

BARNES CREEK WATERSHED TMDL
FOR BIOCHEMICAL OXYGEN-DEMANDING SUBSTANCES

SUBSEGMENTS 030601 AND 030602

SURVEYED 7/26/2001

TMDL REPORT

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EXECUTIVE SUMMARY

This report presents the results of a watershed based, calibrated modeling analysis of Barnes Creek. The modeling was conducted to establish a TMDL for biochemical oxygen-demanding pollutants for the Barnes Creek watershed. The model extends from the headwaters north of Longville at Ball Road to the confluence of Barnes Creek with the Calcasieu River. Barnes Creek is located in south west Louisiana and its watershed includes the following tributaries: Little Barnes Creek, Redhead Branch, Little Caney Creek, Caney Creek, Hurricane Creek, Magnolia Creek, Brushy Creek, Righthand Creek, Boggy Creek, Wolf Creek, Unnamed Creek, and Bear Creek tributaries. The watershed is 55.02 square miles in area. Barnes Creek is in the Calcasieu River Basin and includes Water Quality Subsegments 030601 and 030602. The area is sparsely populated and land use is dominated by forestland and rangeland. Only one wastewater treatment facility, The City of Deridder, was addressed in the TMDL effort.

Input data for the calibration model was developed from data collected during the August 2001 intensive survey; data collected by LDEQ and USGS at monitoring stations in the watershed; the LDEQ Reference Stream Study; DMRs, permits and permit applications for each of the point source dischargers; USGS drainage area and low flow publications; and data garnered from several previous LDEQ studies on nonpoint source loadings. The Barnes Creek watershed was in a condition of low flow. There was only one tributary that had a velocity that could be measured with typical survey equipment. The nonpoint source loads included nonpoint loading not associated with flow. A satisfactory calibration was achieved for the main stem. For the projection models, data was taken from the current municipal discharge permits, current applications, and ambient temperature records. The Louisiana Total Maximum Daily Load Technical Procedures, 06/15/2001, have been followed in this study.

The various spreadsheets that were used in conjunction with the modeling program may be found in the appendices in the order in which they were used. Water quality calibration was also based on measurements taken during the survey. Projections were adjusted to meet the dissolved oxygen criteria by reducing total nonpoint source loads.

Land use in the Barnes Creek watershed is fairly homogeneous. It is primarily forestry and rangeland. TMDLs have been calculated for Barnes Creek and are presented in the following tables. Due to the many assumptions made while developing the model, the inherent error within the model algorithms, and the scale of a watershed-based model, the results of the model should be used only as an aid in making water quality based decisions.

Modeling was limited to low flow scenarios for both the calibration and the projections since the constituent of concern was dissolved oxygen and the available data was limited to low flow conditions. The model used was LAQUAL, a modified version of QUAL-TX, which has been adapted to address specific needs of Louisiana waters.

Barnes Creek, Subsegments 030601 and 030602, were not on any 303(d) list; however, Barnes Creek was part of the 1999 ambient sampling monitoring program and was assessed in the 2000 305(b) report. Subsegment 030601 was found to be "not supporting" its designated use of Fish and Wildlife Propagation. It was "fully supporting" its designated use of Secondary Contact Recreation. Subsegment 030602 was found to be "not supporting" its designated use of Fish and Wildlife Propagation. It was "fully supporting" its designated uses of Primary and Secondary Contact Recreation. Barnes Creek was subsequently scheduled for TMDL development with other listed waters in the Calcasieu River Basin. The suspected causes of impairment in subsegment 030601 were organic enrichment/ low DO and salinity/TDS/chlorides. The suspected sources for 030601 were natural sources and municipal point sources. For subsegment 030602 the suspected cause of impairment was organic enrichment/ low DO. The suspected sources of impairment for subsegment 030602 were natural sources, agriculture, and silviculture. This TMDL addresses the organic enrichment/low DO impairment.

The results of the projection modeling for subsegments 030601 and 030602 show that the water quality standard for dissolved oxygen can be maintained during the summer critical season with a 70% reduction of total nonpoint pollution. The minimum DO is 5.22 mg/l at RK 66.7 – 68.3 in subsegment 030601 and has a seasonal summer water quality standard for dissolved oxygen of 2.0 mg/l. The minimum DO is 5.25 mg/l at RK 56.3 – 58.1 in subsegment 030602 and has a seasonal summer water quality standard for dissolved oxygen of 5.0 mg/l.

Table 1. Total Maximum Daily Load for Current Dissolved Oxygen Standards
 (Sum of CBOD, NH₃-N, and SOD)

ALLOCATION	Summer	Winter
	May – Oct (lbs/day)	Nov - Apr (lbs/day)
Point Source WLA	1144	1144
Point Source Reserve MOS	286	286
Total Nonpoint Source LA	1786	1208
Total Nonpoint Source Reserve MOS	445	301
Total Nonpoint Reduction	70%	70%
TMDL	3661	2939

The results of the projection modeling for subsegments 030601 and 030602 show that the water quality standard for dissolved oxygen can be maintained during the winter critical season with the same 70% reduction of total nonpoint pollution. The minimum DO is 6.44 mg/l at RK 80.1 in subsegment 030601 and has a winter seasonal water quality standard for dissolved oxygen of 5.0 mg/l. The minimum DO is 7.25 mg/l at RK 56.3 – 57.5 in subsegment 030602 and has a winter seasonal water quality standard for dissolved oxygen of 5.0 mg/l.

A 70% reduction of total nonpoint pollution was needed primarily to achieve the current dissolved oxygen standard of 5.0 in the lower part of subsegment 030602. The high reduction in the total nonpoint loading, indicates that the current criterion for subsegment 030602 is inappropriate. A reassessment of the dissolved oxygen criteria for this subsegment is recommended. Four additional model runs were done for a 2.0 and 3.0 summer season dissolved oxygen standard. All winter runs assumed a 5.0 dissolved oxygen standard.

The results of the projection modeling run for an endpoint of 2.0 mg/L dissolved oxygen for subsegments 030601 and 030602 show dissolved oxygen level of 2.0 can be maintained during the summer critical season with a 35% reduction of total nonpoint pollution. The results also show that a 5.0 mg/l water quality standard for dissolved oxygen can be maintained in the winter critical season when a 35% reduction of total nonpoint pollution is applied.

