20	0.003	26.5	0.0	5.2	5.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.15
52.00	0.003	26.5	0.0	5.2	5.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.15
51.80	0.003	26.5	0.0	5.2	5.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.15

21.00	0.003	26.5	0.0	5.3	5.5	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.09
20.80	0.003	26.5	0.0	5.3	5.5	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.09
20.60	0.003	26.5	0.0	5.3	5.4	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.09
20.40	0.003	26.5	0.0	5.3	5.4	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.09
20.20	0.003	26.5	0.0	5.3	5.4	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.09
20.00	0.003	26.5	0.0	5.3	5.4	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.09
19.80	0.003	26.5	0.0	5.3	5.4	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.09
19.60	0.003	26.5	0.0	5.3	5.4	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.09
19.40	0.003	26.5	0.0	5.3	5.4	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.09
19.20	0.003	26.5	0.0	5.3	5.3	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.09
19.00	0.003	26.5	0.0	5.3	5.3	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.09
18.80	0.003	26.5	0.0	5.3	5.2	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.09
18.60	0.003	26.5	0.0	5.3	5.1	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.09
18.40	0.003	26.5	0.0	5.4	5.0	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.09
18.20	0.003	26.5	0.0	5.5	4.9	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.09
18.00	0.003	26.5	0.0	5.7	4.7	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.09
17.80	0.003	26.5	0.0	5.8	4.6	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
17.60	0.003	26.5	0.0	5.9	4.5	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
17.40	0.003	26.5	0.0	5.9	4.5	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
17.20	0.003	26.5	0.0	5.9	4.5	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
17.00	0.003	26.5	0.0	5.9	4.5	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
16.80	0.003	26.5	0.0	6.0	4.4	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
16.60	0.003	26.5	0.0	6.0	4.4	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
16.40	0.003	26.5	0.0	6.0	4.4	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
16.20	0.003	26.5	0.0	6.0	4.4	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
16.00	0.003	26.5	0.0	6.0	4.4	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
15.80	0.003	26.5	0.0	6.0	4.4	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
15.60	0.003	26.5	0.0	6.0	4.4	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
15.40	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
15.20	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
15.00	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
14.80	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
14.60	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
14.40	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
14.20	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
14.00	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
13.80	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
13.60	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
13.40	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
13.20	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
13.00	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
12.80	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
12.60	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
12.40	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
12.20	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
12.00	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
11.80	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
11.60	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
11.40	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
11.20	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
11.00	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39

10.80	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
10.60	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
10.40	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
10.20	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
10.00	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
9.80	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
9.60	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
9.40	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
9.20	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
9.00	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
8.80	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
8.60	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
8.40	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
8.20	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
8.00	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
7.80	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
7.60	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
7.40	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
7.20	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
7.00	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
6.80	0.003	26.5	0.0	6.0	4.2	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
6.60	0.003	26.5	0.0	6.0	4.2	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
6.40	0.003	26.5	0.0	6.0	4.2	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
6.20	0.003	26.5	0.0	6.0	4.2	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
6.00	0.003	26.5	0.0	6.0	4.1	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
5.80	0.003	26.5	0.0	6.0	4.1	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
5.60	0.003	26.5	0.0	6.0	4.0	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
5.40	0.003	26.5	0.0	6.1	4.0	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
5.20	0.003	26.5	0.0	6.1	3.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
5.00	0.003	26.5	0.0	6.2	3.8	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.39
4.80	0.003	26.5	0.0	6.3	3.7	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
4.60	0.003	26.5	0.0	6.3	3.7	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
4.40	0.003	26.5	0.0	6.3	3.6	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
4.20	0.003	26.5	0.0	6.3	3.6	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
4.00	0.003	26.5	0.0	6.4	3.6	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
3.80	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
3.60	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
3.40	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
3.20	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
3.00	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
2.80	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
2.60	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
2.40	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
2.20	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
2.00	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
1.80	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
1.60	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
1.40	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
1.20	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
1.00	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
0.80	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87

0.60	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
0.40	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
0.20	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87
0.00	0.003	26.5	0.0	6.4	3.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	0.87

SPECIAL REPORT: Flat Creek headwater
 HYDRAULIC PARAMETER VALUES

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	ADVCTV VELO m/s	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
1	66.47	66.27	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
2	66.27	66.07	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
3	66.07	65.88	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
4	65.88	65.68	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
5	65.68	65.48	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
6	65.48	65.28	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
7	65.28	65.08	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
8	65.08	64.89	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
9	64.89	64.69	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
10	64.69	64.49	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
11	64.49	64.29	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
12	64.29	64.09	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
13	64.09	63.90	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
14	63.90	63.70	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
15	63.70	63.50	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
16	63.50	63.30	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
17	63.30	63.11	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
18	63.11	62.91	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
19	62.91	62.71	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
20	62.71	62.51	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
21	62.51	62.31	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
22	62.31	62.12	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
23	62.12	61.92	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
24	61.92	61.72	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
25	61.72	61.52	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
26	61.52	61.32	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
27	61.32	61.13	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
28	61.13	60.93	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
29	60.93	60.73	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
30	60.73	60.53	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
31	60.53	60.33	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
32	60.33	60.14	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
33	60.14	59.94	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
34	59.94	59.74	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
35	59.74	59.54	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
36	59.54	59.34	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
37	59.34	59.15	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
38	59.15	58.95	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002

39	58.95	58.75	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
40	58.75	58.55	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
41	58.55	58.35	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
42	58.35	58.16	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
43	58.16	57.96	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
44	57.96	57.76	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
45	57.76	57.56	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
46	57.56	57.36	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
47	57.36	57.17	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
48	57.17	56.97	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
49	56.97	56.77	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
50	56.77	56.57	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
51	56.57	56.38	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
52	56.38	56.18	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
53	56.18	55.98	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
54	55.98	55.78	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
55	55.78	55.58	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
56	55.58	55.39	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
57	55.39	55.19	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
58	55.19	54.99	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
59	54.99	54.79	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
60	54.79	54.59	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
61	54.59	54.40	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
62	54.40	54.20	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
63	54.20	54.00	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
64	54.00	53.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
65	53.80	53.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
66	53.60	53.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
67	53.40	53.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
68	53.20	53.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
69	53.00	52.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
70	52.80	52.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
71	52.60	52.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
72	52.40	52.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
73	52.20	52.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
74	52.00	51.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
75	51.80	51.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
76	51.60	51.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
77	51.40	51.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
78	51.20	51.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
79	51.00	50.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
80	50.80	50.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
81	50.60	50.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
82	50.40	50.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
83	50.20	50.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
84	50.00	49.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
85	49.80	49.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
86	49.60	49.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
87	49.40	49.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
88	49.20	49.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
89	49.00	48.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002

90	48.80	48.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
91	48.60	48.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
92	48.40	48.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
93	48.20	48.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
94	48.00	47.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
95	47.80	47.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
96	47.60	47.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
97	47.40	47.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
98	47.20	47.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
99	47.00	46.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
100	46.80	46.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
101	46.60	46.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
102	46.40	46.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
103	46.20	46.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
104	46.00	45.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
105	45.80	45.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
106	45.60	45.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
107	45.40	45.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
108	45.20	45.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
109	45.00	44.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
110	44.80	44.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
111	44.60	44.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
112	44.40	44.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
113	44.20	44.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
114	44.00	43.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
115	43.80	43.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
116	43.60	43.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
117	43.40	43.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
118	43.20	43.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
119	43.00	42.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
120	42.80	42.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
121	42.60	42.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
122	42.40	42.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
123	42.20	42.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
124	42.00	41.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
125	41.80	41.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
126	41.60	41.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
127	41.40	41.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
128	41.20	41.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
129	41.00	40.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
130	40.80	40.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
131	40.60	40.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
132	40.40	40.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
133	40.20	40.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
134	40.00	39.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
135	39.80	39.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
136	39.60	39.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
137	39.40	39.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
138	39.20	39.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
139	39.00	38.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
140	38.80	38.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002

141	38.60	38.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
142	38.40	38.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
143	38.20	38.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
144	38.00	37.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
145	37.80	37.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
146	37.60	37.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
147	37.40	37.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
148	37.20	37.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
149	37.00	36.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
150	36.80	36.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
151	36.60	36.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
152	36.40	36.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
153	36.20	36.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
154	36.00	35.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
155	35.80	35.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
156	35.60	35.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
157	35.40	35.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
158	35.20	35.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
159	35.00	34.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
160	34.80	34.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
161	34.60	34.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
162	34.40	34.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
163	34.20	34.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
164	34.00	33.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
165	33.80	33.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
166	33.60	33.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
167	33.40	33.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
168	33.20	33.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
169	33.00	32.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
170	32.80	32.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
171	32.60	32.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
172	32.40	32.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
173	32.20	32.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
174	32.00	31.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
175	31.80	31.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
176	31.60	31.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
177	31.40	31.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
178	31.20	31.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
179	31.00	30.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
180	30.80	30.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
181	30.60	30.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
182	30.40	30.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
183	30.20	30.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
184	30.00	29.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
185	29.80	29.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
186	29.60	29.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
187	29.40	29.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
188	29.20	29.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
189	29.00	28.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
190	28.80	28.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
191	28.60	28.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002

192	28.40	28.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
193	28.20	28.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
194	28.00	27.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
195	27.80	27.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
196	27.60	27.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
197	27.40	27.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
198	27.20	27.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
199	27.00	26.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
200	26.80	26.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
201	26.60	26.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
202	26.40	26.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
203	26.20	26.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
204	26.00	25.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
205	25.80	25.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
206	25.60	25.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
207	25.40	25.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
208	25.20	25.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
209	25.00	24.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
210	24.80	24.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
211	24.60	24.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
212	24.40	24.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
213	24.20	24.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
214	24.00	23.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
215	23.80	23.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
216	23.60	23.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
217	23.40	23.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
218	23.20	23.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
219	23.00	22.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
220	22.80	22.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
221	22.60	22.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
222	22.40	22.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
223	22.20	22.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
224	22.00	21.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
225	21.80	21.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
226	21.60	21.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
227	21.40	21.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
228	21.20	21.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
229	21.00	20.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
230	20.80	20.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
231	20.60	20.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
232	20.40	20.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
233	20.20	20.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
234	20.00	19.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
235	19.80	19.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
236	19.60	19.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
237	19.40	19.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
238	19.20	19.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
239	19.00	18.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
240	18.80	18.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
241	18.60	18.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
242	18.40	18.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002

243	18.20	18.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
244	18.00	17.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
245	17.80	17.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
246	17.60	17.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
247	17.40	17.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
248	17.20	17.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
249	17.00	16.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
250	16.80	16.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
251	16.60	16.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
252	16.40	16.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
253	16.20	16.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
254	16.00	15.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
255	15.80	15.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
256	15.60	15.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
257	15.40	15.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
258	15.20	15.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
259	15.00	14.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
260	14.80	14.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
261	14.60	14.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
262	14.40	14.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
263	14.20	14.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
264	14.00	13.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
265	13.80	13.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
266	13.60	13.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
267	13.40	13.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
268	13.20	13.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
269	13.00	12.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
270	12.80	12.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
271	12.60	12.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
272	12.40	12.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
273	12.20	12.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
274	12.00	11.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
275	11.80	11.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
276	11.60	11.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
277	11.40	11.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
278	11.20	11.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
279	11.00	10.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
280	10.80	10.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
281	10.60	10.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
282	10.40	10.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
283	10.20	10.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
284	10.00	9.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
285	9.80	9.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
286	9.60	9.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
287	9.40	9.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
288	9.20	9.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
289	9.00	8.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
290	8.80	8.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
291	8.60	8.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
292	8.40	8.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
293	8.20	8.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000

294	8.00	7.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
295	7.80	7.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
296	7.60	7.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
297	7.40	7.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
298	7.20	7.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
299	7.00	6.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
300	6.80	6.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
301	6.60	6.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
302	6.40	6.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
303	6.20	6.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
304	6.00	5.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
305	5.80	5.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
306	5.60	5.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
307	5.40	5.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
308	5.20	5.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
309	5.00	4.80	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
310	4.80	4.60	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
311	4.60	4.40	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
312	4.40	4.20	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
313	4.20	4.00	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
314	4.00	3.80	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
315	3.80	3.60	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
316	3.60	3.40	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
317	3.40	3.20	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
318	3.20	3.00	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
319	3.00	2.80	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
320	2.80	2.60	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
321	2.60	2.40	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
322	2.40	2.20	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
323	2.20	2.00	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
324	2.00	1.80	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
325	1.80	1.60	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
326	1.60	1.40	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
327	1.40	1.20	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
328	1.20	1.00	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
329	1.00	0.80	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
330	0.80	0.60	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
331	0.60	0.40	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
332	0.40	0.20	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
333	0.20	0.00	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000

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FINAL REPORT Flat Creek headwater FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 REACH NO. 1 FLAT CREEK RK 66.47-54.0 CURRENT 5.0 DO, JUN-OCT, 115% REDUCTION REQUIRED

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
1	HDWTR	0.0028	26.50	0.00	5.1	0.0	5.00	15.66	15.66	0.00	0.00	0.00	0.00	0.0	0.	3.79

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
1	66.47	66.27	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
2	66.27	66.07	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
3	66.07	65.88	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
4	65.88	65.68	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
5	65.68	65.48	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
6	65.48	65.28	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
7	65.28	65.08	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
8	65.08	64.89	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
9	64.89	64.69	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
10	64.69	64.49	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
11	64.49	64.29	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
12	64.29	64.09	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
13	64.09	63.90	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
14	63.90	63.70	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
15	63.70	63.50	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
16	63.50	63.30	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
17	63.30	63.11	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
18	63.11	62.91	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
19	62.91	62.71	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
20	62.71	62.51	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
21	62.51	62.31	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
22	62.31	62.12	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
23	62.12	61.92	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
24	61.92	61.72	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
25	61.72	61.52	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
26	61.52	61.32	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
27	61.32	61.13	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
28	61.13	60.93	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
29	60.93	60.73	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
30	60.73	60.53	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
31	60.53	60.33	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
32	60.33	60.14	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
33	60.14	59.94	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
34	59.94	59.74	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
35	59.74	59.54	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
36	59.54	59.34	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
37	59.34	59.15	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
38	59.15	58.95	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
39	58.95	58.75	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
40	58.75	58.55	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
41	58.55	58.35	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
42	58.35	58.16	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
43	58.16	57.96	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002

44	57.96	57.76	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
45	57.76	57.56	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
46	57.56	57.36	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
47	57.36	57.17	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
48	57.17	56.97	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
49	56.97	56.77	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
50	56.77	56.57	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
51	56.57	56.38	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
52	56.38	56.18	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
53	56.18	55.98	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
54	55.98	55.78	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
55	55.78	55.58	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
56	55.58	55.39	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
57	55.39	55.19	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
58	55.19	54.99	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
59	54.99	54.79	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
60	54.79	54.59	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
61	54.59	54.40	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
62	54.40	54.20	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
63	54.20	54.00	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
TOT							62.71			15170.	57131.7				
AVG						0.002		0.27	4.6			1.2			
CUM							62.71								

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
1	66.272	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
2	66.074	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
3	65.876	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
4	65.678	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
5	65.480	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
6	65.282	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
7	65.084	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
8	64.887	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
9	64.689	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
10	64.491	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
11	64.293	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
12	64.095	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
13	63.897	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
14	63.699	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
15	63.501	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
16	63.303	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
17	63.105	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
18	62.907	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
19	62.709	8.04	2.98	0.05	0.12	0.00	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
1	66.272	26.50	0.0	5.1	0.0	5.10	11.56	11.56	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.97
2	66.074	26.50	0.0	5.1	0.0	5.12	10.88	10.88	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.82
3	65.876	26.50	0.0	5.1	0.0	5.13	10.27	10.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.69
4	65.678	26.50	0.0	5.1	0.0	5.15	9.72	9.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.57
5	65.480	26.50	0.0	5.1	0.0	5.16	9.23	9.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.46
6	65.282	26.50	0.0	5.1	0.0	5.17	8.79	8.79	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.36
7	65.084	26.50	0.0	5.1	0.0	5.18	8.40	8.40	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.27
8	64.887	26.50	0.0	5.1	0.0	5.19	8.05	8.05	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.18
9	64.689	26.50	0.0	5.1	0.0	5.19	7.73	7.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.10
10	64.491	26.50	0.0	5.1	0.0	5.20	7.45	7.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.03
11	64.293	26.50	0.0	5.1	0.0	5.21	7.20	7.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.96
12	64.095	26.50	0.0	5.1	0.0	5.21	6.97	6.97	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.90
13	63.897	26.50	0.0	5.1	0.0	5.22	6.77	6.77	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.84
14	63.699	26.50	0.0	5.1	0.0	5.22	6.58	6.58	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.79
15	63.501	26.50	0.0	5.1	0.0	5.23	6.42	6.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.74
16	63.303	26.50	0.0	5.1	0.0	5.23	6.28	6.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.69
17	63.105	26.50	0.0	5.1	0.0	5.23	6.15	6.15	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.65
18	62.907	26.50	0.0	5.1	0.0	5.24	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.61
19	62.709	26.50	0.0	5.1	0.0	5.24	5.92	5.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.58
20	62.511	26.50	0.0	5.1	0.0	5.24	5.83	5.83	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.54
21	62.313	26.50	0.0	5.1	0.0	5.24	5.75	5.75	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.51
22	62.115	26.50	0.0	5.1	0.0	5.25	5.67	5.67	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.49
23	61.917	26.50	0.0	5.1	0.0	5.25	5.60	5.60	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.46
24	61.720	26.50	0.0	5.1	0.0	5.25	5.54	5.54	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.44
25	61.522	26.50	0.0	5.1	0.0	5.25	5.49	5.49	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
26	61.324	26.50	0.0	5.1	0.0	5.25	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.39
27	61.126	26.50	0.0	5.1	0.0	5.25	5.40	5.40	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.38
28	60.928	26.50	0.0	5.1	0.0	5.25	5.36	5.36	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.36
29	60.730	26.50	0.0	5.1	0.0	5.26	5.32	5.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.34
30	60.532	26.50	0.0	5.1	0.0	5.26	5.29	5.29	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.33
31	60.334	26.50	0.0	5.1	0.0	5.26	5.26	5.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.32
32	60.136	26.50	0.0	5.1	0.0	5.26	5.24	5.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
33	59.938	26.50	0.0	5.1	0.0	5.26	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.29
34	59.740	26.50	0.0	5.1	0.0	5.26	5.20	5.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
35	59.542	26.50	0.0	5.1	0.0	5.26	5.18	5.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
36	59.344	26.50	0.0	5.1	0.0	5.26	5.16	5.16	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.26
37	59.146	26.50	0.0	5.1	0.0	5.26	5.15	5.15	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.25
38	58.948	26.50	0.0	5.1	0.0	5.26	5.13	5.13	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.25
39	58.750	26.50	0.0	5.1	0.0	5.26	5.12	5.12	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.24
40	58.553	26.50	0.0	5.1	0.0	5.26	5.11	5.11	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.23
41	58.355	26.50	0.0	5.1	0.0	5.26	5.10	5.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.23
42	58.157	26.50	0.0	5.1	0.0	5.26	5.10	5.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
43	57.959	26.50	0.0	5.1	0.0	5.26	5.09	5.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
44	57.761	26.50	0.0	5.1	0.0	5.26	5.08	5.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
45	57.563	26.50	0.0	5.1	0.0	5.26	5.08	5.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
46	57.365	26.50	0.0	5.1	0.0	5.26	5.07	5.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20

75	51.80	51.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
76	51.60	51.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
77	51.40	51.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
78	51.20	51.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
79	51.00	50.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
80	50.80	50.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
81	50.60	50.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
82	50.40	50.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
83	50.20	50.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
84	50.00	49.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
85	49.80	49.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
86	49.60	49.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
87	49.40	49.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
88	49.20	49.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
89	49.00	48.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
90	48.80	48.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
91	48.60	48.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
92	48.40	48.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
93	48.20	48.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
94	48.00	47.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
95	47.80	47.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
96	47.60	47.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
97	47.40	47.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
98	47.20	47.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
99	47.00	46.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
100	46.80	46.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
101	46.60	46.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
102	46.40	46.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
103	46.20	46.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
104	46.00	45.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
105	45.80	45.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
106	45.60	45.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
107	45.40	45.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
108	45.20	45.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
109	45.00	44.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
110	44.80	44.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
111	44.60	44.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
112	44.40	44.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
113	44.20	44.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
114	44.00	43.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
115	43.80	43.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
116	43.60	43.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
117	43.40	43.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
118	43.20	43.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
119	43.00	42.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
120	42.80	42.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
121	42.60	42.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
122	42.40	42.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
123	42.20	42.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002

TOT

60.34

14598.

54978.3

AVG 0.002 0.27 4.6 1.2
 CUM 123.05

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECA 1/da	CBOD SETT 1/da	ANBOD DECA 1/da	FULL SOD *	CORR SOD *	ORGN DECA 1/da	ORGN SETT 1/da	NH3 DECA 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECA 1/da	NCM DECA 1/da	NCM SETT 1/da
64	53.800	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
65	53.600	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
66	53.400	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
67	53.200	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
68	53.000	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
69	52.800	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
70	52.600	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
71	52.400	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
72	52.200	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
73	52.000	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
74	51.800	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
75	51.600	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
76	51.400	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
77	51.200	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
78	51.000	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
79	50.800	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
80	50.600	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
81	50.400	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
82	50.200	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
83	50.000	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
84	49.800	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
85	49.600	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
86	49.400	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
87	49.200	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
88	49.000	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
89	48.800	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
90	48.600	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
91	48.400	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
92	48.200	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
93	48.000	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
94	47.800	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
95	47.600	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
96	47.400	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
97	47.200	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
98	47.000	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
99	46.800	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
100	46.600	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
101	46.400	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
102	46.200	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
103	46.000	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
104	45.800	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06

105	45.600	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
106	45.400	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
107	45.200	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
108	45.000	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
109	44.800	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
110	44.600	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
111	44.400	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
112	44.200	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
113	44.000	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
114	43.800	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
115	43.600	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
116	43.400	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
117	43.200	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
118	43.000	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
119	42.800	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
120	42.600	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
121	42.400	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
122	42.200	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
123	42.000	8.04	2.98	0.05	0.12	0.00	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06

20 DEG C RATE				0.04		0.00		1.43	0.00		0.00	0.00	0.00	0.00			0.00	2.82	
AVG 20 DEG C RATE			2.64		0.10					0.00									0.05

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
64	53.800	26.50	0.0	5.1	0.0	5.23	5.09	5.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.03
65	53.600	26.50	0.0	5.1	0.0	5.22	5.10	5.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.99
66	53.400	26.50	0.0	5.1	0.0	5.21	5.12	5.12	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.96
67	53.200	26.50	0.0	5.1	0.0	5.21	5.13	5.13	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.93
68	53.000	26.50	0.0	5.1	0.0	5.21	5.14	5.14	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.91
69	52.800	26.50	0.0	5.1	0.0	5.21	5.15	5.15	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.88
70	52.600	26.50	0.0	5.1	0.0	5.21	5.15	5.15	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.86
71	52.400	26.50	0.0	5.1	0.0	5.21	5.16	5.16	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.84
72	52.200	26.50	0.0	5.1	0.0	5.21	5.17	5.17	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
73	52.000	26.50	0.0	5.1	0.0	5.21	5.17	5.17	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.80
74	51.800	26.50	0.0	5.1	0.0	5.21	5.18	5.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.79
75	51.600	26.50	0.0	5.1	0.0	5.21	5.18	5.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.77
76	51.400	26.50	0.0	5.1	0.0	5.21	5.19	5.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.76
77	51.200	26.50	0.0	5.1	0.0	5.21	5.19	5.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.75
78	51.000	26.50	0.0	5.1	0.0	5.21	5.19	5.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.74
79	50.800	26.50	0.0	5.1	0.0	5.21	5.20	5.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.73
80	50.600	26.50	0.0	5.1	0.0	5.21	5.20	5.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.72
81	50.400	26.50	0.0	5.1	0.0	5.21	5.20	5.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
82	50.200	26.50	0.0	5.1	0.0	5.21	5.20	5.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
83	50.000	26.50	0.0	5.1	0.0	5.21	5.20	5.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.69

84	49.800	26.50	0.0	5.1	0.0	5.21	5.21	5.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.68
85	49.600	26.50	0.0	5.1	0.0	5.21	5.21	5.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.68
86	49.400	26.50	0.0	5.1	0.0	5.21	5.21	5.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
87	49.200	26.50	0.0	5.1	0.0	5.21	5.21	5.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
88	49.000	26.50	0.0	5.1	0.0	5.21	5.21	5.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.66
89	48.800	26.50	0.0	5.1	0.0	5.21	5.21	5.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.66
90	48.600	26.50	0.0	5.1	0.0	5.21	5.21	5.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.65
91	48.400	26.50	0.0	5.1	0.0	5.21	5.21	5.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.65
92	48.200	26.50	0.0	5.1	0.0	5.21	5.21	5.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.64
93	48.000	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.64
94	47.800	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.64
95	47.600	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.63
96	47.400	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.63
97	47.200	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.63
98	47.000	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.63
99	46.800	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.63
100	46.600	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.62
101	46.400	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.62
102	46.200	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.62
103	46.000	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.62
104	45.800	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.62
105	45.600	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.62
106	45.400	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.61
107	45.200	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.61
108	45.000	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.61
109	44.800	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.61
110	44.600	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.61
111	44.400	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.61
112	44.200	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.61
113	44.000	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.61
114	43.800	26.50	0.0	5.1	0.0	5.21	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.61
115	43.600	26.50	0.0	5.1	0.0	5.21	5.23	5.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.61
116	43.400	26.50	0.0	5.1	0.0	5.21	5.23	5.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.61
117	43.200	26.50	0.0	5.1	0.0	5.21	5.23	5.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.61
118	43.000	26.50	0.0	5.1	0.0	5.21	5.24	5.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.61
119	42.800	26.50	0.0	5.1	0.0	5.21	5.24	5.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.62
120	42.600	26.50	0.0	5.1	0.0	5.22	5.25	5.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.62
121	42.400	26.50	0.0	5.1	0.0	5.22	5.26	5.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.62
122	42.200	26.50	0.0	5.1	0.0	5.22	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.63
123	42.000	26.50	0.0	5.1	0.0	5.24	5.30	5.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.64

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

** g/cu m

1
 FINAL REPORT Flat Creek headwater
 REACH NO. 3 FLAT CREEK RK 42.0-30.0

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 CURRENT 5.0 DO, JUN-OCT, 115% REDUCTION REQUIRED

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
124	UPR RCH	0.0028	26.50	0.00	5.1	0.0	5.24	5.30	5.30	0.00	0.00	0.00	0.00	0.0	0.	0.64

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
124	42.00	41.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
125	41.80	41.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
126	41.60	41.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
127	41.40	41.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
128	41.20	41.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
129	41.00	40.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
130	40.80	40.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
131	40.60	40.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
132	40.40	40.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
133	40.20	40.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
134	40.00	39.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
135	39.80	39.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
136	39.60	39.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
137	39.40	39.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
138	39.20	39.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
139	39.00	38.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
140	38.80	38.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
141	38.60	38.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
142	38.40	38.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
143	38.20	38.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
144	38.00	37.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
145	37.80	37.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
146	37.60	37.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
147	37.40	37.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
148	37.20	37.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
149	37.00	36.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
150	36.80	36.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
151	36.60	36.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
152	36.40	36.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
153	36.20	36.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
154	36.00	35.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
155	35.80	35.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
156	35.60	35.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
157	35.40	35.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
158	35.20	35.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
159	35.00	34.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
160	34.80	34.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
161	34.60	34.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
162	34.40	34.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002

163	34.20	34.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
164	34.00	33.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
165	33.80	33.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
166	33.60	33.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
167	33.40	33.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
168	33.20	33.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
169	33.00	32.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
170	32.80	32.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
171	32.60	32.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
172	32.40	32.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
173	32.20	32.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
174	32.00	31.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
175	31.80	31.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
176	31.60	31.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
177	31.40	31.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
178	31.20	31.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
179	31.00	30.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
180	30.80	30.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
181	30.60	30.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
182	30.40	30.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
183	30.20	30.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
TOT						91.33			22095.	67050.3					
AVG					0.002		0.33	5.6			1.8				
CUM						214.38									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
124	41.800	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
125	41.600	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
126	41.400	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
127	41.200	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
128	41.000	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
129	40.800	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
130	40.600	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
131	40.400	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
132	40.200	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
133	40.000	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
134	39.800	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
135	39.600	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
136	39.400	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
137	39.200	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
138	39.000	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
139	38.800	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
140	38.600	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
141	38.400	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06

142	38.200	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
143	38.000	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
144	37.800	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
145	37.600	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
146	37.400	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
147	37.200	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
148	37.000	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
149	36.800	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
150	36.600	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
151	36.400	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
152	36.200	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
153	36.000	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
154	35.800	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
155	35.600	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
156	35.400	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
157	35.200	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
158	35.000	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
159	34.800	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
160	34.600	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
161	34.400	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
162	34.200	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
163	34.000	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
164	33.800	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
165	33.600	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
166	33.400	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
167	33.200	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
168	33.000	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
169	32.800	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
170	32.600	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
171	32.400	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
172	32.200	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
173	32.000	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
174	31.800	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
175	31.600	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
176	31.400	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
177	31.200	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
178	31.000	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
179	30.800	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
180	30.600	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
181	30.400	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
182	30.200	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
183	30.000	8.04	2.40	0.04	0.12	0.00	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06

20 DEG C RATE				0.03		0.00		1.38	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.69	
AVG 20 DEG C RATE		2.12		0.10					0.00										0.05

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
124	41.800	26.50	0.0	5.1	0.0	5.27	5.32	5.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.65
125	41.600	26.50	0.0	5.1	0.0	5.29	5.34	5.34	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.65
126	41.400	26.50	0.0	5.1	0.0	5.30	5.36	5.36	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.66
127	41.200	26.50	0.0	5.1	0.0	5.30	5.37	5.37	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.66
128	41.000	26.50	0.0	5.1	0.0	5.30	5.38	5.38	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
129	40.800	26.50	0.0	5.1	0.0	5.30	5.39	5.39	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
130	40.600	26.50	0.0	5.1	0.0	5.30	5.40	5.40	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.68
131	40.400	26.50	0.0	5.1	0.0	5.30	5.41	5.41	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.68
132	40.200	26.50	0.0	5.1	0.0	5.30	5.42	5.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.68
133	40.000	26.50	0.0	5.1	0.0	5.30	5.43	5.43	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.68
134	39.800	26.50	0.0	5.1	0.0	5.30	5.43	5.43	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.69
135	39.600	26.50	0.0	5.1	0.0	5.30	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.69
136	39.400	26.50	0.0	5.1	0.0	5.30	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.69
137	39.200	26.50	0.0	5.1	0.0	5.30	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.69
138	39.000	26.50	0.0	5.1	0.0	5.30	5.45	5.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.69
139	38.800	26.50	0.0	5.1	0.0	5.30	5.45	5.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
140	38.600	26.50	0.0	5.1	0.0	5.30	5.45	5.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
141	38.400	26.50	0.0	5.1	0.0	5.30	5.46	5.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
142	38.200	26.50	0.0	5.1	0.0	5.30	5.46	5.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
143	38.000	26.50	0.0	5.1	0.0	5.30	5.46	5.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
144	37.800	26.50	0.0	5.1	0.0	5.30	5.46	5.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
145	37.600	26.50	0.0	5.1	0.0	5.30	5.46	5.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
146	37.400	26.50	0.0	5.1	0.0	5.30	5.46	5.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
147	37.200	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
148	37.000	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
149	36.800	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
150	36.600	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
151	36.400	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
152	36.200	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
153	36.000	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
154	35.800	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
155	35.600	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
156	35.400	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
157	35.200	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
158	35.000	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
159	34.800	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
160	34.600	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
161	34.400	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
162	34.200	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
163	34.000	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
164	33.800	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
165	33.600	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
166	33.400	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
167	33.200	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
168	33.000	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
169	32.800	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
170	32.600	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70
171	32.400	26.50	0.0	5.1	0.0	5.30	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.70

200	26.80	26.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
201	26.60	26.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
202	26.40	26.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
203	26.20	26.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
204	26.00	25.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
205	25.80	25.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
206	25.60	25.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
207	25.40	25.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
208	25.20	25.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
209	25.00	24.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
210	24.80	24.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
211	24.60	24.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
212	24.40	24.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
213	24.20	24.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
214	24.00	23.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
215	23.80	23.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
216	23.60	23.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
217	23.40	23.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
218	23.20	23.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
219	23.00	22.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
220	22.80	22.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
221	22.60	22.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
222	22.40	22.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
223	22.20	22.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
224	22.00	21.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
225	21.80	21.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
226	21.60	21.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
227	21.40	21.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
228	21.20	21.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
229	21.00	20.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
230	20.80	20.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
231	20.60	20.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
232	20.40	20.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
233	20.20	20.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
234	20.00	19.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
235	19.80	19.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
236	19.60	19.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
237	19.40	19.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
238	19.20	19.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
239	19.00	18.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
240	18.80	18.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
241	18.60	18.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
242	18.40	18.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
243	18.20	18.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
TOT						91.33			22095.	67050.3					
AVG				0.002			0.33	5.6			1.8				
CUM						305.71									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D. O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
184	29.800	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
185	29.600	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
186	29.400	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
187	29.200	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
188	29.000	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
189	28.800	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
190	28.600	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
191	28.400	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
192	28.200	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
193	28.000	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
194	27.800	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
195	27.600	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
196	27.400	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
197	27.200	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
198	27.000	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
199	26.800	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
200	26.600	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
201	26.400	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
202	26.200	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
203	26.000	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
204	25.800	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
205	25.600	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
206	25.400	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
207	25.200	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
208	25.000	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
209	24.800	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
210	24.600	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
211	24.400	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
212	24.200	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
213	24.000	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
214	23.800	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
215	23.600	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
216	23.400	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
217	23.200	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
218	23.000	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
219	22.800	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
220	22.600	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
221	22.400	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
222	22.200	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
223	22.000	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
224	21.800	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
225	21.600	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
226	21.400	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
227	21.200	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
228	21.000	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
229	20.800	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06

230	20.600	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
231	20.400	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
232	20.200	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
233	20.000	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
234	19.800	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
235	19.600	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
236	19.400	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
237	19.200	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
238	19.000	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
239	18.800	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
240	18.600	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
241	18.400	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
242	18.200	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
243	18.000	8.04	2.40	0.04	0.12	0.00	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
20 DEG C RATE				0.03		0.00	1.39	0.00		0.00	0.00	0.00	0.00			0.00	2.57		
AVG 20 DEG C RATE			2.12		0.10				0.00										0.05

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
184	29.800	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.59
185	29.600	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.56
186	29.400	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.54
187	29.200	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.52
188	29.000	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
189	28.800	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.49
190	28.600	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
191	28.400	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.46
192	28.200	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.45
193	28.000	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.44
194	27.800	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.43
195	27.600	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.42
196	27.400	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.42
197	27.200	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.41
198	27.000	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.40
199	26.800	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.40
200	26.600	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.39
201	26.400	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.39
202	26.200	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.39
203	26.000	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.38
204	25.800	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.38
205	25.600	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.38
206	25.400	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.37
207	25.200	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.37
208	25.000	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.37

209	24.800	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.37
210	24.600	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.37
211	24.400	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.37
212	24.200	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
213	24.000	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
214	23.800	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
215	23.600	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
216	23.400	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
217	23.200	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
218	23.000	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
219	22.800	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
220	22.600	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
221	22.400	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
222	22.200	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
223	22.000	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
224	21.800	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
225	21.600	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
226	21.400	26.50	0.0	5.1	0.0	5.29	5.47	5.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
227	21.200	26.50	0.0	5.1	0.0	5.29	5.46	5.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
228	21.000	26.50	0.0	5.1	0.0	5.29	5.46	5.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
229	20.800	26.50	0.0	5.1	0.0	5.29	5.45	5.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
230	20.600	26.50	0.0	5.1	0.0	5.29	5.45	5.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
231	20.400	26.50	0.0	5.1	0.0	5.29	5.44	5.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
232	20.200	26.50	0.0	5.1	0.0	5.29	5.43	5.43	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
233	20.000	26.50	0.0	5.1	0.0	5.29	5.42	5.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
234	19.800	26.50	0.0	5.1	0.0	5.29	5.40	5.40	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.36
235	19.600	26.50	0.0	5.1	0.0	5.30	5.38	5.38	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.37
236	19.400	26.50	0.0	5.1	0.0	5.30	5.35	5.35	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.37
237	19.200	26.50	0.0	5.1	0.0	5.30	5.31	5.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.37
238	19.000	26.50	0.0	5.1	0.0	5.30	5.27	5.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.38
239	18.800	26.50	0.0	5.1	0.0	5.31	5.20	5.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.38
240	18.600	26.50	0.0	5.1	0.0	5.33	5.12	5.12	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.39
241	18.400	26.50	0.0	5.1	0.0	5.37	5.01	5.01	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.40
242	18.200	26.50	0.0	5.1	0.0	5.46	4.87	4.87	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.42
243	18.000	26.50	0.0	5.1	0.0	5.65	4.68	4.68	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.43

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

** g/cu m

1

FINAL REPORT Flat Creek headwater
 REACH NO. 5 FLAT CREEK RK 18.0-5.0

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 CURRENT 5.0 DO, JUN-OCT, 115% REDUCTION REQUIRED

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
244	UPR RCH	0.0028	26.50	0.00	5.1	0.0	5.65	4.68	4.68	0.00	0.00	0.00	0.00	0.0	0.	0.43

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
244	18.00	17.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
245	17.80	17.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
246	17.60	17.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
247	17.40	17.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
248	17.20	17.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
249	17.00	16.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
250	16.80	16.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
251	16.60	16.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
252	16.40	16.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
253	16.20	16.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
254	16.00	15.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
255	15.80	15.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
256	15.60	15.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
257	15.40	15.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
258	15.20	15.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
259	15.00	14.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
260	14.80	14.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
261	14.60	14.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
262	14.40	14.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
263	14.20	14.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
264	14.00	13.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
265	13.80	13.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
266	13.60	13.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
267	13.40	13.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
268	13.20	13.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
269	13.00	12.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
270	12.80	12.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
271	12.60	12.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
272	12.40	12.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
273	12.20	12.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
274	12.00	11.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
275	11.80	11.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
276	11.60	11.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
277	11.40	11.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
278	11.20	11.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
279	11.00	10.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
280	10.80	10.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
281	10.60	10.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
282	10.40	10.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
283	10.20	10.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
284	10.00	9.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
285	9.80	9.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
286	9.60	9.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
287	9.40	9.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000

288	9.20	9.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
289	9.00	8.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
290	8.80	8.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
291	8.60	8.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
292	8.40	8.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
293	8.20	8.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
294	8.00	7.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
295	7.80	7.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
296	7.60	7.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
297	7.40	7.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
298	7.20	7.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
299	7.00	6.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
300	6.80	6.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
301	6.60	6.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
302	6.40	6.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
303	6.20	6.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
304	6.00	5.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
305	5.80	5.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
306	5.60	5.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
307	5.40	5.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
308	5.20	5.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
TOT						454.51			109954.	125157.9					
AVG				0.000			0.88	9.6			8.5				
CUM						760.22									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
244	17.800	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
245	17.600	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
246	17.400	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
247	17.200	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
248	17.000	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
249	16.800	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
250	16.600	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
251	16.400	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
252	16.200	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
253	16.000	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
254	15.800	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
255	15.600	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
256	15.400	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
257	15.200	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
258	15.000	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
259	14.800	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
260	14.600	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
261	14.400	8.04	0.90	0.05	0.12	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
244	17.800	26.50	0.0	5.1	0.0	5.80	4.59	4.59	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.44
245	17.600	26.50	0.0	5.1	0.0	5.86	4.55	4.55	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.45
246	17.400	26.50	0.0	5.1	0.0	5.90	4.51	4.51	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.45
247	17.200	26.50	0.0	5.1	0.0	5.93	4.48	4.48	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.45
248	17.000	26.50	0.0	5.1	0.0	5.94	4.45	4.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.45
249	16.800	26.50	0.0	5.1	0.0	5.96	4.43	4.43	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.46
250	16.600	26.50	0.0	5.1	0.0	5.96	4.41	4.41	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.46
251	16.400	26.50	0.0	5.1	0.0	5.97	4.40	4.40	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.46
252	16.200	26.50	0.0	5.1	0.0	5.97	4.38	4.38	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.46
253	16.000	26.50	0.0	5.1	0.0	5.97	4.37	4.37	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.46
254	15.800	26.50	0.0	5.1	0.0	5.98	4.36	4.36	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.46
255	15.600	26.50	0.0	5.1	0.0	5.98	4.36	4.36	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.46
256	15.400	26.50	0.0	5.1	0.0	5.98	4.35	4.35	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.46
257	15.200	26.50	0.0	5.1	0.0	5.98	4.34	4.34	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.46
258	15.000	26.50	0.0	5.1	0.0	5.98	4.34	4.34	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.46
259	14.800	26.50	0.0	5.1	0.0	5.98	4.34	4.34	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
260	14.600	26.50	0.0	5.1	0.0	5.98	4.33	4.33	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
261	14.400	26.50	0.0	5.1	0.0	5.98	4.33	4.33	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
262	14.200	26.50	0.0	5.1	0.0	5.98	4.33	4.33	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
263	14.000	26.50	0.0	5.1	0.0	5.98	4.33	4.33	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
264	13.800	26.50	0.0	5.1	0.0	5.98	4.33	4.33	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
265	13.600	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
266	13.400	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
267	13.200	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
268	13.000	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
269	12.800	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
270	12.600	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
271	12.400	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
272	12.200	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
273	12.000	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
274	11.800	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
275	11.600	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
276	11.400	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
277	11.200	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
278	11.000	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
279	10.800	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
280	10.600	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
281	10.400	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
282	10.200	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
283	10.000	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
284	9.800	26.50	0.0	5.1	0.0	5.98	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
285	9.600	26.50	0.0	5.1	0.0	5.98	4.31	4.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
286	9.400	26.50	0.0	5.1	0.0	5.98	4.31	4.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47