Table 2. Total Maximum Daily Load for Proposed 2.0 mg/l DO Standard
 (Sum of CBOD, NH₃-N, and SOD)

ALLOCATION	Summer	Winter
	May – Oct (lbs/day)	Nov - Apr (lbs/day)
Point Source WLA	1144	1144
Point Source Reserve MOS	286	286
Total Nonpoint Source LA	3870	2617
Total Nonpoint Source Reserve MOS	968	654
Total Nonpoint Reduction	35%	35%
TMDL	6268	4701

The results of the 2.0 oxygen standard projection modeling for subsegment 030601 and a 3.0 dissolved oxygen projection for subsegment 030602 show that these levels of dissolved oxygen can be maintained during the summer critical season with a 45% reduction of total nonpoint pollution. The results also show that a 5.0 mg/l water quality standard for dissolved oxygen can be maintained in the winter critical season when a 45% reduction of total nonpoint pollution is applied.

Table 3. Total Maximum Daily Load for Proposed 3.0 mg/l DO standard for 030602
 (Sum of CBOD, NH₃-N, and SOD)

ALLOCATION	Summer	Winter
	May – Oct (lbs/day)	Nov - Apr (lbs/day)
Point Source WLA	1144	1144
Point Source Reserve MOS	286	286
Total Nonpoint Source LA	3275	2214
Total Nonpoint Source Reserve MOS	819	553
Total Nonpoint Reduction	45%	45%
TMDL	5524	4198

LDEQ will work with other agencies such as local Soil Conservation Districts to implement agricultural best management practices in the watershed through the 319 programs.

Louisiana’s Nonpoint Source Pollution Management Plan outlines Louisiana’s approach to nonpoint source pollutions control. It describes the types of projects that have been and will be implemented, and it presents information on BMPs that have been determined to be technically feasible and effective in reduction of pollutant loadings and runoff. LDEQ will also continue to monitor the waters to determine whether standards are being attained. 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

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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 next five years is shown below.

2002 - Red and Sabine River Basins
2003 - Mermentau and Vermilion-Teche River Basins
2004 - Calcasieu and Ouachita River Basins
2005 - Barataria and Terrebonne Basins
2006 - Lake Pontchartrain Basin and Pearl River Basin
(Atchafalaya and Mississippi Rivers will be sampled continuously.)

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Barnes Creek, subsegments 030601 and 030602, of the Calcasieu Basin was not listed on the court-ordered 303(d) list. Both subsegments are listed as not supporting fish and wildlife propagation. It is, however, meeting its designated use of Primary Contact Recreation for 030601. It is also meeting its designated use of Primary and Secondary Recreation for 030602. The suspected cause of impairment in subsegment 030601 was organic enrichment/ low DO and salinity/TDS/chlorides. The suspected sources for 030601 were natural sources and municipal point sources. For subsegment 030602 the suspected cause of impairment was organic enrichment/ low DO. The suspected sources of impairment for subsegment 030602 were natural sources, agriculture, and silviculture. Because of the impairment, these subsegments require the development of a total maximum daily load (TMDL) for oxygen demand substances. A calibrated water quality model for the Barnes Creek watershed was developed and projections for current dissolved oxygen standards were run to quantify the wasteload and load allocations (LAs) required to meet established dissolved oxygen criteria. This report presents the model development and results.

2.0 Study Area Description

2.1 Calcasieu Basin

The Calcasieu River Basin is located in southwestern Louisiana and is positioned in a north-south direction. The drainage area of the Calcasieu Basin comprises approximately 3,910 square miles. Headwaters of the Calcasieu River are in the hills west of Alexandria. The river flows south for about 160 miles to the Gulf of Mexico. The mouth of the river is about 30 miles east of the Texas-Louisiana state line. The landscape in this basin varies from pine forested hills in the upper end to brackish and salt marshes in the lower reach around Calcasieu Lake. (LA DEQ, 1996).

2.2 Barnes Creek Watershed, Subsegments 030601 and 030602

This area is typical of the basin and is primarily used for forestry and rangeland as documented in Table 4 (LADEQ, 1999). Average annual precipitation in the segment, based on the nearest Louisiana Climatic Station, is 58 inches based on a 30-year period of record (LSU, 1999). Segments 030601 and 030602 are comprised of Barnes Creek as the main stem from its headwaters north of Longville to its confluence with the Calcasieu River.

Table 4. Land Uses in Segment 030601 and 030602

Land Type	Acres 030601	Percent Land use 030601	Acres 030602	Percent Land use 030602
Wetland Forest Deciduous	597,600	1.25	20,439,900	4.40
Wetland Forest Mixed	2,640,600	5.54	35,738,100	7.70
Upland Forest Deciduous	141,300	0.30	1,498,500	0.32
Upland Forest Evergreen	9,315,000	19.54	110,606,400	23.82
Upland Forest Mixed	2,355,300	4.94	35,632,800	7.67
Dense Pine Thicket	2,084,400	4.37	16,551,900	3.56
Wetland Scrub Mixed	0	0.00	58,500	0.01
Upland Scrub Deciduous	30,600	0.06	3,151,800	0.68
Upland Scrub Evergreen	408,600	0.86	11,495,700	2.48
Upland Scrub Mixed	11,660,400	24.46	112,490,100	24.22
Agriculture/Cropland/Grassland	17,280,900	36.25	108,205,200	23.30
Wetland Barren	113,400	0.24	282,600	0.06
Water	1,044,000	2.19	8,223,300	1.77

2.3 Water Quality Standards

The Water Quality criteria and designated uses for the Barnes Creek watershed are shown in Table 5 and 6.

Table 5. Water Quality Numerical Criteria and Designated Uses For 030601

Parameter	Value
Designated Uses	B,C
DO	[2]
Cl, mg/L	60
SO ₄ , mg/L	60
pH	6.0 – 8.5
BAC	2
Temperature, deg Celsius	30
TDS, mg/L	150

Table 6. Water Quality Numerical Criteria and Designated Uses For 030602

Parameter	Value
Designated Uses	A,B,C
DO	5.0
Cl, mg/L	60
SO ₄ , mg/L	60
pH	6.0 – 8.5
BAC	2
Temperature, deg Celsius	30
TDS, mg/L	250

USES: A – primary contact recreation; B – secondary contact recreation; C – propagation of fish and wildlife; D – drinking water supply; E – oyster propagation; F – agriculture; G – outstanding natural resource water; L – limited aquatic life and wildlife use.

Note [2] Designated Intermittent Stream; Seasonal DO Criteria: 5.0 mg/L November – April, 2.0 mg/L May – October; Seasonal Water Uses: All uses November – April, No uses May - October

2.4 Wastewater Discharges

The City of DeRidder was the only significant discharger located on Barnes Creek. This discharger is located in subsegment 030601. The seasonal summer dissolved oxygen standard for this subsegment is 2.0 mg/l. No reductions in permit limits for The City of DeRidder are required to maintain this seasonal standard. Several point sources fall within the subsegments. These facilities were deemed either intermittent stormwater or minor discharges on unnamed tributaries and were not included in this model. Limits for these small facilities are generally set by state policy or guidelines and can continue as such.