287	9.200	26.50	0.0	5.1	0.0	5.98	4.31	4.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
288	9.000	26.50	0.0	5.1	0.0	5.98	4.31	4.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
289	8.800	26.50	0.0	5.1	0.0	5.98	4.31	4.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
290	8.600	26.50	0.0	5.1	0.0	5.98	4.31	4.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
291	8.400	26.50	0.0	5.1	0.0	5.98	4.30	4.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
292	8.200	26.50	0.0	5.1	0.0	5.98	4.30	4.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
293	8.000	26.50	0.0	5.1	0.0	5.98	4.30	4.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
294	7.800	26.50	0.0	5.1	0.0	5.98	4.29	4.29	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
295	7.600	26.50	0.0	5.1	0.0	5.98	4.29	4.29	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
296	7.400	26.50	0.0	5.1	0.0	5.98	4.28	4.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
297	7.200	26.50	0.0	5.1	0.0	5.99	4.27	4.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
298	7.000	26.50	0.0	5.1	0.0	5.99	4.26	4.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
299	6.800	26.50	0.0	5.1	0.0	5.99	4.24	4.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
300	6.600	26.50	0.0	5.1	0.0	5.99	4.22	4.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
301	6.400	26.50	0.0	5.1	0.0	6.00	4.20	4.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
302	6.200	26.50	0.0	5.1	0.0	6.00	4.17	4.17	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
303	6.000	26.50	0.0	5.1	0.0	6.01	4.14	4.14	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.48
304	5.800	26.50	0.0	5.1	0.0	6.02	4.09	4.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.48
305	5.600	26.50	0.0	5.1	0.0	6.04	4.04	4.04	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.48
306	5.400	26.50	0.0	5.1	0.0	6.07	3.97	3.97	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.48
307	5.200	26.50	0.0	5.1	0.0	6.12	3.89	3.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.49
308	5.000	26.50	0.0	5.1	0.0	6.20	3.79	3.79	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.49

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

** g/cu m

1

FINAL REPORT Flat Creek headwater
 REACH NO. 6 FLAT CREEK RK 5.0-0.0

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 CURRENT 5.0 DO, JUN-OCT, 115% REDUCTION REQUIRED

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
309	UPR RCH	0.0028	26.50	0.00	5.1	0.0	6.20	3.79	3.79	0.00	0.00	0.00	0.00	0.0	0.	0.49

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
309	5.00	4.80	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
310	4.80	4.60	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
311	4.60	4.40	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
312	4.40	4.20	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
313	4.20	4.00	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
314	4.00	3.80	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000

315	3.80	3.60	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
316	3.60	3.40	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
317	3.40	3.20	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
318	3.20	3.00	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
319	3.00	2.80	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
320	2.80	2.60	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
321	2.60	2.40	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
322	2.40	2.20	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
323	2.20	2.00	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
324	2.00	1.80	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
325	1.80	1.60	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
326	1.60	1.40	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
327	1.40	1.20	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
328	1.20	1.00	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
329	1.00	0.80	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
330	0.80	0.60	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
331	0.60	0.40	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
332	0.40	0.20	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
333	0.20	0.00	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
TOT						402.96				97484.	68322.6				
AVG						0.000	1.43	13.7			19.5				
CUM						1163.18									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECA 1/da	CBOD SETT 1/da	ANBOD DECA 1/da	FULL SOD *	CORR SOD *	ORGN DECA 1/da	ORGN SETT 1/da	NH3 DECA 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECA 1/da	NCM DECA 1/da	NCM SETT 1/da
309	4.800	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
310	4.600	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
311	4.400	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
312	4.200	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
313	4.000	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
314	3.800	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
315	3.600	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
316	3.400	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
317	3.200	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
318	3.000	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
319	2.800	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
320	2.600	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
321	2.400	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
322	2.200	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
323	2.000	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
324	1.800	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
325	1.600	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
326	1.400	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
327	1.200	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
328	1.000	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06

329	0.800	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
330	0.600	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
331	0.400	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
332	0.200	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
333	0.000	8.04	0.55	0.07	0.12	0.00	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
20 DEG C RATE				0.05		0.00		0.58	0.00		0.00	0.00	0.00	0.00			0.00	2.36	
AVG 20 DEG C RATE				0.49		0.10				0.00									0.05
* g/sq m/d			** mg/L/day																

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
309	4.800	26.50	0.0	5.1	0.0	6.26	3.71	3.71	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.49
310	4.600	26.50	0.0	5.1	0.0	6.30	3.66	3.66	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.49
311	4.400	26.50	0.0	5.1	0.0	6.33	3.63	3.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
312	4.200	26.50	0.0	5.1	0.0	6.35	3.59	3.59	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
313	4.000	26.50	0.0	5.1	0.0	6.36	3.57	3.57	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
314	3.800	26.50	0.0	5.1	0.0	6.37	3.55	3.55	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
315	3.600	26.50	0.0	5.1	0.0	6.38	3.53	3.53	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
316	3.400	26.50	0.0	5.1	0.0	6.38	3.52	3.52	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
317	3.200	26.50	0.0	5.1	0.0	6.39	3.51	3.51	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
318	3.000	26.50	0.0	5.1	0.0	6.39	3.50	3.50	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
319	2.800	26.50	0.0	5.1	0.0	6.39	3.49	3.49	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
320	2.600	26.50	0.0	5.1	0.0	6.40	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
321	2.400	26.50	0.0	5.1	0.0	6.40	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
322	2.200	26.50	0.0	5.1	0.0	6.40	3.47	3.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
323	2.000	26.50	0.0	5.1	0.0	6.40	3.47	3.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
324	1.800	26.50	0.0	5.1	0.0	6.40	3.47	3.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
325	1.600	26.50	0.0	5.1	0.0	6.40	3.47	3.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
326	1.400	26.50	0.0	5.1	0.0	6.40	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
327	1.200	26.50	0.0	5.1	0.0	6.40	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
328	1.000	26.50	0.0	5.1	0.0	6.40	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
329	0.800	26.50	0.0	5.1	0.0	6.40	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
330	0.600	26.50	0.0	5.1	0.0	6.40	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
331	0.400	26.50	0.0	5.1	0.0	6.40	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
332	0.200	26.50	0.0	5.1	0.0	6.40	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
333	0.000	26.50	0.0	5.1	0.0	6.40	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

** g/cu m

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STREAM SUMMARY
 Flat Creek headwater

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 CURRENT 5.0 DO, JUN-OCT, 115% REDUCTION REQUIRED

TRAVEL TIME	=	1163.2	DAYS
MAXIMUM EFFLUENT	=	0.0	PERCENT
FLOW	=	0.0028	TO 0.0028 cms
DISPERSION	=	2.0000	TO 2.0000 sq m/s
VELOCITY	=	0.0001	TO 0.0023 m/s
DEPTH	=	0.27	TO 1.43 m
WIDTH	=	4.6	TO 13.7 m
BOD DECAY	=	0.04	TO 0.07 per day
NH3 DECAY	=	0.00	TO 0.00 per day
SDMNT OXYGEN DMND	=	0.87	TO 2.15 g/sq m/d
NH3 SOURCE	=	0.00	TO 0.00 g/sq m/d
REAERATION	=	0.55	TO 2.98 per day
BOD SETTLING	=	0.12	TO 0.12 per day
ORGN DECAY	=	0.00	TO 0.00 per day
ORGN SETTLING	=	0.00	TO 0.00 per day
TEMPERATURE	=	26.50	TO 26.50 deg C
DISSOLVED OXYGEN	=	5.10	TO 6.40 mg/L

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 CURRENT 5.0 DO, JUN-OCT, 115% REDUCTION REQUIRED

INPUT/OUTPUT LOADING SUMMARY

	FLOW cms	DO kg/d	BOD kg/d	ORG-N kg/d	NH3-N kg/d	NO3-N kg/d	PHOS kg/d	CHL A kg/d	NCM
HEADWATER INFLOW	0.003	1.2	3.8	0.0	0.0	0.0	0.0	0.0	0.9
INCREMENTAL INFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCREMENTAL OUTFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NON-POINT INPUT		0.0	207.0	0.0					23.0
WASTELOADS	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WITHDRAWALS	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OUTFLOW THRU LOWER BNDRY	-0.003	-1.5	-0.8	0.0	0.0	0.0	0.0	0.0	-0.1
DISPERSION THRU LOWER BNDRY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REAERATION		833.8							
BACKGROUND BENTHAL		-751.6							
AEROBIC BOD DECAY		-67.3	-67.3						
BOD SETTLING		0.0	-142.7						
ANAEROBIC BOD DECAY			0.0						
ORGANIC N HYDROLYSIS		0.0		0.0	0.0				
ORGANIC N SETTLING				0.0	0.0				
NH3 DECAY		0.0			0.0	0.0			
BACKGROUND NH3 SOURCE					0.0				
DENITRIFICATION			0.0			0.0			
PHOSPHORUS SOURCE							0.0		
ALGAE PHOTOSYNTHESIS		0.0			0.0	0.0	0.0	0.0	
ALGAE RESPIRATION		0.0			0.0		0.0	0.0	
ALGAE SETTLING		0.0						0.0	
MACRO PHOTOSYNTHESIS		0.0			0.0	0.0	0.0		
NCM DECAY		-14.5							-14.5
NCM SETTLING		0.0							-9.2
TOTAL INPUTS	0.003	835.0	210.8	0.0	0.0	0.0	0.0	0.0	23.9
TOTAL OUTPUTS	-0.003	-834.9	-210.8	0.0	0.0	0.0	0.0	0.0	-23.8
NET CONVERGENCE ERROR	0.000	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1