Table 7. Discharger Inventory for Subsegments 030601 and 030602

FACILITY	FILE_NUM	Out-fall No.	FAC TYPE	REC WATER	EXPECTED FLOW, GPD	BOD, mg/L	TSS, mg/L
City of DeRidder	LA0038407	001	Wastewater Treatment Plant	Unnamed Ditch to Barnes Creek	3,030,000	10	15
Evergreen Mobile Home Park	LAG540300	001	Trailer Park	Unnamed ditch to Little Barnes Creek to Barnes Creek	16,800	45	45
Beauregard Fire Protection Dist #2	LAG530066	001	Fire Station	Unnamed ditch to unnamed trib to Barnes Creek	500	45	45
Broadlands Fire Dept – Station #1	LAG530061	001	Fire Station	Unnamed ditch to Little Barnes Creek to Barnes Creek	500	45	45

2.5 Water Quality Conditions/Assessment

Barnes Creek, subsegments 030601 and 030602, of the Calcasieu Basin was not listed on the court-ordered 303(d) list, however, Barnes Creek was part of the 1999 ambient sampling monitoring program and was assessed in the 2000 305(b) report. Both subsegments are listed as not supporting fish and wildlife propagation. It is, however, meeting its designated use of Primary Contact Recreation for 030601. It is also meeting its designated use of Primary and Secondary Recreation for 030602. The suspected causes of impairment in subsegment 030601 were organic enrichment/ low DO and salinity/TDS/chlorides. The suspected sources for 030601 were natural sources and municipal point sources. For subsegment 030602 the suspected cause of impairment was organic enrichment/ low DO. The suspected sources of impairment for subsegment 030602 were natural sources, agriculture, and

silviculture. Because of the impairment, these subsegments require the development of a total maximum daily load (TMDL) for oxygen demanding substances.

2.6 Prior Studies

A wasteload allocation was done in 1989 for the City of DeRidder. The results show that the current permit limits will maintain the 2.0 dissolved oxygen summer seasonal limit for subsegment 030601. It also shows that the dissolved oxygen sag is recovered well before it reaches subsegment 030602.

LDEQ had two monthly water quality sampling stations on Barnes Creek. LDEQ WQ sites 0837 and 0838 have a period of record from Jan. 1999 to Dec. 1999. Data collected during the Eularian survey conducted in August 2001, included discharge data, cross-section data, field in-situ data, continuous in-situ monitor and lab water quality data. Also additional discharge data was collected subsequent to the August 2001 survey to assist in the determination of hydraulic coefficients and exponents. This data was used to establish the input for the model calibration and is presented in Appendix C.

3.0 Documentation of Calibration Model

3.1 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 near shore 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)

The model used for this TMDL was LA-QUAL, a steady-state one-dimensional water quality model. LA-QUAL has the mechanisms for incorporating dams and weirs in the analysis and was particularly suitable for use in modeling Barnes Creek. LA-QUAL history dates back to the QUAL-I model developed by the Texas Water Development Board with Frank D. Masch & Associates in 1970 and 1971. William A. White wrote the original code.

In June, 1972, the United States Environmental Protection Agency awarded Water Resources Engineers, Inc. (now Camp Dresser & McKee) a contract to modify QUAL-I for application to the Chattahoochee-Flint River, the Upper Mississippi River, the Iowa-Cedar River, and the Santee River. The modified version of QUAL-I was known as QUAL-II.

Over the next three years, several versions of the model evolved in response to specific client needs. In March, 1976, the Southeast Michigan Council of Governments (SEMCOG) contracted with Water Resources Engineers, Inc. to make further modifications and to combine the best features of the existing versions of QUAL-II into a single model. That became known as the QUAL-II/SEMCOG version.

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Between 1978 and 1984, Bruce L. Wiland with the Texas Department of Water Resources modified QUAL-II for application to the Houston Ship Channel estuarine system. Numerous modifications were made to enable modeling this very large and complex system including the addition of tidal dispersion, lower boundary conditions, nitrification inhibition, sensitivity analysis capability, branching tributaries, and various input/output changes. This model became known as QUAL-TX and was subsequently applied to streams throughout the State of Texas.

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 total maximum daily loads in the State of Louisiana.

The development of a TMDL for dissolved oxygen generally occurs in 3 stages. 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 and 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 in to 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 water body, 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 judgment is used to determine initial estimates for parameters that 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 that were measured. In other words, the model produces a value of the dissolved oxygen, temperature, or other parameter that 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 considered 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 that 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.

3.2 Input Data Documentation

Data collected during an intensive survey conducted from August 2001, was used to establish the input for the model calibration and is presented in Appendix C. The flows in each reach and headwater were based on the measured survey discharges and extrapolated for the reaches between measurement sites.

Field and laboratory water quality data were entered in a spreadsheet for ease of analysis. Upon review of the measured CBOD daily values it became apparent that there were two distinct CBOD components, which had varying ultimate values as well as decay rates and lag times. The first component started its decay almost immediately while the second component had substantial lag times. The total CBOD curve presented in Appendix C5 is the sum of the two first order equations, which were derived using the Microsoft Excel Solver and were based on the measured daily CBOD values. These two CBOD components were modeled separately as BOD and Nonconservative Material (NCM) in the LAQUAL model. NBOD was modeled as organic nitrogen, ammonia nitrogen and nitrate/nitrite nitrogen. The Louisiana BOD program was applied to the BOD data in a separate spreadsheet and values were computed for each sample taken of ultimate CBOD1, CBOD1 decay rate, CBOD1 lag time, ultimate CBOD2, CBOD2 decay rate, and CBOD2 lag time as well as the ultimate NBOD, NBOD decay rate, and NBOD lag time. The survey data was the primary source of the model input data for initial conditions, decay rates, mainstem water temperature, dissolved oxygen loading, headwater temperature and DO data. Two other sources of data also figured prominently in developing the input data set: reference stream data and previous determinations of nonpoint source loadings for several heavily impacted streams. As shown in Figure 3, the DO during the time of the survey was not meeting the standards within the modeled reach.

3.2.1 Model Schematics and Maps

A vector diagram of the modeled area is presented in Figure 1 and Appendix A1. The vector diagram shows the locations of survey stations, the reach design, and reach lengths. An ARCVIEW map of the stream and subsegment showing river kilometers, survey stations and other points of interest is also included in Figure 2 and in Appendix F1.