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.....EXECUTION COMPLETED

Appendix G – Projection Model Input and Output for 3.0 mg/L DO June-October

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CNTROL01      FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
CNTROL02      3.0 DO, JUN-OCT, 60% REDUCTION REQUIRED
CNTROL03 YES  ECHO DATA INPUT
CNTROL04 NO   INTERMEDIATE SUMMARY
CNTROL05 YES  CAPSULE SUMMARY
CNTROL06 YES  FINAL REPORT
CNTROL07 YES  LOADING SUMMARY
CNTROL08 YES  SPECIAL REPORT
CNTROL09 NO   LINE PRINTER PLOT
CNTROL10 YES  GRAPHICS CAPABILITY
CNTROL11 NO   SEQUENCING OUTPUT
CNTROL12 YES  METRIC UNITS
CNTROL13 YES  OXYGEN DEPENDENT RATES
CNTROL14 NO   SENSITIVITY ANALYSIS
CNTROL15 YES  OVERLAY PLOT
ENDATA01
MODOPT01 NO   TEMPERATURE
MODOPT02 NO   SALINITY
MODOPT03 YES  CONSERVATIVE MATERIAL I = CHLORIDES           IN MG/L
MODOPT04 NO   CONSERVATIVE MATERIAL II = SULFATES          IN MG/L
MODOPT05 YES  DISSOLVED OXYGEN
MODOPT06 YES  BIOCHEMICAL OXYGEN DEMAND
MODOPT07 NO   NITROGEN
MODOPT08 NO   PHOSPHORUS
MODOPT09 NO   CHLOROPHYLL A
MODOPT10 NO   MACROPHYTES
MODOPT11 NO   COLIFORM
MODOPT12 YES  NONCONSERVATIVE MATERIAL = NBOD              IN MG/L
ENDATA02
PROGRAM MAXIMUM ITERATION LIMIT      = 200.0
PROGRAM PLOT TYPE                     = 3.0
PROGRAM FINAL REPORT TYPE             = 1.0
PROGRAM SPECIAL REPORT TYPE           = 3.0
PROGRAM BOD OXYGEN UPTAKE RATE        = 1.0
PROGRAM KL MINIMUM                    = 0.7
PROGRAM NCM OXYGEN UPTAKE RATE        = 1.0
PROGRAM INHIBITION CONTROL VALUE      = 3.0
PROGRAM DISPERSION EQUATION           = 1.0
PROGRAM OCEAN EXCHANGE RATIO          = 0.0
PROGRAM TIDE HEIGHT                   = 0.0
PROGRAM HYDRAULIC CALCULATION METHOD   = 2.0
PROGRAM SETTLING RATE UNITS           = 2.0
PROGRAM K2 MAXIMUM                    = 25.0
ENDATA03
ENDATA04
ENDATA05
ENDATA06
ENDATA07
REACH ID  1  FC  FLAT CREEK RK 66.47-54.0           66.47    54.0  0.197937
REACH ID  2  FC  FLAT CREEK RK 54.0-42.0           54.0     42.0   0.200
REACH ID  3  FC  FLAT CREEK RK 42.0-30.0           42.0     30.0   0.200
REACH ID  4  FC  FLAT CREEK RK 30.0-18.0           30.0     18.0   0.200
REACH ID  5  FC  FLAT CREEK RK 18.0-5.0            18.0      5.0   0.200
REACH ID  6  FC  FLAT CREEK RK 5.0-0.0             5.0       0.0   0.200
ENDATA08
HYDR-1    1  0.1000 0.4000 4.572 0.1000 0.4000 0.2560 0.04
HYDR-1    2  0.1000 0.4000 4.572 0.1000 0.4000 0.2560 0.04
HYDR-1    3  0.1000 0.4000 5.578 0.1000 0.4000 0.3200 0.04
HYDR-1    4  0.1000 0.4000 5.578 0.1000 0.4000 0.3200 0.04
HYDR-1    5  0.1000 0.4000 9.618 0.1000 0.4000 0.8690 0.04
HYDR-1    6  0.1000 0.4000 13.655 0.1000 0.4000 1.4173 0.04
ENDATA09
HYDR-2    1  0.000 2.000 0.000 0.000 0.000 0.000
HYDR-2    2  0.000 2.000 0.000 0.000 0.000 0.000
HYDR-2    3  0.000 2.000 0.000 0.000 0.000 0.000
HYDR-2    4  0.000 2.000 0.000 0.000 0.000 0.000
HYDR-2    5  0.000 2.000 0.000 0.000 0.000 0.000
HYDR-2    6  0.000 2.000 0.000 0.000 0.000 0.000
ENDATA10
INITIAL   1  26.50 0.0 3.00 0.000 0.000 0.00 00.00 0.00
INITIAL   2  26.50 0.0 3.00 0.000 0.000 0.00 00.00 0.00

```

INITIAL	3	26.50	0.0	3.00	0.000	0.000	0.00	00.00	0.00
INITIAL	4	26.50	0.0	3.00	0.000	0.000	0.00	00.00	0.00
INITIAL	5	26.50	0.0	3.00	0.000	0.000	0.00	00.00	0.00
INITIAL	6	26.50	0.0	3.00	0.000	0.000	0.00	00.00	0.00

ENDATA11

COEF-1	1	15.0	0.00	0.0	0.0	2.45	0.040	0.10	0.00
COEF-1	2	15.0	0.00	0.0	0.0	2.42	0.040	0.10	0.00
COEF-1	3	15.0	0.00	0.0	0.0	2.30	0.030	0.10	0.00
COEF-1	4	15.0	0.00	0.0	0.0	2.31	0.030	0.10	0.00
COEF-1	5	15.0	0.00	0.0	0.0	1.68	0.040	0.10	0.00
COEF-1	6	15.0	0.00	0.0	0.0	1.07	0.050	0.10	0.00

ENDATA12

ENDATA13

ENDATA14

COEF-4	1	0.000	0.040	0.05	0.00
COEF-4	2	0.000	0.040	0.05	0.00
COEF-4	3	0.000	0.050	0.05	0.00
COEF-4	4	0.000	0.050	0.05	0.00
COEF-4	5	0.000	0.070	0.05	0.00
COEF-4	6	0.000	0.090	0.05	0.00

ENDATA15

ENDATA16

ENDATA17

ENDATA18

NONPOINT	1	0023.00	0.00	0.0	0003.0	0.0
NONPOINT	2	0021.00	0.00	0.0	0002.0	0.0
NONPOINT	3	0032.00	0.00	0.0	0003.0	0.0
NONPOINT	4	0032.00	0.00	0.0	0002.0	0.0
NONPOINT	5	0148.00	0.00	0.0	0014.0	0.0
NONPOINT	6	0115.00	0.00	0.0	0017.0	0.0

ENDATA19

HDWTR-1	1	Flat Creek headwater	0.	0.00280	26.500	0.0	5.1	0.0
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ENDATA20

HDWTR-2	1	3.00	15.66	0.00	0.000	0.00
---------	---	------	-------	------	-------	------

ENDATA21

HDWTR-3	1	0.00	0.00	0.00	3.790
---------	---	------	------	------	-------

ENDATA22

ENDATA23

ENDATA24

ENDATA25

ENDATA26

LOWER BC TEMPERATURE	=	26.50
LOWER BC SALINITY	=	0.00
LOWER BC CONSERVATIVE MATERIAL I	=	0.00
LOWER BC CONSERVATIVE MATERIAL II	=	0.00
LOWER BC DISSOLVED OXYGEN	=	2.67
LOWER BC BIOCHEMICAL OXYGEN DEMAND	=	8.75
LOWER BC ORGANIC NITROGEN	=	0.00
LOWER BC AMMONIA NITROGEN	=	0.00
LOWER BC NITRATE + NITRITE	=	0.00
LOWER BC PHOSPHORUS	=	0.00
LOWER BC CHLOROPHYLL A	=	0.00
LOWER BC COLIFORM	=	0.00
LOWER BC NONCONSERVATIVE MATERIAL	=	1.30

ENDATA27

ENDATA28

ENDATA29

NUMBER OF PLOTS = 1

NUMBER OF REACHES IN PLOT 1 = 6

INCREMENT = 1.0

PLOT RCH 1 2 3 4 5 6

ENDATA30

OVERLAY 1 FLATCREEKOVRLAYFILEFORMAT.TXT FLAT CREEK-HDWTRS TO CONFL W/ CASTOR CRK

ENDATA31

LA-QUAL for Windows Version 3.02
 Louisiana Department of Environmental Quality

Output produced at 10:26 on 12/29/2000

\$\$\$ DATA TYPE 1 (TITLES AND CONTROL CARDS) \$\$\$

CARD TYPE	CONTROL TITLES
CNTROL01	FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
CNTROL02	3.0 DO, JUN-OCT, 60% REDUCTION REQUIRED
CNTROL03 YES	ECHO DATA INPUT
CNTROL04 NO	INTERMEDIATE SUMMARY
CNTROL05 YES	CAPSULE SUMMARY
CNTROL06 YES	FINAL REPORT
CNTROL07 YES	LOADING SUMMARY
CNTROL08 YES	SPECIAL REPORT
CNTROL09 NO	LINE PRINTER PLOT
CNTROL10 YES	GRAPHICS CAPABILITY
CNTROL11 NO	SEQUENCING OUTPUT
CNTROL12 YES	METRIC UNITS
CNTROL13 YES	OXYGEN DEPENDENT RATES
CNTROL14 NO	SENSITIVITY ANALYSIS
CNTROL15 YES	OVERLAY PLOT
ENDATA01	

\$\$\$ DATA TYPE 2 (MODEL OPTIONS) \$\$\$

CARD TYPE	MODEL OPTION	
MODOPT01 NO	TEMPERATURE	
MODOPT02 NO	SALINITY	
MODOPT03 YES	CONSERVATIVE MATERIAL I = CHLORIDES	IN MG/L
MODOPT04 NO	CONSERVATIVE MATERIAL II = SULFATES	IN MG/L
MODOPT05 YES	DISSOLVED OXYGEN	
MODOPT06 YES	BIOCHEMICAL OXYGEN DEMAND	
MODOPT07 NO	NITROGEN	
MODOPT08 NO	PHOSPHORUS	
MODOPT09 NO	CHLOROPHYLL A	
MODOPT10 NO	MACROPHYTES	
MODOPT11 NO	COLIFORM	
MODOPT12 YES	NONCONSERVATIVE MATERIAL = NBOD	IN MG/L
ENDATA02		

\$\$\$ DATA TYPE 3 (PROGRAM CONSTANTS) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
PROGRAM	MAXIMUM ITERATION LIMIT	= 200.00000
PROGRAM	PLOT TYPE	= 3.00000
PROGRAM	FINAL REPORT TYPE	= 1.00000
PROGRAM	SPECIAL REPORT TYPE	= 3.00000
PROGRAM	BOD OXYGEN UPTAKE RATE	= 1.00000
PROGRAM	KL MINIMUM	= 0.70000
PROGRAM	NCM OXYGEN UPTAKE RATE	= 1.00000
PROGRAM	INHIBITION CONTROL VALUE	= 3.00000
PROGRAM	DISPERSION EQUATION	= 1.00000
PROGRAM	OCEAN EXCHANGE RATIO	= 0.00000
PROGRAM	TIDE HEIGHT	= 0.00000
PROGRAM	HYDRAULIC CALCULATION METHOD	= 2.00000
PROGRAM	SETTLING RATE UNITS	= 2.00000
PROGRAM	K2 MAXIMUM	= 25.00000
ENDATA03		

\$\$\$ DATA TYPE 4 (TEMPERATURE CORRECTION CONSTANTS FOR RATE COEFFICIENTS) \$\$\$

CARD TYPE	RATE CODE	THETA VALUE
ENDATA04		

\$\$\$ CONSTANTS TYPE 5 (TEMPERATURE DATA) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
ENDATA05		

\$\$\$ DATA TYPE 6 (ALGAE CONSTANTS) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
ENDATA06		

\$\$\$ DATA TYPE 7 (MACROPHYTE CONSTANTS) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
ENDATA07		

\$\$\$ DATA TYPE 8 (REACH IDENTIFICATION DATA) \$\$\$

CARD TYPE	REACH	ID	NAME	BEGIN REACH km	TO	END REACH km	ELEM LENGTH km	REACH LENGTH km	ELEMS PER RCH	BEGIN ELEM NUM	END ELEM NUM
REACH ID	1	FC	FLAT CREEK RK	66.47	TO	54.00	0.1979	12.47	63	1	63
REACH ID	2	FC	FLAT CREEK RK	54.0	TO	42.00	0.2000	12.00	60	64	123
REACH ID	3	FC	FLAT CREEK RK	42.0	TO	30.00	0.2000	12.00	60	124	183
REACH ID	4	FC	FLAT CREEK RK	30.0	TO	18.00	0.2000	12.00	60	184	243
REACH ID	5	FC	FLAT CREEK RK	18.0	TO	5.00	0.2000	13.00	65	244	308
REACH ID	6	FC	FLAT CREEK RK	5.0	TO	0.00	0.2000	5.00	25	309	333

ENDATA08

\$\$\$ DATA TYPE 9 (ADVECTIVE HYDRAULIC COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	WIDTH "A"	WIDTH "B"	WIDTH "C"	DEPTH "D"	DEPTH "E"	DEPTH "F"	SLOPE	MANNINGS "N"
HYDR-1	1	FC	0.100	0.400	4.572	0.100	0.400	0.256	0.00000	0.040
HYDR-1	2	FC	0.100	0.400	4.572	0.100	0.400	0.256	0.00000	0.040
HYDR-1	3	FC	0.100	0.400	5.578	0.100	0.400	0.320	0.00000	0.040
HYDR-1	4	FC	0.100	0.400	5.578	0.100	0.400	0.320	0.00000	0.040
HYDR-1	5	FC	0.100	0.400	9.618	0.100	0.400	0.869	0.00000	0.040
HYDR-1	6	FC	0.100	0.400	13.655	0.100	0.400	1.417	0.00000	0.040

ENDATA09

\$\$\$ DATA TYPE 10 (DISPERSIVE HYDRAULIC COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"
HYDR	1	FC	0.00	2.000	0.000	0.000	0.000
HYDR	2	FC	0.00	2.000	0.000	0.000	0.000
HYDR	3	FC	0.00	2.000	0.000	0.000	0.000
HYDR	4	FC	0.00	2.000	0.000	0.000	0.000
HYDR	5	FC	0.00	2.000	0.000	0.000	0.000
HYDR	6	FC	0.00	2.000	0.000	0.000	0.000

ENDATA10

\$\$\$ DATA TYPE 11 (INITIAL CONDITIONS) \$\$\$

CARD TYPE	REACH	ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
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INITIAL	1	FC	26.50	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	2	FC	26.50	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	3	FC	26.50	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	4	FC	26.50	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	5	FC	26.50	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	6	FC	26.50	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00
ENDATA11											

\$\$\$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	K2 OPT	K2 "A"	K2 "B"	K2 "C"	BKGRND SOD	AEROB BOD DECAY	BOD SETT	BOD CONV TO SOD	ANAER BOD DECAY
COEF-1	1	FC	15.	0.000	0.000	0.000	2.450	0.040	0.100	0.000	0.000
COEF-1	2	FC	15.	0.000	0.000	0.000	2.420	0.040	0.100	0.000	0.000
COEF-1	3	FC	15.	0.000	0.000	0.000	2.300	0.030	0.100	0.000	0.000
COEF-1	4	FC	15.	0.000	0.000	0.000	2.310	0.030	0.100	0.000	0.000
COEF-1	5	FC	15.	0.000	0.000	0.000	1.680	0.040	0.100	0.000	0.000
COEF-1	6	FC	15.	0.000	0.000	0.000	1.070	0.050	0.100	0.000	0.000
ENDATA12											

\$\$\$ DATA TYPE 13 (NITROGEN AND PHOSPHORUS COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	ORG-N DECA	ORG-N SETT	ORGN CONV TO NH3 SRCE	NH3 DECA	NH3 SRCE	PHOS SRCE	DENIT RATE
ENDATA13									

\$\$\$ DATA TYPE 14 (ALGAE AND MACROPHYTE COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	SECCHI DEPTH	ALGAE: CHL A	ALGAE SETT	ALG CONV TO SOD	ALGAE GROW	ALGAE RESP	MACRO GROW	MACRO RESP
ENDATA14										

\$\$\$ DATA TYPE 15 (COLIFORM AND NONCONSERVATIVE COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	COLIFORM DIE-OFF	NCM DECAY	NCM SETT	NCM CONV TO SOD
COEF-4	1	FC	0.00	0.04	0.05	0.00
COEF-4	2	FC	0.00	0.04	0.05	0.00
COEF-4	3	FC	0.00	0.05	0.05	0.00

COEF-4	4	FC	0.00	0.05	0.05	0.00
COEF-4	5	FC	0.00	0.07	0.05	0.00
COEF-4	6	FC	0.00	0.09	0.05	0.00

ENDATA15

\$\$\$ DATA TYPE 16 (INCREMENTAL DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) \$\$\$

CARD TYPE	REACH	ID	OUTFLOW	INFLOW	TEMP	SALIN	CM-I	CM-II	INFLOW/DIST
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ENDATA16

\$\$\$ DATA TYPE 17 (INCREMENTAL DATA FOR DO, BOD, AND NITROGEN) \$\$\$

CARD TYPE	REACH	ID	DO	BOD	ORG-N	NH3	NO3+2
-----------	-------	----	----	-----	-------	-----	-------

ENDATA17

\$\$\$ DATA TYPE 18 (INCREMENTAL DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) \$\$\$

CARD TYPE	REACH	ID	PHOS	CHL A	COLI	NCM
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ENDATA18

\$\$\$ DATA TYPE 19 (NONPOINT SOURCE DATA) \$\$\$

CARD TYPE	REACH	ID	BOD	ORG-N	COLI	NCM	DO
NONPOINT	1	FC	23.00	0.00	0.00	3.00	0.00
NONPOINT	2	FC	21.00	0.00	0.00	2.00	0.00
NONPOINT	3	FC	32.00	0.00	0.00	3.00	0.00
NONPOINT	4	FC	32.00	0.00	0.00	2.00	0.00
NONPOINT	5	FC	148.00	0.00	0.00	14.00	0.00
NONPOINT	6	FC	115.00	0.00	0.00	17.00	0.00

ENDATA19

\$\$\$ DATA TYPE 20 (HEADWATER FOR FLOW, TEMPERATURE, SALINITY AND CONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	UNIT	FLOW	TEMP	SALIN	CM-I	CM-II
HDWTR-1	1	Flat Creek headwater	0	0.00280	26.500	0.000	5.100	0.000

ENDATA20

\$\$\$ DATA TYPE 21 (HEADWATER DATA FOR DO, BOD, AND NITROGEN) \$\$\$

CARD TYPE	ELEMENT	NAME	DO	BOD	ORG-N	NH3	NO3+2
HDWTR-2	1	Flat Creek headwater	3.00	15.66	0.00	0.00	0.00

ENDATA21

\$\$\$ DATA TYPE 22 (HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
HDWTR-3	1	Flat Creek headwater	0.00	0.00	0.00	3.79

ENDATA22

\$\$\$ DATA TYPE 23 (JUNCTION DATA) \$\$\$

CARD TYPE	JUNCTION ELEMENT	UPSTRM ELEMENT	NAME
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ENDATA23

\$\$\$ DATA TYPE 24 (WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	FLOW	TEMP	SAL	CM-I	CM-II
-----------	---------	------	------	------	-----	------	-------

ENDATA24

\$\$\$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) \$\$\$

CARD TYPE	ELEMENT	NAME	DO	BOD	% BOD RMVL	ORG-N	NH3	% NITRIF	NO3+2
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ENDATA25

\$\$\$ DATA TYPE 26 (WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
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ENDATA26

\$\$\$ DATA TYPE 27 (LOWER BOUNDARY CONDITIONS) \$\$\$

CARD TYPE	CONSTITUENT	CONCENTRATION
LOWER BC	TEMPERATURE	= 26.500 deg C
LOWER BC	SALINITY	= 0.000 ppt
LOWER BC	CONSERVATIVE MATERIAL I	= 0.000 MG/L
LOWER BC	CONSERVATIVE MATERIAL II	= 0.000 MG/L
LOWER BC	DISSOLVED OXYGEN	= 2.670 mg/L
LOWER BC	BIOCHEMICAL OXYGEN DEMAND	= 8.750 mg/L
LOWER BC	ORGANIC NITROGEN	= 0.000 mg/L
LOWER BC	AMMONIA NITROGEN	= 0.000 mg/L
LOWER BC	NITRATE + NITRITE	= 0.000 mg/L
LOWER BC	PHOSPHORUS	= 0.000 mg/L
LOWER BC	CHLOROPHYLL A	= 0.000 µg/L
LOWER BC	COLIFORM	= 0.000 #/100 mL
LOWER BC	NONCONSERVATIVE MATERIAL	= 1.300 MG/L

ENDATA27

\$\$\$ DATA TYPE 28 (FLOW AUGMENTATION DATA) \$\$\$

CARD TYPE	REACH	AVAIL HDWS	TARGET	ORDER OF AVAIL SOURCES
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ENDATA28

\$\$\$ DATA TYPE 29 (SENSITIVITY ANALYSIS DATA) \$\$\$

CARD TYPE	PARAMETER	COL 1	COL 2	COL 3	COL 4	COL 5	COL 6	COL 7	COL 8
-----------	-----------	-------	-------	-------	-------	-------	-------	-------	-------

ENDATA29

\$\$\$ DATA TYPE 30 (PLOT CONTROL CARDS) \$\$\$

NUMBER OF PLOTS = 1
 NUMBER OF REACHES IN PLOT 1 = 6 INCREMENT = 1.00
 PLOT RCH 1 2 3 4 5 6
 ENDATA30

\$\$\$ DATA TYPE 31 (OVERLAY PLOT DATA) \$\$\$

OVERLAY 1 FLATCREEKOVRLAYFILEFORMAT.TXT FLAT CREEK-HDWTRS TO CONFL W/ CASTOR CRK
 ENDDATA31

1

.....NO ERRORS DETECTED IN INPUT DATA
HYDRAULIC CALCULATIONS COMPLETED
TRIDIAGONAL MATRIX TERMS INITIALIZED
OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
CONSTITUENT CALCULATIONS COMPLETED
GRAPHICS DATA FOR PLOT 1 WRITTEN TO UNIT 11

1

CAPSULE SUMMARY
 Flat Creek headwater

DIST	FLOW	TEMP	SALN	DO	EBOD	ORGN	NH3	CHLA	REAER	CBOD	CBOD	NH3	SOD
km	cms	deg C	ppt	mg/L	mg/L	mg/L	mg/L	µg/L	1/da	1/da	1/da	1/da	
HDWTR	0.003	26.5	0.0	3.0	15.7	0.0	0.0	0.0					
66.27	0.003	26.5	0.0	3.1	13.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
66.07	0.003	26.5	0.0	3.1	12.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
65.88	0.003	26.5	0.0	3.1	12.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
65.68	0.003	26.5	0.0	3.1	11.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
65.48	0.003	26.5	0.0	3.1	11.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
65.28	0.003	26.5	0.0	3.1	11.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
65.08	0.003	26.5	0.0	3.1	11.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
64.89	0.003	26.5	0.0	3.1	10.8	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
64.69	0.003	26.5	0.0	3.1	10.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
64.49	0.003	26.5	0.0	3.1	10.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
64.29	0.003	26.5	0.0	3.1	10.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
64.09	0.003	26.5	0.0	3.2	10.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
63.90	0.003	26.5	0.0	3.2	10.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
63.70	0.003	26.5	0.0	3.2	9.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
63.50	0.003	26.5	0.0	3.2	9.8	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
63.30	0.003	26.5	0.0	3.2	9.7	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
63.11	0.003	26.5	0.0	3.2	9.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
62.91	0.003	26.5	0.0	3.2	9.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
62.71	0.003	26.5	0.0	3.2	9.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
62.51	0.003	26.5	0.0	3.2	9.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
62.31	0.003	26.5	0.0	3.2	9.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
62.12	0.003	26.5	0.0	3.2	9.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
61.92	0.003	26.5	0.0	3.2	9.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69

61.72	0.003	26.5	0.0	3.2	9.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
61.52	0.003	26.5	0.0	3.2	9.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
61.32	0.003	26.5	0.0	3.2	9.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
61.13	0.003	26.5	0.0	3.2	9.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
60.93	0.003	26.5	0.0	3.2	9.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
60.73	0.003	26.5	0.0	3.2	9.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
60.53	0.003	26.5	0.0	3.2	9.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
60.33	0.003	26.5	0.0	3.2	9.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
60.14	0.003	26.5	0.0	3.2	9.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
59.94	0.003	26.5	0.0	3.2	9.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
59.74	0.003	26.5	0.0	3.2	9.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
59.54	0.003	26.5	0.0	3.2	9.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
59.34	0.003	26.5	0.0	3.2	9.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
59.15	0.003	26.5	0.0	3.2	9.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
58.95	0.003	26.5	0.0	3.2	9.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
58.75	0.003	26.5	0.0	3.2	9.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
58.55	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
58.35	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
58.16	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
57.96	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
57.76	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
57.56	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
57.36	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
57.17	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
56.97	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
56.77	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
56.57	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
56.38	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
56.18	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
55.98	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
55.78	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
55.58	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
55.39	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
55.19	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
54.99	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
54.79	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
54.59	0.003	26.5	0.0	3.2	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
54.40	0.003	26.5	0.0	3.2	8.8	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
54.20	0.003	26.5	0.0	3.2	8.8	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
54.00	0.003	26.5	0.0	3.2	8.8	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.69
53.80	0.003	26.5	0.0	3.2	8.8	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
53.60	0.003	26.5	0.0	3.2	8.7	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
53.40	0.003	26.5	0.0	3.2	8.7	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
53.20	0.003	26.5	0.0	3.2	8.7	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
53.00	0.003	26.5	0.0	3.3	8.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
52.80	0.003	26.5	0.0	3.3	8.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
52.60	0.003	26.5	0.0	3.3	8.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
52.40	0.003	26.5	0.0	3.3	8.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
52.20	0.003	26.5	0.0	3.3	8.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
52.00	0.003	26.5	0.0	3.3	8.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
51.80	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64

51.60	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
51.40	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
51.20	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
51.00	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
50.80	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
50.60	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
50.40	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
50.20	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
50.00	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
49.80	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
49.60	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
49.40	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
49.20	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
49.00	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
48.80	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
48.60	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
48.40	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
48.20	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
48.00	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
47.80	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
47.60	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
47.40	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
47.20	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
47.00	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
46.80	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
46.60	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
46.40	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
46.20	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
46.00	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
45.80	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
45.60	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
45.40	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
45.20	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
45.00	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
44.80	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
44.60	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
44.40	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
44.20	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
44.00	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
43.80	0.003	26.5	0.0	3.3	8.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
43.60	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
43.40	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
43.20	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
43.00	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
42.80	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
42.60	0.003	26.5	0.0	3.3	8.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
42.40	0.003	26.5	0.0	3.3	8.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
42.20	0.003	26.5	0.0	3.3	8.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
42.00	0.003	26.5	0.0	3.3	8.7	0.0	0.0	0.0	2.98	0.05	0.12	0.00	3.64
41.80	0.003	26.5	0.0	3.4	8.8	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.46
41.60	0.003	26.5	0.0	3.4	8.8	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.46

21.00	0.003	26.5	0.0	3.5	9.2	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.48
20.80	0.003	26.5	0.0	3.5	9.2	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.48
20.60	0.003	26.5	0.0	3.5	9.2	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.48
20.40	0.003	26.5	0.0	3.5	9.2	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.48
20.20	0.003	26.5	0.0	3.5	9.2	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.48
20.00	0.003	26.5	0.0	3.5	9.2	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.48
19.80	0.003	26.5	0.0	3.5	9.1	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.48
19.60	0.003	26.5	0.0	3.5	9.1	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.48
19.40	0.003	26.5	0.0	3.5	9.1	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.48
19.20	0.003	26.5	0.0	3.5	9.0	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.48
19.00	0.003	26.5	0.0	3.5	9.0	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.48
18.80	0.003	26.5	0.0	3.5	8.9	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.48
18.60	0.003	26.5	0.0	3.5	8.8	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.48
18.40	0.003	26.5	0.0	3.6	8.7	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.48
18.20	0.003	26.5	0.0	3.7	8.5	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.48
18.00	0.003	26.5	0.0	3.9	8.3	0.0	0.0	0.0	2.40	0.04	0.12	0.00	3.48
17.80	0.003	26.5	0.0	4.1	8.2	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
17.60	0.003	26.5	0.0	4.1	8.2	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
17.40	0.003	26.5	0.0	4.2	8.1	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
17.20	0.003	26.5	0.0	4.2	8.1	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
17.00	0.003	26.5	0.0	4.2	8.0	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
16.80	0.003	26.5	0.0	4.3	8.0	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
16.60	0.003	26.5	0.0	4.3	8.0	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
16.40	0.003	26.5	0.0	4.3	8.0	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
16.20	0.003	26.5	0.0	4.3	8.0	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
16.00	0.003	26.5	0.0	4.3	8.0	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
15.80	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
15.60	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
15.40	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
15.20	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
15.00	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
14.80	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
14.60	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
14.40	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
14.20	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
14.00	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
13.80	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
13.60	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
13.40	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
13.20	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
13.00	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
12.80	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
12.60	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
12.40	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
12.20	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
12.00	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
11.80	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
11.60	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
11.40	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
11.20	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
11.00	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53

10.80	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
10.60	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
10.40	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
10.20	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
10.00	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
9.80	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
9.60	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
9.40	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
9.20	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
9.00	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
8.80	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
8.60	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
8.40	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
8.20	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
8.00	0.003	26.5	0.0	4.3	7.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
7.80	0.003	26.5	0.0	4.3	7.8	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
7.60	0.003	26.5	0.0	4.3	7.8	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
7.40	0.003	26.5	0.0	4.3	7.8	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
7.20	0.003	26.5	0.0	4.3	7.8	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
7.00	0.003	26.5	0.0	4.3	7.8	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
6.80	0.003	26.5	0.0	4.3	7.8	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
6.60	0.003	26.5	0.0	4.3	7.7	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
6.40	0.003	26.5	0.0	4.3	7.7	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
6.20	0.003	26.5	0.0	4.3	7.6	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
6.00	0.003	26.5	0.0	4.3	7.6	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
5.80	0.003	26.5	0.0	4.4	7.5	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
5.60	0.003	26.5	0.0	4.4	7.4	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
5.40	0.003	26.5	0.0	4.4	7.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
5.20	0.003	26.5	0.0	4.5	7.2	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
5.00	0.003	26.5	0.0	4.7	7.0	0.0	0.0	0.0	0.90	0.05	0.12	0.00	2.53
4.80	0.003	26.5	0.0	4.8	6.8	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
4.60	0.003	26.5	0.0	4.8	6.8	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
4.40	0.003	26.5	0.0	4.9	6.7	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
4.20	0.003	26.5	0.0	4.9	6.6	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
4.00	0.003	26.5	0.0	4.9	6.6	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
3.80	0.003	26.5	0.0	5.0	6.6	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
3.60	0.003	26.5	0.0	5.0	6.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
3.40	0.003	26.5	0.0	5.0	6.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
3.20	0.003	26.5	0.0	5.0	6.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
3.00	0.003	26.5	0.0	5.0	6.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
2.80	0.003	26.5	0.0	5.0	6.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
2.60	0.003	26.5	0.0	5.0	6.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
2.40	0.003	26.5	0.0	5.0	6.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
2.20	0.003	26.5	0.0	5.0	6.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
2.00	0.003	26.5	0.0	5.0	6.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
1.80	0.003	26.5	0.0	5.0	6.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
1.60	0.003	26.5	0.0	5.0	6.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
1.40	0.003	26.5	0.0	5.0	6.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
1.20	0.003	26.5	0.0	5.0	6.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
1.00	0.003	26.5	0.0	5.0	6.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
0.80	0.003	26.5	0.0	5.0	6.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61

0.60	0.003	26.5	0.0	5.0	6.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
0.40	0.003	26.5	0.0	5.0	6.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
0.20	0.003	26.5	0.0	5.0	6.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61
0.00	0.003	26.5	0.0	5.0	6.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.61

SPECIAL REPORT: Flat Creek headwater
 HYDRAULIC PARAMETER VALUES

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	ADVCTV VELO m/s	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
1	66.47	66.27	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
2	66.27	66.07	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
3	66.07	65.88	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
4	65.88	65.68	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
5	65.68	65.48	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
6	65.48	65.28	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
7	65.28	65.08	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
8	65.08	64.89	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
9	64.89	64.69	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
10	64.69	64.49	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
11	64.49	64.29	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
12	64.29	64.09	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
13	64.09	63.90	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
14	63.90	63.70	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
15	63.70	63.50	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
16	63.50	63.30	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
17	63.30	63.11	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
18	63.11	62.91	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
19	62.91	62.71	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
20	62.71	62.51	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
21	62.51	62.31	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
22	62.31	62.12	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
23	62.12	61.92	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
24	61.92	61.72	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
25	61.72	61.52	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
26	61.52	61.32	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
27	61.32	61.13	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
28	61.13	60.93	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
29	60.93	60.73	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
30	60.73	60.53	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
31	60.53	60.33	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
32	60.33	60.14	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
33	60.14	59.94	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
34	59.94	59.74	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
35	59.74	59.54	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
36	59.54	59.34	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
37	59.34	59.15	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
38	59.15	58.95	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002

39	58.95	58.75	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
40	58.75	58.55	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
41	58.55	58.35	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
42	58.35	58.16	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
43	58.16	57.96	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
44	57.96	57.76	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
45	57.76	57.56	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
46	57.56	57.36	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
47	57.36	57.17	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
48	57.17	56.97	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
49	56.97	56.77	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
50	56.77	56.57	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
51	56.57	56.38	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
52	56.38	56.18	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
53	56.18	55.98	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
54	55.98	55.78	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
55	55.78	55.58	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
56	55.58	55.39	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
57	55.39	55.19	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
58	55.19	54.99	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
59	54.99	54.79	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
60	54.79	54.59	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
61	54.59	54.40	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
62	54.40	54.20	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
63	54.20	54.00	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
64	54.00	53.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
65	53.80	53.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
66	53.60	53.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
67	53.40	53.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
68	53.20	53.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
69	53.00	52.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
70	52.80	52.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
71	52.60	52.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
72	52.40	52.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
73	52.20	52.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
74	52.00	51.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
75	51.80	51.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
76	51.60	51.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
77	51.40	51.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
78	51.20	51.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
79	51.00	50.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
80	50.80	50.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
81	50.60	50.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
82	50.40	50.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
83	50.20	50.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
84	50.00	49.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
85	49.80	49.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
86	49.60	49.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
87	49.40	49.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
88	49.20	49.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
89	49.00	48.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002

90	48.80	48.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
91	48.60	48.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
92	48.40	48.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
93	48.20	48.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
94	48.00	47.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
95	47.80	47.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
96	47.60	47.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
97	47.40	47.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
98	47.20	47.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
99	47.00	46.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
100	46.80	46.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
101	46.60	46.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
102	46.40	46.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
103	46.20	46.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
104	46.00	45.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
105	45.80	45.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
106	45.60	45.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
107	45.40	45.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
108	45.20	45.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
109	45.00	44.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
110	44.80	44.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
111	44.60	44.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
112	44.40	44.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
113	44.20	44.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
114	44.00	43.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
115	43.80	43.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
116	43.60	43.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
117	43.40	43.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
118	43.20	43.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
119	43.00	42.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
120	42.80	42.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
121	42.60	42.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
122	42.40	42.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
123	42.20	42.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
124	42.00	41.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
125	41.80	41.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
126	41.60	41.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
127	41.40	41.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
128	41.20	41.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
129	41.00	40.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
130	40.80	40.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
131	40.60	40.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
132	40.40	40.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
133	40.20	40.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
134	40.00	39.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
135	39.80	39.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
136	39.60	39.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
137	39.40	39.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
138	39.20	39.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
139	39.00	38.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
140	38.80	38.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002

141	38.60	38.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
142	38.40	38.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
143	38.20	38.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
144	38.00	37.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
145	37.80	37.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
146	37.60	37.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
147	37.40	37.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
148	37.20	37.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
149	37.00	36.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
150	36.80	36.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
151	36.60	36.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
152	36.40	36.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
153	36.20	36.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
154	36.00	35.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
155	35.80	35.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
156	35.60	35.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
157	35.40	35.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
158	35.20	35.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
159	35.00	34.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
160	34.80	34.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
161	34.60	34.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
162	34.40	34.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
163	34.20	34.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
164	34.00	33.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
165	33.80	33.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
166	33.60	33.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
167	33.40	33.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
168	33.20	33.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
169	33.00	32.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
170	32.80	32.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
171	32.60	32.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
172	32.40	32.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
173	32.20	32.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
174	32.00	31.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
175	31.80	31.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
176	31.60	31.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
177	31.40	31.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
178	31.20	31.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
179	31.00	30.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
180	30.80	30.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
181	30.60	30.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
182	30.40	30.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
183	30.20	30.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
184	30.00	29.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
185	29.80	29.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
186	29.60	29.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
187	29.40	29.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
188	29.20	29.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
189	29.00	28.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
190	28.80	28.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
191	28.60	28.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002

192	28.40	28.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
193	28.20	28.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
194	28.00	27.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
195	27.80	27.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
196	27.60	27.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
197	27.40	27.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
198	27.20	27.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
199	27.00	26.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
200	26.80	26.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
201	26.60	26.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
202	26.40	26.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
203	26.20	26.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
204	26.00	25.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
205	25.80	25.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
206	25.60	25.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
207	25.40	25.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
208	25.20	25.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
209	25.00	24.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
210	24.80	24.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
211	24.60	24.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
212	24.40	24.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
213	24.20	24.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
214	24.00	23.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
215	23.80	23.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
216	23.60	23.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
217	23.40	23.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
218	23.20	23.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
219	23.00	22.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
220	22.80	22.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
221	22.60	22.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
222	22.40	22.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
223	22.20	22.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
224	22.00	21.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
225	21.80	21.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
226	21.60	21.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
227	21.40	21.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
228	21.20	21.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
229	21.00	20.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
230	20.80	20.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
231	20.60	20.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
232	20.40	20.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
233	20.20	20.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
234	20.00	19.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
235	19.80	19.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
236	19.60	19.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
237	19.40	19.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
238	19.20	19.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
239	19.00	18.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
240	18.80	18.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
241	18.60	18.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
242	18.40	18.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002

243	18.20	18.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
244	18.00	17.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
245	17.80	17.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
246	17.60	17.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
247	17.40	17.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
248	17.20	17.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
249	17.00	16.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
250	16.80	16.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
251	16.60	16.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
252	16.40	16.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
253	16.20	16.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
254	16.00	15.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
255	15.80	15.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
256	15.60	15.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
257	15.40	15.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
258	15.20	15.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
259	15.00	14.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
260	14.80	14.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
261	14.60	14.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
262	14.40	14.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
263	14.20	14.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
264	14.00	13.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
265	13.80	13.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
266	13.60	13.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
267	13.40	13.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
268	13.20	13.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
269	13.00	12.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
270	12.80	12.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
271	12.60	12.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
272	12.40	12.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
273	12.20	12.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
274	12.00	11.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
275	11.80	11.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
276	11.60	11.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
277	11.40	11.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
278	11.20	11.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
279	11.00	10.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
280	10.80	10.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
281	10.60	10.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
282	10.40	10.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
283	10.20	10.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
284	10.00	9.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
285	9.80	9.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
286	9.60	9.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
287	9.40	9.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
288	9.20	9.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
289	9.00	8.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
290	8.80	8.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
291	8.60	8.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
292	8.40	8.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
293	8.20	8.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000

294	8.00	7.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
295	7.80	7.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
296	7.60	7.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
297	7.40	7.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
298	7.20	7.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
299	7.00	6.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
300	6.80	6.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
301	6.60	6.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
302	6.40	6.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
303	6.20	6.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
304	6.00	5.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
305	5.80	5.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
306	5.60	5.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
307	5.40	5.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
308	5.20	5.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
309	5.00	4.80	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
310	4.80	4.60	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
311	4.60	4.40	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
312	4.40	4.20	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
313	4.20	4.00	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
314	4.00	3.80	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
315	3.80	3.60	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
316	3.60	3.40	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
317	3.40	3.20	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
318	3.20	3.00	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
319	3.00	2.80	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
320	2.80	2.60	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
321	2.60	2.40	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
322	2.40	2.20	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
323	2.20	2.00	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
324	2.00	1.80	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
325	1.80	1.60	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
326	1.60	1.40	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
327	1.40	1.20	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
328	1.20	1.00	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
329	1.00	0.80	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
330	0.80	0.60	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
331	0.60	0.40	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
332	0.40	0.20	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
333	0.20	0.00	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000

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FINAL REPORT Flat Creek headwater FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 REACH NO. 1 FLAT CREEK RK 66.47-54.0 3.0 DO, JUN-OCT, 60% REDUCTION REQUIRED

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
1	HDWTR	0.0028	26.50	0.00	5.1	0.0	3.00	15.66	15.66	0.00	0.00	0.00	0.00	0.0	0.	3.79

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
1	66.47	66.27	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
2	66.27	66.07	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
3	66.07	65.88	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
4	65.88	65.68	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
5	65.68	65.48	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
6	65.48	65.28	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
7	65.28	65.08	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
8	65.08	64.89	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
9	64.89	64.69	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
10	64.69	64.49	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
11	64.49	64.29	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
12	64.29	64.09	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
13	64.09	63.90	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
14	63.90	63.70	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
15	63.70	63.50	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
16	63.50	63.30	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
17	63.30	63.11	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
18	63.11	62.91	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
19	62.91	62.71	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
20	62.71	62.51	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
21	62.51	62.31	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
22	62.31	62.12	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
23	62.12	61.92	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
24	61.92	61.72	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
25	61.72	61.52	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
26	61.52	61.32	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
27	61.32	61.13	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
28	61.13	60.93	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
29	60.93	60.73	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
30	60.73	60.53	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
31	60.53	60.33	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
32	60.33	60.14	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
33	60.14	59.94	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
34	59.94	59.74	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
35	59.74	59.54	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
36	59.54	59.34	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
37	59.34	59.15	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
38	59.15	58.95	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
39	58.95	58.75	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
40	58.75	58.55	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
41	58.55	58.35	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
42	58.35	58.16	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
43	58.16	57.96	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002

44	57.96	57.76	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
45	57.76	57.56	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
46	57.56	57.36	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
47	57.36	57.17	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
48	57.17	56.97	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
49	56.97	56.77	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
50	56.77	56.57	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
51	56.57	56.38	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
52	56.38	56.18	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
53	56.18	55.98	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
54	55.98	55.78	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
55	55.78	55.58	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
56	55.58	55.39	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
57	55.39	55.19	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
58	55.19	54.99	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
59	54.99	54.79	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
60	54.79	54.59	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
61	54.59	54.40	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
62	54.40	54.20	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
63	54.20	54.00	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
TOT							62.71			15170.	57131.7				
AVG						0.002		0.27	4.6				1.2		
CUM							62.71								

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
1	66.272	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
2	66.074	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
3	65.876	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
4	65.678	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
5	65.480	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
6	65.282	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
7	65.084	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
8	64.887	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
9	64.689	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
10	64.491	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
11	64.293	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
12	64.095	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
13	63.897	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
14	63.699	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
15	63.501	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
16	63.303	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
17	63.105	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
18	62.907	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
19	62.709	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06

20	62.511	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
21	62.313	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
22	62.115	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
23	61.917	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
24	61.720	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
25	61.522	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
26	61.324	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
27	61.126	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
28	60.928	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
29	60.730	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
30	60.532	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
31	60.334	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
32	60.136	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
33	59.938	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
34	59.740	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
35	59.542	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
36	59.344	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
37	59.146	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
38	58.948	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
39	58.750	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
40	58.553	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
41	58.355	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
42	58.157	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
43	57.959	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
44	57.761	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
45	57.563	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
46	57.365	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
47	57.167	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
48	56.969	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
49	56.771	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
50	56.573	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
51	56.375	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
52	56.177	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
53	55.979	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
54	55.781	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
55	55.583	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
56	55.386	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
57	55.188	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
58	54.990	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
59	54.792	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
60	54.594	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
61	54.396	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
62	54.198	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
63	54.000	8.04	2.98	0.05	0.12	0.00	3.69	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06

20 DEG C RATE			0.04		0.00		2.45	0.00		0.00	0.00	0.00	0.00			0.00	3.15			
AVG 20 DEG C RATE		2.64		0.10					0.00											0.05

* g/sq m/d

** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
1	66.272	26.50	0.0	5.1	0.0	3.08	13.05	13.05	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.15
2	66.074	26.50	0.0	5.1	0.0	3.09	12.61	12.61	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.04
3	65.876	26.50	0.0	5.1	0.0	3.10	12.23	12.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.94
4	65.678	26.50	0.0	5.1	0.0	3.11	11.88	11.88	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.84
5	65.480	26.50	0.0	5.1	0.0	3.12	11.57	11.57	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.76
6	65.282	26.50	0.0	5.1	0.0	3.12	11.29	11.29	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.68
7	65.084	26.50	0.0	5.1	0.0	3.13	11.04	11.04	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.60
8	64.887	26.50	0.0	5.1	0.0	3.13	10.81	10.81	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.54
9	64.689	26.50	0.0	5.1	0.0	3.14	10.61	10.61	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.47
10	64.491	26.50	0.0	5.1	0.0	3.14	10.43	10.43	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.42
11	64.293	26.50	0.0	5.1	0.0	3.15	10.27	10.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.36
12	64.095	26.50	0.0	5.1	0.0	3.15	10.13	10.13	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.31
13	63.897	26.50	0.0	5.1	0.0	3.15	10.00	10.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.27
14	63.699	26.50	0.0	5.1	0.0	3.16	9.88	9.88	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.23
15	63.501	26.50	0.0	5.1	0.0	3.16	9.78	9.78	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.19
16	63.303	26.50	0.0	5.1	0.0	3.16	9.69	9.69	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.15
17	63.105	26.50	0.0	5.1	0.0	3.17	9.60	9.60	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.12
18	62.907	26.50	0.0	5.1	0.0	3.17	9.53	9.53	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.09
19	62.709	26.50	0.0	5.1	0.0	3.17	9.46	9.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.06
20	62.511	26.50	0.0	5.1	0.0	3.17	9.40	9.40	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.04
21	62.313	26.50	0.0	5.1	0.0	3.17	9.35	9.35	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.01
22	62.115	26.50	0.0	5.1	0.0	3.17	9.30	9.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.99
23	61.917	26.50	0.0	5.1	0.0	3.17	9.26	9.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.97
24	61.720	26.50	0.0	5.1	0.0	3.18	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.95
25	61.522	26.50	0.0	5.1	0.0	3.18	9.18	9.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.94
26	61.324	26.50	0.0	5.1	0.0	3.18	9.15	9.15	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.92
27	61.126	26.50	0.0	5.1	0.0	3.18	9.13	9.13	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.91
28	60.928	26.50	0.0	5.1	0.0	3.18	9.10	9.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.89
29	60.730	26.50	0.0	5.1	0.0	3.18	9.08	9.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.88
30	60.532	26.50	0.0	5.1	0.0	3.18	9.06	9.06	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.87
31	60.334	26.50	0.0	5.1	0.0	3.18	9.04	9.04	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.86
32	60.136	26.50	0.0	5.1	0.0	3.18	9.02	9.02	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.85
33	59.938	26.50	0.0	5.1	0.0	3.18	9.01	9.01	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.84
34	59.740	26.50	0.0	5.1	0.0	3.18	9.00	9.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.83
35	59.542	26.50	0.0	5.1	0.0	3.18	8.99	8.99	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.82
36	59.344	26.50	0.0	5.1	0.0	3.18	8.98	8.98	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.82
37	59.146	26.50	0.0	5.1	0.0	3.18	8.97	8.97	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.81
38	58.948	26.50	0.0	5.1	0.0	3.18	8.96	8.96	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.81
39	58.750	26.50	0.0	5.1	0.0	3.18	8.95	8.95	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.80
40	58.553	26.50	0.0	5.1	0.0	3.18	8.94	8.94	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.79
41	58.355	26.50	0.0	5.1	0.0	3.18	8.94	8.94	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.79
42	58.157	26.50	0.0	5.1	0.0	3.18	8.93	8.93	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.79
43	57.959	26.50	0.0	5.1	0.0	3.18	8.93	8.93	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.78
44	57.761	26.50	0.0	5.1	0.0	3.18	8.92	8.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.78
45	57.563	26.50	0.0	5.1	0.0	3.18	8.92	8.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.77
46	57.365	26.50	0.0	5.1	0.0	3.19	8.92	8.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.77

75	51.80	51.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
76	51.60	51.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
77	51.40	51.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
78	51.20	51.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
79	51.00	50.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
80	50.80	50.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
81	50.60	50.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
82	50.40	50.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
83	50.20	50.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
84	50.00	49.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
85	49.80	49.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
86	49.60	49.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
87	49.40	49.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
88	49.20	49.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
89	49.00	48.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
90	48.80	48.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
91	48.60	48.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
92	48.40	48.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
93	48.20	48.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
94	48.00	47.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
95	47.80	47.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
96	47.60	47.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
97	47.40	47.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
98	47.20	47.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
99	47.00	46.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
100	46.80	46.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
101	46.60	46.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
102	46.40	46.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
103	46.20	46.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
104	46.00	45.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
105	45.80	45.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
106	45.60	45.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
107	45.40	45.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
108	45.20	45.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
109	45.00	44.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
110	44.80	44.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
111	44.60	44.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
112	44.40	44.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
113	44.20	44.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
114	44.00	43.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
115	43.80	43.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
116	43.60	43.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
117	43.40	43.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
118	43.20	43.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
119	43.00	42.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
120	42.80	42.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
121	42.60	42.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
122	42.40	42.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
123	42.20	42.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
TOT						60.34			14598.	54978.3					

AVG 0.002 0.27 4.6 1.2
 CUM 123.05

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECA 1/da	CBOD SETT 1/da	ANBOD DECA 1/da	FULL SOD *	CORR SOD *	ORGN DECA 1/da	ORGN SETT 1/da	NH3 DECA 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECA 1/da	NCM DECA 1/da	NCM SETT 1/da
64	53.800	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
65	53.600	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
66	53.400	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
67	53.200	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
68	53.000	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
69	52.800	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
70	52.600	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
71	52.400	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
72	52.200	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
73	52.000	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
74	51.800	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
75	51.600	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
76	51.400	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
77	51.200	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
78	51.000	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
79	50.800	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
80	50.600	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
81	50.400	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
82	50.200	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
83	50.000	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
84	49.800	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
85	49.600	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
86	49.400	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
87	49.200	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
88	49.000	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
89	48.800	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
90	48.600	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
91	48.400	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
92	48.200	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
93	48.000	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
94	47.800	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
95	47.600	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
96	47.400	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
97	47.200	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
98	47.000	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
99	46.800	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
100	46.600	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
101	46.400	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
102	46.200	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
103	46.000	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
104	45.800	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06

105	45.600	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
106	45.400	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
107	45.200	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
108	45.000	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
109	44.800	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
110	44.600	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
111	44.400	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
112	44.200	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
113	44.000	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
114	43.800	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
115	43.600	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
116	43.400	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
117	43.200	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
118	43.000	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
119	42.800	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
120	42.600	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
121	42.400	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
122	42.200	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
123	42.000	8.04	2.98	0.05	0.12	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06

20 DEG C RATE				0.04		0.00		2.42	0.00		0.00	0.00	0.00	0.00			0.00	3.04	
AVG 20 DEG C RATE			2.64		0.10					0.00									0.05

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
64	53.800	26.50	0.0	5.1	0.0	3.23	8.75	8.75	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.61
65	53.600	26.50	0.0	5.1	0.0	3.24	8.72	8.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.58
66	53.400	26.50	0.0	5.1	0.0	3.24	8.69	8.69	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.55
67	53.200	26.50	0.0	5.1	0.0	3.25	8.66	8.66	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.52
68	53.000	26.50	0.0	5.1	0.0	3.25	8.64	8.64	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.49
69	52.800	26.50	0.0	5.1	0.0	3.25	8.62	8.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.47
70	52.600	26.50	0.0	5.1	0.0	3.25	8.60	8.60	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.45
71	52.400	26.50	0.0	5.1	0.0	3.25	8.58	8.58	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.43
72	52.200	26.50	0.0	5.1	0.0	3.25	8.57	8.57	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
73	52.000	26.50	0.0	5.1	0.0	3.26	8.55	8.55	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.40
74	51.800	26.50	0.0	5.1	0.0	3.26	8.54	8.54	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.38
75	51.600	26.50	0.0	5.1	0.0	3.26	8.53	8.53	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.37
76	51.400	26.50	0.0	5.1	0.0	3.26	8.52	8.52	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.35
77	51.200	26.50	0.0	5.1	0.0	3.26	8.51	8.51	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.34
78	51.000	26.50	0.0	5.1	0.0	3.26	8.50	8.50	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.33
79	50.800	26.50	0.0	5.1	0.0	3.26	8.49	8.49	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.32
80	50.600	26.50	0.0	5.1	0.0	3.26	8.49	8.49	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.31
81	50.400	26.50	0.0	5.1	0.0	3.26	8.48	8.48	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
82	50.200	26.50	0.0	5.1	0.0	3.26	8.48	8.48	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.29
83	50.000	26.50	0.0	5.1	0.0	3.26	8.47	8.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.29

84	49.800	26.50	0.0	5.1	0.0	3.26	8.47	8.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
85	49.600	26.50	0.0	5.1	0.0	3.26	8.46	8.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
86	49.400	26.50	0.0	5.1	0.0	3.26	8.46	8.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
87	49.200	26.50	0.0	5.1	0.0	3.26	8.46	8.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.26
88	49.000	26.50	0.0	5.1	0.0	3.26	8.46	8.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.26
89	48.800	26.50	0.0	5.1	0.0	3.26	8.45	8.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.25
90	48.600	26.50	0.0	5.1	0.0	3.26	8.45	8.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.25
91	48.400	26.50	0.0	5.1	0.0	3.26	8.45	8.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.25
92	48.200	26.50	0.0	5.1	0.0	3.26	8.45	8.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.24
93	48.000	26.50	0.0	5.1	0.0	3.26	8.45	8.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.24
94	47.800	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.24
95	47.600	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.23
96	47.400	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.23
97	47.200	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.23
98	47.000	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.23
99	46.800	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.23
100	46.600	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
101	46.400	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
102	46.200	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
103	46.000	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
104	45.800	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
105	45.600	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
106	45.400	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
107	45.200	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
108	45.000	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
109	44.800	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
110	44.600	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
111	44.400	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
112	44.200	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
113	44.000	26.50	0.0	5.1	0.0	3.26	8.44	8.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
114	43.800	26.50	0.0	5.1	0.0	3.26	8.45	8.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
115	43.600	26.50	0.0	5.1	0.0	3.26	8.45	8.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
116	43.400	26.50	0.0	5.1	0.0	3.26	8.46	8.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
117	43.200	26.50	0.0	5.1	0.0	3.26	8.47	8.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
118	43.000	26.50	0.0	5.1	0.0	3.26	8.48	8.48	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
119	42.800	26.50	0.0	5.1	0.0	3.26	8.50	8.50	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
120	42.600	26.50	0.0	5.1	0.0	3.27	8.53	8.53	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
121	42.400	26.50	0.0	5.1	0.0	3.27	8.56	8.56	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.18
122	42.200	26.50	0.0	5.1	0.0	3.29	8.61	8.61	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.17
123	42.000	26.50	0.0	5.1	0.0	3.33	8.68	8.68	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.16

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

** g/cu m

1

FINAL REPORT Flat Creek headwater
 REACH NO. 3 FLAT CREEK RK 42.0-30.0

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 3.0 DO, JUN-OCT, 60% REDUCTION REQUIRED

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
124	UPR RCH	0.0028	26.50	0.00	5.1	0.0	3.33	8.68	8.68	0.00	0.00	0.00	0.00	0.0	0.	1.16

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
124	42.00	41.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
125	41.80	41.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
126	41.60	41.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
127	41.40	41.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
128	41.20	41.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
129	41.00	40.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
130	40.80	40.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
131	40.60	40.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
132	40.40	40.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
133	40.20	40.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
134	40.00	39.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
135	39.80	39.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
136	39.60	39.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
137	39.40	39.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
138	39.20	39.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
139	39.00	38.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
140	38.80	38.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
141	38.60	38.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
142	38.40	38.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
143	38.20	38.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
144	38.00	37.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
145	37.80	37.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
146	37.60	37.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
147	37.40	37.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
148	37.20	37.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
149	37.00	36.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
150	36.80	36.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
151	36.60	36.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
152	36.40	36.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
153	36.20	36.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
154	36.00	35.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
155	35.80	35.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
156	35.60	35.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
157	35.40	35.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
158	35.20	35.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
159	35.00	34.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
160	34.80	34.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
161	34.60	34.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
162	34.40	34.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002

163	34.20	34.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
164	34.00	33.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
165	33.80	33.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
166	33.60	33.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
167	33.40	33.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
168	33.20	33.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
169	33.00	32.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
170	32.80	32.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
171	32.60	32.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
172	32.40	32.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
173	32.20	32.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
174	32.00	31.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
175	31.80	31.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
176	31.60	31.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
177	31.40	31.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
178	31.20	31.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
179	31.00	30.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
180	30.80	30.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
181	30.60	30.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
182	30.40	30.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
183	30.20	30.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
TOT						91.33			22095.	67050.3					
AVG					0.002		0.33	5.6			1.8				
CUM						214.38									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
124	41.800	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
125	41.600	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
126	41.400	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
127	41.200	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
128	41.000	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
129	40.800	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
130	40.600	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
131	40.400	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
132	40.200	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
133	40.000	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
134	39.800	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
135	39.600	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
136	39.400	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
137	39.200	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
138	39.000	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
139	38.800	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
140	38.600	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
141	38.400	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06

142	38.200	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
143	38.000	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
144	37.800	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
145	37.600	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
146	37.400	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
147	37.200	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
148	37.000	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
149	36.800	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
150	36.600	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
151	36.400	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
152	36.200	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
153	36.000	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
154	35.800	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
155	35.600	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
156	35.400	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
157	35.200	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
158	35.000	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
159	34.800	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
160	34.600	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
161	34.400	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
162	34.200	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
163	34.000	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
164	33.800	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
165	33.600	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
166	33.400	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
167	33.200	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
168	33.000	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
169	32.800	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
170	32.600	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
171	32.400	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
172	32.200	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
173	32.000	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
174	31.800	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
175	31.600	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
176	31.400	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
177	31.200	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
178	31.000	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
179	30.800	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
180	30.600	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
181	30.400	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
182	30.200	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
183	30.000	8.04	2.40	0.04	0.12	0.00	3.46	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06

20 DEG C RATE				0.03		0.00		2.30	0.00		0.00	0.00	0.00	0.00		0.00	2.94		
AVG 20 DEG C RATE			2.12		0.10					0.00									0.05

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
124	41.800	26.50	0.0	5.1	0.0	3.41	8.75	8.75	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.15
125	41.600	26.50	0.0	5.1	0.0	3.44	8.81	8.81	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.14
126	41.400	26.50	0.0	5.1	0.0	3.46	8.86	8.86	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.13
127	41.200	26.50	0.0	5.1	0.0	3.47	8.90	8.90	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.12
128	41.000	26.50	0.0	5.1	0.0	3.48	8.94	8.94	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.12
129	40.800	26.50	0.0	5.1	0.0	3.48	8.97	8.97	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.11
130	40.600	26.50	0.0	5.1	0.0	3.48	9.00	9.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.11
131	40.400	26.50	0.0	5.1	0.0	3.48	9.03	9.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.10
132	40.200	26.50	0.0	5.1	0.0	3.48	9.05	9.05	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.10
133	40.000	26.50	0.0	5.1	0.0	3.48	9.07	9.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.09
134	39.800	26.50	0.0	5.1	0.0	3.48	9.09	9.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.09
135	39.600	26.50	0.0	5.1	0.0	3.48	9.10	9.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.09
136	39.400	26.50	0.0	5.1	0.0	3.48	9.12	9.12	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.09
137	39.200	26.50	0.0	5.1	0.0	3.48	9.13	9.13	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.08
138	39.000	26.50	0.0	5.1	0.0	3.48	9.14	9.14	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.08
139	38.800	26.50	0.0	5.1	0.0	3.48	9.15	9.15	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.08
140	38.600	26.50	0.0	5.1	0.0	3.48	9.16	9.16	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.08
141	38.400	26.50	0.0	5.1	0.0	3.48	9.16	9.16	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.08
142	38.200	26.50	0.0	5.1	0.0	3.48	9.17	9.17	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.07
143	38.000	26.50	0.0	5.1	0.0	3.48	9.18	9.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.07
144	37.800	26.50	0.0	5.1	0.0	3.48	9.18	9.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.07
145	37.600	26.50	0.0	5.1	0.0	3.48	9.19	9.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.07
146	37.400	26.50	0.0	5.1	0.0	3.48	9.19	9.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.07
147	37.200	26.50	0.0	5.1	0.0	3.48	9.19	9.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.07
148	37.000	26.50	0.0	5.1	0.0	3.48	9.20	9.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.07
149	36.800	26.50	0.0	5.1	0.0	3.48	9.20	9.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.07
150	36.600	26.50	0.0	5.1	0.0	3.48	9.20	9.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.07
151	36.400	26.50	0.0	5.1	0.0	3.48	9.20	9.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.07
152	36.200	26.50	0.0	5.1	0.0	3.48	9.21	9.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.07
153	36.000	26.50	0.0	5.1	0.0	3.48	9.21	9.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.07
154	35.800	26.50	0.0	5.1	0.0	3.48	9.21	9.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
155	35.600	26.50	0.0	5.1	0.0	3.48	9.21	9.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
156	35.400	26.50	0.0	5.1	0.0	3.48	9.21	9.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
157	35.200	26.50	0.0	5.1	0.0	3.48	9.21	9.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
158	35.000	26.50	0.0	5.1	0.0	3.48	9.21	9.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
159	34.800	26.50	0.0	5.1	0.0	3.48	9.21	9.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
160	34.600	26.50	0.0	5.1	0.0	3.48	9.21	9.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
161	34.400	26.50	0.0	5.1	0.0	3.48	9.21	9.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
162	34.200	26.50	0.0	5.1	0.0	3.48	9.21	9.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
163	34.000	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
164	33.800	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
165	33.600	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
166	33.400	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
167	33.200	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
168	33.000	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
169	32.800	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
170	32.600	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
171	32.400	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06

172	32.200	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.06
173	32.000	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.05
174	31.800	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.05
175	31.600	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.05
176	31.400	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.05
177	31.200	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.04
178	31.000	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.04
179	30.800	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.03
180	30.600	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.02
181	30.400	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.00
182	30.200	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.99
183	30.000	26.50	0.0	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.97

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

** g/cu m

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FINAL REPORT Flat Creek headwater FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 REACH NO. 4 FLAT CREEK RK 30.0-18.0 3.0 DO, JUN-OCT, 60% REDUCTION REQUIRED

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
184	UPR RCH	0.0028	26.50	0.00	5.1	0.0	3.48	9.22	9.22	0.00	0.00	0.00	0.00	0.0	0.	0.97

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
184	30.00	29.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
185	29.80	29.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
186	29.60	29.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
187	29.40	29.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
188	29.20	29.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
189	29.00	28.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
190	28.80	28.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
191	28.60	28.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
192	28.40	28.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
193	28.20	28.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
194	28.00	27.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
195	27.80	27.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
196	27.60	27.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
197	27.40	27.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
198	27.20	27.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
199	27.00	26.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002

200	26.80	26.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
201	26.60	26.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
202	26.40	26.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
203	26.20	26.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
204	26.00	25.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
205	25.80	25.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
206	25.60	25.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
207	25.40	25.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
208	25.20	25.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
209	25.00	24.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
210	24.80	24.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
211	24.60	24.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
212	24.40	24.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
213	24.20	24.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
214	24.00	23.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
215	23.80	23.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
216	23.60	23.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
217	23.40	23.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
218	23.20	23.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
219	23.00	22.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
220	22.80	22.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
221	22.60	22.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
222	22.40	22.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
223	22.20	22.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
224	22.00	21.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
225	21.80	21.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
226	21.60	21.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
227	21.40	21.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
228	21.20	21.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
229	21.00	20.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
230	20.80	20.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
231	20.60	20.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
232	20.40	20.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
233	20.20	20.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
234	20.00	19.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
235	19.80	19.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
236	19.60	19.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
237	19.40	19.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
238	19.20	19.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
239	19.00	18.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
240	18.80	18.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
241	18.60	18.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
242	18.40	18.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
243	18.20	18.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
TOT						91.33			22095.	67050.3					
AVG				0.002			0.33	5.6			1.8				
CUM						305.71									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D. O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
184	29.800	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
185	29.600	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
186	29.400	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
187	29.200	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
188	29.000	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
189	28.800	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
190	28.600	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
191	28.400	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
192	28.200	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
193	28.000	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
194	27.800	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
195	27.600	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
196	27.400	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
197	27.200	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
198	27.000	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
199	26.800	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
200	26.600	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
201	26.400	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
202	26.200	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
203	26.000	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
204	25.800	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
205	25.600	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
206	25.400	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
207	25.200	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
208	25.000	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
209	24.800	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
210	24.600	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
211	24.400	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
212	24.200	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
213	24.000	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
214	23.800	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
215	23.600	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
216	23.400	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
217	23.200	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
218	23.000	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
219	22.800	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
220	22.600	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
221	22.400	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
222	22.200	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
223	22.000	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
224	21.800	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
225	21.600	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
226	21.400	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
227	21.200	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
228	21.000	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
229	20.800	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06

230	20.600	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
231	20.400	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
232	20.200	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
233	20.000	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
234	19.800	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
235	19.600	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
236	19.400	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
237	19.200	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
238	19.000	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
239	18.800	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
240	18.600	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
241	18.400	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
242	18.200	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
243	18.000	8.04	2.40	0.04	0.12	0.00	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
20 DEG C RATE					0.03		0.00		2.31	0.00		0.00	0.00	0.00	0.00		0.00	2.84	
AVG 20 DEG C RATE				2.12		0.10					0.00								0.05

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
184	29.800	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.94
185	29.600	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.92
186	29.400	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.89
187	29.200	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.88
188	29.000	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.86
189	28.800	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.84
190	28.600	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.83
191	28.400	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
192	28.200	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.80
193	28.000	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.79
194	27.800	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.79
195	27.600	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.78
196	27.400	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.77
197	27.200	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.76
198	27.000	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.76
199	26.800	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.75
200	26.600	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.75
201	26.400	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.74
202	26.200	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.74
203	26.000	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.74
204	25.800	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.73
205	25.600	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.73
206	25.400	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.73
207	25.200	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.73
208	25.000	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.72

209	24.800	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.72
210	24.600	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.72
211	24.400	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.72
212	24.200	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.72
213	24.000	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.72
214	23.800	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.72
215	23.600	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.72
216	23.400	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
217	23.200	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
218	23.000	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
219	22.800	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
220	22.600	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
221	22.400	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
222	22.200	26.50	0.0	5.1	0.0	3.47	9.22	9.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
223	22.000	26.50	0.0	5.1	0.0	3.47	9.21	9.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
224	21.800	26.50	0.0	5.1	0.0	3.47	9.21	9.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
225	21.600	26.50	0.0	5.1	0.0	3.47	9.21	9.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
226	21.400	26.50	0.0	5.1	0.0	3.47	9.21	9.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
227	21.200	26.50	0.0	5.1	0.0	3.47	9.21	9.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
228	21.000	26.50	0.0	5.1	0.0	3.47	9.20	9.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
229	20.800	26.50	0.0	5.1	0.0	3.47	9.20	9.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
230	20.600	26.50	0.0	5.1	0.0	3.47	9.19	9.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
231	20.400	26.50	0.0	5.1	0.0	3.47	9.18	9.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
232	20.200	26.50	0.0	5.1	0.0	3.47	9.17	9.17	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.71
233	20.000	26.50	0.0	5.1	0.0	3.47	9.16	9.16	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.72
234	19.800	26.50	0.0	5.1	0.0	3.47	9.14	9.14	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.72
235	19.600	26.50	0.0	5.1	0.0	3.47	9.11	9.11	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.72
236	19.400	26.50	0.0	5.1	0.0	3.47	9.08	9.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.72
237	19.200	26.50	0.0	5.1	0.0	3.48	9.04	9.04	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.73
238	19.000	26.50	0.0	5.1	0.0	3.48	8.98	8.98	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.73
239	18.800	26.50	0.0	5.1	0.0	3.49	8.91	8.91	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.74
240	18.600	26.50	0.0	5.1	0.0	3.52	8.81	8.81	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.74
241	18.400	26.50	0.0	5.1	0.0	3.56	8.68	8.68	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.75
242	18.200	26.50	0.0	5.1	0.0	3.67	8.52	8.52	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.77
243	18.000	26.50	0.0	5.1	0.0	3.90	8.30	8.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.78

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

** g/cu m

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FINAL REPORT Flat Creek headwater
 REACH NO. 5 FLAT CREEK RK 18.0-5.0

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 3.0 DO, JUN-OCT, 60% REDUCTION REQUIRED

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
244	UPR RCH	0.0028	26.50	0.00	5.1	0.0	3.90	8.30	8.30	0.00	0.00	0.00	0.00	0.0	0.	0.78

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
244	18.00	17.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
245	17.80	17.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
246	17.60	17.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
247	17.40	17.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
248	17.20	17.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
249	17.00	16.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
250	16.80	16.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
251	16.60	16.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
252	16.40	16.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
253	16.20	16.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
254	16.00	15.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
255	15.80	15.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
256	15.60	15.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
257	15.40	15.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
258	15.20	15.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
259	15.00	14.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
260	14.80	14.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
261	14.60	14.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
262	14.40	14.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
263	14.20	14.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
264	14.00	13.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
265	13.80	13.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
266	13.60	13.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
267	13.40	13.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
268	13.20	13.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
269	13.00	12.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
270	12.80	12.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
271	12.60	12.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
272	12.40	12.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
273	12.20	12.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
274	12.00	11.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
275	11.80	11.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
276	11.60	11.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
277	11.40	11.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
278	11.20	11.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
279	11.00	10.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
280	10.80	10.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
281	10.60	10.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
282	10.40	10.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
283	10.20	10.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
284	10.00	9.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
285	9.80	9.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
286	9.60	9.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
287	9.40	9.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000

288	9.20	9.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
289	9.00	8.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
290	8.80	8.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
291	8.60	8.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
292	8.40	8.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
293	8.20	8.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
294	8.00	7.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
295	7.80	7.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
296	7.60	7.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
297	7.40	7.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
298	7.20	7.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
299	7.00	6.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
300	6.80	6.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
301	6.60	6.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
302	6.40	6.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
303	6.20	6.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
304	6.00	5.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
305	5.80	5.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
306	5.60	5.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
307	5.40	5.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
308	5.20	5.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
TOT						454.51			109954.	125157.9					
AVG				0.000			0.88	9.6			8.5				
CUM						760.22									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
244	17.800	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
245	17.600	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
246	17.400	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
247	17.200	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
248	17.000	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
249	16.800	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
250	16.600	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
251	16.400	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
252	16.200	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
253	16.000	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
254	15.800	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
255	15.600	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
256	15.400	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
257	15.200	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
258	15.000	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
259	14.800	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
260	14.600	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
261	14.400	8.04	0.90	0.05	0.12	0.00	2.53	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
244	17.800	26.50	0.0	5.1	0.0	4.07	8.20	8.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.79
245	17.600	26.50	0.0	5.1	0.0	4.14	8.15	8.15	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.80
246	17.400	26.50	0.0	5.1	0.0	4.19	8.11	8.11	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.80
247	17.200	26.50	0.0	5.1	0.0	4.22	8.07	8.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.80
248	17.000	26.50	0.0	5.1	0.0	4.24	8.04	8.04	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.80
249	16.800	26.50	0.0	5.1	0.0	4.25	8.02	8.02	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.81
250	16.600	26.50	0.0	5.1	0.0	4.26	8.00	8.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.81
251	16.400	26.50	0.0	5.1	0.0	4.27	7.98	7.98	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.81
252	16.200	26.50	0.0	5.1	0.0	4.27	7.96	7.96	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.81
253	16.000	26.50	0.0	5.1	0.0	4.28	7.95	7.95	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.81
254	15.800	26.50	0.0	5.1	0.0	4.28	7.94	7.94	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.81
255	15.600	26.50	0.0	5.1	0.0	4.28	7.93	7.93	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.81
256	15.400	26.50	0.0	5.1	0.0	4.28	7.93	7.93	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.81
257	15.200	26.50	0.0	5.1	0.0	4.28	7.92	7.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
258	15.000	26.50	0.0	5.1	0.0	4.28	7.92	7.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
259	14.800	26.50	0.0	5.1	0.0	4.28	7.91	7.91	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
260	14.600	26.50	0.0	5.1	0.0	4.28	7.91	7.91	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
261	14.400	26.50	0.0	5.1	0.0	4.28	7.91	7.91	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
262	14.200	26.50	0.0	5.1	0.0	4.28	7.90	7.90	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
263	14.000	26.50	0.0	5.1	0.0	4.28	7.90	7.90	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
264	13.800	26.50	0.0	5.1	0.0	4.28	7.90	7.90	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
265	13.600	26.50	0.0	5.1	0.0	4.28	7.90	7.90	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
266	13.400	26.50	0.0	5.1	0.0	4.28	7.90	7.90	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
267	13.200	26.50	0.0	5.1	0.0	4.28	7.90	7.90	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
268	13.000	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
269	12.800	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
270	12.600	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
271	12.400	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
272	12.200	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
273	12.000	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
274	11.800	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
275	11.600	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
276	11.400	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
277	11.200	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
278	11.000	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
279	10.800	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
280	10.600	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
281	10.400	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
282	10.200	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
283	10.000	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
284	9.800	26.50	0.0	5.1	0.0	4.28	7.89	7.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
285	9.600	26.50	0.0	5.1	0.0	4.28	7.88	7.88	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
286	9.400	26.50	0.0	5.1	0.0	4.28	7.88	7.88	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82

287	9.200	26.50	0.0	5.1	0.0	4.28	7.88	7.88	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
288	9.000	26.50	0.0	5.1	0.0	4.28	7.88	7.88	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
289	8.800	26.50	0.0	5.1	0.0	4.28	7.88	7.88	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
290	8.600	26.50	0.0	5.1	0.0	4.28	7.87	7.87	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
291	8.400	26.50	0.0	5.1	0.0	4.29	7.87	7.87	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
292	8.200	26.50	0.0	5.1	0.0	4.29	7.86	7.86	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
293	8.000	26.50	0.0	5.1	0.0	4.29	7.85	7.85	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
294	7.800	26.50	0.0	5.1	0.0	4.29	7.84	7.84	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
295	7.600	26.50	0.0	5.1	0.0	4.29	7.83	7.83	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
296	7.400	26.50	0.0	5.1	0.0	4.29	7.82	7.82	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.82
297	7.200	26.50	0.0	5.1	0.0	4.29	7.80	7.80	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.83
298	7.000	26.50	0.0	5.1	0.0	4.29	7.78	7.78	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.83
299	6.800	26.50	0.0	5.1	0.0	4.30	7.76	7.76	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.83
300	6.600	26.50	0.0	5.1	0.0	4.30	7.73	7.73	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.83
301	6.400	26.50	0.0	5.1	0.0	4.31	7.69	7.69	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.84
302	6.200	26.50	0.0	5.1	0.0	4.32	7.64	7.64	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.84
303	6.000	26.50	0.0	5.1	0.0	4.33	7.58	7.58	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.85
304	5.800	26.50	0.0	5.1	0.0	4.36	7.50	7.50	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.85
305	5.600	26.50	0.0	5.1	0.0	4.39	7.41	7.41	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.86
306	5.400	26.50	0.0	5.1	0.0	4.44	7.29	7.29	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.87
307	5.200	26.50	0.0	5.1	0.0	4.53	7.15	7.15	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.89
308	5.000	26.50	0.0	5.1	0.0	4.65	6.98	6.98	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.90

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

** g/cu m

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FINAL REPORT Flat Creek headwater
 REACH NO. 6 FLAT CREEK RK 5.0-0.0

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 3.0 DO, JUN-OCT, 60% REDUCTION REQUIRED

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
309	UPR RCH	0.0028	26.50	0.00	5.1	0.0	4.65	6.98	6.98	0.00	0.00	0.00	0.00	0.0	0.	0.90

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
309	5.00	4.80	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
310	4.80	4.60	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
311	4.60	4.40	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
312	4.40	4.20	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
313	4.20	4.00	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
314	4.00	3.80	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000

315	3.80	3.60	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
316	3.60	3.40	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
317	3.40	3.20	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
318	3.20	3.00	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
319	3.00	2.80	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
320	2.80	2.60	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
321	2.60	2.40	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
322	2.40	2.20	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
323	2.20	2.00	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
324	2.00	1.80	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
325	1.80	1.60	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
326	1.60	1.40	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
327	1.40	1.20	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
328	1.20	1.00	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
329	1.00	0.80	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
330	0.80	0.60	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
331	0.60	0.40	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
332	0.40	0.20	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
333	0.20	0.00	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
TOT						402.96				97484.	68322.6				
AVG						0.000	1.43	13.7			19.5				
CUM						1163.18									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECA 1/da	CBOD SETT 1/da	ANBOD DECA 1/da	FULL SOD *	CORR SOD *	ORGN DECA 1/da	ORGN SETT 1/da	NH3 DECA 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECA 1/da	NCM DECA 1/da	NCM SETT 1/da
309	4.800	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
310	4.600	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
311	4.400	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
312	4.200	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
313	4.000	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
314	3.800	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
315	3.600	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
316	3.400	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
317	3.200	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
318	3.000	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
319	2.800	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
320	2.600	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
321	2.400	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
322	2.200	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
323	2.000	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
324	1.800	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
325	1.600	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
326	1.400	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
327	1.200	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
328	1.000	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06

329	0.800	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
330	0.600	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
331	0.400	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
332	0.200	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
333	0.000	8.04	0.55	0.07	0.12	0.00	1.61	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
20 DEG C RATE				0.05	0.00	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.68		
AVG 20 DEG C RATE				0.49	0.10		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.05	
* g/sq m/d			** mg/L/day																

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
309	4.800	26.50	0.0	5.1	0.0	4.77	6.84	6.84	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.91
310	4.600	26.50	0.0	5.1	0.0	4.84	6.77	6.77	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.92
311	4.400	26.50	0.0	5.1	0.0	4.88	6.70	6.70	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.92
312	4.200	26.50	0.0	5.1	0.0	4.91	6.65	6.65	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.93
313	4.000	26.50	0.0	5.1	0.0	4.94	6.61	6.61	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.93
314	3.800	26.50	0.0	5.1	0.0	4.96	6.57	6.57	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.94
315	3.600	26.50	0.0	5.1	0.0	4.97	6.54	6.54	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.94
316	3.400	26.50	0.0	5.1	0.0	4.98	6.52	6.52	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.94
317	3.200	26.50	0.0	5.1	0.0	4.99	6.50	6.50	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.94
318	3.000	26.50	0.0	5.1	0.0	4.99	6.48	6.48	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.94
319	2.800	26.50	0.0	5.1	0.0	5.00	6.47	6.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.94
320	2.600	26.50	0.0	5.1	0.0	5.00	6.46	6.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.95
321	2.400	26.50	0.0	5.1	0.0	5.00	6.45	6.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.95
322	2.200	26.50	0.0	5.1	0.0	5.00	6.44	6.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.95
323	2.000	26.50	0.0	5.1	0.0	5.01	6.44	6.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.95
324	1.800	26.50	0.0	5.1	0.0	5.01	6.43	6.43	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.95
325	1.600	26.50	0.0	5.1	0.0	5.01	6.43	6.43	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.95
326	1.400	26.50	0.0	5.1	0.0	5.01	6.42	6.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.95
327	1.200	26.50	0.0	5.1	0.0	5.01	6.42	6.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.95
328	1.000	26.50	0.0	5.1	0.0	5.01	6.42	6.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.95
329	0.800	26.50	0.0	5.1	0.0	5.01	6.42	6.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.95
330	0.600	26.50	0.0	5.1	0.0	5.01	6.42	6.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.95
331	0.400	26.50	0.0	5.1	0.0	5.01	6.42	6.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.95
332	0.200	26.50	0.0	5.1	0.0	5.01	6.42	6.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.95
333	0.000	26.50	0.0	5.1	0.0	5.01	6.42	6.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.95

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

** g/cu m

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 STREAM SUMMARY
 Flat Creek headwater

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 3.0 DO, JUN-OCT, 60% REDUCTION REQUIRED

TRAVEL TIME	=		1163.2	DAYS	
MAXIMUM EFFLUENT	=		0.0	PERCENT	
FLOW	=	0.0028	TO	0.0028	cms
DISPERSION	=	2.0000	TO	2.0000	sq m/s
VELOCITY	=	0.0001	TO	0.0023	m/s
DEPTH	=	0.27	TO	1.43	m
WIDTH	=	4.6	TO	13.7	m
BOD DECAY	=	0.04	TO	0.07	per day
NH3 DECAY	=	0.00	TO	0.00	per day
SDMNT OXYGEN DMND	=	1.61	TO	3.69	g/sq m/d
NH3 SOURCE	=	0.00	TO	0.00	g/sq m/d
REAERATION	=	0.55	TO	2.98	per day
BOD SETTTLING	=	0.12	TO	0.12	per day
ORGN DECAY	=	0.00	TO	0.00	per day
ORGN SETTTLING	=	0.00	TO	0.00	per day
TEMPERATURE	=	26.50	TO	26.50	deg C
DISSOLVED OXYGEN	=	3.08	TO	5.01	mg/L

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 3.0 DO, JUN-OCT, 60% REDUCTION REQUIRED

INPUT/OUTPUT LOADING SUMMARY

	FLOW cms	DO kg/d	BOD kg/d	ORG-N kg/d	NH3-N kg/d	NO3-N kg/d	PHOS kg/d	CHL A kg/d	NCM
HEADWATER INFLOW	0.003	0.7	3.8	0.0	0.0	0.0	0.0	0.0	0.9
INCREMENTAL INFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCREMENTAL OUTFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NON-POINT INPUT		0.0	371.0	0.0					41.0
WASTELoads	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WITHDRAWALS	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OUTFLOW THRU LOWER BNDRY	-0.003	-1.2	-1.6	0.0	0.0	0.0	0.0	0.0	-0.2
DISPERSION THRU LOWER BNDRY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REAERATION		1449.7							
BACKGROUND BENTHAL		-1303.3							
AEROBIC BOD DECAY		-120.1	-120.1						
BOD SETTLING		0.0	-253.2						
ANAEROBIC BOD DECAY			0.0						
ORGANIC N HYDROLYSIS		0.0		0.0	0.0				
ORGANIC N SETTLING				0.0	0.0				
NH3 DECAY		0.0			0.0	0.0			
BACKGROUND NH3 SOURCE					0.0				
DENITRIFICATION			0.0			0.0			
PHOSPHORUS SOURCE							0.0		
ALGAE PHOTOSYNTHESIS		0.0			0.0	0.0	0.0	0.0	
ALGAE RESPIRATION		0.0			0.0		0.0	0.0	
ALGAE SETTLING		0.0						0.0	
MACRO PHOTOSYNTHESIS		0.0			0.0	0.0	0.0		
NCM DECAY		-25.6							-25.6
NCM SETTLING		0.0							-15.9
TOTAL INPUTS	0.003	1450.4	374.8	0.0	0.0	0.0	0.0	0.0	41.9
TOTAL OUTPUTS	-0.003	-1450.2	-374.8	0.0	0.0	0.0	0.0	0.0	-41.7
NET CONVERGENCE ERROR	0.000	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2

1

.....EXECUTION COMPLETED

Appendix H – Projection Model Input and Output for 5.0 mg/L DO November-May

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CNTROL01      FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
CNTROL02      5.0 DO, NOV-MAY, 15% REDUCTION REQUIRED
CNTROL03 YES  ECHO DATA INPUT
CNTROL04 NO   INTERMEDIATE SUMMARY
CNTROL05 YES  CAPSULE SUMMARY
CNTROL06 YES  FINAL REPORT
CNTROL07 YES  LOADING SUMMARY
CNTROL08 YES  SPECIAL REPORT
CNTROL09 NO   LINE PRINTER PLOT
CNTROL10 YES  GRAPHICS CAPABILITY
CNTROL11 NO   SEQUENCING OUTPUT
CNTROL12 YES  METRIC UNITS
CNTROL13 YES  OXYGEN DEPENDENT RATES
CNTROL14 NO   SENSITIVITY ANALYSIS
CNTROL15 YES  OVERLAY PLOT
ENDATA01
MODOPT01 NO   TEMPERATURE
MODOPT02 NO   SALINITY
MODOPT03 YES  CONSERVATIVE MATERIAL I = CHLORIDES           IN MG/L
MODOPT04 NO   CONSERVATIVE MATERIAL II = SULFATES          IN MG/L
MODOPT05 YES  DISSOLVED OXYGEN
MODOPT06 YES  BIOCHEMICAL OXYGEN DEMAND
MODOPT07 NO   NITROGEN
MODOPT08 NO   PHOSPHORUS
MODOPT09 NO   CHLOROPHYLL A
MODOPT10 NO   MACROPHYTES
MODOPT11 NO   COLIFORM
MODOPT12 YES  NONCONSERVATIVE MATERIAL = NBOD              IN MG/L
ENDATA02
PROGRAM  MAXIMUM ITERATION LIMIT           =    200.0
PROGRAM  PLOT TYPE                         =     3.0
PROGRAM  FINAL REPORT TYPE                 =     1.0
PROGRAM  SPECIAL REPORT TYPE              =     3.0
PROGRAM  BOD OXYGEN UPTAKE RATE           =     1.0
PROGRAM  KL MINIMUM                       =     0.7
PROGRAM  NCM OXYGEN UPTAKE RATE           =     1.0
PROGRAM  INHIBITION CONTROL VALUE         =     3.0
PROGRAM  DISPERSION EQUATION              =     1.0
PROGRAM  OCEAN EXCHANGE RATIO             =     0.0
PROGRAM  TIDE HEIGHT                      =     0.0
PROGRAM  HYDRAULIC CALCULATION METHOD     =     2.0
PROGRAM  SETTLING RATE UNITS              =     2.0
PROGRAM  K2 MAXIMUM                       =    25.0
ENDATA03
ENDATA04
ENDATA05
ENDATA06
ENDATA07
REACH ID   1  FC  FLAT CREEK RK 66.47-54.0           66.47    54.0  0.197937
REACH ID   2  FC  FLAT CREEK RK 54.0-42.0           54.0     42.0   0.200
REACH ID   3  FC  FLAT CREEK RK 42.0-30.0           42.0     30.0   0.200
REACH ID   4  FC  FLAT CREEK RK 30.0-18.0           30.0     18.0   0.200
REACH ID   5  FC  FLAT CREEK RK 18.0-5.0            18.0      5.0   0.200
REACH ID   6  FC  FLAT CREEK RK 5.0-0.0             5.0       0.0   0.200
ENDATA08
HYDR-1     1  0.1000 0.4000  4.572 0.1000 0.4000 0.2560    0.04
HYDR-1     2  0.1000 0.4000  4.572 0.1000 0.4000 0.2560    0.04
HYDR-1     3  0.1000 0.4000  5.578 0.1000 0.4000 0.3200    0.04
HYDR-1     4  0.1000 0.4000  5.578 0.1000 0.4000 0.3200    0.04
HYDR-1     5  0.1000 0.4000  9.618 0.1000 0.4000 0.8690    0.04
HYDR-1     6  0.1000 0.4000 13.655 0.1000 0.4000 1.4173    0.04
ENDATA09
HYDR-2     1  0.000 2.000    0.000    0.000    0.000
HYDR-2     2  0.000 2.000    0.000    0.000    0.000
HYDR-2     3  0.000 2.000    0.000    0.000    0.000
HYDR-2     4  0.000 2.000    0.000    0.000    0.000
HYDR-2     5  0.000 2.000    0.000    0.000    0.000
HYDR-2     6  0.000 2.000    0.000    0.000    0.000
ENDATA10
INITIAL    1    20.00    0.0  5.00    0.000  0.000  0.00  00.00  0.00
INITIAL    2    20.00    0.0  5.00    0.000  0.000  0.00  00.00  0.00
  
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INITIAL	3	20.00	0.0	5.00	0.000	0.000	0.00	00.00	0.00
INITIAL	4	20.00	0.0	5.00	0.000	0.000	0.00	00.00	0.00
INITIAL	5	20.00	0.0	5.00	0.000	0.000	0.00	00.00	0.00
INITIAL	6	20.00	0.0	5.00	0.000	0.000	0.00	00.00	0.00

ENDATA11

COEF-1	1	15.0	0.00	0.0	0.0	3.31	0.040	0.10	0.00
COEF-1	2	15.0	0.00	0.0	0.0	3.23	0.040	0.10	0.00
COEF-1	3	15.0	0.00	0.0	0.0	3.05	0.030	0.10	0.00
COEF-1	4	15.0	0.00	0.0	0.0	3.05	0.030	0.10	0.00
COEF-1	5	15.0	0.00	0.0	0.0	2.29	0.040	0.10	0.00
COEF-1	6	15.0	0.00	0.0	0.0	1.47	0.050	0.10	0.00

ENDATA12

ENDATA13

ENDATA14

COEF-4	1	0.000	0.040	0.05	0.00
COEF-4	2	0.000	0.040	0.05	0.00
COEF-4	3	0.000	0.050	0.05	0.00
COEF-4	4	0.000	0.050	0.05	0.00
COEF-4	5	0.000	0.070	0.05	0.00
COEF-4	6	0.000	0.090	0.05	0.00

ENDATA15

ENDATA16

ENDATA17

ENDATA18

NONPOINT	1	0031.00	0.00	0.0	0004.0	0.0
NONPOINT	2	0029.00	0.00	0.0	0003.0	0.0
NONPOINT	3	0043.00	0.00	0.0	0004.0	0.0
NONPOINT	4	0043.00	0.00	0.0	0002.0	0.0
NONPOINT	5	0202.00	0.00	0.0	0019.0	0.0
NONPOINT	6	0158.00	0.00	0.0	0024.0	0.0

ENDATA19

HDWTR-1	1	Flat Creek headwater	0.	0.02800	20.000	0.0	5.1	0.0
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ENDATA20

HDWTR-2	1	5.00	15.66	0.00	0.000	0.00
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ENDATA21

HDWTR-3	1	0.00	0.00	0.00	3.790
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ENDATA22

ENDATA23

ENDATA24

ENDATA25

ENDATA26

LOWER BC TEMPERATURE	=	20.00
LOWER BC SALINITY	=	0.00
LOWER BC CONSERVATIVE MATERIAL I	=	0.00
LOWER BC CONSERVATIVE MATERIAL II	=	0.00
LOWER BC DISSOLVED OXYGEN	=	2.67
LOWER BC BIOCHEMICAL OXYGEN DEMAND	=	8.75
LOWER BC ORGANIC NITROGEN	=	0.00
LOWER BC AMMONIA NITROGEN	=	0.00
LOWER BC NITRATE + NITRITE	=	0.00
LOWER BC PHOSPHORUS	=	0.00
LOWER BC CHLOROPHYLL A	=	0.00
LOWER BC COLIFORM	=	0.00
LOWER BC NONCONSERVATIVE MATERIAL	=	1.30

ENDATA27

ENDATA28

ENDATA29

NUMBER OF PLOTS = 1

NUMBER OF REACHES IN PLOT 1 = 6

INCREMENT = 1.0

PLOT RCH 1 2 3 4 5 6

ENDATA30

OVERLAY 1 FLATCREEKOVRLAYFILEFORMAT.TXT FLAT CREEK-HDWTRS TO CONFL W/ CASTOR CRK

ENDATA31

LA-QUAL for Windows Version 3.02
 Louisiana Department of Environmental Quality

Output produced at 14:20 on 12/29/2000

\$\$\$ DATA TYPE 1 (TITLES AND CONTROL CARDS) \$\$\$

CARD TYPE	CONTROL TITLES
CNTROL01	FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
CNTROL02	5.0 DO, NOV-MAY, 15% REDUCTION REQUIRED
CNTROL03 YES	ECHO DATA INPUT
CNTROL04 NO	INTERMEDIATE SUMMARY
CNTROL05 YES	CAPSULE SUMMARY
CNTROL06 YES	FINAL REPORT
CNTROL07 YES	LOADING SUMMARY
CNTROL08 YES	SPECIAL REPORT
CNTROL09 NO	LINE PRINTER PLOT
CNTROL10 YES	GRAPHICS CAPABILITY
CNTROL11 NO	SEQUENCING OUTPUT
CNTROL12 YES	METRIC UNITS
CNTROL13 YES	OXYGEN DEPENDENT RATES
CNTROL14 NO	SENSITIVITY ANALYSIS
CNTROL15 YES	OVERLAY PLOT
ENDATA01	

\$\$\$ DATA TYPE 2 (MODEL OPTIONS) \$\$\$

CARD TYPE	MODEL OPTION	
MODOPT01 NO	TEMPERATURE	
MODOPT02 NO	SALINITY	
MODOPT03 YES	CONSERVATIVE MATERIAL I = CHLORIDES	IN MG/L
MODOPT04 NO	CONSERVATIVE MATERIAL II = SULFATES	IN MG/L
MODOPT05 YES	DISSOLVED OXYGEN	
MODOPT06 YES	BIOCHEMICAL OXYGEN DEMAND	
MODOPT07 NO	NITROGEN	
MODOPT08 NO	PHOSPHORUS	
MODOPT09 NO	CHLOROPHYLL A	
MODOPT10 NO	MACROPHYTES	
MODOPT11 NO	COLIFORM	
MODOPT12 YES	NONCONSERVATIVE MATERIAL = NBOD	IN MG/L
ENDATA02		

\$\$\$ DATA TYPE 3 (PROGRAM CONSTANTS) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT		VALUE
PROGRAM	MAXIMUM ITERATION LIMIT	=	200.00000
PROGRAM	PLOT TYPE	=	3.00000
PROGRAM	FINAL REPORT TYPE	=	1.00000
PROGRAM	SPECIAL REPORT TYPE	=	3.00000
PROGRAM	BOD OXYGEN UPTAKE RATE	=	1.00000
PROGRAM	KL MINIMUM	=	0.70000
PROGRAM	NCM OXYGEN UPTAKE RATE	=	1.00000
PROGRAM	INHIBITION CONTROL VALUE	=	3.00000
PROGRAM	DISPERSION EQUATION	=	1.00000
PROGRAM	OCEAN EXCHANGE RATIO	=	0.00000
PROGRAM	TIDE HEIGHT	=	0.00000
PROGRAM	HYDRAULIC CALCULATION METHOD	=	2.00000
PROGRAM	SETTLING RATE UNITS	=	2.00000
PROGRAM	K2 MAXIMUM	=	25.00000
ENDATA03			

\$\$\$ DATA TYPE 4 (TEMPERATURE CORRECTION CONSTANTS FOR RATE COEFFICIENTS) \$\$\$

CARD TYPE	RATE CODE	THETA VALUE
ENDATA04		

\$\$\$ CONSTANTS TYPE 5 (TEMPERATURE DATA) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
ENDATA05		

\$\$\$ DATA TYPE 6 (ALGAE CONSTANTS) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
ENDATA06		

\$\$\$ DATA TYPE 7 (MACROPHYTE CONSTANTS) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
ENDATA07		

\$\$\$ DATA TYPE 8 (REACH IDENTIFICATION DATA) \$\$\$

CARD TYPE	REACH	ID	NAME	BEGIN REACH km	END REACH km	ELEM LENGTH km	REACH LENGTH km	ELEMS PER RCH	BEGIN ELEM NUM	END ELEM NUM
REACH ID	1	FC	FLAT CREEK RK 66.47-54.0	66.47	54.00	0.1979	12.47	63	1	63
REACH ID	2	FC	FLAT CREEK RK 54.0-42.0	54.00	42.00	0.2000	12.00	60	64	123
REACH ID	3	FC	FLAT CREEK RK 42.0-30.0	42.00	30.00	0.2000	12.00	60	124	183
REACH ID	4	FC	FLAT CREEK RK 30.0-18.0	30.00	18.00	0.2000	12.00	60	184	243
REACH ID	5	FC	FLAT CREEK RK 18.0-5.0	18.00	5.00	0.2000	13.00	65	244	308
REACH ID	6	FC	FLAT CREEK RK 5.0-0.0	5.00	0.00	0.2000	5.00	25	309	333

ENDATA08

\$\$\$ DATA TYPE 9 (ADVECTIVE HYDRAULIC COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	WIDTH "A"	WIDTH "B"	WIDTH "C"	DEPTH "D"	DEPTH "E"	DEPTH "F"	SLOPE	MANNINGS "N"
HYDR-1	1	FC	0.100	0.400	4.572	0.100	0.400	0.256	0.00000	0.040
HYDR-1	2	FC	0.100	0.400	4.572	0.100	0.400	0.256	0.00000	0.040
HYDR-1	3	FC	0.100	0.400	5.578	0.100	0.400	0.320	0.00000	0.040
HYDR-1	4	FC	0.100	0.400	5.578	0.100	0.400	0.320	0.00000	0.040
HYDR-1	5	FC	0.100	0.400	9.618	0.100	0.400	0.869	0.00000	0.040
HYDR-1	6	FC	0.100	0.400	13.655	0.100	0.400	1.417	0.00000	0.040

ENDATA09

\$\$\$ DATA TYPE 10 (DISPERSIVE HYDRAULIC COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"
HYDR	1	FC	0.00	2.000	0.000	0.000	0.000
HYDR	2	FC	0.00	2.000	0.000	0.000	0.000
HYDR	3	FC	0.00	2.000	0.000	0.000	0.000
HYDR	4	FC	0.00	2.000	0.000	0.000	0.000
HYDR	5	FC	0.00	2.000	0.000	0.000	0.000
HYDR	6	FC	0.00	2.000	0.000	0.000	0.000

ENDATA10

\$\$\$ DATA TYPE 11 (INITIAL CONDITIONS) \$\$\$

CARD TYPE	REACH	ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
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INITIAL	1	FC	20.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	2	FC	20.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	3	FC	20.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	4	FC	20.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	5	FC	20.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
INITIAL	6	FC	20.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
ENDATA11											

\$\$\$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	K2 OPT	K2 "A"	K2 "B"	K2 "C"	BKGRND SOD	AEROB BOD DECAY	BOD SETT	BOD CONV TO SOD	ANAER BOD DECAY
COEF-1	1	FC	15.	0.000	0.000	0.000	3.310	0.040	0.100	0.000	0.000
COEF-1	2	FC	15.	0.000	0.000	0.000	3.230	0.040	0.100	0.000	0.000
COEF-1	3	FC	15.	0.000	0.000	0.000	3.050	0.030	0.100	0.000	0.000
COEF-1	4	FC	15.	0.000	0.000	0.000	3.050	0.030	0.100	0.000	0.000
COEF-1	5	FC	15.	0.000	0.000	0.000	2.290	0.040	0.100	0.000	0.000
COEF-1	6	FC	15.	0.000	0.000	0.000	1.470	0.050	0.100	0.000	0.000