Barnes Creek Model Layout

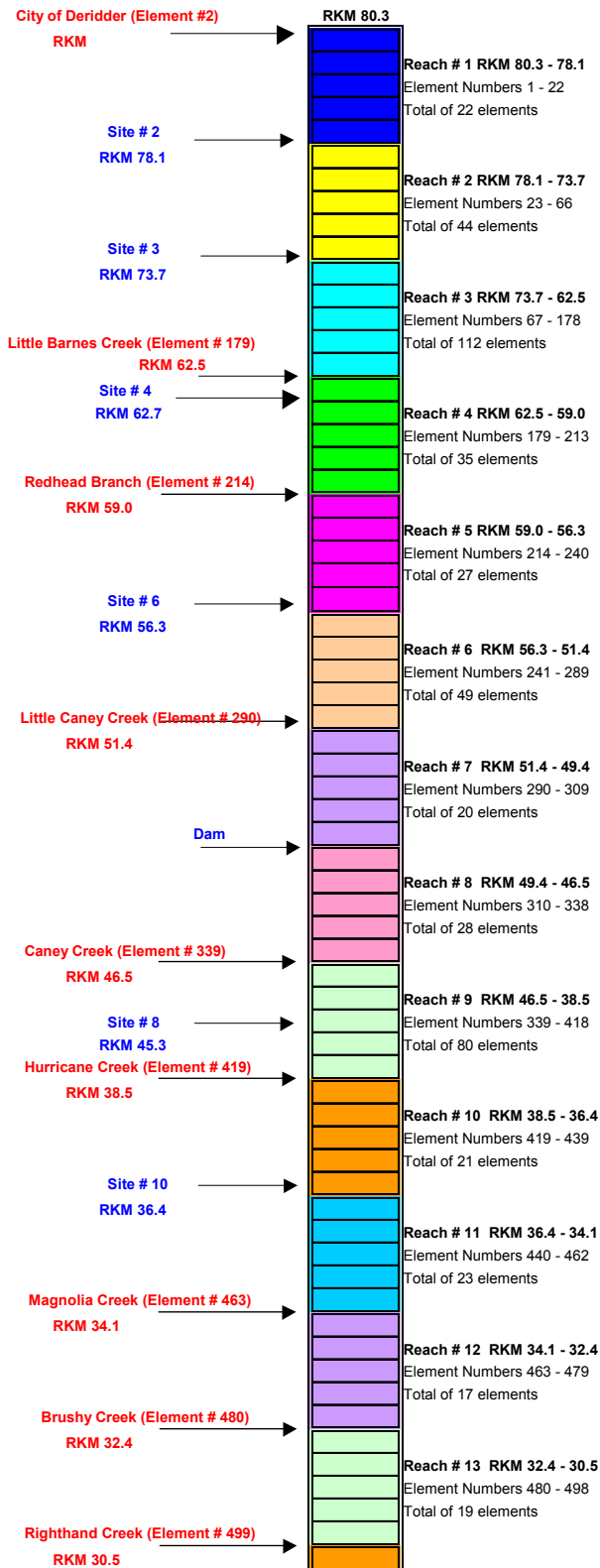
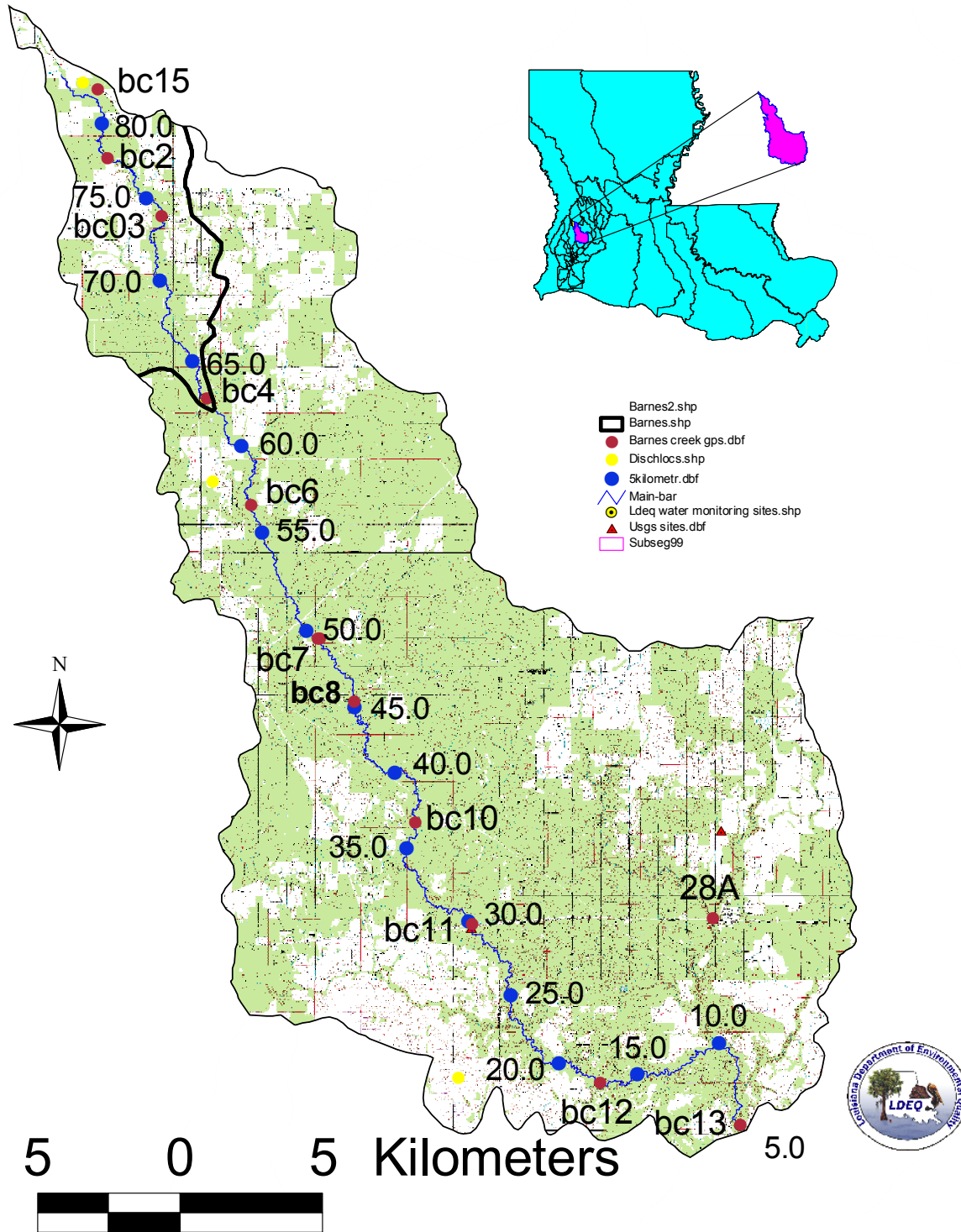


Figure 1. Vector Diagram

Barnes Creek Subsegments 030601 and 030602



Environmental Technology Division/Engineering Group 2
 Map Number: 200203001
 Map Date: 1/18/02
 Map Projection: UTM, NAD 27, Zone 15
 Map Source: LDEQ Survey Data, USGS, ESRI Street Map

LDEQ Disclaimer:
 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

3.2.2 Model Options, Data Type 2

Six constituents were modeled during the calibration process. These were dissolved oxygen, carbonaceous biochemical oxygen demand components 1 & 2, organic nitrogen, ammonia nitrogen and nitrate/nitrite. The continuous monitors did show small diurnal swings, which indicates some algal activity. The algal cycle was not modeled; however, the measured chlorophyll A values were included in the initial conditions. This allowed the model to simulate the oxygen production associated with algae without modeling the entire algal cycle.