ENDATA12											

\$\$\$ DATA TYPE 13 (NITROGEN AND PHOSPHORUS COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	ORG-N DECA	ORG-N SETT	ORGN CONV TO NH3 SRCE	NH3 DECA	NH3 SRCE	PHOS SRCE	DENIT RATE
ENDATA13									

\$\$\$ DATA TYPE 14 (ALGAE AND MACROPHYTE COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	SECCHI DEPTH	ALGAE: CHL A	ALGAE SETT	ALG CONV TO SOD	ALGAE GROW	ALGAE RESP	MACRO GROW	MACRO RESP
ENDATA14										

\$\$\$ DATA TYPE 15 (COLIFORM AND NONCONSERVATIVE COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	COLIFORM DIE-OFF	NCM DECAY	NCM SETT	NCM CONV TO SOD
COEF-4	1	FC	0.00	0.04	0.05	0.00
COEF-4	2	FC	0.00	0.04	0.05	0.00
COEF-4	3	FC	0.00	0.05	0.05	0.00

COEF-4	4	FC	0.00	0.05	0.05	0.00
COEF-4	5	FC	0.00	0.07	0.05	0.00
COEF-4	6	FC	0.00	0.09	0.05	0.00

ENDATA15

\$\$\$ DATA TYPE 16 (INCREMENTAL DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) \$\$\$

CARD TYPE	REACH	ID	OUTFLOW	INFLOW	TEMP	SALIN	CM-I	CM-II	INFLOW/DIST
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ENDATA16

\$\$\$ DATA TYPE 17 (INCREMENTAL DATA FOR DO, BOD, AND NITROGEN) \$\$\$

CARD TYPE	REACH	ID	DO	BOD	ORG-N	NH3	NO3+2
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ENDATA17

\$\$\$ DATA TYPE 18 (INCREMENTAL DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) \$\$\$

CARD TYPE	REACH	ID	PHOS	CHL A	COLI	NCM
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ENDATA18

\$\$\$ DATA TYPE 19 (NONPOINT SOURCE DATA) \$\$\$

CARD TYPE	REACH	ID	BOD	ORG-N	COLI	NCM	DO
NONPOINT	1	FC	31.00	0.00	0.00	4.00	0.00
NONPOINT	2	FC	29.00	0.00	0.00	3.00	0.00
NONPOINT	3	FC	43.00	0.00	0.00	4.00	0.00
NONPOINT	4	FC	43.00	0.00	0.00	2.00	0.00
NONPOINT	5	FC	202.00	0.00	0.00	19.00	0.00
NONPOINT	6	FC	158.00	0.00	0.00	24.00	0.00

ENDATA19

\$\$\$ DATA TYPE 20 (HEADWATER FOR FLOW, TEMPERATURE, SALINITY AND CONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	UNIT	FLOW	TEMP	SALIN	CM-I	CM-II
HDWTR-1	1	Flat Creek headwater	0	0.02800	20.000	0.000	5.100	0.000

ENDATA20

\$\$\$ DATA TYPE 21 (HEADWATER DATA FOR DO, BOD, AND NITROGEN) \$\$\$

CARD TYPE	ELEMENT	NAME	DO	BOD	ORG-N	NH3	NO3+2
HDWTR-2	1	Flat Creek headwater	5.00	15.66	0.00	0.00	0.00

ENDATA21

\$\$\$ DATA TYPE 22 (HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
HDWTR-3	1	Flat Creek headwater	0.00	0.00	0.00	3.79

ENDATA22

\$\$\$ DATA TYPE 23 (JUNCTION DATA) \$\$\$

CARD TYPE	JUNCTION ELEMENT	UPSTRM ELEMENT	NAME
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ENDATA23

\$\$\$ DATA TYPE 24 (WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	FLOW	TEMP	SAL	CM-I	CM-II
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ENDATA24

\$\$\$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) \$\$\$

CARD TYPE	ELEMENT	NAME	DO	BOD	% BOD RMVL	ORG-N	NH3	% NITRIF	NO3+2
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ENDATA25

\$\$\$ DATA TYPE 26 (WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
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ENDATA26

\$\$\$ DATA TYPE 27 (LOWER BOUNDARY CONDITIONS) \$\$\$

CARD TYPE	CONSTITUENT	CONCENTRATION
LOWER BC	TEMPERATURE	= 20.000 deg C
LOWER BC	SALINITY	= 0.000 ppt
LOWER BC	CONSERVATIVE MATERIAL I	= 0.000 MG/L
LOWER BC	CONSERVATIVE MATERIAL II	= 0.000 MG/L
LOWER BC	DISSOLVED OXYGEN	= 2.670 mg/L
LOWER BC	BIOCHEMICAL OXYGEN DEMAND	= 8.750 mg/L
LOWER BC	ORGANIC NITROGEN	= 0.000 mg/L
LOWER BC	AMMONIA NITROGEN	= 0.000 mg/L
LOWER BC	NITRATE + NITRITE	= 0.000 mg/L
LOWER BC	PHOSPHORUS	= 0.000 mg/L
LOWER BC	CHLOROPHYLL A	= 0.000 µg/L
LOWER BC	COLIFORM	= 0.000 #/100 mL
LOWER BC	NONCONSERVATIVE MATERIAL	= 1.300 MG/L

ENDATA27

\$\$\$ DATA TYPE 28 (FLOW AUGMENTATION DATA) \$\$\$

CARD TYPE	REACH	AVAIL HDWS	TARGET	ORDER OF AVAIL SOURCES
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ENDATA28

\$\$\$ DATA TYPE 29 (SENSITIVITY ANALYSIS DATA) \$\$\$

CARD TYPE	PARAMETER	COL 1	COL 2	COL 3	COL 4	COL 5	COL 6	COL 7	COL 8
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ENDATA29

\$\$\$ DATA TYPE 30 (PLOT CONTROL CARDS) \$\$\$

NUMBER OF PLOTS = 1
 NUMBER OF REACHES IN PLOT 1 = 6 INCREMENT = 1.00
 PLOT RCH 1 2 3 4 5 6
 ENDATA30

\$\$\$ DATA TYPE 31 (OVERLAY PLOT DATA) \$\$\$

OVERLAY 1 FLATCREEKOVRLAYFILEFORMAT.TXT FLAT CREEK-HDWTRS TO CONFL W/ CASTOR CRK
 ENDDATA31

1

.....NO ERRORS DETECTED IN INPUT DATA
HYDRAULIC CALCULATIONS COMPLETED
TRIDIAGONAL MATRIX TERMS INITIALIZED
OXYGEN DEPENDENT RATES CONVERGENT IN 1 ITERATIONS
CONSTITUENT CALCULATIONS COMPLETED
GRAPHICS DATA FOR PLOT 1 WRITTEN TO UNIT 11

1

CAPSULE SUMMARY
 Flat Creek headwater

DIST	FLOW	TEMP	SALN	DO	EBOD	ORGN	NH3	CHLA	REAER	CBOD	CBOD	NH3	SOD
km	cms	deg C	ppt	mg/L	mg/L	mg/L	mg/L	µg/L	1/da	1/da	1/da	1/da	
HDWTR	0.028	20.0	0.0	5.0	15.7	0.0	0.0	0.0					
66.27	0.028	20.0	0.0	5.2	15.6	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
66.07	0.028	20.0	0.0	5.2	15.6	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
65.88	0.028	20.0	0.0	5.3	15.6	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
65.68	0.028	20.0	0.0	5.3	15.5	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
65.48	0.028	20.0	0.0	5.4	15.5	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
65.28	0.028	20.0	0.0	5.4	15.5	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
65.08	0.028	20.0	0.0	5.4	15.5	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
64.89	0.028	20.0	0.0	5.4	15.4	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
64.69	0.028	20.0	0.0	5.4	15.4	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
64.49	0.028	20.0	0.0	5.5	15.4	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
64.29	0.028	20.0	0.0	5.5	15.4	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
64.09	0.028	20.0	0.0	5.5	15.4	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
63.90	0.028	20.0	0.0	5.5	15.3	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
63.70	0.028	20.0	0.0	5.5	15.3	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
63.50	0.028	20.0	0.0	5.5	15.3	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
63.30	0.028	20.0	0.0	5.5	15.3	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
63.11	0.028	20.0	0.0	5.5	15.2	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
62.91	0.028	20.0	0.0	5.5	15.2	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
62.71	0.028	20.0	0.0	5.5	15.2	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
62.51	0.028	20.0	0.0	5.5	15.2	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
62.31	0.028	20.0	0.0	5.5	15.2	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
62.12	0.028	20.0	0.0	5.5	15.1	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
61.92	0.028	20.0	0.0	5.5	15.1	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31

61.72	0.028	20.0	0.0	5.5	15.1	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
61.52	0.028	20.0	0.0	5.5	15.1	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
61.32	0.028	20.0	0.0	5.5	15.1	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
61.13	0.028	20.0	0.0	5.5	15.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
60.93	0.028	20.0	0.0	5.5	15.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
60.73	0.028	20.0	0.0	5.5	15.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
60.53	0.028	20.0	0.0	5.5	15.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
60.33	0.028	20.0	0.0	5.5	15.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
60.14	0.028	20.0	0.0	5.5	15.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
59.94	0.028	20.0	0.0	5.5	14.9	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
59.74	0.028	20.0	0.0	5.5	14.9	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
59.54	0.028	20.0	0.0	5.5	14.9	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
59.34	0.028	20.0	0.0	5.5	14.9	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
59.15	0.028	20.0	0.0	5.5	14.9	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
58.95	0.028	20.0	0.0	5.5	14.9	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
58.75	0.028	20.0	0.0	5.5	14.8	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
58.55	0.028	20.0	0.0	5.5	14.8	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
58.35	0.028	20.0	0.0	5.5	14.8	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
58.16	0.028	20.0	0.0	5.5	14.8	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
57.96	0.028	20.0	0.0	5.5	14.8	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
57.76	0.028	20.0	0.0	5.5	14.8	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
57.56	0.028	20.0	0.0	5.5	14.8	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
57.36	0.028	20.0	0.0	5.5	14.7	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
57.17	0.028	20.0	0.0	5.5	14.7	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
56.97	0.028	20.0	0.0	5.5	14.7	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
56.77	0.028	20.0	0.0	5.5	14.7	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
56.57	0.028	20.0	0.0	5.5	14.7	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
56.38	0.028	20.0	0.0	5.5	14.7	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
56.18	0.028	20.0	0.0	5.5	14.7	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
55.98	0.028	20.0	0.0	5.5	14.7	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
55.78	0.028	20.0	0.0	5.5	14.6	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
55.58	0.028	20.0	0.0	5.5	14.6	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
55.39	0.028	20.0	0.0	5.5	14.6	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
55.19	0.028	20.0	0.0	5.5	14.6	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
54.99	0.028	20.0	0.0	5.5	14.6	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
54.79	0.028	20.0	0.0	5.5	14.6	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
54.59	0.028	20.0	0.0	5.5	14.6	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
54.40	0.028	20.0	0.0	5.5	14.6	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
54.20	0.028	20.0	0.0	5.5	14.6	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
54.00	0.028	20.0	0.0	5.5	14.5	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.31
53.80	0.028	20.0	0.0	5.5	14.5	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
53.60	0.028	20.0	0.0	5.5	14.5	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
53.40	0.028	20.0	0.0	5.5	14.5	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
53.20	0.028	20.0	0.0	5.6	14.5	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
53.00	0.028	20.0	0.0	5.6	14.5	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
52.80	0.028	20.0	0.0	5.6	14.4	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
52.60	0.028	20.0	0.0	5.6	14.4	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
52.40	0.028	20.0	0.0	5.6	14.4	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
52.20	0.028	20.0	0.0	5.6	14.4	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
52.00	0.028	20.0	0.0	5.6	14.4	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
51.80	0.028	20.0	0.0	5.6	14.4	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23

51.60	0.028	20.0	0.0	5.6	14.4	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
51.40	0.028	20.0	0.0	5.6	14.3	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
51.20	0.028	20.0	0.0	5.6	14.3	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
51.00	0.028	20.0	0.0	5.6	14.3	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
50.80	0.028	20.0	0.0	5.6	14.3	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
50.60	0.028	20.0	0.0	5.6	14.3	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
50.40	0.028	20.0	0.0	5.6	14.3	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
50.20	0.028	20.0	0.0	5.6	14.3	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
50.00	0.028	20.0	0.0	5.6	14.3	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
49.80	0.028	20.0	0.0	5.6	14.2	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
49.60	0.028	20.0	0.0	5.6	14.2	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
49.40	0.028	20.0	0.0	5.6	14.2	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
49.20	0.028	20.0	0.0	5.6	14.2	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
49.00	0.028	20.0	0.0	5.6	14.2	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
48.80	0.028	20.0	0.0	5.6	14.2	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
48.60	0.028	20.0	0.0	5.6	14.2	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
48.40	0.028	20.0	0.0	5.6	14.2	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
48.20	0.028	20.0	0.0	5.6	14.1	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
48.00	0.028	20.0	0.0	5.6	14.1	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
47.80	0.028	20.0	0.0	5.6	14.1	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
47.60	0.028	20.0	0.0	5.6	14.1	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
47.40	0.028	20.0	0.0	5.6	14.1	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
47.20	0.028	20.0	0.0	5.6	14.1	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
47.00	0.028	20.0	0.0	5.6	14.1	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
46.80	0.028	20.0	0.0	5.6	14.1	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
46.60	0.028	20.0	0.0	5.6	14.1	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
46.40	0.028	20.0	0.0	5.6	14.1	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
46.20	0.028	20.0	0.0	5.6	14.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
46.00	0.028	20.0	0.0	5.6	14.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
45.80	0.028	20.0	0.0	5.6	14.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
45.60	0.028	20.0	0.0	5.6	14.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
45.40	0.028	20.0	0.0	5.6	14.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
45.20	0.028	20.0	0.0	5.6	14.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
45.00	0.028	20.0	0.0	5.6	14.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
44.80	0.028	20.0	0.0	5.6	14.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
44.60	0.028	20.0	0.0	5.6	14.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
44.40	0.028	20.0	0.0	5.6	14.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
44.20	0.028	20.0	0.0	5.6	14.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
44.00	0.028	20.0	0.0	5.6	14.0	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
43.80	0.028	20.0	0.0	5.6	13.9	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
43.60	0.028	20.0	0.0	5.6	13.9	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
43.40	0.028	20.0	0.0	5.6	13.9	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
43.20	0.028	20.0	0.0	5.6	13.9	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
43.00	0.028	20.0	0.0	5.6	13.9	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
42.80	0.028	20.0	0.0	5.6	13.9	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
42.60	0.028	20.0	0.0	5.6	13.9	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
42.40	0.028	20.0	0.0	5.6	13.9	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
42.20	0.028	20.0	0.0	5.6	13.9	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
42.00	0.028	20.0	0.0	5.6	13.9	0.0	0.0	0.0	3.48	0.04	0.10	0.00	3.23
41.80	0.028	20.0	0.0	5.5	13.9	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
41.60	0.028	20.0	0.0	5.5	13.9	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05

21.00	0.028	20.0	0.0	5.4	14.3	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
20.80	0.028	20.0	0.0	5.4	14.3	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
20.60	0.028	20.0	0.0	5.4	14.3	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
20.40	0.028	20.0	0.0	5.4	14.3	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
20.20	0.028	20.0	0.0	5.4	14.3	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
20.00	0.028	20.0	0.0	5.4	14.3	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
19.80	0.028	20.0	0.0	5.4	14.3	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
19.60	0.028	20.0	0.0	5.4	14.3	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
19.40	0.028	20.0	0.0	5.4	14.3	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
19.20	0.028	20.0	0.0	5.4	14.3	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
19.00	0.028	20.0	0.0	5.4	14.3	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
18.80	0.028	20.0	0.0	5.4	14.3	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
18.60	0.028	20.0	0.0	5.4	14.3	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
18.40	0.028	20.0	0.0	5.4	14.2	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
18.20	0.028	20.0	0.0	5.4	14.2	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
18.00	0.028	20.0	0.0	5.3	14.1	0.0	0.0	0.0	2.53	0.03	0.10	0.00	3.05
17.80	0.028	20.0	0.0	5.2	13.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
17.60	0.028	20.0	0.0	5.2	13.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
17.40	0.028	20.0	0.0	5.2	13.8	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
17.20	0.028	20.0	0.0	5.1	13.7	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
17.00	0.028	20.0	0.0	5.1	13.7	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
16.80	0.028	20.0	0.0	5.1	13.6	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
16.60	0.028	20.0	0.0	5.1	13.5	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
16.40	0.028	20.0	0.0	5.1	13.5	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
16.20	0.028	20.0	0.0	5.1	13.5	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
16.00	0.028	20.0	0.0	5.1	13.4	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
15.80	0.028	20.0	0.0	5.1	13.4	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
15.60	0.028	20.0	0.0	5.1	13.3	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
15.40	0.028	20.0	0.0	5.1	13.3	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
15.20	0.028	20.0	0.0	5.1	13.3	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
15.00	0.028	20.0	0.0	5.1	13.2	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
14.80	0.028	20.0	0.0	5.1	13.2	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
14.60	0.028	20.0	0.0	5.1	13.2	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
14.40	0.028	20.0	0.0	5.1	13.2	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
14.20	0.028	20.0	0.0	5.1	13.1	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
14.00	0.028	20.0	0.0	5.1	13.1	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
13.80	0.028	20.0	0.0	5.1	13.1	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
13.60	0.028	20.0	0.0	5.1	13.1	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
13.40	0.028	20.0	0.0	5.1	13.1	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
13.20	0.028	20.0	0.0	5.1	13.1	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
13.00	0.028	20.0	0.0	5.1	13.1	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
12.80	0.028	20.0	0.0	5.1	13.0	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
12.60	0.028	20.0	0.0	5.1	13.0	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
12.40	0.028	20.0	0.0	5.1	13.0	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
12.20	0.028	20.0	0.0	5.1	13.0	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
12.00	0.028	20.0	0.0	5.1	13.0	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
11.80	0.028	20.0	0.0	5.1	13.0	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
11.60	0.028	20.0	0.0	5.1	13.0	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
11.40	0.028	20.0	0.0	5.1	13.0	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
11.20	0.028	20.0	0.0	5.1	13.0	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
11.00	0.028	20.0	0.0	5.1	13.0	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29

10.80	0.028	20.0	0.0	5.1	13.0	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
10.60	0.028	20.0	0.0	5.1	13.0	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
10.40	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
10.20	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
10.00	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
9.80	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
9.60	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
9.40	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
9.20	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
9.00	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
8.80	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
8.60	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
8.40	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
8.20	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
8.00	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
7.80	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
7.60	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
7.40	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
7.20	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
7.00	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
6.80	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
6.60	0.028	20.0	0.0	5.1	12.9	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
6.40	0.028	20.0	0.0	5.1	12.8	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
6.20	0.028	20.0	0.0	5.1	12.8	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
6.00	0.028	20.0	0.0	5.1	12.8	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
5.80	0.028	20.0	0.0	5.1	12.7	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
5.60	0.028	20.0	0.0	5.1	12.6	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
5.40	0.028	20.0	0.0	5.2	12.5	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
5.20	0.028	20.0	0.0	5.2	12.3	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
5.00	0.028	20.0	0.0	5.3	12.1	0.0	0.0	0.0	0.80	0.04	0.10	0.00	2.29
4.80	0.028	20.0	0.0	5.3	11.9	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
4.60	0.028	20.0	0.0	5.4	11.7	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
4.40	0.028	20.0	0.0	5.4	11.6	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
4.20	0.028	20.0	0.0	5.4	11.5	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
4.00	0.028	20.0	0.0	5.5	11.4	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
3.80	0.028	20.0	0.0	5.5	11.3	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
3.60	0.028	20.0	0.0	5.5	11.2	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
3.40	0.028	20.0	0.0	5.5	11.2	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
3.20	0.028	20.0	0.0	5.5	11.1	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
3.00	0.028	20.0	0.0	5.5	11.1	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
2.80	0.028	20.0	0.0	5.5	11.0	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
2.60	0.028	20.0	0.0	5.5	11.0	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
2.40	0.028	20.0	0.0	5.5	11.0	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
2.20	0.028	20.0	0.0	5.5	10.9	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
2.00	0.028	20.0	0.0	5.5	10.9	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
1.80	0.028	20.0	0.0	5.5	10.9	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
1.60	0.028	20.0	0.0	5.6	10.8	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
1.40	0.028	20.0	0.0	5.6	10.8	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
1.20	0.028	20.0	0.0	5.6	10.8	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
1.00	0.028	20.0	0.0	5.6	10.8	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
0.80	0.028	20.0	0.0	5.6	10.8	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47

0.60	0.028	20.0	0.0	5.6	10.8	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
0.40	0.028	20.0	0.0	5.6	10.8	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
0.20	0.028	20.0	0.0	5.6	10.8	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47
0.00	0.028	20.0	0.0	5.6	10.8	0.0	0.0	0.0	0.49	0.05	0.10	0.00	1.47

SPECIAL REPORT: Flat Creek headwater
 HYDRAULIC PARAMETER VALUES

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	ADVCTV VELO m/s	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
1	66.47	66.27	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
2	66.27	66.07	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
3	66.07	65.88	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
4	65.88	65.68	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
5	65.68	65.48	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
6	65.48	65.28	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
7	65.28	65.08	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
8	65.08	64.89	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
9	64.89	64.69	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
10	64.69	64.49	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
11	64.49	64.29	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
12	64.29	64.09	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
13	64.09	63.90	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
14	63.90	63.70	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
15	63.70	63.50	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
16	63.50	63.30	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
17	63.30	63.11	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
18	63.11	62.91	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
19	62.91	62.71	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
20	62.71	62.51	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
21	62.51	62.31	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
22	62.31	62.12	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
23	62.12	61.92	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
24	61.92	61.72	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
25	61.72	61.52	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
26	61.52	61.32	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
27	61.32	61.13	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
28	61.13	60.93	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
29	60.93	60.73	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
30	60.73	60.53	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
31	60.53	60.33	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
32	60.33	60.14	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
33	60.14	59.94	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
34	59.94	59.74	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
35	59.74	59.54	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
36	59.54	59.34	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
37	59.34	59.15	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
38	59.15	58.95	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022

39	58.95	58.75	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
40	58.75	58.55	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
41	58.55	58.35	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
42	58.35	58.16	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
43	58.16	57.96	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
44	57.96	57.76	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
45	57.76	57.56	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
46	57.56	57.36	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
47	57.36	57.17	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
48	57.17	56.97	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
49	56.97	56.77	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
50	56.77	56.57	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
51	56.57	56.38	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
52	56.38	56.18	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
53	56.18	55.98	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
54	55.98	55.78	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
55	55.78	55.58	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
56	55.58	55.39	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
57	55.39	55.19	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
58	55.19	54.99	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
59	54.99	54.79	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
60	54.79	54.59	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
61	54.59	54.40	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
62	54.40	54.20	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
63	54.20	54.00	0.0280	0.022	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
64	54.00	53.80	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
65	53.80	53.60	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
66	53.60	53.40	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
67	53.40	53.20	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
68	53.20	53.00	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
69	53.00	52.80	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
70	52.80	52.60	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
71	52.60	52.40	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
72	52.40	52.20	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
73	52.20	52.00	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
74	52.00	51.80	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
75	51.80	51.60	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
76	51.60	51.40	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
77	51.40	51.20	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
78	51.20	51.00	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
79	51.00	50.80	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
80	50.80	50.60	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
81	50.60	50.40	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
82	50.40	50.20	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
83	50.20	50.00	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
84	50.00	49.80	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
85	49.80	49.60	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
86	49.60	49.40	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
87	49.40	49.20	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
88	49.20	49.00	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
89	49.00	48.80	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022

90	48.80	48.60	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
91	48.60	48.40	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
92	48.40	48.20	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
93	48.20	48.00	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
94	48.00	47.80	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
95	47.80	47.60	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
96	47.60	47.40	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
97	47.40	47.20	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
98	47.20	47.00	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
99	47.00	46.80	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
100	46.80	46.60	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
101	46.60	46.40	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
102	46.40	46.20	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
103	46.20	46.00	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
104	46.00	45.80	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
105	45.80	45.60	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
106	45.60	45.40	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
107	45.40	45.20	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
108	45.20	45.00	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
109	45.00	44.80	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
110	44.80	44.60	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
111	44.60	44.40	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
112	44.40	44.20	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
113	44.20	44.00	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
114	44.00	43.80	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
115	43.80	43.60	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
116	43.60	43.40	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
117	43.40	43.20	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
118	43.20	43.00	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
119	43.00	42.80	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
120	42.80	42.60	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
121	42.60	42.40	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
122	42.40	42.20	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
123	42.20	42.00	0.0280	0.022	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
124	42.00	41.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
125	41.80	41.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
126	41.60	41.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
127	41.40	41.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
128	41.20	41.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
129	41.00	40.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
130	40.80	40.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
131	40.60	40.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
132	40.40	40.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
133	40.20	40.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
134	40.00	39.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
135	39.80	39.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
136	39.60	39.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
137	39.40	39.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
138	39.20	39.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
139	39.00	38.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
140	38.80	38.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015

141	38.60	38.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
142	38.40	38.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
143	38.20	38.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
144	38.00	37.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
145	37.80	37.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
146	37.60	37.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
147	37.40	37.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
148	37.20	37.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
149	37.00	36.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
150	36.80	36.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
151	36.60	36.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
152	36.40	36.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
153	36.20	36.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
154	36.00	35.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
155	35.80	35.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
156	35.60	35.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
157	35.40	35.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
158	35.20	35.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
159	35.00	34.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
160	34.80	34.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
161	34.60	34.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
162	34.40	34.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
163	34.20	34.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
164	34.00	33.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
165	33.80	33.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
166	33.60	33.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
167	33.40	33.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
168	33.20	33.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
169	33.00	32.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
170	32.80	32.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
171	32.60	32.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
172	32.40	32.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
173	32.20	32.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
174	32.00	31.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
175	31.80	31.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
176	31.60	31.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
177	31.40	31.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
178	31.20	31.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
179	31.00	30.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
180	30.80	30.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
181	30.60	30.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
182	30.40	30.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
183	30.20	30.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
184	30.00	29.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
185	29.80	29.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
186	29.60	29.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
187	29.40	29.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
188	29.20	29.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
189	29.00	28.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
190	28.80	28.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
191	28.60	28.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015

192	28.40	28.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
193	28.20	28.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
194	28.00	27.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
195	27.80	27.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
196	27.60	27.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
197	27.40	27.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
198	27.20	27.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
199	27.00	26.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
200	26.80	26.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
201	26.60	26.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
202	26.40	26.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
203	26.20	26.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
204	26.00	25.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
205	25.80	25.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
206	25.60	25.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
207	25.40	25.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
208	25.20	25.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
209	25.00	24.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
210	24.80	24.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
211	24.60	24.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
212	24.40	24.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
213	24.20	24.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
214	24.00	23.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
215	23.80	23.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
216	23.60	23.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
217	23.40	23.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
218	23.20	23.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
219	23.00	22.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
220	22.80	22.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
221	22.60	22.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
222	22.40	22.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
223	22.20	22.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
224	22.00	21.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
225	21.80	21.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
226	21.60	21.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
227	21.40	21.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
228	21.20	21.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
229	21.00	20.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
230	20.80	20.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
231	20.60	20.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
232	20.40	20.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
233	20.20	20.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
234	20.00	19.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
235	19.80	19.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
236	19.60	19.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
237	19.40	19.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
238	19.20	19.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
239	19.00	18.80	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
240	18.80	18.60	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
241	18.60	18.40	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
242	18.40	18.20	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015

243	18.20	18.00	0.0280	0.015	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
244	18.00	17.80	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
245	17.80	17.60	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
246	17.60	17.40	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
247	17.40	17.20	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
248	17.20	17.00	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
249	17.00	16.80	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
250	16.80	16.60	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
251	16.60	16.40	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
252	16.40	16.20	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
253	16.20	16.00	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
254	16.00	15.80	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
255	15.80	15.60	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
256	15.60	15.40	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
257	15.40	15.20	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
258	15.20	15.00	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
259	15.00	14.80	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
260	14.80	14.60	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
261	14.60	14.40	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
262	14.40	14.20	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
263	14.20	14.00	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
264	14.00	13.80	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
265	13.80	13.60	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
266	13.60	13.40	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
267	13.40	13.20	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
268	13.20	13.00	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
269	13.00	12.80	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
270	12.80	12.60	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
271	12.60	12.40	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
272	12.40	12.20	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
273	12.20	12.00	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
274	12.00	11.80	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
275	11.80	11.60	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
276	11.60	11.40	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
277	11.40	11.20	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
278	11.20	11.00	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
279	11.00	10.80	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
280	10.80	10.60	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
281	10.60	10.40	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
282	10.40	10.20	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
283	10.20	10.00	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
284	10.00	9.80	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
285	9.80	9.60	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
286	9.60	9.40	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
287	9.40	9.20	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
288	9.20	9.00	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
289	9.00	8.80	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
290	8.80	8.60	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
291	8.60	8.40	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
292	8.40	8.20	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
293	8.20	8.00	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003

294	8.00	7.80	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
295	7.80	7.60	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
296	7.60	7.40	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
297	7.40	7.20	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
298	7.20	7.00	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
299	7.00	6.80	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
300	6.80	6.60	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
301	6.60	6.40	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
302	6.40	6.20	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
303	6.20	6.00	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
304	6.00	5.80	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
305	5.80	5.60	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
306	5.60	5.40	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
307	5.40	5.20	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
308	5.20	5.00	0.0280	0.003	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
309	5.00	4.80	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
310	4.80	4.60	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
311	4.60	4.40	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
312	4.40	4.20	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
313	4.20	4.00	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
314	4.00	3.80	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
315	3.80	3.60	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
316	3.60	3.40	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
317	3.40	3.20	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
318	3.20	3.00	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
319	3.00	2.80	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
320	2.80	2.60	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
321	2.60	2.40	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
322	2.40	2.20	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
323	2.20	2.00	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
324	2.00	1.80	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
325	1.80	1.60	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
326	1.60	1.40	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
327	1.40	1.20	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
328	1.20	1.00	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
329	1.00	0.80	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
330	0.80	0.60	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
331	0.60	0.40	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
332	0.40	0.20	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
333	0.20	0.00	0.0280	0.001	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001

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FINAL REPORT Flat Creek headwater
 REACH NO. 1 FLAT CREEK RK 66.47-54.0

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 5.0 DO, NOV-MAY, 15% REDUCTION REQUIRED

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
1	HDWTR	0.0280	20.00	0.00	5.1	0.0	5.00	15.66	15.66	0.00	0.00	0.00	0.00	0.0	0.	3.79

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
1	66.47	66.27	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
2	66.27	66.07	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
3	66.07	65.88	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
4	65.88	65.68	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
5	65.68	65.48	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
6	65.48	65.28	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
7	65.28	65.08	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
8	65.08	64.89	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
9	64.89	64.69	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
10	64.69	64.49	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
11	64.49	64.29	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
12	64.29	64.09	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
13	64.09	63.90	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
14	63.90	63.70	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
15	63.70	63.50	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
16	63.50	63.30	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
17	63.30	63.11	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
18	63.11	62.91	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
19	62.91	62.71	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
20	62.71	62.51	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
21	62.51	62.31	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
22	62.31	62.12	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
23	62.12	61.92	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
24	61.92	61.72	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
25	61.72	61.52	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
26	61.52	61.32	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
27	61.32	61.13	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
28	61.13	60.93	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
29	60.93	60.73	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
30	60.73	60.53	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
31	60.53	60.33	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
32	60.33	60.14	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
33	60.14	59.94	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
34	59.94	59.74	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
35	59.74	59.54	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
36	59.54	59.34	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
37	59.34	59.15	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
38	59.15	58.95	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
39	58.95	58.75	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
40	58.75	58.55	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
41	58.55	58.35	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
42	58.35	58.16	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
43	58.16	57.96	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022

44	57.96	57.76	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
45	57.76	57.56	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
46	57.56	57.36	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
47	57.36	57.17	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
48	57.17	56.97	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
49	56.97	56.77	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
50	56.77	56.57	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
51	56.57	56.38	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
52	56.38	56.18	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
53	56.18	55.98	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
54	55.98	55.78	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
55	55.78	55.58	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
56	55.58	55.39	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
57	55.39	55.19	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
58	55.19	54.99	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
59	54.99	54.79	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
60	54.79	54.59	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
61	54.59	54.40	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
62	54.40	54.20	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
63	54.20	54.00	0.0280	0.0	0.022	0.11	0.28	4.6	255.	909.7	1.3	0.	0.000	2.000	0.022
TOT							6.63			16043.	57311.3				
AVG					0.022			0.28	4.6				1.3		
CUM							6.63								

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
1	66.272	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
2	66.074	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
3	65.876	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
4	65.678	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
5	65.480	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
6	65.282	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
7	65.084	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
8	64.887	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
9	64.689	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
10	64.491	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
11	64.293	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
12	64.095	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
13	63.897	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
14	63.699	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
15	63.501	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
16	63.303	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
17	63.105	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
18	62.907	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
19	62.709	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05

20	62.511	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
21	62.313	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
22	62.115	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
23	61.917	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
24	61.720	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
25	61.522	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
26	61.324	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
27	61.126	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
28	60.928	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
29	60.730	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
30	60.532	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
31	60.334	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
32	60.136	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
33	59.938	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
34	59.740	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
35	59.542	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
36	59.344	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
37	59.146	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
38	58.948	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
39	58.750	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
40	58.553	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
41	58.355	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
42	58.157	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
43	57.959	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
44	57.761	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
45	57.563	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
46	57.365	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
47	57.167	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
48	56.969	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
49	56.771	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
50	56.573	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
51	56.375	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
52	56.177	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
53	55.979	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
54	55.781	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
55	55.583	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
56	55.386	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
57	55.188	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
58	54.990	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
59	54.792	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
60	54.594	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
61	54.396	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
62	54.198	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
63	54.000	9.09	3.48	0.04	0.10	0.00	3.31	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05

20 DEG C RATE 0.04 0.00 3.31 0.00 0.00 0.00 0.00 0.00 0.00 0.04 0.05
 AVG 20 DEG C RATE 3.48 0.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.05

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
1	66.272	20.00	0.0	5.1	0.0	5.15	15.62	15.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.78
2	66.074	20.00	0.0	5.1	0.0	5.23	15.59	15.59	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.77
3	65.876	20.00	0.0	5.1	0.0	5.29	15.57	15.57	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.76
4	65.678	20.00	0.0	5.1	0.0	5.34	15.54	15.54	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.75
5	65.480	20.00	0.0	5.1	0.0	5.37	15.52	15.52	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.74
6	65.282	20.00	0.0	5.1	0.0	5.40	15.49	15.49	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.73
7	65.084	20.00	0.0	5.1	0.0	5.42	15.47	15.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.72
8	64.887	20.00	0.0	5.1	0.0	5.43	15.45	15.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.71
9	64.689	20.00	0.0	5.1	0.0	5.44	15.42	15.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.70
10	64.491	20.00	0.0	5.1	0.0	5.45	15.40	15.40	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.69
11	64.293	20.00	0.0	5.1	0.0	5.46	15.38	15.38	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.69
12	64.095	20.00	0.0	5.1	0.0	5.46	15.35	15.35	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.68
13	63.897	20.00	0.0	5.1	0.0	5.47	15.33	15.33	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.67
14	63.699	20.00	0.0	5.1	0.0	5.47	15.31	15.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.66
15	63.501	20.00	0.0	5.1	0.0	5.47	15.29	15.29	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.65
16	63.303	20.00	0.0	5.1	0.0	5.47	15.26	15.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.64
17	63.105	20.00	0.0	5.1	0.0	5.48	15.24	15.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.64
18	62.907	20.00	0.0	5.1	0.0	5.48	15.22	15.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.63
19	62.709	20.00	0.0	5.1	0.0	5.48	15.20	15.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.62
20	62.511	20.00	0.0	5.1	0.0	5.48	15.18	15.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.61
21	62.313	20.00	0.0	5.1	0.0	5.48	15.16	15.16	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.60
22	62.115	20.00	0.0	5.1	0.0	5.48	15.14	15.14	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.60
23	61.917	20.00	0.0	5.1	0.0	5.48	15.12	15.12	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.59
24	61.720	20.00	0.0	5.1	0.0	5.48	15.10	15.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.58
25	61.522	20.00	0.0	5.1	0.0	5.48	15.09	15.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.57
26	61.324	20.00	0.0	5.1	0.0	5.48	15.07	15.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.57
27	61.126	20.00	0.0	5.1	0.0	5.48	15.05	15.05	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.56
28	60.928	20.00	0.0	5.1	0.0	5.48	15.03	15.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.55
29	60.730	20.00	0.0	5.1	0.0	5.48	15.01	15.01	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.54
30	60.532	20.00	0.0	5.1	0.0	5.48	15.00	15.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.54
31	60.334	20.00	0.0	5.1	0.0	5.48	14.98	14.98	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.53
32	60.136	20.00	0.0	5.1	0.0	5.48	14.96	14.96	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.52
33	59.938	20.00	0.0	5.1	0.0	5.48	14.94	14.94	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.52
34	59.740	20.00	0.0	5.1	0.0	5.48	14.93	14.93	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.51
35	59.542	20.00	0.0	5.1	0.0	5.48	14.91	14.91	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.50
36	59.344	20.00	0.0	5.1	0.0	5.49	14.90	14.90	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.49
37	59.146	20.00	0.0	5.1	0.0	5.49	14.88	14.88	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.49
38	58.948	20.00	0.0	5.1	0.0	5.49	14.86	14.86	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.48
39	58.750	20.00	0.0	5.1	0.0	5.49	14.85	14.85	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.47
40	58.553	20.00	0.0	5.1	0.0	5.49	14.83	14.83	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.47
41	58.355	20.00	0.0	5.1	0.0	5.49	14.82	14.82	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.46
42	58.157	20.00	0.0	5.1	0.0	5.49	14.80	14.80	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.45
43	57.959	20.00	0.0	5.1	0.0	5.49	14.79	14.79	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.45
44	57.761	20.00	0.0	5.1	0.0	5.49	14.78	14.78	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.44
45	57.563	20.00	0.0	5.1	0.0	5.49	14.76	14.76	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.44
46	57.365	20.00	0.0	5.1	0.0	5.49	14.75	14.75	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.43

75	51.80	51.60	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
76	51.60	51.40	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
77	51.40	51.20	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
78	51.20	51.00	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
79	51.00	50.80	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
80	50.80	50.60	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
81	50.60	50.40	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
82	50.40	50.20	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
83	50.20	50.00	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
84	50.00	49.80	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
85	49.80	49.60	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
86	49.60	49.40	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
87	49.40	49.20	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
88	49.20	49.00	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
89	49.00	48.80	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
90	48.80	48.60	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
91	48.60	48.40	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
92	48.40	48.20	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
93	48.20	48.00	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
94	48.00	47.80	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
95	47.80	47.60	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
96	47.60	47.40	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
97	47.40	47.20	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
98	47.20	47.00	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
99	47.00	46.80	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
100	46.80	46.60	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
101	46.60	46.40	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
102	46.40	46.20	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
103	46.20	46.00	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
104	46.00	45.80	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
105	45.80	45.60	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
106	45.60	45.40	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
107	45.40	45.20	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
108	45.20	45.00	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
109	45.00	44.80	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
110	44.80	44.60	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
111	44.60	44.40	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
112	44.40	44.20	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
113	44.20	44.00	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
114	44.00	43.80	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
115	43.80	43.60	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
116	43.60	43.40	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
117	43.40	43.20	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
118	43.20	43.00	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
119	43.00	42.80	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
120	42.80	42.60	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
121	42.60	42.40	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
122	42.40	42.20	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
123	42.20	42.00	0.0280	0.0	0.022	0.11	0.28	4.6	257.	919.2	1.3	0.	0.000	2.000	0.022
TOT						6.38			15438.	55151.1					

AVG 0.022 0.28 4.6 1.3
 CUM 13.01

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
64	53.800	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
65	53.600	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
66	53.400	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
67	53.200	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
68	53.000	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
69	52.800	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
70	52.600	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
71	52.400	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
72	52.200	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
73	52.000	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
74	51.800	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
75	51.600	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
76	51.400	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
77	51.200	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
78	51.000	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
79	50.800	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
80	50.600	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
81	50.400	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
82	50.200	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
83	50.000	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
84	49.800	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
85	49.600	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
86	49.400	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
87	49.200	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
88	49.000	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
89	48.800	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
90	48.600	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
91	48.400	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
92	48.200	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
93	48.000	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
94	47.800	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
95	47.600	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
96	47.400	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
97	47.200	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
98	47.000	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
99	46.800	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
100	46.600	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
101	46.400	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
102	46.200	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
103	46.000	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
104	45.800	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05

105	45.600	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
106	45.400	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
107	45.200	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
108	45.000	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
109	44.800	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
110	44.600	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
111	44.400	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
112	44.200	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
113	44.000	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
114	43.800	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
115	43.600	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
116	43.400	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
117	43.200	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
118	43.000	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
119	42.800	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
120	42.600	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
121	42.400	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
122	42.200	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
123	42.000	9.09	3.48	0.04	0.10	0.00	3.23	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05

20 DEG C RATE				0.04		0.00		3.23	0.00		0.00	0.00	0.00	0.00			0.00	3.77	
AVG 20 DEG C RATE			3.48		0.10					0.00									0.05

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
64	53.800	20.00	0.0	5.1	0.0	5.52	14.52	14.52	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.32
65	53.600	20.00	0.0	5.1	0.0	5.53	14.51	14.51	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.31
66	53.400	20.00	0.0	5.1	0.0	5.54	14.49	14.49	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.30
67	53.200	20.00	0.0	5.1	0.0	5.55	14.47	14.47	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.29
68	53.000	20.00	0.0	5.1	0.0	5.56	14.46	14.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.28
69	52.800	20.00	0.0	5.1	0.0	5.56	14.44	14.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.26
70	52.600	20.00	0.0	5.1	0.0	5.57	14.43	14.43	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.25
71	52.400	20.00	0.0	5.1	0.0	5.57	14.41	14.41	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.24
72	52.200	20.00	0.0	5.1	0.0	5.57	14.40	14.40	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.23
73	52.000	20.00	0.0	5.1	0.0	5.57	14.39	14.39	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.22
74	51.800	20.00	0.0	5.1	0.0	5.57	14.37	14.37	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.21
75	51.600	20.00	0.0	5.1	0.0	5.57	14.36	14.36	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.20
76	51.400	20.00	0.0	5.1	0.0	5.58	14.34	14.34	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.19
77	51.200	20.00	0.0	5.1	0.0	5.58	14.33	14.33	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.18
78	51.000	20.00	0.0	5.1	0.0	5.58	14.32	14.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.17
79	50.800	20.00	0.0	5.1	0.0	5.58	14.30	14.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.16
80	50.600	20.00	0.0	5.1	0.0	5.58	14.29	14.29	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.16
81	50.400	20.00	0.0	5.1	0.0	5.58	14.28	14.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.15
82	50.200	20.00	0.0	5.1	0.0	5.58	14.27	14.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.14
83	50.000	20.00	0.0	5.1	0.0	5.58	14.25	14.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	3.13

84	49.800	20.00	0.0	5.1	0.0	5.58	14.24	14.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.12
85	49.600	20.00	0.0	5.1	0.0	5.58	14.23	14.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.11
86	49.400	20.00	0.0	5.1	0.0	5.58	14.22	14.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.10
87	49.200	20.00	0.0	5.1	0.0	5.58	14.21	14.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.09
88	49.000	20.00	0.0	5.1	0.0	5.58	14.19	14.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.08
89	48.800	20.00	0.0	5.1	0.0	5.58	14.18	14.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.07
90	48.600	20.00	0.0	5.1	0.0	5.58	14.17	14.17	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.07
91	48.400	20.00	0.0	5.1	0.0	5.58	14.16	14.16	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.06
92	48.200	20.00	0.0	5.1	0.0	5.58	14.15	14.15	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.05
93	48.000	20.00	0.0	5.1	0.0	5.58	14.14	14.14	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.04
94	47.800	20.00	0.0	5.1	0.0	5.58	14.13	14.13	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.03
95	47.600	20.00	0.0	5.1	0.0	5.58	14.12	14.12	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.02
96	47.400	20.00	0.0	5.1	0.0	5.58	14.11	14.11	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.02
97	47.200	20.00	0.0	5.1	0.0	5.58	14.10	14.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.01
98	47.000	20.00	0.0	5.1	0.0	5.58	14.09	14.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.00
99	46.800	20.00	0.0	5.1	0.0	5.58	14.08	14.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.99
100	46.600	20.00	0.0	5.1	0.0	5.58	14.07	14.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.98
101	46.400	20.00	0.0	5.1	0.0	5.58	14.06	14.06	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.98
102	46.200	20.00	0.0	5.1	0.0	5.58	14.05	14.05	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.97
103	46.000	20.00	0.0	5.1	0.0	5.58	14.04	14.04	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.96
104	45.800	20.00	0.0	5.1	0.0	5.58	14.03	14.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.95
105	45.600	20.00	0.0	5.1	0.0	5.58	14.02	14.02	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.95
106	45.400	20.00	0.0	5.1	0.0	5.58	14.01	14.01	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.94
107	45.200	20.00	0.0	5.1	0.0	5.58	14.01	14.01	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.93
108	45.000	20.00	0.0	5.1	0.0	5.58	14.00	14.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.92
109	44.800	20.00	0.0	5.1	0.0	5.58	13.99	13.99	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.92
110	44.600	20.00	0.0	5.1	0.0	5.58	13.98	13.98	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.91
111	44.400	20.00	0.0	5.1	0.0	5.58	13.97	13.97	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.90
112	44.200	20.00	0.0	5.1	0.0	5.59	13.96	13.96	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.89
113	44.000	20.00	0.0	5.1	0.0	5.59	13.96	13.96	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.89
114	43.800	20.00	0.0	5.1	0.0	5.59	13.95	13.95	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.88
115	43.600	20.00	0.0	5.1	0.0	5.59	13.94	13.94	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.87
116	43.400	20.00	0.0	5.1	0.0	5.59	13.93	13.93	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.87
117	43.200	20.00	0.0	5.1	0.0	5.59	13.92	13.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.86
118	43.000	20.00	0.0	5.1	0.0	5.59	13.92	13.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.85
119	42.800	20.00	0.0	5.1	0.0	5.59	13.91	13.91	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.85
120	42.600	20.00	0.0	5.1	0.0	5.59	13.90	13.90	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.84
121	42.400	20.00	0.0	5.1	0.0	5.59	13.90	13.90	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.83
122	42.200	20.00	0.0	5.1	0.0	5.58	13.89	13.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.83
123	42.000	20.00	0.0	5.1	0.0	5.57	13.89	13.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.81

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

** g/cu m

1

FINAL REPORT Flat Creek headwater
 REACH NO. 3 FLAT CREEK RK 42.0-30.0

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 5.0 DO, NOV-MAY, 15% REDUCTION REQUIRED

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
124	UPR RCH	0.0280	20.00	0.00	5.1	0.0	5.57	13.89	13.89	0.00	0.00	0.00	0.00	0.0	0.	2.81

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
124	42.00	41.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
125	41.80	41.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
126	41.60	41.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
127	41.40	41.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
128	41.20	41.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
129	41.00	40.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
130	40.80	40.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
131	40.60	40.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
132	40.40	40.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
133	40.20	40.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
134	40.00	39.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
135	39.80	39.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
136	39.60	39.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
137	39.40	39.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
138	39.20	39.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
139	39.00	38.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
140	38.80	38.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
141	38.60	38.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
142	38.40	38.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
143	38.20	38.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
144	38.00	37.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
145	37.80	37.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
146	37.60	37.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
147	37.40	37.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
148	37.20	37.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
149	37.00	36.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
150	36.80	36.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
151	36.60	36.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
152	36.40	36.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
153	36.20	36.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
154	36.00	35.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
155	35.80	35.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
156	35.60	35.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
157	35.40	35.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
158	35.20	35.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
159	35.00	34.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
160	34.80	34.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
161	34.60	34.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
162	34.40	34.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015

163	34.20	34.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
164	34.00	33.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
165	33.80	33.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
166	33.60	33.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
167	33.40	33.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
168	33.20	33.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
169	33.00	32.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
170	32.80	32.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
171	32.60	32.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
172	32.40	32.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
173	32.20	32.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
174	32.00	31.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
175	31.80	31.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
176	31.60	31.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
177	31.40	31.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
178	31.20	31.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
179	31.00	30.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
180	30.80	30.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
181	30.60	30.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
182	30.40	30.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
183	30.20	30.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
TOT						9.56			23120.	67223.1					
AVG					0.015		0.34	5.6			1.9				
CUM						22.57									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
124	41.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
125	41.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
126	41.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
127	41.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
128	41.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
129	40.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
130	40.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
131	40.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
132	40.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
133	40.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
134	39.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
135	39.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
136	39.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
137	39.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
138	39.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
139	38.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
140	38.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
141	38.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05

142	38.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
143	38.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
144	37.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
145	37.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
146	37.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
147	37.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
148	37.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
149	36.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
150	36.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
151	36.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
152	36.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
153	36.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
154	35.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
155	35.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
156	35.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
157	35.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
158	35.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
159	34.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
160	34.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
161	34.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
162	34.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
163	34.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
164	33.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
165	33.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
166	33.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
167	33.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
168	33.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
169	32.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
170	32.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
171	32.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
172	32.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
173	32.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
174	31.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
175	31.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
176	31.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
177	31.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
178	31.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
179	30.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
180	30.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
181	30.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
182	30.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
183	30.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05

20 DEG C RATE			0.03		0.00		3.05	0.00		0.00	0.00	0.00	0.00			0.00	3.76			
AVG 20 DEG C RATE		2.53		0.10					0.00										0.05	

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
124	41.800	20.00	0.0	5.1	0.0	5.51	13.90	13.90	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.80
125	41.600	20.00	0.0	5.1	0.0	5.48	13.91	13.91	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.78
126	41.400	20.00	0.0	5.1	0.0	5.45	13.92	13.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.76
127	41.200	20.00	0.0	5.1	0.0	5.43	13.92	13.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.75
128	41.000	20.00	0.0	5.1	0.0	5.42	13.93	13.93	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.73
129	40.800	20.00	0.0	5.1	0.0	5.41	13.94	13.94	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.72
130	40.600	20.00	0.0	5.1	0.0	5.40	13.95	13.95	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.70
131	40.400	20.00	0.0	5.1	0.0	5.39	13.95	13.95	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.69
132	40.200	20.00	0.0	5.1	0.0	5.39	13.96	13.96	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.67
133	40.000	20.00	0.0	5.1	0.0	5.38	13.97	13.97	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.66
134	39.800	20.00	0.0	5.1	0.0	5.38	13.97	13.97	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.64
135	39.600	20.00	0.0	5.1	0.0	5.38	13.98	13.98	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.63
136	39.400	20.00	0.0	5.1	0.0	5.38	13.99	13.99	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.61
137	39.200	20.00	0.0	5.1	0.0	5.38	13.99	13.99	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.60
138	39.000	20.00	0.0	5.1	0.0	5.38	14.00	14.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.59
139	38.800	20.00	0.0	5.1	0.0	5.38	14.01	14.01	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.57
140	38.600	20.00	0.0	5.1	0.0	5.38	14.01	14.01	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.56
141	38.400	20.00	0.0	5.1	0.0	5.38	14.02	14.02	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.55
142	38.200	20.00	0.0	5.1	0.0	5.38	14.02	14.02	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.53
143	38.000	20.00	0.0	5.1	0.0	5.38	14.03	14.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.52
144	37.800	20.00	0.0	5.1	0.0	5.38	14.03	14.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.51
145	37.600	20.00	0.0	5.1	0.0	5.38	14.04	14.04	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.50
146	37.400	20.00	0.0	5.1	0.0	5.38	14.05	14.05	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.49
147	37.200	20.00	0.0	5.1	0.0	5.38	14.05	14.05	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.47
148	37.000	20.00	0.0	5.1	0.0	5.38	14.06	14.06	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.46
149	36.800	20.00	0.0	5.1	0.0	5.38	14.06	14.06	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.45
150	36.600	20.00	0.0	5.1	0.0	5.38	14.07	14.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.44
151	36.400	20.00	0.0	5.1	0.0	5.38	14.07	14.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.43
152	36.200	20.00	0.0	5.1	0.0	5.38	14.08	14.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.42
153	36.000	20.00	0.0	5.1	0.0	5.38	14.08	14.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.41
154	35.800	20.00	0.0	5.1	0.0	5.38	14.08	14.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.40
155	35.600	20.00	0.0	5.1	0.0	5.38	14.09	14.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.39
156	35.400	20.00	0.0	5.1	0.0	5.38	14.09	14.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.38
157	35.200	20.00	0.0	5.1	0.0	5.38	14.10	14.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.37
158	35.000	20.00	0.0	5.1	0.0	5.38	14.10	14.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.36
159	34.800	20.00	0.0	5.1	0.0	5.38	14.11	14.11	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.35
160	34.600	20.00	0.0	5.1	0.0	5.38	14.11	14.11	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.34
161	34.400	20.00	0.0	5.1	0.0	5.38	14.11	14.11	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.33
162	34.200	20.00	0.0	5.1	0.0	5.38	14.12	14.12	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.32
163	34.000	20.00	0.0	5.1	0.0	5.38	14.12	14.12	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.31
164	33.800	20.00	0.0	5.1	0.0	5.38	14.13	14.13	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.30
165	33.600	20.00	0.0	5.1	0.0	5.38	14.13	14.13	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.29
166	33.400	20.00	0.0	5.1	0.0	5.38	14.13	14.13	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.28
167	33.200	20.00	0.0	5.1	0.0	5.38	14.14	14.14	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.27
168	33.000	20.00	0.0	5.1	0.0	5.38	14.14	14.14	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.27
169	32.800	20.00	0.0	5.1	0.0	5.38	14.14	14.14	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.26
170	32.600	20.00	0.0	5.1	0.0	5.38	14.15	14.15	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.25
171	32.400	20.00	0.0	5.1	0.0	5.38	14.15	14.15	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.24

172	32.200	20.00	0.0	5.1	0.0	5.38	14.15	14.15	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.23
173	32.000	20.00	0.0	5.1	0.0	5.38	14.16	14.16	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.23
174	31.800	20.00	0.0	5.1	0.0	5.38	14.16	14.16	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.22
175	31.600	20.00	0.0	5.1	0.0	5.38	14.16	14.16	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.21
176	31.400	20.00	0.0	5.1	0.0	5.38	14.16	14.16	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.20
177	31.200	20.00	0.0	5.1	0.0	5.38	14.17	14.17	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.20
178	31.000	20.00	0.0	5.1	0.0	5.38	14.17	14.17	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.19
179	30.800	20.00	0.0	5.1	0.0	5.38	14.17	14.17	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.18
180	30.600	20.00	0.0	5.1	0.0	5.38	14.18	14.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.17
181	30.400	20.00	0.0	5.1	0.0	5.38	14.18	14.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.17
182	30.200	20.00	0.0	5.1	0.0	5.38	14.18	14.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.16
183	30.000	20.00	0.0	5.1	0.0	5.38	14.18	14.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.15

* CM-I = CHLORIDES
 MG/L
 ** g/cu m

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

1
 FINAL REPORT Flat Creek headwater FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 REACH NO. 4 FLAT CREEK RK 30.0-18.0 5.0 DO, NOV-MAY, 15% REDUCTION REQUIRED

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
184	UPR RCH	0.0280	20.00	0.00	5.1	0.0	5.38	14.18	14.18	0.00	0.00	0.00	0.00	0.0	0.	2.15

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
184	30.00	29.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
185	29.80	29.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
186	29.60	29.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
187	29.40	29.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
188	29.20	29.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
189	29.00	28.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
190	28.80	28.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
191	28.60	28.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
192	28.40	28.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
193	28.20	28.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
194	28.00	27.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
195	27.80	27.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
196	27.60	27.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
197	27.40	27.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
198	27.20	27.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
199	27.00	26.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015

200	26.80	26.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
201	26.60	26.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
202	26.40	26.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
203	26.20	26.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
204	26.00	25.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
205	25.80	25.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
206	25.60	25.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
207	25.40	25.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
208	25.20	25.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
209	25.00	24.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
210	24.80	24.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
211	24.60	24.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
212	24.40	24.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
213	24.20	24.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
214	24.00	23.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
215	23.80	23.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
216	23.60	23.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
217	23.40	23.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
218	23.20	23.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
219	23.00	22.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
220	22.80	22.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
221	22.60	22.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
222	22.40	22.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
223	22.20	22.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
224	22.00	21.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
225	21.80	21.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
226	21.60	21.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
227	21.40	21.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
228	21.20	21.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
229	21.00	20.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
230	20.80	20.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
231	20.60	20.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
232	20.40	20.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
233	20.20	20.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
234	20.00	19.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
235	19.80	19.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
236	19.60	19.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
237	19.40	19.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
238	19.20	19.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
239	19.00	18.80	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
240	18.80	18.60	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
241	18.60	18.40	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
242	18.40	18.20	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
243	18.20	18.00	0.0280	0.0	0.015	0.16	0.34	5.6	385.	1120.4	1.9	0.	0.000	2.000	0.015
TOT						9.56			23120.	67223.1					
AVG				0.015			0.34	5.6			1.9				
CUM						32.13									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
184	29.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
185	29.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
186	29.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
187	29.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
188	29.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
189	28.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
190	28.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
191	28.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
192	28.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
193	28.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
194	27.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
195	27.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
196	27.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
197	27.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
198	27.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
199	26.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
200	26.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
201	26.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
202	26.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
203	26.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
204	25.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
205	25.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
206	25.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
207	25.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
208	25.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
209	24.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
210	24.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
211	24.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
212	24.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
213	24.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
214	23.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
215	23.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
216	23.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
217	23.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
218	23.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
219	22.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
220	22.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
221	22.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
222	22.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
223	22.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
224	21.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
225	21.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
226	21.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
227	21.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
228	21.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
229	20.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05

230	20.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
231	20.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
232	20.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
233	20.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
234	19.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
235	19.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
236	19.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
237	19.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
238	19.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
239	18.800	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
240	18.600	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
241	18.400	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
242	18.200	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
243	18.000	9.09	2.53	0.03	0.10	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
20 DEG C RATE				0.03		0.00		3.05	0.00		0.00	0.00	0.00	0.00		0.00	3.75		
AVG 20 DEG C RATE			2.53		0.10				0.00		0.00	0.00	0.00	0.00				0.05	

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
184	29.800	20.00	0.0	5.1	0.0	5.38	14.19	14.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.13
185	29.600	20.00	0.0	5.1	0.0	5.38	14.19	14.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.11
186	29.400	20.00	0.0	5.1	0.0	5.38	14.19	14.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.09
187	29.200	20.00	0.0	5.1	0.0	5.38	14.19	14.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.07
188	29.000	20.00	0.0	5.1	0.0	5.38	14.20	14.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.05
189	28.800	20.00	0.0	5.1	0.0	5.38	14.20	14.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.03
190	28.600	20.00	0.0	5.1	0.0	5.38	14.20	14.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.01
191	28.400	20.00	0.0	5.1	0.0	5.38	14.20	14.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.99
192	28.200	20.00	0.0	5.1	0.0	5.39	14.20	14.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.98
193	28.000	20.00	0.0	5.1	0.0	5.39	14.21	14.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.96
194	27.800	20.00	0.0	5.1	0.0	5.39	14.21	14.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.94
195	27.600	20.00	0.0	5.1	0.0	5.39	14.21	14.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.93
196	27.400	20.00	0.0	5.1	0.0	5.39	14.21	14.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.91
197	27.200	20.00	0.0	5.1	0.0	5.39	14.21	14.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.89
198	27.000	20.00	0.0	5.1	0.0	5.39	14.22	14.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.88
199	26.800	20.00	0.0	5.1	0.0	5.39	14.22	14.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.86
200	26.600	20.00	0.0	5.1	0.0	5.39	14.22	14.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.85
201	26.400	20.00	0.0	5.1	0.0	5.39	14.22	14.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.83
202	26.200	20.00	0.0	5.1	0.0	5.39	14.22	14.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.82
203	26.000	20.00	0.0	5.1	0.0	5.39	14.22	14.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.80
204	25.800	20.00	0.0	5.1	0.0	5.39	14.23	14.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.79
205	25.600	20.00	0.0	5.1	0.0	5.39	14.23	14.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.77
206	25.400	20.00	0.0	5.1	0.0	5.39	14.23	14.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.76
207	25.200	20.00	0.0	5.1	0.0	5.39	14.23	14.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.74
208	25.000	20.00	0.0	5.1	0.0	5.39	14.23	14.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.73

209	24.800	20.00	0.0	5.1	0.0	5.39	14.23	14.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.72
210	24.600	20.00	0.0	5.1	0.0	5.39	14.24	14.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.70
211	24.400	20.00	0.0	5.1	0.0	5.39	14.24	14.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.69
212	24.200	20.00	0.0	5.1	0.0	5.39	14.24	14.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.68
213	24.000	20.00	0.0	5.1	0.0	5.39	14.24	14.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.67
214	23.800	20.00	0.0	5.1	0.0	5.39	14.24	14.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.65
215	23.600	20.00	0.0	5.1	0.0	5.39	14.24	14.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.64
216	23.400	20.00	0.0	5.1	0.0	5.39	14.24	14.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.63
217	23.200	20.00	0.0	5.1	0.0	5.39	14.24	14.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.62
218	23.000	20.00	0.0	5.1	0.0	5.39	14.25	14.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.61
219	22.800	20.00	0.0	5.1	0.0	5.39	14.25	14.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.59
220	22.600	20.00	0.0	5.1	0.0	5.39	14.25	14.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.58
221	22.400	20.00	0.0	5.1	0.0	5.39	14.25	14.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.57
222	22.200	20.00	0.0	5.1	0.0	5.39	14.25	14.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.56
223	22.000	20.00	0.0	5.1	0.0	5.39	14.25	14.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.55
224	21.800	20.00	0.0	5.1	0.0	5.39	14.25	14.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.54
225	21.600	20.00	0.0	5.1	0.0	5.39	14.25	14.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.53
226	21.400	20.00	0.0	5.1	0.0	5.39	14.26	14.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.52
227	21.200	20.00	0.0	5.1	0.0	5.39	14.26	14.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.51
228	21.000	20.00	0.0	5.1	0.0	5.39	14.26	14.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.50
229	20.800	20.00	0.0	5.1	0.0	5.39	14.26	14.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.49
230	20.600	20.00	0.0	5.1	0.0	5.39	14.26	14.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.48
231	20.400	20.00	0.0	5.1	0.0	5.39	14.26	14.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.47
232	20.200	20.00	0.0	5.1	0.0	5.39	14.26	14.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.46
233	20.000	20.00	0.0	5.1	0.0	5.40	14.26	14.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.45
234	19.800	20.00	0.0	5.1	0.0	5.40	14.26	14.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.44
235	19.600	20.00	0.0	5.1	0.0	5.40	14.26	14.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.43
236	19.400	20.00	0.0	5.1	0.0	5.40	14.26	14.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.42
237	19.200	20.00	0.0	5.1	0.0	5.40	14.26	14.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.42
238	19.000	20.00	0.0	5.1	0.0	5.40	14.26	14.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
239	18.800	20.00	0.0	5.1	0.0	5.40	14.26	14.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.40
240	18.600	20.00	0.0	5.1	0.0	5.39	14.25	14.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.39
241	18.400	20.00	0.0	5.1	0.0	5.39	14.23	14.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.38
242	18.200	20.00	0.0	5.1	0.0	5.37	14.18	14.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.38
243	18.000	20.00	0.0	5.1	0.0	5.30	14.05	14.05	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.38

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

** g/cu m

1

FINAL REPORT Flat Creek headwater
 REACH NO. 5 FLAT CREEK RK 18.0-5.0

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 5.0 DO, NOV-MAY, 15% REDUCTION REQUIRED

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
244	UPR RCH	0.0280	20.00	0.00	5.1	0.0	5.30	14.05	14.05	0.00	0.00	0.00	0.00	0.0	0.	1.38

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
244	18.00	17.80	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
245	17.80	17.60	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
246	17.60	17.40	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
247	17.40	17.20	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
248	17.20	17.00	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
249	17.00	16.80	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
250	16.80	16.60	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
251	16.60	16.40	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
252	16.40	16.20	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
253	16.20	16.00	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
254	16.00	15.80	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
255	15.80	15.60	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
256	15.60	15.40	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
257	15.40	15.20	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
258	15.20	15.00	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
259	15.00	14.80	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
260	14.80	14.60	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
261	14.60	14.40	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
262	14.40	14.20	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
263	14.20	14.00	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
264	14.00	13.80	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
265	13.80	13.60	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
266	13.60	13.40	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
267	13.40	13.20	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
268	13.20	13.00	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
269	13.00	12.80	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
270	12.80	12.60	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
271	12.60	12.40	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
272	12.40	12.20	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
273	12.20	12.00	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
274	12.00	11.80	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
275	11.80	11.60	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
276	11.60	11.40	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
277	11.40	11.20	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
278	11.20	11.00	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
279	11.00	10.80	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
280	10.80	10.60	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
281	10.60	10.40	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
282	10.40	10.20	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
283	10.20	10.00	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
284	10.00	9.80	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
285	9.80	9.60	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
286	9.60	9.40	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003
287	9.40	9.20	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003

288	9.20	9.00	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
289	9.00	8.80	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
290	8.80	8.60	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
291	8.60	8.40	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
292	8.40	8.20	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
293	8.20	8.00	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
294	8.00	7.80	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
295	7.80	7.60	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
296	7.60	7.40	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
297	7.40	7.20	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
298	7.20	7.00	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
299	7.00	6.80	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
300	6.80	6.60	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
301	6.60	6.40	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
302	6.40	6.20	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
303	6.20	6.00	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
304	6.00	5.80	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
305	5.80	5.60	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
306	5.60	5.40	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
307	5.40	5.20	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
308	5.20	5.00	0.0280	0.0	0.003	0.71	0.89	9.6	1722.	1928.4	8.6	0.	0.000	2.000	0.003				
TOT								46.26		111924.	125345.0								
AVG					0.003			0.89	9.6										
CUM								78.39											

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAy 1/da	CBOD SETT 1/da	ANBOD DECAy 1/da	FULL SOD *	CORR SOD *	ORGN DECAy 1/da	ORGN SETT 1/da	NH3 DECAy 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAy 1/da	NCM DECAy 1/da	NCM SETT 1/da
244	17.800	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
245	17.600	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
246	17.400	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
247	17.200	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
248	17.000	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
249	16.800	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
250	16.600	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
251	16.400	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
252	16.200	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
253	16.000	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
254	15.800	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
255	15.600	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
256	15.400	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
257	15.200	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
258	15.000	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
259	14.800	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
260	14.600	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
261	14.400	9.09	0.80	0.04	0.10	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
244	17.800	20.00	0.0	5.1	0.0	5.22	13.93	13.93	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.38
245	17.600	20.00	0.0	5.1	0.0	5.18	13.86	13.86	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.38
246	17.400	20.00	0.0	5.1	0.0	5.15	13.78	13.78	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.39
247	17.200	20.00	0.0	5.1	0.0	5.13	13.72	13.72	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.39
248	17.000	20.00	0.0	5.1	0.0	5.11	13.65	13.65	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.39
249	16.800	20.00	0.0	5.1	0.0	5.10	13.60	13.60	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.39
250	16.600	20.00	0.0	5.1	0.0	5.09	13.54	13.54	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.39
251	16.400	20.00	0.0	5.1	0.0	5.09	13.50	13.50	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.39
252	16.200	20.00	0.0	5.1	0.0	5.08	13.45	13.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.40
253	16.000	20.00	0.0	5.1	0.0	5.08	13.41	13.41	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.40
254	15.800	20.00	0.0	5.1	0.0	5.08	13.37	13.37	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.40
255	15.600	20.00	0.0	5.1	0.0	5.08	13.33	13.33	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.40
256	15.400	20.00	0.0	5.1	0.0	5.08	13.30	13.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.40
257	15.200	20.00	0.0	5.1	0.0	5.08	13.27	13.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.40
258	15.000	20.00	0.0	5.1	0.0	5.08	13.24	13.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.40
259	14.800	20.00	0.0	5.1	0.0	5.08	13.22	13.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.40
260	14.600	20.00	0.0	5.1	0.0	5.08	13.19	13.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.40
261	14.400	20.00	0.0	5.1	0.0	5.08	13.17	13.17	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.40
262	14.200	20.00	0.0	5.1	0.0	5.08	13.15	13.15	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.40
263	14.000	20.00	0.0	5.1	0.0	5.08	13.13	13.13	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
264	13.800	20.00	0.0	5.1	0.0	5.08	13.11	13.11	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
265	13.600	20.00	0.0	5.1	0.0	5.09	13.09	13.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
266	13.400	20.00	0.0	5.1	0.0	5.09	13.08	13.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
267	13.200	20.00	0.0	5.1	0.0	5.09	13.07	13.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
268	13.000	20.00	0.0	5.1	0.0	5.09	13.05	13.05	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
269	12.800	20.00	0.0	5.1	0.0	5.09	13.04	13.04	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
270	12.600	20.00	0.0	5.1	0.0	5.09	13.03	13.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
271	12.400	20.00	0.0	5.1	0.0	5.09	13.02	13.02	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
272	12.200	20.00	0.0	5.1	0.0	5.09	13.01	13.01	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
273	12.000	20.00	0.0	5.1	0.0	5.09	13.00	13.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
274	11.800	20.00	0.0	5.1	0.0	5.09	12.99	12.99	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
275	11.600	20.00	0.0	5.1	0.0	5.09	12.98	12.98	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
276	11.400	20.00	0.0	5.1	0.0	5.09	12.98	12.98	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
277	11.200	20.00	0.0	5.1	0.0	5.09	12.97	12.97	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
278	11.000	20.00	0.0	5.1	0.0	5.09	12.97	12.97	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
279	10.800	20.00	0.0	5.1	0.0	5.09	12.96	12.96	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
280	10.600	20.00	0.0	5.1	0.0	5.09	12.95	12.95	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
281	10.400	20.00	0.0	5.1	0.0	5.09	12.95	12.95	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
282	10.200	20.00	0.0	5.1	0.0	5.09	12.95	12.95	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
283	10.000	20.00	0.0	5.1	0.0	5.09	12.94	12.94	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
284	9.800	20.00	0.0	5.1	0.0	5.09	12.94	12.94	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
285	9.600	20.00	0.0	5.1	0.0	5.09	12.93	12.93	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
286	9.400	20.00	0.0	5.1	0.0	5.09	12.93	12.93	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41

287	9.200	20.00	0.0	5.1	0.0	5.09	12.93	12.93	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
288	9.000	20.00	0.0	5.1	0.0	5.09	12.92	12.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
289	8.800	20.00	0.0	5.1	0.0	5.09	12.92	12.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
290	8.600	20.00	0.0	5.1	0.0	5.09	12.92	12.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
291	8.400	20.00	0.0	5.1	0.0	5.09	12.92	12.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
292	8.200	20.00	0.0	5.1	0.0	5.10	12.91	12.91	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
293	8.000	20.00	0.0	5.1	0.0	5.10	12.91	12.91	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
294	7.800	20.00	0.0	5.1	0.0	5.10	12.91	12.91	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
295	7.600	20.00	0.0	5.1	0.0	5.10	12.90	12.90	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
296	7.400	20.00	0.0	5.1	0.0	5.10	12.90	12.90	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.42
297	7.200	20.00	0.0	5.1	0.0	5.10	12.89	12.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.42
298	7.000	20.00	0.0	5.1	0.0	5.10	12.88	12.88	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.42
299	6.800	20.00	0.0	5.1	0.0	5.10	12.87	12.87	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.42
300	6.600	20.00	0.0	5.1	0.0	5.10	12.86	12.86	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.42
301	6.400	20.00	0.0	5.1	0.0	5.10	12.84	12.84	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.42
302	6.200	20.00	0.0	5.1	0.0	5.10	12.81	12.81	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.43
303	6.000	20.00	0.0	5.1	0.0	5.11	12.77	12.77	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.43
304	5.800	20.00	0.0	5.1	0.0	5.12	12.71	12.71	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.44
305	5.600	20.00	0.0	5.1	0.0	5.13	12.63	12.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.46
306	5.400	20.00	0.0	5.1	0.0	5.15	12.51	12.51	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.47
307	5.200	20.00	0.0	5.1	0.0	5.19	12.34	12.34	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.50
308	5.000	20.00	0.0	5.1	0.0	5.26	12.09	12.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.53

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = NBOD
MG/L

** g/cu m

1
 FINAL REPORT Flat Creek headwater FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 REACH NO. 6 FLAT CREEK RK 5.0-0.0 5.0 DO, NOV-MAY, 15% REDUCTION REQUIRED

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
309	UPR RCH	0.0280	20.00	0.00	5.1	0.0	5.26	12.09	12.09	0.00	0.00	0.00	0.00	0.0	0.	1.53

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
309	5.00	4.80	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
310	4.80	4.60	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
311	4.60	4.40	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
312	4.40	4.20	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
313	4.20	4.00	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
314	4.00	3.80	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001

315	3.80	3.60	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
316	3.60	3.40	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
317	3.40	3.20	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
318	3.20	3.00	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
319	3.00	2.80	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
320	2.80	2.60	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
321	2.60	2.40	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
322	2.40	2.20	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
323	2.20	2.00	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
324	2.00	1.80	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
325	1.80	1.60	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
326	1.60	1.40	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
327	1.40	1.20	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
328	1.20	1.00	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
329	1.00	0.80	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
330	0.80	0.60	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
331	0.60	0.40	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
332	0.40	0.20	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
333	0.20	0.00	0.0280	0.0	0.001	1.63	1.44	13.7	3943.	2735.8	19.7	0.	0.000	2.000	0.001
TOT						40.75				98572.	68394.6				
AVG					0.001		1.44	13.7				19.7			
CUM						119.14									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECA 1/da	CBOD SETT 1/da	ANBOD DECA 1/da	FULL SOD *	CORR SOD *	ORGN DECA 1/da	ORGN SETT 1/da	NH3 DECA 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECA 1/da	NCM DECA 1/da	NCM SETT 1/da
309	4.800	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
310	4.600	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
311	4.400	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
312	4.200	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
313	4.000	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
314	3.800	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
315	3.600	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
316	3.400	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
317	3.200	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
318	3.000	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
319	2.800	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
320	2.600	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
321	2.400	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
322	2.200	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
323	2.000	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
324	1.800	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
325	1.600	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
326	1.400	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
327	1.200	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
328	1.000	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05

329	0.800	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
330	0.600	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
331	0.400	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
332	0.200	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
333	0.000	9.09	0.49	0.05	0.10	0.00	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
20 DEG C RATE				0.05		0.00		1.47	0.00		0.00	0.00	0.00	0.00			0.00	3.73	
AVG 20 DEG C RATE			0.49		0.10				0.00		0.00	0.00	0.00	0.00					0.05
* g/sq m/d			** mg/L/day																

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
309	4.800	20.00	0.0	5.1	0.0	5.33	11.88	11.88	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.56
310	4.600	20.00	0.0	5.1	0.0	5.37	11.74	11.74	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.58
311	4.400	20.00	0.0	5.1	0.0	5.40	11.62	11.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.60
312	4.200	20.00	0.0	5.1	0.0	5.43	11.51	11.51	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.62
313	4.000	20.00	0.0	5.1	0.0	5.45	11.41	11.41	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.63
314	3.800	20.00	0.0	5.1	0.0	5.47	11.32	11.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.64
315	3.600	20.00	0.0	5.1	0.0	5.49	11.25	11.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.65
316	3.400	20.00	0.0	5.1	0.0	5.50	11.18	11.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.66
317	3.200	20.00	0.0	5.1	0.0	5.51	11.12	11.12	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.67
318	3.000	20.00	0.0	5.1	0.0	5.52	11.07	11.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.68
319	2.800	20.00	0.0	5.1	0.0	5.52	11.03	11.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.69
320	2.600	20.00	0.0	5.1	0.0	5.53	10.99	10.99	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.69
321	2.400	20.00	0.0	5.1	0.0	5.54	10.95	10.95	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.70
322	2.200	20.00	0.0	5.1	0.0	5.54	10.92	10.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.70
323	2.000	20.00	0.0	5.1	0.0	5.54	10.89	10.89	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.71
324	1.800	20.00	0.0	5.1	0.0	5.55	10.87	10.87	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.71
325	1.600	20.00	0.0	5.1	0.0	5.55	10.85	10.85	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.71
326	1.400	20.00	0.0	5.1	0.0	5.55	10.83	10.83	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.72
327	1.200	20.00	0.0	5.1	0.0	5.55	10.82	10.82	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.72
328	1.000	20.00	0.0	5.1	0.0	5.56	10.80	10.80	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.72
329	0.800	20.00	0.0	5.1	0.0	5.56	10.79	10.79	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.72
330	0.600	20.00	0.0	5.1	0.0	5.56	10.78	10.78	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.72
331	0.400	20.00	0.0	5.1	0.0	5.56	10.78	10.78	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.72
332	0.200	20.00	0.0	5.1	0.0	5.56	10.77	10.77	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.72
333	0.000	20.00	0.0	5.1	0.0	5.56	10.77	10.77	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.73

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

** g/cu m

1
 STREAM SUMMARY
 Flat Creek headwater

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 5.0 DO, NOV-MAY, 15% REDUCTION REQUIRED

TRAVEL TIME	=		119.1	DAYS
MAXIMUM EFFLUENT	=		0.0	PERCENT
FLOW	=	0.0280	TO	0.0280 cms
DISPERSION	=	2.0000	TO	2.0000 sq m/s
VELOCITY	=	0.0014	TO	0.0218 m/s
DEPTH	=	0.28	TO	1.44 m
WIDTH	=	4.6	TO	13.7 m
BOD DECAY	=	0.03	TO	0.05 per day
NH3 DECAY	=	0.00	TO	0.00 per day
SDMNT OXYGEN DMND	=	1.47	TO	3.31 g/sq m/d
NH3 SOURCE	=	0.00	TO	0.00 g/sq m/d
REAERATION	=	0.49	TO	3.48 per day
BOD SETTLING	=	0.10	TO	0.10 per day
ORGN DECAY	=	0.00	TO	0.00 per day
ORGN SETTLING	=	0.00	TO	0.00 per day
TEMPERATURE	=	20.00	TO	20.00 deg C
DISSOLVED OXYGEN	=	5.08	TO	5.59 mg/L

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 5.0 DO, NOV-MAY, 15% REDUCTION REQUIRED

INPUT/OUTPUT LOADING SUMMARY

	FLOW cms	DO kg/d	BOD kg/d	ORG-N kg/d	NH3-N kg/d	NO3-N kg/d	PHOS kg/d	CHL A kg/d	NCM
HEADWATER INFLOW	0.028	12.1	37.9	0.0	0.0	0.0	0.0	0.0	9.2
INCREMENTAL INFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCREMENTAL OUTFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NON-POINT INPUT		0.0	506.0	0.0					56.0
WASTELoads	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WITHDRAWALS	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OUTFLOW THRU LOWER BNDRY	-0.028	-13.5	-26.1	0.0	0.0	0.0	0.0	0.0	-4.2
DISPERSION THRU LOWER BNDRY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REAERATION		1352.8							
BACKGROUND BENTHAL		-1165.5							
AEROBIC BOD DECAY		-151.1	-151.1						
BOD SETTLING		0.0	-366.8						
ANAEROBIC BOD DECAY			0.0						
ORGANIC N HYDROLYSIS		0.0		0.0	0.0				
ORGANIC N SETTLING				0.0	0.0				
NH3 DECAY		0.0			0.0	0.0			
BACKGROUND NH3 SOURCE					0.0				
DENITRIFICATION			0.0			0.0			
PHOSPHORUS SOURCE							0.0		
ALGAE PHOTOSYNTHESIS		0.0			0.0	0.0	0.0	0.0	
ALGAE RESPIRATION		0.0			0.0		0.0	0.0	
ALGAE SETTLING		0.0						0.0	
MACRO PHOTOSYNTHESIS		0.0			0.0	0.0	0.0		
NCM DECAY		-34.9							-34.9
NCM SETTLING		0.0							-26.1
TOTAL INPUTS	0.028	1364.9	543.9	0.0	0.0	0.0	0.0	0.0	65.2
TOTAL OUTPUTS	-0.028	-1364.9	-543.9	0.0	0.0	0.0	0.0	0.0	-65.2
NET CONVERGENCE ERROR	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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.....EXECUTION COMPLETED

Appendix I – TMDL Calculations

Calibration Model Non-Point Load Equivalent Calculations:

Modeled stream or water body: **Flat Creek**

Background Benthic Oxygen Demand (Reference Stream) = **2.00**

Shaded cells are input values for calculations.

REACH NUMBER	CALIBRATION MODEL REACH LENGTH (km)	CALIBRATION MODEL AVERAGE REACH WIDTH (meters)	Model CBOD _U NP loading (kg/day)	Model Org_N/NBOD _U NP loading (kg/day)	CALIBRATION MODEL NONPOINT CBOD _U (gm O ₂ /m ² /day)	CALIBRATION MODEL NONPOINT NBOD _U (gm O ₂ /m ² /day)	CALIBRATION MODEL SOD (gm O ₂ /m ² /day)	CALIBRATION TOTAL MODEL BENTHIC LOAD (gm O ₂ /m ² /day)
	A	B	C	D	E = C / (A x B)	F = D / (A x B)	G	H = E + F + G
1	12.47	4.6	33.5	4.8	0.584	0.084	3.6	4.27
2	12.00	4.6	31.0	3.2	0.562	0.058	3.5	4.12
3	12.00	5.6	46.0	4.0	0.685	0.060	3.3	4.04
4	12.00	5.6	46.0	2.4	0.685	0.036	3.3	4.02
5	13.00	9.6	220.0	21.0	1.763	0.168	2.5	4.43
6	5.00	13.7	172.0	26.0	2.511	0.380	1.6	4.49
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Summer Projection, 3.0 DO, Jun-Oct, Non-Point Model Load Input Calculations:

Modeled stream or water body: Flat Creek

REACH NUMB.	CALIBRATION MODEL VALUES					PROJECTION MODEL EQUIVALENTS							PROJECTED MODEL LOADS			
	NON-POINT CBOD _U	NON-POINT NBOD _U	SOD @ 20 degrees C	TOTAL BENTHIC LOAD	REACH LENGTH	PROJECTION MODEL AVG. REACH WIDTH	PROJ. REACH TEMP.	NON-POINT CBOD _U	NON-POINT NBOD _U	SOD @ 20 degrees C	TOTAL BENTHIC LOAD	REDUCED TOTAL BENTHIC LOAD FOR MOS	ACTUAL % REDUCTION IN MAN-MADE LOADS	NON-POINT CBOD _U INPUTS	NON-POINT NBOD _U INPUTS	TOTAL BENTHIC LOAD
	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	Kilo-meters	Meters	degrees Celsius	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	%	(kg/day)	(kg/day)	(kg/day)
	A, (note 1)	B, (note 1)	C, (note 1)	D, (note 1)	E, (note 1)	F		G = J x (A / D)	H = J x (B / D)	I = J x (C / D)	J, (note 2)	K, (note 3)	L	M = G x (E x F)	N = H x (E x F)	J x (E x F)
1	0.584	0.084	3.60	4.268	12.47	4.60	26.50	0.40	0.06	2.45	2.91	2.91	60%	23	3	167
2	0.562	0.058	3.50	4.120	12.00	4.60	26.50	0.39	0.04	2.42	2.85	2.85	60%	21	2	157
3	0.685	0.060	3.30	4.044	12.00	5.60	26.50	0.48	0.04	2.30	2.82	2.82	60%	32	3	189
4	0.685	0.036	3.30	4.020	12.00	5.60	26.50	0.48	0.02	2.31	2.81	2.81	60%	32	2	188.70
5	1.763	0.168	2.50	4.431	13.00	9.60	26.50	1.18	0.11	1.68	2.97	2.97	60%	148	14	370.96
6	2.511	0.380	1.60	4.491	5.00	13.70	26.50	1.68	0.25	1.07	3.00	3.00	60%	115	17	205.24
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Notes: Note 1, Data was calculated in and brought from the Calibration worksheet dataset.

Note 2, $J = [K - (\text{Background Benthic Load}) \times (1 - \text{Margin of Uncertainty})] / [1 - \text{Margin of Safety}] + \text{Background Benthic Load}$

Note 3, $K = (1 - L) \times (D - \text{Background Benthic Load}) + \text{Background Benthic Load}$

Shaded cells are input values for calculations.

Values to be used in the projection models.

Summer Projection, Current 5.0 DO, Jun-Oct, Non-Point Model Load Input Calculations:

Modeled stream or water body: **Flat Creek**

REACH NUMB.	CALIBRATION MODEL VALUES					PROJECTION MODEL EQUIVALENTS						PROJECTED MODEL LOADS				
	NON-POINT CBOD _U	NON-POINT NBOD _U	SOD @ 20 degrees C	TOTAL BENTHIC LOAD	REACH LENGTH	PROJECTION MODEL AVG. REACH WIDTH	PROJ. REACH TEMP.	NON-POINT CBOD _U	NON-POINT NBOD _U	SOD @ 20 degrees C	TOTAL BENTHIC LOAD	REDUCED TOTAL BENTHIC LOAD FOR MOS	ACTUAL % REDUCTION IN MAN-MADE LOADS	NON-POINT CBOD _U INPUTS	NON-POINT NBOD _U INPUTS	TOTAL BENTHIC LOAD
	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	Kilo-meters	Meters	degrees Celsius	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	%	(kg/day)	(kg/day)	(kg/day)
	A, (note 1)	B, (note 1)	C, (note 1)	D, (note 1)	E, (note 1)	F		G = J x (A / D)	H = J x (B / D)	I = J x (C / D)	J, (note 2)	K, (note 3)	L	M = G x (E x F)	N = H x (E x F)	J x (E x F)
1	0.584	0.084	3.60	4.268	12.47	4.60	26.50	0.23	0.03	1.40	1.66	1.66	115%	13	2	95
2	0.562	0.058	3.50	4.120	12.00	4.60	26.50	0.23	0.02	1.43	1.68	1.68	115%	13	1	93
3	0.685	0.060	3.30	4.044	12.00	5.60	26.50	0.29	0.02	1.38	1.69	1.69	115%	19	2	114
4	0.685	0.036	3.30	4.020	12.00	5.60	26.50	0.29	0.02	1.39	1.70	1.70	115%	19	1	114.04
5	1.763	0.168	2.50	4.431	13.00	9.60	26.50	0.65	0.06	0.92	1.64	1.64	115%	81	8	204.09
6	2.511	0.380	1.60	4.491	5.00	13.70	26.50	0.91	0.14	0.58	1.63	1.63	115%	62	9	111.41
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Notes: Note 1, Data was calculated in and brought from the Calibration worksheet dataset.

Note 2, $J = [K - (\text{Background Benthic Load}) \times (1 - \text{Margin of Uncertainty})] / [1 - \text{Margin of Safety}] + \text{Background Benthic Load}$

Note 3, $K = (1 - L) \times (D - \text{Background Benthic Load}) + \text{Background Benthic Load}$

Shaded cells are input values for calculations.

Values to be used in the projection models.

Winter Projection, 5.0 DO, Nov-May, Non-Point Model Load Input Calculations:

Modeled stream or water body: **Flat Creek**

REACH NUMB.	CALIBRATION MODEL VALUES					PROJECTION MODEL EQUIVALENTS							PROJECTED MODEL LOADS			
	NON-POINT CBOD _U	NON-POINT NBOD _U	SOD @ 20 degrees C	TOTAL BENTHIC LOAD	REACH LENGTH	PROJECTION MODEL AVG. REACH WIDTH	PROJ. REACH TEMP.	NON-POINT CBOD _U	NON-POINT NBOD _U	SOD @ 20 degrees C	TOTAL BENTHIC LOAD	REDUCED TOTAL BENTHIC LOAD FOR MOS	ACTUAL % REDUCTION IN MAN-MADE LOADS	NON-POINT CBOD _U INPUTS	NON-POINT NBOD _U INPUTS	TOTAL BENTHIC LOAD
	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	Kilo-meters	Meters	degrees Celsius	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	%	(kg/day)	(kg/day)	(kg/day)
	A, (note 1)	B, (note 1)	C, (note 1)	D, (note 1)	E, (note 1)	F		G = J x (A / D)	H = J x (B / D)	I = J x (C / D)	J, (note 2)	K, (note 3)	L	M = G x (E x F)	N = H x (E x F)	J x (E x F)
1	0.584	0.084	3.60	4.268	12.47	4.60	20.00	0.54	0.08	3.31	3.93	3.93	15%	31	4	225
2	0.562	0.058	3.50	4.120	12.00	4.60	20.00	0.52	0.05	3.23	3.80	3.80	15%	29	3	210
3	0.685	0.060	3.30	4.044	12.00	5.60	20.00	0.63	0.06	3.05	3.74	3.74	15%	43	4	251
4	0.685	0.036	3.30	4.020	12.00	5.60	20.00	0.63	0.03	3.05	3.72	3.72	15%	43	2	249.80
5	1.763	0.168	2.50	4.431	13.00	9.60	20.00	1.62	0.15	2.29	4.07	4.07	15%	202	19	507.49
6	2.511	0.380	1.60	4.491	5.00	13.70	20.00	2.30	0.35	1.47	4.12	4.12	15%	158	24	282.01
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- Notes: Note 1, Data was calculated in and brought from the Calibration worksheet dataset.
 Note 2, $J = [K - (\text{Background Benthic Load}) \times (1 - \text{Margin of Uncertainty})] / [1 - \text{Margin of Safety}] + \text{Background Benthic Load}$
 Note 3, $K = (1 - L) \times (D - \text{Background Benthic Load}) + \text{Background Benthic Load}$

Shaded cells are input values for calculations.
 Values to be used in the projection models.

ANNUAL TMDL LOADING CALCULATIONS FOR CRITERIA OF 3.0 MG/L DO JUN-OCT & 5.0 MG/L DO NOV-MAY:

Headwater / Tributary load determinations							
Headwater / Tributary Description and Reach #	Seasonal Critical Headwater flow (cms)	Seasonal Critical Headwater flow (mgd)	UCBOD (mg/l)	UCBOD LA (lbs/day) (1)	UNBOD(mg/l)	UNBOD LA (lbs/day) (1)	Total LA (lbs/day)
Reach 1, Flat Creek	0.0028	0.064	15.66	8	3.79	2	10
SUB-TOTAL TMDL LOADING				8		2	10

Benthic load determinations											
Reach Description and #	Non-point not associated with flow load determinations						SOD load determinations				Subtotal Benthic LA loading (lbs/day)
	Projection Model UCBOD (kg/day)	N.P. UCBOD LA (lbs/day)	N.P. UCBOD M.O.S. (lbs/day)	Projection Model UNBOD (kg/day)	N.P. UNBOD LA (lbs/day)	N.P. UNBOD M.O.S. (lbs/day)	Cumulative Reach Surface Area (m ²)	SOD @ seasonal crit. temp (gm O ₂ /m ² -day)	SOD LA (lbs/day)	SOD M.O.S. (lbs/day)	
	A, (note 8)	A x 2.205 - B	B, (note 9)	C, (note 8)	C x 2.205 - D	D, (note 9)	E, (note 8)	F, (note 10)	(F x E x 2.205) - G	G, (note 10)	
Reach 1, Flat Creek, RK 66.47-54.0	23	50	0	3	7	0	57,362	3.69	467	0	525
Reach 2, Flat Creek, RK 54.0-42.0	21	47	0	2	5	0	55,200	3.64	443	0	496
Reach 3, Flat Creek, RK 42.0-30.0	32	71	0	3	6	0	67,200	3.46	513	0	590
Reach 4, Flat Creek, RK 30.0-18.0	32	71	0	2	4	0	67,200	3.47	514	0	589
Reach 5, Flat Creek, RK 18.0-5.0	148	325	0	14	31	0	124,800	2.53	695	0	1,051
Reach 6, Flat Creek, RK 5.0-0.0	115	253	0	17	38	0	68,500	1.61	243	0	534
Sub-Total benthic loading	371	818	-	41	91	-			2,875	0	3,784

Notes:

(1) - Load(lbs/day) = 8.345 x Ultimate Conc.(mg/l) x Modeled Flow(mgd)
 (2) - CBOD5 Load = 8.345 x CBOD5 Conc.(mg/l) x Modeled Flow(mgd)
 (3) - NH3N Load = 8.345 x NH3N Conc.(mg/l) x Modeled Flow(mgd)
 (4) - [UCBOD conc. = CBOD5(mg/l) x 2.3] and [UNBOD conc. = NH3N(mg/l) x 4.3]
 (5) - SOD Load = Distributed Load(gm/m²*day)) x 0.0022046(lbs/gm) x Cumulative Xlimn. Junc. Surface Area(m2)
 (6) - WLA = UBOD x 80%
 (7) - Reserve/Margin of Safety(MOS) = UBOD x 20%
 (8) - Value pulled from "Summer Projection, Proposed 3.0 DO, Jun-Oct, Non-Point Model Load Input Calculations" spreadsheet.
 (9) - Value pulled from "Summer Projection, Proposed 3.0 DO, Jun-Oct, Non-Point Model Load Input Calculations" spreadsheet then converted to lbs/day multiplying it by 2.205.
 (10) - Value pulled from "Summer Projection, Proposed 3.0 DO, Jun-Oct, Non-Point Model Load Input Calculations" spreadsheet then converted to the projection temperature using the formula "Rate(T) = Rate(20) x 1.065^(T-20)".

ANNUAL TMDL LOADING CALCULATIONS FOR CURRENT CRITERIA OF 5.0 MG/L DO
 YEAR-ROUND:

Headwater / Tributary load determinations							
Headwater / Tributary Description and Reach #	Seasonal Critical Headwater flow (cms)	Seasonal Critical Headwater flow (mgd)	UCBOD (mg/l)	UCBOD LA (lbs/day) (1)	UNBOD (mg/l)	UNBOD LA (lbs/day) (1)	Total LA (lbs/day)
Reach 1, Flat Creek	0.0028	0.064	15.66	8	3.79	2	10
SUB-TOTAL TMDL LOADING				8		2	10

Benthic load determinations											
Reach Description and #	Non-point not associated with flow load determinations						SOD load determinations				Subtotal Benthic LA loading (lbs/day)
	Projection Model UCBOD (kg/day)	N.P. UCBOD LA (lbs/day)	N.P. UCBOD M.O.S. (lbs/day)	Projection Model UNBOD (kg/day)	N.P. UNBOD LA (lbs/day)	N.P. UNBOD M.O.S. (lbs/day)	Cumulative Reach Surface Area (m ²)	SOD @ seasonal crit. temp (gm O ₂ /m ² -day)	SOD LA (lbs/day)	SOD M.O.S. (lbs/day)	
	A, (note 8)	A x 2.205 - B	B, (note 9)	C, (note 8)	C x 2.205 - D	D, (note 9)	E, (note 8)	F, (note 10)	(F x E x 2.205)-G	G, (note 10)	
Reach 1, Flat Creek, RK 66.47-54.0	13	29	0	2	4	0	57,362	2.11	267	0	299
Reach 2, Flat Creek, RK 54.0-42.0	13	28	0	1	3	0	55,200	2.15	262	0	293
Reach 3, Flat Creek, RK 42.0-30.0	19	42	0	2	4	0	67,200	2.08	308	0	354
Reach 4, Flat Creek, RK 30.0-18.0	19	43	0	1	2	0	67,200	2.10	311	0	356
Reach 5, Flat Creek, RK 18.0-5.0	81	179	0	8	17	0	124,800	1.39	382	0	578
Reach 6, Flat Creek, RK 5.0-0.0	62	137	0	9	21	0	68,500	0.87	132	0	290
Sub-Total benthic loading	208	458	-	23	51	-			1,662	0	2,171

Notes:

- (1) - Load(lbs/day) = 8.345 x Ultimate Conc.(mg/l) x Modeled Flow (mgd)
- (2) - CBOD5 Load = 8.345 x CBOD5 Conc.(mg/l) x Modeled Flow(mgd)
- (3) - NH3N Load = 8.345 x NH3N Conc.(mg/l) x Modeled Flow(mgd)
- (4) - [UCBOD conc. = CBOD5(mg/l) x 2.3] and [UNBOD conc. = NH3N(mg/l) x 4.3]
- (5) - SOD Load = Distributed Load(gm/(m²*day)) x 0.0022046(lbs/gm) x Cumulative Xlimn. Junc. Surface Area(m²)
- (6) - WLA = UBOD x 80%
- (7) - Reserve/Margin of Safety(MOS) = UBOD x 20%
- (8) - Value pulled from "Summer Projection, Current 5.0 DO, Jun-Oct, Non-Point Model Load Input Calculations" spreadsheet.
- (9) - Value pulled from "Summer Projection, Current 5.0 DO, Jun-Oct, Non-Point Model Load Input Calculations" spreadsheet then converted to lbs/day multiplying it by 2.205.
- (10) - Value pulled from "Summer Projection, Current 5.0 DO, Jun-Oct, Non-Point Model Load Input Calculations" spreadsheet then converted to the projection temperature using the formula "Rate(τ) = Rate(τ₀) x 1.065^{(T-20)τ}".

Appendix J – No Load Run Input/Output and Loading Spreadsheet

Summer Projection, No Load, 3.0 & 5.0 DO, Jun-Oct, Non-Point Model Load Input Calculations:

Modeled stream or water body: Flat Creek

REACH NUMB.	CALIBRATION MODEL VALUES					PROJECTION MODEL AVG. REACH WIDTH	PROJ. REACH TEMP.	PROJECTION MODEL EQUIVALENTS				REDUCED TOTAL BENTHIC LOAD FOR MOS	ACTUAL % REDUCTION IN MAN-MADE LOADS	PROJECTED MODEL LOADS		
	NON-POINT CBOD _U	NON-POINT NBOD _U	SOD @ 20 degrees C	TOTAL BENTHIC LOAD	REACH LENGTH			NON-POINT CBOD _U	NON-POINT NBOD _U	SOD @ 20 degrees C	TOTAL BENTHIC LOAD			NON-POINT CBODU INPUTS	NON-POINT NBODU INPUTS	TOTAL BENTHIC LOAD
	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	Kilo-meters	Meters	degrees Celsius	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	(gm O ₂ / m ² / day)	%	(kg/day)	(kg/day)	(kg/day)
	A, (note 1)	B, (note 1)	C, (note 1)	D, (note 1)	E, (note 1)	F		G = J x (A / D)	H = J x (B / D)	I = J x (C / D)	J, (note 2)	K, (note 3)	L	M = G x (E x F)	N = H x (E x F)	J x (E x F)
1	0.584	0.084	3.60	4.268	12.47	4.60	26.50	0.27	0.04	1.69	2.00	2.00	100%	16	2	115
2	0.562	0.058	3.50	4.120	12.00	4.60	26.50	0.27	0.03	1.70	2.00	2.00	100%	15	2	110
3	0.685	0.060	3.30	4.044	12.00	5.60	26.50	0.34	0.03	1.63	2.00	2.00	100%	23	2	134
4	0.685	0.036	3.30	4.020	12.00	5.60	26.50	0.34	0.02	1.64	2.00	2.00	100%	23	1	134.40
5	1.763	0.168	2.50	4.431	13.00	9.60	26.50	0.80	0.08	1.13	2.00	2.00	100%	99	9	249.60
6	2.511	0.380	1.60	4.491	5.00	13.70	26.50	1.12	0.17	0.71	2.00	2.00	100%	77	12	137.00
7																
8																
9																
10																
11																
12																
13																
14																
15																
18																
19																
20																
21																
22																
23																
24																
25																

- Notes: Note 1, Data was calculated in and brought from the Calibration worksheet dataset.
 Note 2, $J = [K - (\text{Background Benthic Load}) \times (1 - \text{Margin of Uncertainty})] / [1 - \text{Margin of Safety}] + \text{Background Benthic Load}$
 Note 3, $K = (1 - L) \times (D - \text{Background Benthic Load}) + \text{Background Benthic Load}$

Shaded cells are input values for calculations.

Values to be used in the projection models.