3.2.3 Temperature Correction of Kinetics, Data Type 4

The temperature values computed are used to correct the rate coefficients in the source/sink terms for the other water quality variables. These coefficients are input at 20 °C and are then corrected to temperature using the following equation:

$$X_T = X_{20} * \text{Theta}^{(T-20)}$$

Where:

X_T = the value of the coefficient at the local temperature T in degrees Celsius

X_{20} = the value of the coefficient at the standard temperature at 20 degrees Celsius

Theta = an empirical constant for each reaction coefficient

In the absence of specified values for data type 4, the model uses default values. A complete listing of these values can be found in the LA-QUAL for Windows User's Manual (LDEQ, 2001).

3.2.4 Reach Identification Data, Data Type 8

A diagram of the modeled area is presented in Appendix A. The vector diagram shows the reach/element design and the locations of major tributaries. The modeled segment consists of 22 reaches numbered in ascending order from headwater to the confluence with the Calcasieu River. The modeled area is characterized by the 10 sample sites starting from the headwaters of Barnes Creek to its confluence with the Calcasieu River. The calibration model includes 22 reaches, 803 elements, one headwater, one wasteload and tributaries. A digitized map of the stream showing river kilometers, locations of cross-sections and August 2001 survey sampling sites are included in Appendix F.

3.2.5 Advective Hydraulic Coefficients, Data Type 9

Rather than directly inputting the widths and depths of the stream, the model requires entry of the advective hydraulic characteristics (Modified Leopold Coefficients, Exponents, and Constants, Waldon, 2001). These values were derived from the measured values during the August 2001 survey and subsequent trips for flow measurement purposes. This documentation is located in Appendix C.

3.2.6 Initial Conditions, Data Type 11

The initial conditions are used to reduce the number of iterations required by the model. The values required for this model were temperature and DO by reach. The input values came from the survey station located closest to the reach. The input data and sources are shown in Appendix A.

3.2.7 Reaeration Rates, Data Type 12

The $0.7/\text{Depth}$ was used as the reaeration equation for all reaches. $0.7/\text{Depth}$ is the metric equivalent to $2.3/\text{Depth}$ in English units.

3.2.8 Sediment Oxygen Demand, Data Type 12

The SOD values were achieved through calibration. The SOD value for each reach is shown in Appendix A. The lower SOD values in the upper reaches were consistent with a shallow sandy bottom stream. The higher SOD values in the lower reaches were consistent with a deeper muddy bottom stream.

3.2.9 Carbonaceous BOD Decay and Settling Rates, Data Type 12

The decay rates used were based on the bottle rates from the survey. Review of the measured CBOD daily values revealed two distinct CBOD components, which had varying decay rates and lag times. The first component started its decay almost immediately with decay rates ranging from 0.05 to 0.18 per day. The second component had substantial lag times ranging from 16.93 to 22.41 days and decay rates from 0.01 to 0.02 per day. The total CBOD curves presented in Appendix C5 are the sum of the two first order equations, which were derived using the Microsoft Excel Solver and were based on the measured daily CBOD values. These two CBOD components were modeled separately as BOD and Nonconservative Material (NCM) in the LAQUAL model. The decay and settling rates used for each reach are shown in Appendix A4.

3.2.10 Nitrogenous BOD Decay and Settling Rates, Data Type 15

The organic nitrogen, ammonia nitrogen and nitrate/nitrite were modeled as calibration parameters. The organic nitrogen to ammonia nitrogen decay rates were based on the NBOD bottle rates and the settling rate was based on the LTP CBOD settling rate. The restrictive rate of this process is the organic nitrogen to ammonia nitrogen decay. Therefore, the nitrogen decay rate was set to the measured bottle NBOD rates. The decay and settling rates used for each reach are shown in Appendix A4.

3.2.11 Incremental Conditions, Data Types 16, 17, and 18

The incremental conditions were used in the calibration to represent nonpoint source loads associated with flows. It was determined from the flow measurements along the mainstem, the lack of measurable flow from tributaries, and the water chemistry that groundwater inflow and evapotranspiration could be assumed for the upper reaches above the dam. It was determined from the flow measurements along the mainstem, the lack of measurable flow from all but one tributary, and the

water chemistry that groundwater inflow could be assumed. The data and its source for each reach are presented in Appendix A4.

The dissolved oxygen for this inflow was set to 2.0 mg/l. The assumption was that groundwater would have minimal dissolved oxygen demand loads with low dissolved oxygen values entering the stream. Any dissolved oxygen demand loading associated with these flows will be simulated using the Nonpoint Source (Data Type 19) loads. The data and its source for each reach are presented in Appendix A4.

3.2.12 Nonpoint Sources, Data Type 19

Nonpoint source loads, which are not associated with flow are input into this part of the model. These can be most easily understood as resuspended load from the bottom sediments and are modeled as SOD, CBOD1, CBOD2 and organic nitrogen loads. The data and sources are presented in Appendix A4.

3.2.13 Headwaters, Data Types 20, 21, and 22

The Headwater flow was determined from the measurements obtained during the August 2001 survey as the difference between the measurements of Site 2 (the uppermost measurement on Barnes Creek) and Site 15 (the flow measurement taken in the effluent ditch below the discharger). The data and sources are presented in Appendix A4.

3.2.14 Wasteloads, Data Types 24, 25, and 26

A facility review was performed on the subsegment and only one significant discharger was found. Only Clear Creek was found to be flowing during the water quality survey and was added to the calibration model. The data and sources are presented in Appendix A4.

3.2.15 Boundary Conditions, Data Type 27

The lower boundary conditions were assumed to be equivalent to the measurements taken at survey station BC 13.

3.2.16 Dam Data, Data type 28

A dam was located at River Kilometer 49.4 during the 2001 survey. The Butts and Evans Reaeration equation was used for computations. The dam was a flat broad crested vertical faced weir. That static head loss of 4.74 meters was calculated based on the elevation data collected during the 2001 survey. Water was not flowing over the dam during the survey but based on flows downstream of the dam, it was assumed that there was some leakage through the dam.

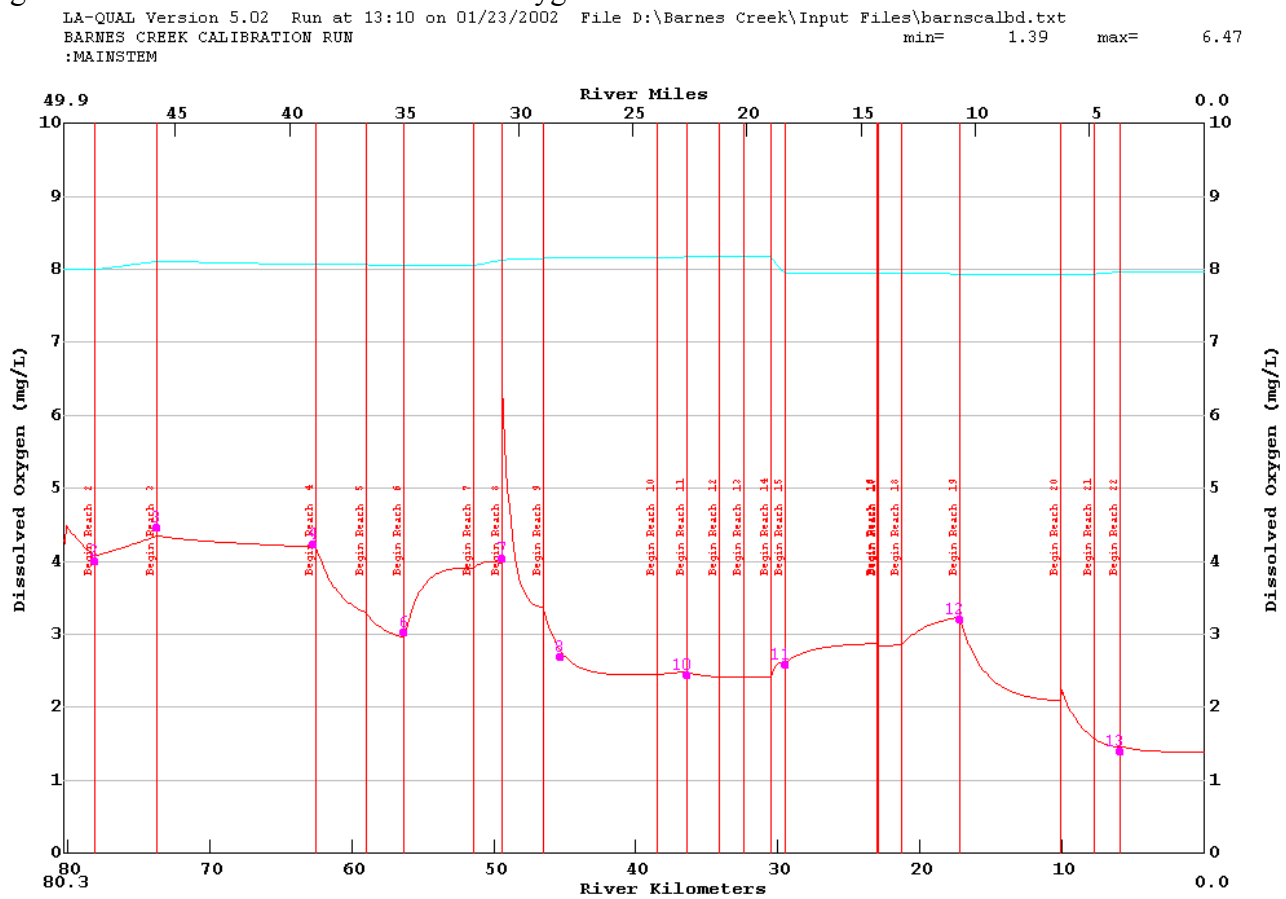
3.3 Model Discussion and Results

The calibration model input and output are presented in Appendix A3. The overlay plotting option was used to determine if calibration had been achieved. A plot of the dissolved oxygen concentration versus river kilometer is presented in Figure 3.

The calibration to flow, depth and width was fairly good from the headwaters to the Hwy 8 bridge at the bottom of the modeled reach. Due to the influence of incremental groundwater and a lack of available chloride data for this inflow a conservative chloride calibration was not attempted. The survey crew was able to obtain discharge measurements at numerous sites along the modeled area. These flows were used to obtain a hydrologic calibration, assuming no additional inflows were occurring during the survey time period. This assumption was supported by visual observations of the survey crew.

An adequate calibration was achieved for DO, UCBOD1, UCBOD2, organic nitrogen, ammonia nitrogen and nitrate/nitrite on the main stem. The calibration model shows that during August 2001 survey period, the DO standard of 2 mg/l was being met in Subsegment 030601 over all of the modeled reaches. However, the DO standard of 5 mg/l was not being met in Subsegment 030602 in any of the modeled reaches. The calibration model minimum DO on the main stem was 1.39 mg/l from RK 2.9 – 0.0.

Figure 2. Calibration Model Dissolved Oxygen versus River Kilometer



- numbered points indicate survey stations
- vertical lines indicate beginning of reach
- the horizontal line indicates the DO Criterion
- upper plotted line indicates DO saturation
- lower plotted line indicates calibration model output

4.0 Water Quality Projections

The traditional summer critical projection loading scenario was performed at the current annual DO standard. This scenario was based on reduced total nonpoint loads at summer season critical conditions (ie. 90th percentile seasonal temperatures and 7Q10 flows) in accordance with the LTP. An additional winter projection was run based on the percent reduction of total nonpoint loads determined with the summer critical conditions. This projection was used to verify the model's predicted dissolved oxygen for winter critical conditions would meet the criteria. Normally the winter projection run would also allow the modeler to address seasonal permit limits for the dischargers, however in this case this was not necessary. Additionally, a proposed 2.0 and 3.0 dissolved oxygen summer standard change for 030602 were performed.

4.1 Critical Conditions, 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. Critical conditions for dissolved oxygen were determined for Barnes Creek using LDEQ ambient water quality site data from Barnes Creek south of Reeves, LDEQ Ambient Monitoring Network number 0838 and Barnes Creek north of Longville, LDEQ Ambient Monitoring Network number 0837. Based on the 90th percentile temperature for each season, the corresponding 90% of saturation DO was determined. Ambient temperature data, critical temperature and DO saturation determinations are shown in Appendix B. Graphical and regression analysis techniques have been used by LDEQ historically to evaluate the temperature and dissolved oxygen data from the Ambient Monitoring Network and run-off determinations from the Louisiana Office of Climatology water budget. Since nonpoint loading is conveyed by run-off, this was a reasonable correlation to use. Temperature is strongly inversely proportional to dissolved oxygen and moderately inversely proportional to run-off. Dissolved oxygen and run-off are also moderately directly proportional. The analysis concluded that the critical conditions for stream dissolved oxygen concentrations were those of negligible nonpoint run-off and low stream flow combined with high stream temperature.