```

CNTROL01      FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
CNTROL02      NO LOAD, JUN-OCT
CNTROL03 YES  ECHO DATA INPUT
CNTROL04 NO   INTERMEDIATE SUMMARY
CNTROL05 YES  CAPSULE SUMMARY
CNTROL06 YES  FINAL REPORT
CNTROL07 YES  LOADING SUMMARY
CNTROL08 YES  SPECIAL REPORT
CNTROL09 NO   LINE PRINTER PLOT
CNTROL10 YES  GRAPHICS CAPABILITY
CNTROL11 NO   SEQUENCING OUTPUT
CNTROL12 YES  METRIC UNITS
CNTROL13 YES  OXYGEN DEPENDENT RATES
CNTROL14 NO   SENSITIVITY ANALYSIS
CNTROL15 YES  OVERLAY PLOT
ENDATA01
MODOPT01 NO   TEMPERATURE
MODOPT02 NO   SALINITY
MODOPT03 YES  CONSERVATIVE MATERIAL I = CHLORIDES           IN MG/L
MODOPT04 NO   CONSERVATIVE MATERIAL II = SULFATES          IN MG/L
MODOPT05 YES  DISSOLVED OXYGEN
MODOPT06 YES  BIOCHEMICAL OXYGEN DEMAND
MODOPT07 NO   NITROGEN
MODOPT08 NO   PHOSPHORUS
MODOPT09 NO   CHLOROPHYLL A
MODOPT10 NO   MACROPHYTES
MODOPT11 NO   COLIFORM
MODOPT12 YES  NONCONSERVATIVE MATERIAL = NBOD             IN MG/L
ENDATA02
PROGRAM MAXIMUM ITERATION LIMIT      = 200.0
PROGRAM PLOT TYPE                     = 3.0
PROGRAM FINAL REPORT TYPE             = 1.0
PROGRAM SPECIAL REPORT TYPE          = 3.0
PROGRAM BOD OXYGEN UPTAKE RATE        = 1.0
PROGRAM KL MINIMUM                   = 0.7
PROGRAM NCM OXYGEN UPTAKE RATE        = 1.0
PROGRAM INHIBITION CONTROL VALUE     = 3.0
PROGRAM DISPERSION EQUATION          = 1.0
PROGRAM OCEAN EXCHANGE RATIO         = 0.0
PROGRAM TIDE HEIGHT                  = 0.0
PROGRAM HYDRAULIC CALCULATION METHOD  = 2.0
PROGRAM SETTLING RATE UNITS          = 2.0
PROGRAM K2 MAXIMUM                   = 25.0
ENDATA03
ENDATA04
ENDATA05
ENDATA06
ENDATA07
REACH ID 1 FC FLAT CREEK RK 66.47-54.0      66.47    54.0  0.197937
REACH ID 2 FC FLAT CREEK RK 54.0-42.0      54.0     42.0  0.200
REACH ID 3 FC FLAT CREEK RK 42.0-30.0      42.0     30.0  0.200
REACH ID 4 FC FLAT CREEK RK 30.0-18.0      30.0     18.0  0.200
REACH ID 5 FC FLAT CREEK RK 18.0-5.0       18.0     5.0   0.200
REACH ID 6 FC FLAT CREEK RK 5.0-0.0        5.0      0.0   0.200
ENDATA08
HYDR-1 1 0.1000 0.4000 4.572 0.1000 0.4000 0.2560 0.04
HYDR-1 2 0.1000 0.4000 4.572 0.1000 0.4000 0.2560 0.04
HYDR-1 3 0.1000 0.4000 5.578 0.1000 0.4000 0.3200 0.04
HYDR-1 4 0.1000 0.4000 5.578 0.1000 0.4000 0.3200 0.04
HYDR-1 5 0.1000 0.4000 9.618 0.1000 0.4000 0.8690 0.04
HYDR-1 6 0.1000 0.4000 13.655 0.1000 0.4000 1.4173 0.04
ENDATA09
HYDR-2 1 0.000 2.000 0.000 0.000 0.000
HYDR-2 2 0.000 2.000 0.000 0.000 0.000
HYDR-2 3 0.000 2.000 0.000 0.000 0.000
HYDR-2 4 0.000 2.000 0.000 0.000 0.000
HYDR-2 5 0.000 2.000 0.000 0.000 0.000
HYDR-2 6 0.000 2.000 0.000 0.000 0.000
ENDATA10
INITIAL 1 26.50 0.0 3.00 0.000 0.000 0.00 00.00 0.00
INITIAL 2 26.50 0.0 3.00 0.000 0.000 0.00 00.00 0.00

```


LA-QUAL for Windows Version 3.02
 Louisiana Department of Environmental Quality

Output produced at 13:02 on 12/29/2000

\$\$\$ DATA TYPE 1 (TITLES AND CONTROL CARDS) \$\$\$

CARD TYPE	CONTROL TITLES
CNTROL01	FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
CNTROL02	NO LOAD, JUN-OCT
CNTROL03	YES ECHO DATA INPUT
CNTROL04	NO INTERMEDIATE SUMMARY
CNTROL05	YES CAPSULE SUMMARY
CNTROL06	YES FINAL REPORT
CNTROL07	YES LOADING SUMMARY
CNTROL08	YES SPECIAL REPORT
CNTROL09	NO LINE PRINTER PLOT
CNTROL10	YES GRAPHICS CAPABILITY
CNTROL11	NO SEQUENCING OUTPUT
CNTROL12	YES METRIC UNITS
CNTROL13	YES OXYGEN DEPENDENT RATES
CNTROL14	NO SENSITIVITY ANALYSIS
CNTROL15	YES OVERLAY PLOT
ENDATA01	

\$\$\$ DATA TYPE 2 (MODEL OPTIONS) \$\$\$

CARD TYPE	MODEL OPTION	
MODOPT01	NO TEMPERATURE	
MODOPT02	NO SALINITY	
MODOPT03	YES CONSERVATIVE MATERIAL I = CHLORIDES	IN MG/L
MODOPT04	NO CONSERVATIVE MATERIAL II = SULFATES	IN MG/L
MODOPT05	YES DISSOLVED OXYGEN	
MODOPT06	YES BIOCHEMICAL OXYGEN DEMAND	
MODOPT07	NO NITROGEN	
MODOPT08	NO PHOSPHORUS	
MODOPT09	NO CHLOROPHYLL A	
MODOPT10	NO MACROPHYTES	
MODOPT11	NO COLIFORM	
MODOPT12	YES NONCONSERVATIVE MATERIAL = NBOD	IN MG/L
ENDATA02		

\$\$\$ DATA TYPE 3 (PROGRAM CONSTANTS) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
PROGRAM	MAXIMUM ITERATION LIMIT =	200.00000
PROGRAM	PLOT TYPE =	3.00000
PROGRAM	FINAL REPORT TYPE =	1.00000
PROGRAM	SPECIAL REPORT TYPE =	3.00000
PROGRAM	BOD OXYGEN UPTAKE RATE =	1.00000
PROGRAM	KL MINIMUM =	0.70000
PROGRAM	NCM OXYGEN UPTAKE RATE =	1.00000
PROGRAM	INHIBITION CONTROL VALUE =	3.00000
PROGRAM	DISPERSION EQUATION =	1.00000
PROGRAM	OCEAN EXCHANGE RATIO =	0.00000
PROGRAM	TIDE HEIGHT =	0.00000
PROGRAM	HYDRAULIC CALCULATION METHOD =	2.00000
PROGRAM	SETTLING RATE UNITS =	2.00000
PROGRAM	K2 MAXIMUM =	25.00000

ENDATA03

\$\$\$ DATA TYPE 4 (TEMPERATURE CORRECTION CONSTANTS FOR RATE COEFFICIENTS) \$\$\$

CARD TYPE	RATE CODE	THETA VALUE
ENDATA04		

\$\$\$ CONSTANTS TYPE 5 (TEMPERATURE DATA) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
ENDATA05		

\$\$\$ DATA TYPE 6 (ALGAE CONSTANTS) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
ENDATA06		

\$\$\$ DATA TYPE 7 (MACROPHYTE CONSTANTS) \$\$\$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
ENDATA07		

\$\$\$ DATA TYPE 8 (REACH IDENTIFICATION DATA) \$\$\$

CARD TYPE	REACH	ID	NAME	BEGIN REACH km	TO	END REACH km	ELEM LENGTH km	REACH LENGTH km	ELEMS PER RCH	BEGIN ELEM NUM	END ELEM NUM
REACH ID	1	FC	FLAT CREEK RK 66.47-54.0	66.47	TO	54.00	0.1979	12.47	63	1	63
REACH ID	2	FC	FLAT CREEK RK 54.0-42.0	54.00	TO	42.00	0.2000	12.00	60	64	123
REACH ID	3	FC	FLAT CREEK RK 42.0-30.0	42.00	TO	30.00	0.2000	12.00	60	124	183
REACH ID	4	FC	FLAT CREEK RK 30.0-18.0	30.00	TO	18.00	0.2000	12.00	60	184	243
REACH ID	5	FC	FLAT CREEK RK 18.0-5.0	18.00	TO	5.00	0.2000	13.00	65	244	308
REACH ID	6	FC	FLAT CREEK RK 5.0-0.0	5.00	TO	0.00	0.2000	5.00	25	309	333
ENDATA08											

\$\$\$ DATA TYPE 9 (ADVECTIVE HYDRAULIC COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	WIDTH "A"	WIDTH "B"	WIDTH "C"	DEPTH "D"	DEPTH "E"	DEPTH "F"	SLOPE	MANNINGS "N"
HYDR-1	1	FC	0.100	0.400	4.572	0.100	0.400	0.256	0.00000	0.040
HYDR-1	2	FC	0.100	0.400	4.572	0.100	0.400	0.256	0.00000	0.040
HYDR-1	3	FC	0.100	0.400	5.578	0.100	0.400	0.320	0.00000	0.040
HYDR-1	4	FC	0.100	0.400	5.578	0.100	0.400	0.320	0.00000	0.040
HYDR-1	5	FC	0.100	0.400	9.618	0.100	0.400	0.869	0.00000	0.040
HYDR-1	6	FC	0.100	0.400	13.655	0.100	0.400	1.417	0.00000	0.040
ENDATA09										

\$\$\$ DATA TYPE 10 (DISPERSIVE HYDRAULIC COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"
HYDR	1	FC	0.00	2.000	0.000	0.000	0.000

HYDR	2	FC	0.00	2.000	0.000	0.000	0.000
HYDR	3	FC	0.00	2.000	0.000	0.000	0.000
HYDR	4	FC	0.00	2.000	0.000	0.000	0.000
HYDR	5	FC	0.00	2.000	0.000	0.000	0.000
HYDR	6	FC	0.00	2.000	0.000	0.000	0.000

ENDATA10

\$\$\$ DATA TYPE 11 (INITIAL CONDITIONS) \$\$\$

CARD TYPE	REACH	ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
INITIAL	1	FC	26.50	0.00	3.00	0.00	0.00	0.00	0.00	0.00
INITIAL	2	FC	26.50	0.00	3.00	0.00	0.00	0.00	0.00	0.00
INITIAL	3	FC	26.50	0.00	3.00	0.00	0.00	0.00	0.00	0.00
INITIAL	4	FC	26.50	0.00	3.00	0.00	0.00	0.00	0.00	0.00
INITIAL	5	FC	26.50	0.00	3.00	0.00	0.00	0.00	0.00	0.00
INITIAL	6	FC	26.50	0.00	3.00	0.00	0.00	0.00	0.00	0.00

ENDATA11

\$\$\$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	K2 OPT	K2 "A"	K2 "B"	K2 "C"	BKGRND SOD	AEROB BOD DECAY	BOD SETT	BOD CONV TO SOD	ANAER BOD DECAY
COEF-1	1	FC	15.	0.000	0.000	0.000	1.690	0.040	0.100	0.000	0.000
COEF-1	2	FC	15.	0.000	0.000	0.000	1.700	0.040	0.100	0.000	0.000
COEF-1	3	FC	15.	0.000	0.000	0.000	1.630	0.030	0.100	0.000	0.000
COEF-1	4	FC	15.	0.000	0.000	0.000	1.640	0.030	0.100	0.000	0.000
COEF-1	5	FC	15.	0.000	0.000	0.000	1.130	0.040	0.100	0.000	0.000
COEF-1	6	FC	15.	0.000	0.000	0.000	0.710	0.050	0.100	0.000	0.000

ENDATA12

\$\$\$ DATA TYPE 13 (NITROGEN AND PHOSPHORUS COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	ORG-N DECA	ORG-N SETT	ORGN CONV TO NH3 SRCE	NH3 DECA	NH3 SRCE	PHOS SRCE	DENIT RATE
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ENDATA13

\$\$\$ DATA TYPE 14 (ALGAE AND MACROPHYTE COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	SECCHI DEPTH	ALGAE: CHL A	ALGAE SETT	ALG CONV TO SOD	ALGAE GROW	ALGAE RESP	MACRO GROW	MACRO RESP
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ENDATA14

\$\$\$ DATA TYPE 15 (COLIFORM AND NONCONSERVATIVE COEFFICIENTS) \$\$\$

CARD TYPE	REACH	ID	COLIFORM DIE-OFF	NCM DECAY	NCM SETT	NCM CONV TO SOD
COEF-4	1	FC	0.00	0.04	0.05	0.00
COEF-4	2	FC	0.00	0.04	0.05	0.00
COEF-4	3	FC	0.00	0.05	0.05	0.00
COEF-4	4	FC	0.00	0.05	0.05	0.00
COEF-4	5	FC	0.00	0.07	0.05	0.00
COEF-4	6	FC	0.00	0.09	0.05	0.00

ENDATA15

\$\$\$ DATA TYPE 16 (INCREMENTAL DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) \$\$\$

CARD TYPE	REACH	ID	OUTFLOW	INFLOW	TEMP	SALIN	CM-I	CM-II	INFLOW/DIST
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ENDATA16

\$\$\$ DATA TYPE 17 (INCREMENTAL DATA FOR DO, BOD, AND NITROGEN) \$\$\$

CARD TYPE	REACH	ID	DO	BOD	ORG-N	NH3	NO3+2
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ENDATA17

\$\$\$ DATA TYPE 18 (INCREMENTAL DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) \$\$\$

CARD TYPE	REACH	ID	PHOS	CHL A	COLI	NCM
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ENDATA18

\$\$\$ DATA TYPE 19 (NONPOINT SOURCE DATA) \$\$\$

CARD TYPE	REACH	ID	BOD	ORG-N	COLI	NCM	DO
NONPOINT	1	FC	16.00	0.00	0.00	2.00	0.00
NONPOINT	2	FC	15.00	0.00	0.00	2.00	0.00
NONPOINT	3	FC	23.00	0.00	0.00	2.00	0.00
NONPOINT	4	FC	23.00	0.00	0.00	1.00	0.00
NONPOINT	5	FC	99.00	0.00	0.00	9.00	0.00
NONPOINT	6	FC	77.00	0.00	0.00	12.00	0.00

ENDATA19

\$\$\$ DATA TYPE 20 (HEADWATER FOR FLOW, TEMPERATURE, SALINITY AND CONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	UNIT	FLOW	TEMP	SALIN	CM-I	CM-II
HDWTR-1	1	Flat Creek headwater	0	0.00280	26.500	0.000	5.100	0.000

ENDATA20

\$\$\$ DATA TYPE 21 (HEADWATER DATA FOR DO, BOD, AND NITROGEN) \$\$\$

CARD TYPE	ELEMENT	NAME	DO	BOD	ORG-N	NH3	NO3+2
HDWTR-2	1	Flat Creek headwater	3.00	15.66	0.00	0.00	0.00

ENDATA21

\$\$\$ DATA TYPE 22 (HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
HDWTR-3	1	Flat Creek headwater	0.00	0.00	0.00	3.79

ENDATA22

\$\$\$ DATA TYPE 23 (JUNCTION DATA) \$\$\$

CARD TYPE	JUNCTION ELEMENT	UPSTRM ELEMENT	NAME
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ENDATA23

\$\$\$ DATA TYPE 24 (WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	FLOW	TEMP	SAL	CM-I	CM-II
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ENDATA24

\$\$\$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) \$\$\$

CARD TYPE	ELEMENT	NAME	DO	BOD	% BOD RMVL	ORG-N	NH3	% NITRIF	NO3+2
-----------	---------	------	----	-----	---------------	-------	-----	-------------	-------

ENDATA25

\$\$\$ DATA TYPE 26 (WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) \$\$\$

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
-----------	---------	------	------	-------	------	-----

ENDATA26

\$\$\$ DATA TYPE 27 (LOWER BOUNDARY CONDITIONS) \$\$\$

CARD TYPE	CONSTITUENT	CONCENTRATION
LOWER BC	TEMPERATURE	= 26.500 deg C
LOWER BC	SALINITY	= 0.000 ppt
LOWER BC	CONSERVATIVE MATERIAL I	= 0.000 MG/L
LOWER BC	CONSERVATIVE MATERIAL II	= 0.000 MG/L
LOWER BC	DISSOLVED OXYGEN	= 2.670 mg/L
LOWER BC	BIOCHEMICAL OXYGEN DEMAND	= 8.750 mg/L
LOWER BC	ORGANIC NITROGEN	= 0.000 mg/L
LOWER BC	AMMONIA NITROGEN	= 0.000 mg/L
LOWER BC	NITRATE + NITRITE	= 0.000 mg/L
LOWER BC	PHOSPHORUS	= 0.000 mg/L
LOWER BC	CHLOROPHYLL A	= 0.000 µg/L
LOWER BC	COLIFORM	= 0.000 #/100 mL
LOWER BC	NONCONSERVATIVE MATERIAL	= 1.300 MG/L

ENDATA27

\$\$\$ DATA TYPE 28 (FLOW AUGMENTATION DATA) \$\$\$

CARD TYPE	REACH	AVAIL HDWS	TARGET	ORDER OF AVAIL SOURCES
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ENDATA28

\$\$\$ DATA TYPE 29 (SENSITIVITY ANALYSIS DATA) \$\$\$

CARD TYPE	PARAMETER	COL 1	COL 2	COL 3	COL 4	COL 5	COL 6	COL 7	COL 8
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ENDATA29

\$\$\$ DATA TYPE 30 (PLOT CONTROL CARDS) \$\$\$

NUMBER OF PLOTS = 1
NUMBER OF REACHES IN PLOT 1 = 6 INCREMENT = 1.00
PLOT RCH 1 2 3 4 5 6
ENDATA30

\$\$\$ DATA TYPE 31 (OVERLAY PLOT DATA) \$\$\$

OVERLAY 1 FLATCRKOVRLAYFILEFORMAT.TXT FLAT CREEK-HDWTRS TO CONFL W/ CASTOR CRK
ENDATA31

1

.....NO ERRORS DETECTED IN INPUT DATA
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....GRAPHICS DATA FOR PLOT 1 WRITTEN TO UNIT 11

1
 CAPSULE SUMMARY
 Flat Creek headwater

DIST	FLOW	TEMP	SALN	DO	EBOD	ORGN	NH3	CHLA	REAER	CBOD	CBOD	NH3	SOD
km	cms	deg C	ppt	mg/L	mg/L	mg/L	mg/L	µg/L	l/da	l/da	l/da	l/da	
HDWTR	0.003	26.5	0.0	3.0	15.7	0.0	0.0	0.0					
66.27	0.003	26.5	0.0	4.3	12.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
66.07	0.003	26.5	0.0	4.4	11.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
65.88	0.003	26.5	0.0	4.5	10.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
65.68	0.003	26.5	0.0	4.6	10.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
65.48	0.003	26.5	0.0	4.6	9.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
65.28	0.003	26.5	0.0	4.6	9.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
65.08	0.003	26.5	0.0	4.6	9.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
64.89	0.003	26.5	0.0	4.6	8.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
64.69	0.003	26.5	0.0	4.6	8.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
64.49	0.003	26.5	0.0	4.6	8.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
64.29	0.003	26.5	0.0	4.6	8.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
64.09	0.003	26.5	0.0	4.6	7.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
63.90	0.003	26.5	0.0	4.6	7.7	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
63.70	0.003	26.5	0.0	4.7	7.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
63.50	0.003	26.5	0.0	4.7	7.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
63.30	0.003	26.5	0.0	4.7	7.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
63.11	0.003	26.5	0.0	4.7	7.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
62.91	0.003	26.5	0.0	4.7	7.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
62.71	0.003	26.5	0.0	4.7	7.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
62.51	0.003	26.5	0.0	4.7	6.9	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
62.31	0.003	26.5	0.0	4.7	6.8	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
62.12	0.003	26.5	0.0	4.7	6.8	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
61.92	0.003	26.5	0.0	4.7	6.7	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
61.72	0.003	26.5	0.0	4.7	6.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
61.52	0.003	26.5	0.0	4.7	6.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
61.32	0.003	26.5	0.0	4.7	6.6	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
61.13	0.003	26.5	0.0	4.7	6.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
60.93	0.003	26.5	0.0	4.7	6.5	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
60.73	0.003	26.5	0.0	4.7	6.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
60.53	0.003	26.5	0.0	4.7	6.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
60.33	0.003	26.5	0.0	4.7	6.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
60.14	0.003	26.5	0.0	4.7	6.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
59.94	0.003	26.5	0.0	4.7	6.4	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
59.74	0.003	26.5	0.0	4.7	6.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
59.54	0.003	26.5	0.0	4.7	6.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
59.34	0.003	26.5	0.0	4.7	6.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
59.15	0.003	26.5	0.0	4.7	6.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54

58.95	0.003	26.5	0.0	4.7	6.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
58.75	0.003	26.5	0.0	4.7	6.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
58.55	0.003	26.5	0.0	4.7	6.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
58.35	0.003	26.5	0.0	4.7	6.3	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
58.16	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
57.96	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
57.76	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
57.56	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
57.36	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
57.17	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
56.97	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
56.77	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
56.57	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
56.38	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
56.18	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
55.98	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
55.78	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
55.58	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
55.39	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
55.19	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
54.99	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
54.79	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
54.59	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
54.40	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
54.20	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
54.00	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.54
53.80	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
53.60	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
53.40	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
53.20	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
53.00	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
52.80	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
52.60	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
52.40	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
52.20	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
52.00	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
51.80	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
51.60	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
51.40	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
51.20	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
51.00	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
50.80	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
50.60	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
50.40	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
50.20	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
50.00	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
49.80	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56

49.60	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
49.40	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
49.20	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
49.00	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
48.80	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
48.60	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
48.40	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
48.20	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
48.00	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
47.80	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
47.60	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
47.40	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
47.20	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
47.00	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
46.80	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
46.60	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
46.40	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
46.20	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
46.00	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
45.80	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
45.60	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
45.40	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
45.20	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
45.00	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
44.80	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
44.60	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
44.40	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
44.20	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
44.00	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
43.80	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
43.60	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
43.40	0.003	26.5	0.0	4.7	6.0	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
43.20	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
43.00	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
42.80	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
42.60	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
42.40	0.003	26.5	0.0	4.7	6.1	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
42.20	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
42.00	0.003	26.5	0.0	4.7	6.2	0.0	0.0	0.0	2.98	0.05	0.12	0.00	2.56
41.80	0.003	26.5	0.0	4.8	6.3	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.45
41.60	0.003	26.5	0.0	4.8	6.3	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.45
41.40	0.003	26.5	0.0	4.8	6.3	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.45
41.20	0.003	26.5	0.0	4.8	6.4	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.45
41.00	0.003	26.5	0.0	4.8	6.4	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.45
40.80	0.003	26.5	0.0	4.8	6.4	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.45
40.60	0.003	26.5	0.0	4.8	6.5	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.45
40.40	0.003	26.5	0.0	4.8	6.5	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.45

21.40	0.003	26.5	0.0	4.8	6.6	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
21.20	0.003	26.5	0.0	4.8	6.6	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
21.00	0.003	26.5	0.0	4.8	6.6	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
20.80	0.003	26.5	0.0	4.8	6.6	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
20.60	0.003	26.5	0.0	4.8	6.6	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
20.40	0.003	26.5	0.0	4.8	6.6	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
20.20	0.003	26.5	0.0	4.8	6.6	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
20.00	0.003	26.5	0.0	4.8	6.6	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
19.80	0.003	26.5	0.0	4.8	6.5	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
19.60	0.003	26.5	0.0	4.8	6.5	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
19.40	0.003	26.5	0.0	4.8	6.5	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
19.20	0.003	26.5	0.0	4.8	6.4	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
19.00	0.003	26.5	0.0	4.8	6.4	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
18.80	0.003	26.5	0.0	4.8	6.3	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
18.60	0.003	26.5	0.0	4.8	6.2	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
18.40	0.003	26.5	0.0	4.9	6.1	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
18.20	0.003	26.5	0.0	5.0	5.9	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
18.00	0.003	26.5	0.0	5.2	5.7	0.0	0.0	0.0	2.40	0.04	0.12	0.00	2.47
17.80	0.003	26.5	0.0	5.3	5.6	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
17.60	0.003	26.5	0.0	5.4	5.5	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
17.40	0.003	26.5	0.0	5.4	5.5	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
17.20	0.003	26.5	0.0	5.5	5.5	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
17.00	0.003	26.5	0.0	5.5	5.4	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
16.80	0.003	26.5	0.0	5.5	5.4	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
16.60	0.003	26.5	0.0	5.5	5.4	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
16.40	0.003	26.5	0.0	5.5	5.4	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
16.20	0.003	26.5	0.0	5.5	5.4	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
16.00	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
15.80	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
15.60	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
15.40	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
15.20	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
15.00	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
14.80	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
14.60	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
14.40	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
14.20	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
14.00	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
13.80	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
13.60	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
13.40	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
13.20	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
13.00	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
12.80	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
12.60	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
12.40	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
12.20	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70

12.00	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
11.80	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
11.60	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
11.40	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
11.20	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
11.00	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
10.80	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
10.60	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
10.40	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
10.20	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
10.00	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
9.80	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
9.60	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
9.40	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
9.20	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
9.00	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
8.80	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
8.60	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
8.40	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
8.20	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
8.00	0.003	26.5	0.0	5.5	5.3	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
7.80	0.003	26.5	0.0	5.5	5.2	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
7.60	0.003	26.5	0.0	5.5	5.2	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
7.40	0.003	26.5	0.0	5.5	5.2	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
7.20	0.003	26.5	0.0	5.5	5.2	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
7.00	0.003	26.5	0.0	5.5	5.2	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
6.80	0.003	26.5	0.0	5.5	5.2	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
6.60	0.003	26.5	0.0	5.5	5.2	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
6.40	0.003	26.5	0.0	5.5	5.1	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
6.20	0.003	26.5	0.0	5.5	5.1	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
6.00	0.003	26.5	0.0	5.6	5.1	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
5.80	0.003	26.5	0.0	5.6	5.0	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
5.60	0.003	26.5	0.0	5.6	5.0	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
5.40	0.003	26.5	0.0	5.6	4.9	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
5.20	0.003	26.5	0.0	5.7	4.8	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
5.00	0.003	26.5	0.0	5.8	4.7	0.0	0.0	0.0	0.90	0.05	0.12	0.00	1.70
4.80	0.003	26.5	0.0	5.9	4.6	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
4.60	0.003	26.5	0.0	5.9	4.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
4.40	0.003	26.5	0.0	5.9	4.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
4.20	0.003	26.5	0.0	6.0	4.5	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
4.00	0.003	26.5	0.0	6.0	4.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
3.80	0.003	26.5	0.0	6.0	4.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
3.60	0.003	26.5	0.0	6.0	4.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
3.40	0.003	26.5	0.0	6.0	4.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
3.20	0.003	26.5	0.0	6.0	4.4	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
3.00	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
2.80	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07

2.60	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
2.40	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
2.20	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
2.00	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
1.80	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
1.60	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
1.40	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
1.20	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
1.00	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
0.80	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
0.60	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
0.40	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
0.20	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07
0.00	0.003	26.5	0.0	6.0	4.3	0.0	0.0	0.0	0.55	0.07	0.12	0.00	1.07

SPECIAL REPORT: Flat Creek headwater
 HYDRAULIC PARAMETER VALUES

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	ADVCTV VELO m/s	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
1	66.47	66.27	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
2	66.27	66.07	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
3	66.07	65.88	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
4	65.88	65.68	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
5	65.68	65.48	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
6	65.48	65.28	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
7	65.28	65.08	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
8	65.08	64.89	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
9	64.89	64.69	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
10	64.69	64.49	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
11	64.49	64.29	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
12	64.29	64.09	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
13	64.09	63.90	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
14	63.90	63.70	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
15	63.70	63.50	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
16	63.50	63.30	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
17	63.30	63.11	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
18	63.11	62.91	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
19	62.91	62.71	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
20	62.71	62.51	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
21	62.51	62.31	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
22	62.31	62.12	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
23	62.12	61.92	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
24	61.92	61.72	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002

25	61.72	61.52	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
26	61.52	61.32	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
27	61.32	61.13	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
28	61.13	60.93	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
29	60.93	60.73	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
30	60.73	60.53	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
31	60.53	60.33	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
32	60.33	60.14	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
33	60.14	59.94	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
34	59.94	59.74	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
35	59.74	59.54	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
36	59.54	59.34	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
37	59.34	59.15	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
38	59.15	58.95	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
39	58.95	58.75	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
40	58.75	58.55	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
41	58.55	58.35	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
42	58.35	58.16	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
43	58.16	57.96	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
44	57.96	57.76	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
45	57.76	57.56	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
46	57.56	57.36	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
47	57.36	57.17	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
48	57.17	56.97	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
49	56.97	56.77	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
50	56.77	56.57	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
51	56.57	56.38	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
52	56.38	56.18	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
53	56.18	55.98	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
54	55.98	55.78	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
55	55.78	55.58	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
56	55.58	55.39	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
57	55.39	55.19	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
58	55.19	54.99	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
59	54.99	54.79	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
60	54.79	54.59	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
61	54.59	54.40	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
62	54.40	54.20	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
63	54.20	54.00	0.0028	0.002	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
64	54.00	53.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
65	53.80	53.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
66	53.60	53.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
67	53.40	53.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
68	53.20	53.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
69	53.00	52.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
70	52.80	52.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
71	52.60	52.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002

72	52.40	52.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
73	52.20	52.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
74	52.00	51.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
75	51.80	51.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
76	51.60	51.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
77	51.40	51.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
78	51.20	51.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
79	51.00	50.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
80	50.80	50.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
81	50.60	50.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
82	50.40	50.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
83	50.20	50.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
84	50.00	49.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
85	49.80	49.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
86	49.60	49.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
87	49.40	49.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
88	49.20	49.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
89	49.00	48.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
90	48.80	48.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
91	48.60	48.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
92	48.40	48.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
93	48.20	48.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
94	48.00	47.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
95	47.80	47.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
96	47.60	47.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
97	47.40	47.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
98	47.20	47.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
99	47.00	46.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
100	46.80	46.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
101	46.60	46.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
102	46.40	46.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
103	46.20	46.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
104	46.00	45.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
105	45.80	45.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
106	45.60	45.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
107	45.40	45.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
108	45.20	45.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
109	45.00	44.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
110	44.80	44.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
111	44.60	44.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
112	44.40	44.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
113	44.20	44.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
114	44.00	43.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
115	43.80	43.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
116	43.60	43.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
117	43.40	43.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
118	43.20	43.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002

119	43.00	42.80	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
120	42.80	42.60	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
121	42.60	42.40	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
122	42.40	42.20	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
123	42.20	42.00	0.0028	0.002	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
124	42.00	41.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
125	41.80	41.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
126	41.60	41.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
127	41.40	41.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
128	41.20	41.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
129	41.00	40.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
130	40.80	40.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
131	40.60	40.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
132	40.40	40.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
133	40.20	40.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
134	40.00	39.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
135	39.80	39.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
136	39.60	39.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
137	39.40	39.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
138	39.20	39.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
139	39.00	38.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
140	38.80	38.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
141	38.60	38.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
142	38.40	38.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
143	38.20	38.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
144	38.00	37.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
145	37.80	37.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
146	37.60	37.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
147	37.40	37.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
148	37.20	37.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
149	37.00	36.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
150	36.80	36.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
151	36.60	36.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
152	36.40	36.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
153	36.20	36.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
154	36.00	35.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
155	35.80	35.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
156	35.60	35.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
157	35.40	35.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
158	35.20	35.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
159	35.00	34.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
160	34.80	34.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
161	34.60	34.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
162	34.40	34.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
163	34.20	34.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
164	34.00	33.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
165	33.80	33.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002

166	33.60	33.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
167	33.40	33.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
168	33.20	33.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
169	33.00	32.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
170	32.80	32.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
171	32.60	32.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
172	32.40	32.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
173	32.20	32.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
174	32.00	31.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
175	31.80	31.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
176	31.60	31.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
177	31.40	31.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
178	31.20	31.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
179	31.00	30.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
180	30.80	30.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
181	30.60	30.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
182	30.40	30.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
183	30.20	30.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
184	30.00	29.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
185	29.80	29.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
186	29.60	29.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
187	29.40	29.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
188	29.20	29.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
189	29.00	28.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
190	28.80	28.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
191	28.60	28.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
192	28.40	28.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
193	28.20	28.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
194	28.00	27.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
195	27.80	27.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
196	27.60	27.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
197	27.40	27.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
198	27.20	27.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
199	27.00	26.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
200	26.80	26.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
201	26.60	26.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
202	26.40	26.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
203	26.20	26.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
204	26.00	25.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
205	25.80	25.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
206	25.60	25.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
207	25.40	25.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
208	25.20	25.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
209	25.00	24.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
210	24.80	24.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
211	24.60	24.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
212	24.40	24.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002

213	24.20	24.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
214	24.00	23.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
215	23.80	23.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
216	23.60	23.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
217	23.40	23.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
218	23.20	23.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
219	23.00	22.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
220	22.80	22.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
221	22.60	22.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
222	22.40	22.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
223	22.20	22.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
224	22.00	21.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
225	21.80	21.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
226	21.60	21.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
227	21.40	21.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
228	21.20	21.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
229	21.00	20.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
230	20.80	20.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
231	20.60	20.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
232	20.40	20.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
233	20.20	20.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
234	20.00	19.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
235	19.80	19.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
236	19.60	19.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
237	19.40	19.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
238	19.20	19.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
239	19.00	18.80	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
240	18.80	18.60	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
241	18.60	18.40	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
242	18.40	18.20	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
243	18.20	18.00	0.0028	0.002	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
244	18.00	17.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
245	17.80	17.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
246	17.60	17.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
247	17.40	17.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
248	17.20	17.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
249	17.00	16.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
250	16.80	16.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
251	16.60	16.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
252	16.40	16.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
253	16.20	16.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
254	16.00	15.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
255	15.80	15.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
256	15.60	15.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
257	15.40	15.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
258	15.20	15.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
259	15.00	14.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000

260	14.80	14.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
261	14.60	14.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
262	14.40	14.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
263	14.20	14.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
264	14.00	13.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
265	13.80	13.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
266	13.60	13.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
267	13.40	13.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
268	13.20	13.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
269	13.00	12.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
270	12.80	12.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
271	12.60	12.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
272	12.40	12.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
273	12.20	12.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
274	12.00	11.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
275	11.80	11.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
276	11.60	11.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
277	11.40	11.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
278	11.20	11.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
279	11.00	10.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
280	10.80	10.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
281	10.60	10.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
282	10.40	10.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
283	10.20	10.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
284	10.00	9.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
285	9.80	9.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
286	9.60	9.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
287	9.40	9.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
288	9.20	9.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
289	9.00	8.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
290	8.80	8.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
291	8.60	8.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
292	8.40	8.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
293	8.20	8.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
294	8.00	7.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
295	7.80	7.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
296	7.60	7.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
297	7.40	7.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
298	7.20	7.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
299	7.00	6.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
300	6.80	6.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
301	6.60	6.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
302	6.40	6.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
303	6.20	6.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
304	6.00	5.80	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
305	5.80	5.60	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
306	5.60	5.40	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000

307	5.40	5.20	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
308	5.20	5.00	0.0028	0.000	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
309	5.00	4.80	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
310	4.80	4.60	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
311	4.60	4.40	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
312	4.40	4.20	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
313	4.20	4.00	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
314	4.00	3.80	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
315	3.80	3.60	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
316	3.60	3.40	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
317	3.40	3.20	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
318	3.20	3.00	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
319	3.00	2.80	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
320	2.80	2.60	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
321	2.60	2.40	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
322	2.40	2.20	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
323	2.20	2.00	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
324	2.00	1.80	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
325	1.80	1.60	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
326	1.60	1.40	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
327	1.40	1.20	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
328	1.20	1.00	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
329	1.00	0.80	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
330	0.80	0.60	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
331	0.60	0.40	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
332	0.40	0.20	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
333	0.20	0.00	0.0028	0.000	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000

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 FINAL REPORT Flat Creek headwater FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 REACH NO. 1 FLAT CREEK RK 66.47-54.0 NO LOAD, JUN-OCT

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
1	HDWTR	0.0028	26.50	0.00	5.1	0.0	3.00	15.66	15.66	0.00	0.00	0.00	0.00	0.0	0.	3.79

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
1	66.47	66.27	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002

2	66.27	66.07	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
3	66.07	65.88	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
4	65.88	65.68	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
5	65.68	65.48	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
6	65.48	65.28	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
7	65.28	65.08	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
8	65.08	64.89	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
9	64.89	64.69	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
10	64.69	64.49	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
11	64.49	64.29	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
12	64.29	64.09	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
13	64.09	63.90	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
14	63.90	63.70	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
15	63.70	63.50	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
16	63.50	63.30	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
17	63.30	63.11	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
18	63.11	62.91	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
19	62.91	62.71	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
20	62.71	62.51	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
21	62.51	62.31	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
22	62.31	62.12	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
23	62.12	61.92	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
24	61.92	61.72	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
25	61.72	61.52	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
26	61.52	61.32	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
27	61.32	61.13	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
28	61.13	60.93	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
29	60.93	60.73	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
30	60.73	60.53	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
31	60.53	60.33	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
32	60.33	60.14	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
33	60.14	59.94	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
34	59.94	59.74	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
35	59.74	59.54	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
36	59.54	59.34	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
37	59.34	59.15	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
38	59.15	58.95	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
39	58.95	58.75	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
40	58.75	58.55	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
41	58.55	58.35	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
42	58.35	58.16	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
43	58.16	57.96	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
44	57.96	57.76	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
45	57.76	57.56	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
46	57.56	57.36	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
47	57.36	57.17	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
48	57.17	56.97	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002

49	56.97	56.77	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
50	56.77	56.57	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
51	56.57	56.38	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
52	56.38	56.18	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
53	56.18	55.98	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
54	55.98	55.78	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
55	55.78	55.58	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
56	55.58	55.39	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
57	55.39	55.19	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
58	55.19	54.99	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
59	54.99	54.79	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
60	54.79	54.59	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
61	54.59	54.40	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
62	54.40	54.20	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
63	54.20	54.00	0.0028	0.0	0.002	1.00	0.27	4.6	241.	906.9	1.2	0.	0.000	2.000	0.002
TOT								62.71		15170.	57131.7				
AVG					0.002			0.27	4.6			1.2			
CUM								62.71							

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECA	CBOD SETT	ANBOD DECA	FULL SOD	CORR SOD	ORGN DECA	ORGN SETT	NH3 DECA	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECA	NCM DECA	NCM SETT
		mg/L	1/da	1/da	1/da	1/da	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da	1/da
1	66.272	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
2	66.074	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
3	65.876	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
4	65.678	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
5	65.480	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
6	65.282	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
7	65.084	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
8	64.887	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
9	64.689	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
10	64.491	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
11	64.293	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
12	64.095	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
13	63.897	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
14	63.699	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
15	63.501	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
16	63.303	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
17	63.105	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
18	62.907	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
19	62.709	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
20	62.511	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06

21	62.313	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
22	62.115	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
23	61.917	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
24	61.720	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
25	61.522	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
26	61.324	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
27	61.126	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
28	60.928	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
29	60.730	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
30	60.532	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
31	60.334	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
32	60.136	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
33	59.938	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
34	59.740	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
35	59.542	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
36	59.344	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
37	59.146	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
38	58.948	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
39	58.750	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
40	58.553	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
41	58.355	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
42	58.157	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
43	57.959	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
44	57.761	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
45	57.563	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
46	57.365	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
47	57.167	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
48	56.969	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
49	56.771	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
50	56.573	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
51	56.375	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
52	56.177	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
53	55.979	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
54	55.781	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
55	55.583	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
56	55.386	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
57	55.188	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
58	54.990	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
59	54.792	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
60	54.594	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
61	54.396	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
62	54.198	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
63	54.000	8.04	2.98	0.05	0.12	0.00	2.54	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	
20 DEG C RATE				0.04		0.00	1.69	0.00		0.00	0.00	0.00	0.00		0.00	2.97				
AVG 20 DEG C RATE				2.64	0.10				0.00										0.05	

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
1	66.272	26.50	0.0	5.1	0.0	4.31	12.01	12.01	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.97
2	66.074	26.50	0.0	5.1	0.0	4.44	11.40	11.40	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.82
3	65.876	26.50	0.0	5.1	0.0	4.51	10.85	10.85	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.69
4	65.678	26.50	0.0	5.1	0.0	4.55	10.37	10.37	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.57
5	65.480	26.50	0.0	5.1	0.0	4.58	9.93	9.93	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.46
6	65.282	26.50	0.0	5.1	0.0	4.60	9.54	9.54	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.36
7	65.084	26.50	0.0	5.1	0.0	4.61	9.19	9.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.27
8	64.887	26.50	0.0	5.1	0.0	4.62	8.88	8.88	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.18
9	64.689	26.50	0.0	5.1	0.0	4.63	8.59	8.59	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.10
10	64.491	26.50	0.0	5.1	0.0	4.63	8.34	8.34	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	2.03
11	64.293	26.50	0.0	5.1	0.0	4.64	8.12	8.12	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.96
12	64.095	26.50	0.0	5.1	0.0	4.64	7.92	7.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.90
13	63.897	26.50	0.0	5.1	0.0	4.65	7.74	7.74	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.84
14	63.699	26.50	0.0	5.1	0.0	4.65	7.57	7.57	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.79
15	63.501	26.50	0.0	5.1	0.0	4.66	7.43	7.43	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.74
16	63.303	26.50	0.0	5.1	0.0	4.66	7.30	7.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.69
17	63.105	26.50	0.0	5.1	0.0	4.66	7.18	7.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.65
18	62.907	26.50	0.0	5.1	0.0	4.67	7.08	7.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.61
19	62.709	26.50	0.0	5.1	0.0	4.67	6.98	6.98	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.58
20	62.511	26.50	0.0	5.1	0.0	4.67	6.90	6.90	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.54