When the rainfall run-off (and nonpoint loading) and stream flow are high, turbulence is higher due to the higher flow and the temperature is lowered by the run-off. In addition, run-off 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. Reaeration rates and DO saturation 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 is interpreted in TMDL modeling by assuming that nonpoint loading associated with flows into the stream are responsible for the benthic blanket which accumulates on the stream bottom and that the accumulated benthic blanket of the stream, expressed as SOD and/or resuspended BOD in the calibration model, has reached steady state or normal conditions over the long term and that short term additions to the blanket are off set by short term losses. This accumulated loading has its greatest impact on the stream during periods of higher temperature and lower flow. The manmade portion of the NPS loading is the difference between the calibration load and the reference stream load where the calibration load is higher. The only mechanism for changing this normal benthic blanket condition is to implement best management practices and reduce the amount of nonpoint source loading entering the stream and feeding the benthic blanket.

Critical season conditions were simulated in the Barnes Creek dissolved oxygen TMDL projection modeling by using the default flows from the Louisiana Technical Procedures Manual, and the 90th percentile temperature. Incremental flow was assumed to be present; model loading was from perennial tributaries, sediment oxygen demand, groundwater inflow, and resuspension of sediments.

In reality, the highest temperatures occur in July-August, the lowest stream flows occur in October-November, and the maximum point source discharge occurs following a significant rainfall, i.e., high-flow conditions. The summer projection model is established as if all these conditions happened at the same time. The winter projection model accounts for the seasonal differences in flows. Other conservative assumptions regarding rates and loadings are also made during the modeling process. In addition to the conservative measures, an explicit MOS of 20% was used for all loads to account for future growth, safety, model uncertainty and data inadequacies.

4.2 Input Data Documentation

Since the survey was conducted during a period of low-flow critical conditions and were close to the calculated summer seasonal 7Q10 value for Barnes Creek, the flow in the headwater and the groundwater inflow were assumed to be the same values as in calibration. The Clear Creek tributary was set at 0.1 cfs = 0.0028 cms for summer critical conditions in accordance with the LTP. The August 2001 survey was conducted during a period of low-flow critical conditions. Since groundwater inflow was present during this survey, it is assumed to be present during both summer and winter conditions. In accordance with the LTP, the flow in the headwater was determined from the winter seasonal 7Q10, assuming groundwater inflow and assuming a 1.0 cfs = 0.0283 cms for Clear Creek.

4.2.1 Model Options, Data Type 2

Six constituents were modeled during the projection process. These were dissolved oxygen, the two components of carbonaceous biochemical oxygen demand, organic nitrogen, ammonia nitrogen, and nitrite/nitrate.

4.2.2 Temperature Correction of Kinetics, Data Type 4

The temperature correction factors specified in the LTP were entered in the model.

4.2.3 Reach Identification Data, Data Type 8

The reach-element design from the calibration was used in the projection modeling.

4.2.4 Advective Hydraulic Coefficients, Data Type 9

The hydraulic coefficients, exponents and constants determined for the calibration were used in the projection model. These values were determined during a critical flow period and their use should be acceptable during low flow conditions, such as those simulated in the summer and winter projection models. However, in a scenario, which depicts higher flow rates due to storm events, these hydraulic coefficients and exponents should not be used.

4.2.5 Initial Conditions, Data Type 11

The initial conditions were set to the 90th percentile critical season temperature in accordance with the LTP. The dissolved oxygen values for the initial conditions were set at the stream criteria.

4.2.6 Reaeration, Decay, and Settling Rates For Data Types 12 and 15

The model input values for the reaeration rate equations, the two CBOD components, organic nitrogen, and ammonia nitrogen decay and settling rates were not changed from the calibration.

4.2.7 Incremental Conditions, Data Types 16, 17, and 18

The incremental conditions were used in the calibration to represent nonpoint source loads associated with flows. Since incremental flow was present during a period of low-flow conditions the incremental flows were assumed to be present during projections and were included.

4.2.8 Data Types 12, 19, 20, 21, 22, 24, 25, and 26

LDEQ has collected and measured the CBOD and NBOD oxygen demand loading components for a number of years. These loads have been found in all streams including the non-impacted reference streams. It is LDEQ's opinion that much of this loading is attributable to runoff loads, which are flushed into the stream during run-off events, and subsequently settle to the bottom in our slow moving streams. These benthic loads decay and breakdown during the year, becoming easily resuspended into the water column during the low flow/high temperature season. This season has historically been identified as the critical dissolved oxygen season.

LDEQ simulates part of the nonpoint source oxygen demand loading as resuspended benthic load and SOD. The calibrated nonpoint loads, UCBOD, UNBOD, AND SOD, are summed to produce the total calibrated benthic load. The total calibrated benthic load is then reduced by the total background benthic load (determined from LDEQ's reference stream research) to determine the total manmade benthic loading. The manmade portion is then reduced incrementally on a percentage basis to determine the necessary percentage reduction of manmade loading required to meet the waterbody's dissolved oxygen criteria. These reductions are applied uniformly to all reaches sharing similar hydrology and land uses.

Following the same protocol as the point source discharges, the total reduced manmade benthic load is adjusted for the margin of safety by dividing the value by one minus the margin of safety. This adjusted load is added back to the total background benthic value to obtain the total projection model benthic load. This total projection benthic load is then broken out into its components of SOD, resuspended CBOD and resuspended NBOD by multiplying the total projection benthic load by the ratio of each calibrated component to the total calibrated benthic load.

LDEQ has found variations in the breakdown of the individual CBOD and NBOD components. While the total BOD is reliable, the carbonaceous and nitrogenous component allocation is subject to the type of test method. In the past, LDEQ used a method that suppressed the nitrogenous component to obtain the carbonaceous component value, which was then subtracted from the total measured BOD to determine the nitrogenous value. The suppressant in this method was only reliable for twenty days thus leading to the assumption that the majority of the carbonaceous loading was depleted within that period of time. The test results supported this assumption. Recently the suppressant started failing around day seven and the manufacturer of the suppressant will only guarantee it's potency for a five day period. LDEQ felt a five day test would not adequately depict the water quality of streams and began a search for a new test method. The research found a new proposed method for testing long term BODs in Standard Methods.