21	62.313	26.50	0.0	5.1	0.0	4.67	6.83	6.83	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.51
22	62.115	26.50	0.0	5.1	0.0	4.67	6.76	6.76	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.49
23	61.917	26.50	0.0	5.1	0.0	4.68	6.70	6.70	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.46
24	61.720	26.50	0.0	5.1	0.0	4.68	6.65	6.65	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.44
25	61.522	26.50	0.0	5.1	0.0	4.68	6.60	6.60	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.41
26	61.324	26.50	0.0	5.1	0.0	4.68	6.55	6.55	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.39
27	61.126	26.50	0.0	5.1	0.0	4.68	6.52	6.52	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.38
28	60.928	26.50	0.0	5.1	0.0	4.68	6.48	6.48	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.36
29	60.730	26.50	0.0	5.1	0.0	4.68	6.45	6.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.34
30	60.532	26.50	0.0	5.1	0.0	4.68	6.42	6.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.33
31	60.334	26.50	0.0	5.1	0.0	4.68	6.40	6.40	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.32
32	60.136	26.50	0.0	5.1	0.0	4.69	6.37	6.37	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.30
33	59.938	26.50	0.0	5.1	0.0	4.69	6.35	6.35	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.29
34	59.740	26.50	0.0	5.1	0.0	4.69	6.34	6.34	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.28
35	59.542	26.50	0.0	5.1	0.0	4.69	6.32	6.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.27
36	59.344	26.50	0.0	5.1	0.0	4.69	6.31	6.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.26
37	59.146	26.50	0.0	5.1	0.0	4.69	6.29	6.29	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.25
38	58.948	26.50	0.0	5.1	0.0	4.69	6.28	6.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.25
39	58.750	26.50	0.0	5.1	0.0	4.69	6.27	6.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.24

40	58.553	26.50	0.0	5.1	0.0	4.69	6.26	6.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.23
41	58.355	26.50	0.0	5.1	0.0	4.69	6.25	6.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.23
42	58.157	26.50	0.0	5.1	0.0	4.69	6.25	6.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
43	57.959	26.50	0.0	5.1	0.0	4.69	6.24	6.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.22
44	57.761	26.50	0.0	5.1	0.0	4.69	6.23	6.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
45	57.563	26.50	0.0	5.1	0.0	4.69	6.23	6.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.21
46	57.365	26.50	0.0	5.1	0.0	4.69	6.22	6.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
47	57.167	26.50	0.0	5.1	0.0	4.69	6.22	6.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
48	56.969	26.50	0.0	5.1	0.0	4.69	6.22	6.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
49	56.771	26.50	0.0	5.1	0.0	4.69	6.21	6.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
50	56.573	26.50	0.0	5.1	0.0	4.69	6.21	6.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
51	56.375	26.50	0.0	5.1	0.0	4.69	6.21	6.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
52	56.177	26.50	0.0	5.1	0.0	4.69	6.20	6.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
53	55.979	26.50	0.0	5.1	0.0	4.69	6.20	6.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.18
54	55.781	26.50	0.0	5.1	0.0	4.69	6.20	6.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.18
55	55.583	26.50	0.0	5.1	0.0	4.69	6.20	6.20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.18
56	55.386	26.50	0.0	5.1	0.0	4.69	6.19	6.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.18
57	55.188	26.50	0.0	5.1	0.0	4.69	6.19	6.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.18
58	54.990	26.50	0.0	5.1	0.0	4.69	6.19	6.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.18
59	54.792	26.50	0.0	5.1	0.0	4.69	6.18	6.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.18
60	54.594	26.50	0.0	5.1	0.0	4.69	6.18	6.18	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.18
61	54.396	26.50	0.0	5.1	0.0	4.69	6.17	6.17	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.18
62	54.198	26.50	0.0	5.1	0.0	4.69	6.16	6.16	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.18
63	54.000	26.50	0.0	5.1	0.0	4.69	6.15	6.15	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.18

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

** g/cu m

1
 FINAL REPORT Flat Creek headwater FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 REACH NO. 2 FLAT CREEK RK 54.0-42.0 NO LOAD, JUN-OCT

***** REACH INPUTS *****

ELEM NO.	TYPE	FLOW cms	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM *
64	UPR RCH	0.0028	26.50	0.00	5.1	0.0	4.69	6.15	6.15	0.00	0.00	0.00	0.00	0.0	0.	1.18

***** HYDRAULIC PARAMETER VALUES *****

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW cms	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME cu m	SURFACE AREA sq m	X-SECT AREA sq m	TIDAL PRISM cu m	TIDAL VELO m/s	DISPRSN sq m/s	MEAN VELO m/s
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64	54.00	53.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
65	53.80	53.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
66	53.60	53.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
67	53.40	53.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
68	53.20	53.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
69	53.00	52.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
70	52.80	52.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
71	52.60	52.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
72	52.40	52.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
73	52.20	52.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
74	52.00	51.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
75	51.80	51.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
76	51.60	51.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
77	51.40	51.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
78	51.20	51.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
79	51.00	50.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
80	50.80	50.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
81	50.60	50.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
82	50.40	50.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
83	50.20	50.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
84	50.00	49.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
85	49.80	49.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
86	49.60	49.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
87	49.40	49.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
88	49.20	49.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
89	49.00	48.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
90	48.80	48.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
91	48.60	48.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
92	48.40	48.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
93	48.20	48.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
94	48.00	47.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
95	47.80	47.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
96	47.60	47.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
97	47.40	47.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
98	47.20	47.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
99	47.00	46.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
100	46.80	46.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
101	46.60	46.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
102	46.40	46.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
103	46.20	46.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
104	46.00	45.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
105	45.80	45.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
106	45.60	45.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
107	45.40	45.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
108	45.20	45.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
109	45.00	44.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
110	44.80	44.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002

111	44.60	44.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
112	44.40	44.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
113	44.20	44.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
114	44.00	43.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
115	43.80	43.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
116	43.60	43.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
117	43.40	43.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
118	43.20	43.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
119	43.00	42.80	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
120	42.80	42.60	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
121	42.60	42.40	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
122	42.40	42.20	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
123	42.20	42.00	0.0028	0.0	0.002	1.01	0.27	4.6	243.	916.3	1.2	0.	0.000	2.000	0.002
TOT								60.34		14598.	54978.3				
AVG					0.002			0.27	4.6			1.2			
CUM								123.05							

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECA 1/da	CBOD SETT 1/da	ANBOD DECA 1/da	FULL SOD *	CORR SOD *	ORGN DECA 1/da	ORGN SETT 1/da	NH3 DECA 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECA 1/da	NCM DECA 1/da	NCM SETT 1/da
64	53.800	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
65	53.600	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
66	53.400	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
67	53.200	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
68	53.000	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
69	52.800	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
70	52.600	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
71	52.400	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
72	52.200	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
73	52.000	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
74	51.800	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
75	51.600	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
76	51.400	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
77	51.200	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
78	51.000	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
79	50.800	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
80	50.600	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
81	50.400	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
82	50.200	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
83	50.000	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
84	49.800	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
85	49.600	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06

86	49.400	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
87	49.200	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
88	49.000	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
89	48.800	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
90	48.600	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
91	48.400	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
92	48.200	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
93	48.000	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
94	47.800	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
95	47.600	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
96	47.400	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
97	47.200	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
98	47.000	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
99	46.800	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
100	46.600	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
101	46.400	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
102	46.200	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
103	46.000	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
104	45.800	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
105	45.600	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
106	45.400	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
107	45.200	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
108	45.000	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
109	44.800	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
110	44.600	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
111	44.400	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
112	44.200	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
113	44.000	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
114	43.800	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
115	43.600	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
116	43.400	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
117	43.200	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
118	43.000	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
119	42.800	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
120	42.600	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
121	42.400	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
122	42.200	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
123	42.000	8.04	2.98	0.05	0.12	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
20	DEG C RATE			0.04		0.00		1.70	0.00		0.00	0.00	0.00	0.00		0.00	2.82		
	AVG 20 DEG C RATE		2.64		0.10					0.00									0.05

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
64	53.800	26.50	0.0	5.1	0.0	4.68	6.14	6.14	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.18
65	53.600	26.50	0.0	5.1	0.0	4.68	6.13	6.13	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.18
66	53.400	26.50	0.0	5.1	0.0	4.68	6.12	6.12	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.18
67	53.200	26.50	0.0	5.1	0.0	4.67	6.11	6.11	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.18
68	53.000	26.50	0.0	5.1	0.0	4.67	6.10	6.10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
69	52.800	26.50	0.0	5.1	0.0	4.67	6.09	6.09	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
70	52.600	26.50	0.0	5.1	0.0	4.67	6.08	6.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
71	52.400	26.50	0.0	5.1	0.0	4.67	6.08	6.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
72	52.200	26.50	0.0	5.1	0.0	4.67	6.07	6.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
73	52.000	26.50	0.0	5.1	0.0	4.67	6.07	6.07	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
74	51.800	26.50	0.0	5.1	0.0	4.67	6.06	6.06	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
75	51.600	26.50	0.0	5.1	0.0	4.67	6.06	6.06	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
76	51.400	26.50	0.0	5.1	0.0	4.67	6.05	6.05	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
77	51.200	26.50	0.0	5.1	0.0	4.67	6.05	6.05	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
78	51.000	26.50	0.0	5.1	0.0	4.67	6.05	6.05	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.19
79	50.800	26.50	0.0	5.1	0.0	4.67	6.05	6.05	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
80	50.600	26.50	0.0	5.1	0.0	4.67	6.04	6.04	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
81	50.400	26.50	0.0	5.1	0.0	4.67	6.04	6.04	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
82	50.200	26.50	0.0	5.1	0.0	4.67	6.04	6.04	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
83	50.000	26.50	0.0	5.1	0.0	4.67	6.04	6.04	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
84	49.800	26.50	0.0	5.1	0.0	4.67	6.04	6.04	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
85	49.600	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
86	49.400	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
87	49.200	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
88	49.000	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
89	48.800	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
90	48.600	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
91	48.400	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
92	48.200	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
93	48.000	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
94	47.800	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
95	47.600	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
96	47.400	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
97	47.200	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
98	47.000	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
99	46.800	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
100	46.600	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
101	46.400	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
102	46.200	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
103	46.000	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
104	45.800	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
105	45.600	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20
106	45.400	26.50	0.0	5.1	0.0	4.67	6.03	6.03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.20

131	40.60	40.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
132	40.40	40.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
133	40.20	40.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
134	40.00	39.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
135	39.80	39.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
136	39.60	39.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
137	39.40	39.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
138	39.20	39.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
139	39.00	38.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
140	38.80	38.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
141	38.60	38.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
142	38.40	38.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
143	38.20	38.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
144	38.00	37.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
145	37.80	37.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
146	37.60	37.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
147	37.40	37.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
148	37.20	37.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
149	37.00	36.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
150	36.80	36.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
151	36.60	36.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
152	36.40	36.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
153	36.20	36.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
154	36.00	35.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
155	35.80	35.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
156	35.60	35.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
157	35.40	35.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
158	35.20	35.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
159	35.00	34.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
160	34.80	34.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
161	34.60	34.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
162	34.40	34.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
163	34.20	34.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
164	34.00	33.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
165	33.80	33.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
166	33.60	33.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
167	33.40	33.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
168	33.20	33.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
169	33.00	32.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
170	32.80	32.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
171	32.60	32.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
172	32.40	32.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
173	32.20	32.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
174	32.00	31.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
175	31.80	31.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
176	31.60	31.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
177	31.40	31.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002

178	31.20	31.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
179	31.00	30.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
180	30.80	30.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
181	30.60	30.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
182	30.40	30.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
183	30.20	30.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
TOT						91.33			22095.	67050.3					
AVG					0.002		0.33	5.6			1.8				
CUM						214.38									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECA 1/da	CBOD SETT 1/da	ANBOD DECA 1/da	FULL SOD *	CORR SOD *	ORGN DECA 1/da	ORGN SETT 1/da	NH3 DECA 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECA 1/da	NCM DECA 1/da	NCM SETT 1/da
124	41.800	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
125	41.600	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
126	41.400	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
127	41.200	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
128	41.000	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
129	40.800	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
130	40.600	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
131	40.400	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
132	40.200	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
133	40.000	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
134	39.800	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
135	39.600	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
136	39.400	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
137	39.200	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
138	39.000	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
139	38.800	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
140	38.600	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
141	38.400	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
142	38.200	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
143	38.000	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
144	37.800	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
145	37.600	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
146	37.400	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
147	37.200	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
148	37.000	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
149	36.800	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
150	36.600	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
151	36.400	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
152	36.200	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06

153	36.000	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
154	35.800	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
155	35.600	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
156	35.400	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
157	35.200	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
158	35.000	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
159	34.800	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
160	34.600	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
161	34.400	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
162	34.200	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
163	34.000	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
164	33.800	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
165	33.600	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
166	33.400	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
167	33.200	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
168	33.000	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
169	32.800	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
170	32.600	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
171	32.400	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
172	32.200	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
173	32.000	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
174	31.800	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
175	31.600	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
176	31.400	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
177	31.200	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
178	31.000	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
179	30.800	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
180	30.600	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
181	30.400	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
182	30.200	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
183	30.000	8.04	2.40	0.04	0.12	0.00	2.45	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
20 DEG C RATE					0.03		0.00		1.63	0.00		0.00	0.00	0.00	0.00		0.00	2.69	
AVG 20 DEG C RATE				2.12		0.10					0.00								0.05

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
124	41.800	26.50	0.0	5.1	0.0	4.76	6.27	6.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	1.01
125	41.600	26.50	0.0	5.1	0.0	4.78	6.31	6.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.98
126	41.400	26.50	0.0	5.1	0.0	4.79	6.35	6.35	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.95
127	41.200	26.50	0.0	5.1	0.0	4.80	6.38	6.38	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.92

128	41.000	26.50	0.0	5.1	0.0	4.80	6.41	6.41	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.90
129	40.800	26.50	0.0	5.1	0.0	4.80	6.44	6.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.88
130	40.600	26.50	0.0	5.1	0.0	4.80	6.46	6.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.86
131	40.400	26.50	0.0	5.1	0.0	4.81	6.48	6.48	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.85
132	40.200	26.50	0.0	5.1	0.0	4.81	6.50	6.50	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.83
133	40.000	26.50	0.0	5.1	0.0	4.81	6.51	6.51	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.82
134	39.800	26.50	0.0	5.1	0.0	4.81	6.52	6.52	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.81
135	39.600	26.50	0.0	5.1	0.0	4.81	6.54	6.54	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.80
136	39.400	26.50	0.0	5.1	0.0	4.81	6.55	6.55	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.79
137	39.200	26.50	0.0	5.1	0.0	4.81	6.56	6.56	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.78
138	39.000	26.50	0.0	5.1	0.0	4.81	6.56	6.56	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.77
139	38.800	26.50	0.0	5.1	0.0	4.81	6.57	6.57	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.77
140	38.600	26.50	0.0	5.1	0.0	4.81	6.58	6.58	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.76
141	38.400	26.50	0.0	5.1	0.0	4.81	6.58	6.58	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.75
142	38.200	26.50	0.0	5.1	0.0	4.81	6.59	6.59	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.75
143	38.000	26.50	0.0	5.1	0.0	4.81	6.59	6.59	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.75
144	37.800	26.50	0.0	5.1	0.0	4.81	6.60	6.60	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.74
145	37.600	26.50	0.0	5.1	0.0	4.81	6.60	6.60	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.74
146	37.400	26.50	0.0	5.1	0.0	4.81	6.60	6.60	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.73
147	37.200	26.50	0.0	5.1	0.0	4.81	6.61	6.61	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.73
148	37.000	26.50	0.0	5.1	0.0	4.81	6.61	6.61	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.73
149	36.800	26.50	0.0	5.1	0.0	4.81	6.61	6.61	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.73
150	36.600	26.50	0.0	5.1	0.0	4.81	6.61	6.61	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.73
151	36.400	26.50	0.0	5.1	0.0	4.81	6.61	6.61	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.72
152	36.200	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.72
153	36.000	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.72
154	35.800	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.72
155	35.600	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.72
156	35.400	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.72
157	35.200	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.72
158	35.000	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.71
159	34.800	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.71
160	34.600	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.71
161	34.400	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.71
162	34.200	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.71
163	34.000	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.71
164	33.800	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.71
165	33.600	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.71
166	33.400	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.71
167	33.200	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.71
168	33.000	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.71
169	32.800	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.71
170	32.600	26.50	0.0	5.1	0.0	4.81	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.71
171	32.400	26.50	0.0	5.1	0.0	4.81	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.70
172	32.200	26.50	0.0	5.1	0.0	4.81	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.70
173	32.000	26.50	0.0	5.1	0.0	4.81	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.70
174	31.800	26.50	0.0	5.1	0.0	4.81	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.70

199	27.00	26.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
200	26.80	26.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
201	26.60	26.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
202	26.40	26.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
203	26.20	26.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
204	26.00	25.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
205	25.80	25.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
206	25.60	25.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
207	25.40	25.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
208	25.20	25.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
209	25.00	24.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
210	24.80	24.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
211	24.60	24.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
212	24.40	24.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
213	24.20	24.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
214	24.00	23.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
215	23.80	23.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
216	23.60	23.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
217	23.40	23.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
218	23.20	23.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
219	23.00	22.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
220	22.80	22.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
221	22.60	22.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
222	22.40	22.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
223	22.20	22.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
224	22.00	21.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
225	21.80	21.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
226	21.60	21.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
227	21.40	21.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
228	21.20	21.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
229	21.00	20.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
230	20.80	20.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
231	20.60	20.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
232	20.40	20.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
233	20.20	20.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
234	20.00	19.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
235	19.80	19.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
236	19.60	19.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
237	19.40	19.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
238	19.20	19.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
239	19.00	18.80	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
240	18.80	18.60	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
241	18.60	18.40	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
242	18.40	18.20	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
243	18.20	18.00	0.0028	0.0	0.002	1.52	0.33	5.6	368.	1117.5	1.8	0.	0.000	2.000	0.002
TOT						91.33			22095.	67050.3					

AVG 0.002 0.33 5.6 1.8
 CUM 305.71

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECATY 1/da	CBOD SETT 1/da	ANBOD DECATY 1/da	FULL SOD *	CORR SOD *	ORGN DECATY 1/da	ORGN SETT 1/da	NH3 DECATY 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECATY 1/da	NCM DECATY 1/da	NCM SETT 1/da
184	29.800	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
185	29.600	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
186	29.400	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
187	29.200	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
188	29.000	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
189	28.800	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
190	28.600	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
191	28.400	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
192	28.200	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
193	28.000	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
194	27.800	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
195	27.600	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
196	27.400	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
197	27.200	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
198	27.000	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
199	26.800	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
200	26.600	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
201	26.400	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
202	26.200	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
203	26.000	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
204	25.800	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
205	25.600	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
206	25.400	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
207	25.200	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
208	25.000	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
209	24.800	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
210	24.600	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
211	24.400	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
212	24.200	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
213	24.000	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
214	23.800	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
215	23.600	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
216	23.400	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
217	23.200	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
218	23.000	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
219	22.800	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
220	22.600	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06

221	22.400	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
222	22.200	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
223	22.000	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
224	21.800	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
225	21.600	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
226	21.400	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
227	21.200	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
228	21.000	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
229	20.800	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
230	20.600	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
231	20.400	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
232	20.200	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
233	20.000	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
234	19.800	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
235	19.600	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
236	19.400	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
237	19.200	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
238	19.000	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
239	18.800	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
240	18.600	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
241	18.400	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
242	18.200	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
243	18.000	8.04	2.40	0.04	0.12	0.00	2.47	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06
20 DEG C RATE					0.03		0.00		1.64	0.00		0.00	0.00	0.00	0.00		0.00	2.57	
AVG 20 DEG C RATE				2.12		0.10					0.00								0.05

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
184	29.800	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.59
185	29.600	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.56
186	29.400	26.50	0.0	5.1	0.0	4.79	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.54
187	29.200	26.50	0.0	5.1	0.0	4.79	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.52
188	29.000	26.50	0.0	5.1	0.0	4.79	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
189	28.800	26.50	0.0	5.1	0.0	4.79	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.49
190	28.600	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.47
191	28.400	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.46
192	28.200	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.45
193	28.000	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.44
194	27.800	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.43
195	27.600	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.42

196	27.400	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.42
197	27.200	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.41
198	27.000	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.40
199	26.800	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.40
200	26.600	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.39
201	26.400	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.39
202	26.200	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.39
203	26.000	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.38
204	25.800	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.38
205	25.600	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.38
206	25.400	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.37
207	25.200	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.37
208	25.000	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.37
209	24.800	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.37
210	24.600	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.37
211	24.400	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.37
212	24.200	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
213	24.000	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
214	23.800	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
215	23.600	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
216	23.400	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
217	23.200	26.50	0.0	5.1	0.0	4.80	6.63	6.63	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
218	23.000	26.50	0.0	5.1	0.0	4.80	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
219	22.800	26.50	0.0	5.1	0.0	4.80	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
220	22.600	26.50	0.0	5.1	0.0	4.80	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
221	22.400	26.50	0.0	5.1	0.0	4.80	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
222	22.200	26.50	0.0	5.1	0.0	4.80	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
223	22.000	26.50	0.0	5.1	0.0	4.80	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
224	21.800	26.50	0.0	5.1	0.0	4.80	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
225	21.600	26.50	0.0	5.1	0.0	4.80	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
226	21.400	26.50	0.0	5.1	0.0	4.80	6.62	6.62	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
227	21.200	26.50	0.0	5.1	0.0	4.80	6.61	6.61	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
228	21.000	26.50	0.0	5.1	0.0	4.80	6.61	6.61	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
229	20.800	26.50	0.0	5.1	0.0	4.80	6.60	6.60	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
230	20.600	26.50	0.0	5.1	0.0	4.80	6.60	6.60	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
231	20.400	26.50	0.0	5.1	0.0	4.80	6.59	6.59	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
232	20.200	26.50	0.0	5.1	0.0	4.80	6.58	6.58	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
233	20.000	26.50	0.0	5.1	0.0	4.80	6.56	6.56	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36
234	19.800	26.50	0.0	5.1	0.0	4.80	6.54	6.54	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.37
235	19.600	26.50	0.0	5.1	0.0	4.80	6.52	6.52	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.37
236	19.400	26.50	0.0	5.1	0.0	4.80	6.48	6.48	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.38
237	19.200	26.50	0.0	5.1	0.0	4.80	6.44	6.44	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.38
238	19.000	26.50	0.0	5.1	0.0	4.81	6.38	6.38	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.39
239	18.800	26.50	0.0	5.1	0.0	4.82	6.31	6.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.40
240	18.600	26.50	0.0	5.1	0.0	4.84	6.21	6.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.41
241	18.400	26.50	0.0	5.1	0.0	4.88	6.08	6.08	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.43
242	18.200	26.50	0.0	5.1	0.0	4.98	5.92	5.92	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.45

267	13.40	13.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
268	13.20	13.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
269	13.00	12.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
270	12.80	12.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
271	12.60	12.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
272	12.40	12.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
273	12.20	12.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
274	12.00	11.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
275	11.80	11.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
276	11.60	11.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
277	11.40	11.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
278	11.20	11.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
279	11.00	10.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
280	10.80	10.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
281	10.60	10.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
282	10.40	10.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
283	10.20	10.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
284	10.00	9.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
285	9.80	9.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
286	9.60	9.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
287	9.40	9.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
288	9.20	9.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
289	9.00	8.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
290	8.80	8.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
291	8.60	8.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
292	8.40	8.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
293	8.20	8.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
294	8.00	7.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
295	7.80	7.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
296	7.60	7.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
297	7.40	7.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
298	7.20	7.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
299	7.00	6.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
300	6.80	6.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
301	6.60	6.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
302	6.40	6.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
303	6.20	6.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
304	6.00	5.80	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
305	5.80	5.60	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
306	5.60	5.40	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
307	5.40	5.20	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
308	5.20	5.00	0.0028	0.0	0.000	6.99	0.88	9.6	1692.	1925.5	8.5	0.	0.000	2.000	0.000
TOT						454.51			109954.	125157.9					
AVG				0.000			0.88	9.6			8.5				
CUM						760.22									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECA 1/da	CBOD SETT 1/da	ANBOD DECA 1/da	FULL SOD *	CORR SOD *	ORGN DECA 1/da	ORGN SETT 1/da	NH3 DECA 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECA 1/da	NCM DECA 1/da	NCM SETT 1/da
244	17.800	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
245	17.600	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
246	17.400	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
247	17.200	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
248	17.000	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
249	16.800	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
250	16.600	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
251	16.400	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
252	16.200	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
253	16.000	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
254	15.800	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
255	15.600	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
256	15.400	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
257	15.200	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
258	15.000	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
259	14.800	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
260	14.600	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
261	14.400	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
262	14.200	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
263	14.000	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
264	13.800	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
265	13.600	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
266	13.400	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
267	13.200	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
268	13.000	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
269	12.800	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
270	12.600	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
271	12.400	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
272	12.200	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
273	12.000	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
274	11.800	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
275	11.600	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
276	11.400	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
277	11.200	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
278	11.000	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
279	10.800	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
280	10.600	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
281	10.400	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
282	10.200	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
283	10.000	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06

284	9.800	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
285	9.600	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
286	9.400	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
287	9.200	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
288	9.000	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
289	8.800	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
290	8.600	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
291	8.400	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
292	8.200	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
293	8.000	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
294	7.800	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
295	7.600	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
296	7.400	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
297	7.200	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
298	7.000	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
299	6.800	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
300	6.600	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
301	6.400	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
302	6.200	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
303	6.000	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
304	5.800	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
305	5.600	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
306	5.400	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
307	5.200	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06
308	5.000	8.04	0.90	0.05	0.12	0.00	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06

20 DEG C RATE				0.04		0.00		1.13	0.00		0.00	0.00	0.00	0.00			0.00	2.46	
AVG 20 DEG C RATE	0.80				0.10					0.00									0.05

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
244	17.800	26.50	0.0	5.1	0.0	5.33	5.60	5.60	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.49
245	17.600	26.50	0.0	5.1	0.0	5.39	5.54	5.54	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.49
246	17.400	26.50	0.0	5.1	0.0	5.43	5.50	5.50	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
247	17.200	26.50	0.0	5.1	0.0	5.46	5.46	5.46	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.50
248	17.000	26.50	0.0	5.1	0.0	5.48	5.43	5.43	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.51
249	16.800	26.50	0.0	5.1	0.0	5.49	5.41	5.41	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.51
250	16.600	26.50	0.0	5.1	0.0	5.50	5.39	5.39	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.51
251	16.400	26.50	0.0	5.1	0.0	5.50	5.37	5.37	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.51
252	16.200	26.50	0.0	5.1	0.0	5.51	5.35	5.35	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.52
253	16.000	26.50	0.0	5.1	0.0	5.51	5.34	5.34	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.52

254	15.800	26.50	0.0	5.1	0.0	5.51	5.33	5.33	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.52
255	15.600	26.50	0.0	5.1	0.0	5.51	5.32	5.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.52
256	15.400	26.50	0.0	5.1	0.0	5.51	5.31	5.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.52
257	15.200	26.50	0.0	5.1	0.0	5.52	5.31	5.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.52
258	15.000	26.50	0.0	5.1	0.0	5.52	5.30	5.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.52
259	14.800	26.50	0.0	5.1	0.0	5.52	5.30	5.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.52
260	14.600	26.50	0.0	5.1	0.0	5.52	5.30	5.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.52
261	14.400	26.50	0.0	5.1	0.0	5.52	5.29	5.29	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.52
262	14.200	26.50	0.0	5.1	0.0	5.52	5.29	5.29	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.52
263	14.000	26.50	0.0	5.1	0.0	5.52	5.29	5.29	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.52
264	13.800	26.50	0.0	5.1	0.0	5.52	5.29	5.29	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.52
265	13.600	26.50	0.0	5.1	0.0	5.52	5.29	5.29	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.52
266	13.400	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.52
267	13.200	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.52
268	13.000	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
269	12.800	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
270	12.600	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
271	12.400	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
272	12.200	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
273	12.000	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
274	11.800	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
275	11.600	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
276	11.400	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
277	11.200	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
278	11.000	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
279	10.800	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
280	10.600	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
281	10.400	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
282	10.200	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
283	10.000	26.50	0.0	5.1	0.0	5.52	5.28	5.28	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
284	9.800	26.50	0.0	5.1	0.0	5.52	5.27	5.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
285	9.600	26.50	0.0	5.1	0.0	5.52	5.27	5.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
286	9.400	26.50	0.0	5.1	0.0	5.52	5.27	5.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
287	9.200	26.50	0.0	5.1	0.0	5.52	5.27	5.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
288	9.000	26.50	0.0	5.1	0.0	5.52	5.27	5.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
289	8.800	26.50	0.0	5.1	0.0	5.52	5.27	5.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
290	8.600	26.50	0.0	5.1	0.0	5.52	5.27	5.27	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
291	8.400	26.50	0.0	5.1	0.0	5.52	5.26	5.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
292	8.200	26.50	0.0	5.1	0.0	5.52	5.26	5.26	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
293	8.000	26.50	0.0	5.1	0.0	5.52	5.25	5.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
294	7.800	26.50	0.0	5.1	0.0	5.52	5.25	5.25	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
295	7.600	26.50	0.0	5.1	0.0	5.52	5.24	5.24	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
296	7.400	26.50	0.0	5.1	0.0	5.52	5.23	5.23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.53
297	7.200	26.50	0.0	5.1	0.0	5.52	5.22	5.22	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.54
298	7.000	26.50	0.0	5.1	0.0	5.52	5.21	5.21	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.54
299	6.800	26.50	0.0	5.1	0.0	5.53	5.19	5.19	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.54
300	6.600	26.50	0.0	5.1	0.0	5.53	5.17	5.17	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.54

325	1.80	1.60	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
326	1.60	1.40	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
327	1.40	1.20	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
328	1.20	1.00	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
329	1.00	0.80	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
330	0.80	0.60	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
331	0.60	0.40	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
332	0.40	0.20	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
333	0.20	0.00	0.0028	0.0	0.000	16.12	1.43	13.7	3899.	2732.9	19.5	0.	0.000	2.000	0.000
TOT						402.96				97484.	68322.6				
AVG					0.000		1.43	13.7				19.5			
CUM						1163.18									

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAT 1/da	CBOD SETT 1/da	ANBOD DECAT 1/da	FULL SOD *	CORR SOD *	ORGN DECAT 1/da	ORGN SETT 1/da	NH3 DECAT 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAT 1/da	NCM DECAT 1/da	NCM SETT 1/da
309	4.800	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
310	4.600	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
311	4.400	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
312	4.200	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
313	4.000	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
314	3.800	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
315	3.600	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
316	3.400	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
317	3.200	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
318	3.000	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
319	2.800	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
320	2.600	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
321	2.400	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
322	2.200	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
323	2.000	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
324	1.800	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
325	1.600	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
326	1.400	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
327	1.200	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
328	1.000	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
329	0.800	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
330	0.600	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
331	0.400	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
332	0.200	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06
333	0.000	8.04	0.55	0.07	0.12	0.00	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06

20 DEG C RATE 0.05 0.00 0.71 0.00 0.00 0.00 0.00 0.00 0.00 2.36
 AVG 20 DEG C RATE 0.49 0.10 0.00 0.00 0.00

* g/sq m/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES *****

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO mg/L	BOD mg/L	EBOD mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO **	COLI #/100mL	NCM *
309	4.800	26.50	0.0	5.1	0.0	5.85	4.58	4.58	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.63
310	4.600	26.50	0.0	5.1	0.0	5.90	4.53	4.53	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.64
311	4.400	26.50	0.0	5.1	0.0	5.93	4.49	4.49	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.64
312	4.200	26.50	0.0	5.1	0.0	5.95	4.45	4.45	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.65
313	4.000	26.50	0.0	5.1	0.0	5.97	4.42	4.42	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.65
314	3.800	26.50	0.0	5.1	0.0	5.98	4.40	4.40	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.66
315	3.600	26.50	0.0	5.1	0.0	5.99	4.38	4.38	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.66
316	3.400	26.50	0.0	5.1	0.0	6.00	4.36	4.36	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.66
317	3.200	26.50	0.0	5.1	0.0	6.00	4.35	4.35	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.66
318	3.000	26.50	0.0	5.1	0.0	6.00	4.34	4.34	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.66
319	2.800	26.50	0.0	5.1	0.0	6.01	4.33	4.33	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
320	2.600	26.50	0.0	5.1	0.0	6.01	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
321	2.400	26.50	0.0	5.1	0.0	6.01	4.32	4.32	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
322	2.200	26.50	0.0	5.1	0.0	6.01	4.31	4.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
323	2.000	26.50	0.0	5.1	0.0	6.01	4.31	4.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
324	1.800	26.50	0.0	5.1	0.0	6.01	4.31	4.31	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
325	1.600	26.50	0.0	5.1	0.0	6.01	4.30	4.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
326	1.400	26.50	0.0	5.1	0.0	6.02	4.30	4.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
327	1.200	26.50	0.0	5.1	0.0	6.02	4.30	4.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
328	1.000	26.50	0.0	5.1	0.0	6.02	4.30	4.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
329	0.800	26.50	0.0	5.1	0.0	6.02	4.30	4.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
330	0.600	26.50	0.0	5.1	0.0	6.02	4.30	4.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
331	0.400	26.50	0.0	5.1	0.0	6.02	4.30	4.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
332	0.200	26.50	0.0	5.1	0.0	6.02	4.30	4.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67
333	0.000	26.50	0.0	5.1	0.0	6.02	4.30	4.30	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.	0.67

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = NBOD
 MG/L

** g/cu m

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 STREAM SUMMARY
 Flat Creek headwater

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 NO LOAD, JUN-OCT

TRAVEL TIME = 1163.2 DAYS

MAXIMUM EFFLUENT = 0.0 PERCENT

FLOW = 0.0028 TO 0.0028 cms
 DISPERSION = 2.0000 TO 2.0000 sq m/s
 VELOCITY = 0.0001 TO 0.0023 m/s
 DEPTH = 0.27 TO 1.43 m
 WIDTH = 4.6 TO 13.7 m

BOD DECAY = 0.04 TO 0.07 per day
 NH3 DECAY = 0.00 TO 0.00 per day
 SDMNT OXYGEN DMND= 1.07 TO 2.56 g/sq m/d
 NH3 SOURCE = 0.00 TO 0.00 g/sq m/d
 REAERATION = 0.55 TO 2.98 per day
 BOD SETTLING = 0.12 TO 0.12 per day
 ORGN DECAY = 0.00 TO 0.00 per day
 ORGN SETTLING = 0.00 TO 0.00 per day

TEMPERATURE = 26.50 TO 26.50 deg C
 DISSOLVED OXYGEN = 4.31 TO 6.02 mg/L

FLAT CREEK DISSOLVED OXYGEN MODEL, PROJECTION RUN
 NO LOAD, JUN-OCT

INPUT/OUTPUT LOADING SUMMARY

	FLOW cms	DO kg/d	BOD kg/d	ORG-N kg/d	NH3-N kg/d	NO3-N kg/d	PHOS kg/d	CHL A kg/d	NCM
HEADWATER INFLOW	0.003	0.7	3.8	0.0	0.0	0.0	0.0	0.0	0.9
INCREMENTAL INFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCREMENTAL OUTFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NON-POINT INPUT		0.0	253.0	0.0					28.0
WASTELOADS	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WITHDRAWALS	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OUTFLOW THRU LOWER BNDRY	-0.003	-1.5	-1.0	0.0	0.0	0.0	0.0	0.0	-0.2
DISPERSION THRU LOWER BNDRY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REAERATION		1002.9							
BACKGROUND BENTHAL		-902.3							
AEROBIC BOD DECAY		-82.1	-82.1						
BOD SETTLING		0.0	-173.7						
ANAEROBIC BOD DECAY			0.0						
ORGANIC N HYDROLYSIS		0.0		0.0	0.0				
ORGANIC N SETTLING				0.0	0.0				
NH3 DECAY		0.0			0.0	0.0			
BACKGROUND NH3 SOURCE					0.0				
DENITRIFICATION			0.0			0.0			

PHOSPHORUS SOURCE							0.0		
ALGAE PHOTOSYNTHESIS	0.0			0.0	0.0		0.0	0.0	
ALGAE RESPIRATION	0.0			0.0			0.0	0.0	
ALGAE SETTLING	0.0							0.0	
MACRO PHOTOSYNTHESIS	0.0			0.0	0.0		0.0		
NCM DECAY	-17.6								-17.6
NCM SETTLING	0.0								-11.0
TOTAL INPUTS	0.003	1003.6	256.8	0.0	0.0	0.0	0.0	0.0	28.9
TOTAL OUTPUTS	-0.003	-1003.4	-256.8	0.0	0.0	0.0	0.0	0.0	-28.8
NET CONVERGENCE ERROR	0.000	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1

1

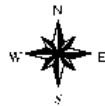
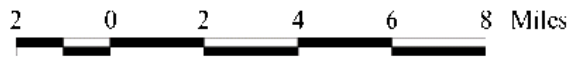
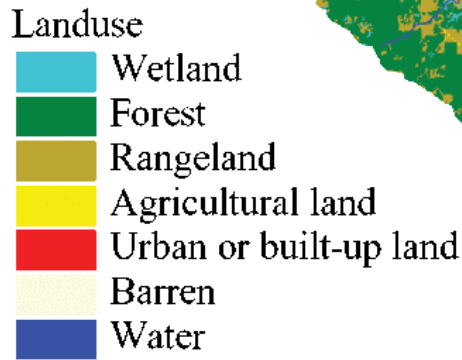
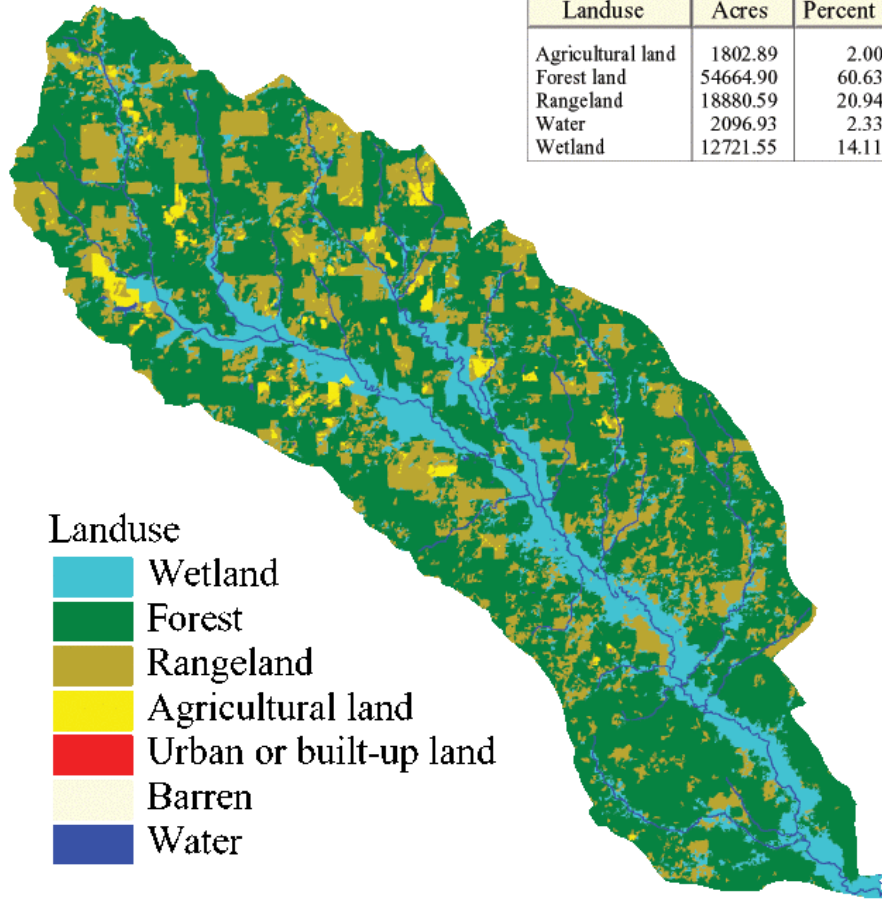
.....EXECUTION COMPLETED

Appendix K – Land Use Map

USGS Louisiana GAP Landuse

Flat Creek Watershed: LDEQ Basin-Subsegment 081504

Landuse	Acres	Percent
Agricultural land	1802.89	2.00
Forest land	54664.90	60.63
Rangeland	18880.59	20.94
Water	2096.93	2.33
Wetland	12721.55	14.11



Map date: 8/17/00
 Map sources: USGS Louisiana GAP data, LDEQ basin-subsegment data
 Map number: 2000-01-210



The Louisiana Department of Environmental Quality (LDEQ) has made every reasonable effort to ensure quality and accuracy in producing this map or data set. Nevertheless, the user should be aware that the information on which it is based may have come from any of a variety of sources, which are of varying degrees of map accuracy. Therefore, LDEQ cannot guarantee the accuracy of this map or data set, and does not accept any responsibility for the consequences of its use.