This proposed method is a sixty day test that measures the incremental total BOD of the sample while at the same time measuring the increase in nitrite/nitrate in the sample. This increase in nitrite/nitrate allows LDEQ to calculate the incremental nitrogenous portion by multiplying the increase by 4.57 to

determine the NBOD daily readings. These NBOD daily readings are then subtracted from the daily reading for total BOD to determine the CBOD daily values. A curve fit algorithm is then applied to the daily component readings to obtain the estimated ultimate values of each component as well as the decay rate and lag times of the first order equations.

LDEQ has implemented the new test method over the last two survey seasons. The results obtained using the new method showed that a portion of the CBOD first order equation does begin to level off prior to the twentieth day, however a secondary CBOD component begins to use dissolved oxygen sometime between day ten and day twenty-five. This secondary CBOD component was not being assessed as CBOD using the previous method but was being included in the NBOD load. Thus the CBOD and NBOD component loading used in the reference stream studies is not consistent with the results using the new proposed 60 day method and the individual values should not be used to determine background values for samples processed using the new test method. However, the sum of CBOD and NBOD should be about the same for both new and old test methods. For this reason LDEQ decided to use the sum of reference stream benthic loads as background values.

The resuspended total nonpoint CBOD1, CBOD2 and NBOD loading was reduced by 70% for all reaches in the summer critical projection scenario to meet the summer water quality criterion for dissolved oxygen. Since LDEQ assumes these benthic loads are long-term loads brought to the stream by various sources throughout the year, the same percentage reductions were made in the winter projection model as were in the summer critical projection model. These reductions met the summer dissolved oxygen criteria and well surpassed requirements in the non-critical winter projection.

The reductions were determined using the calibrated values for nonpoint CBOD1, CBOD2 & organic nitrogen. These values were summed by reach, as justified above, and adjusted for the margin of safety. Each reach's total benthic nonpoint load was then reduced to meet the dissolved oxygen criteria in each reach. Using the ratios determined in calibration, this reduced total nonpoint load was then broken into its components of CBOD1, CBOD2, organic nitrogen (resuspension) and SOD. The percentage reduction within mainstem was calculated based on the comparison of the reduced total nonpoint benthic load to the calibration total nonpoint benthic load. These calculations are shown in Appendix E. The value and sources of CBOD1, CBOD2 and organic nitrogen for each projection run are presented in Appendix B.

4.2.13 Dam Data, Data type 28

The model inputs from calibration were used for projection.

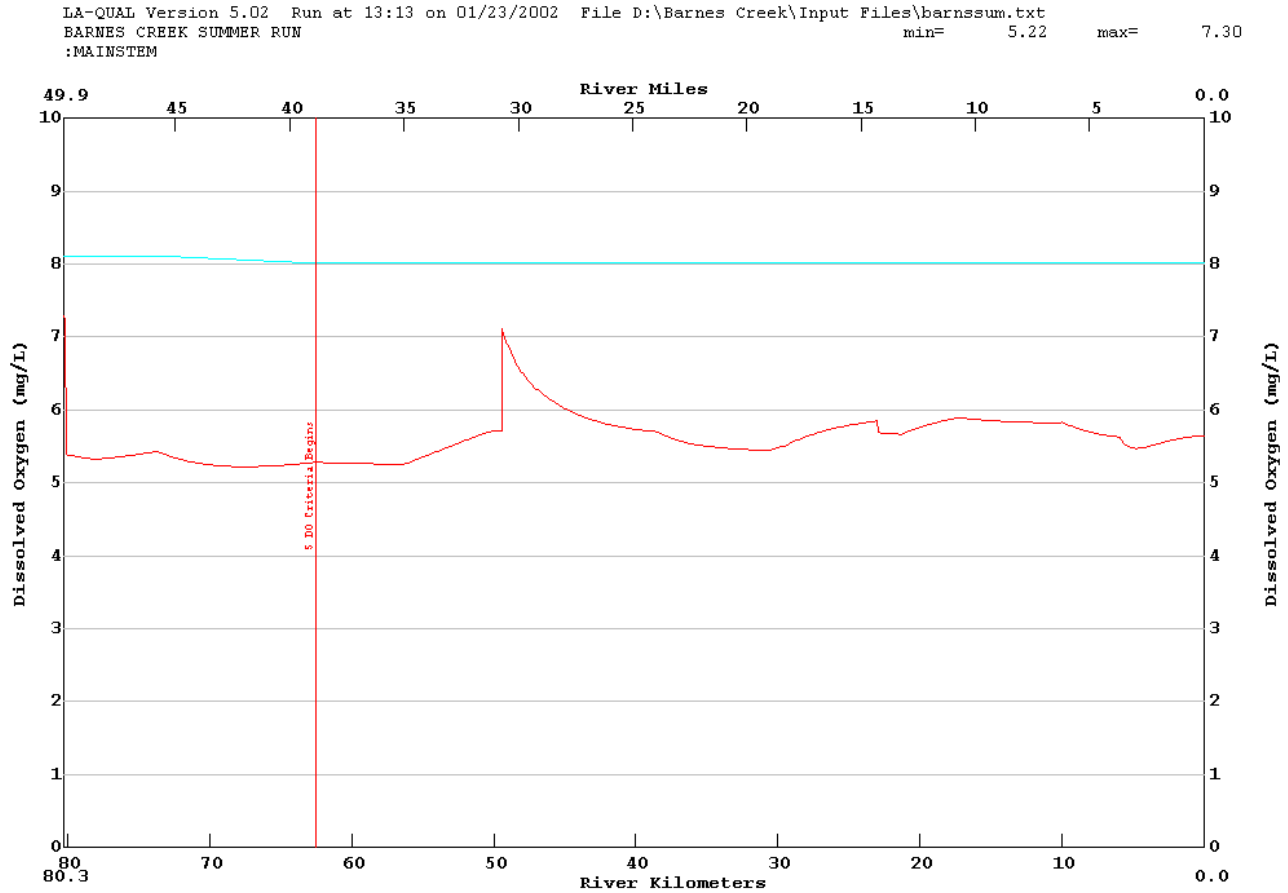
4.3 Model Discussion and Results

The projection's model input and output data sets as well as the justification charts are presented in Appendix B

4.3.1 Summer Projection For Current Standards

Summer critical season projections were run for the current standard of 5.0 mg/L May – November. In order to meet the standard, a 70% reduction of total nonpoint sources is necessary. With these percentage reductions in the benthic oxygen demand loads, Barnes Creek meets the dissolved oxygen criterion. The minimum DO on the main stem is 5.22 mg/L. A graph of the dissolved oxygen concentrations versus river kilometers for the summer projection is presented in Figure 4.

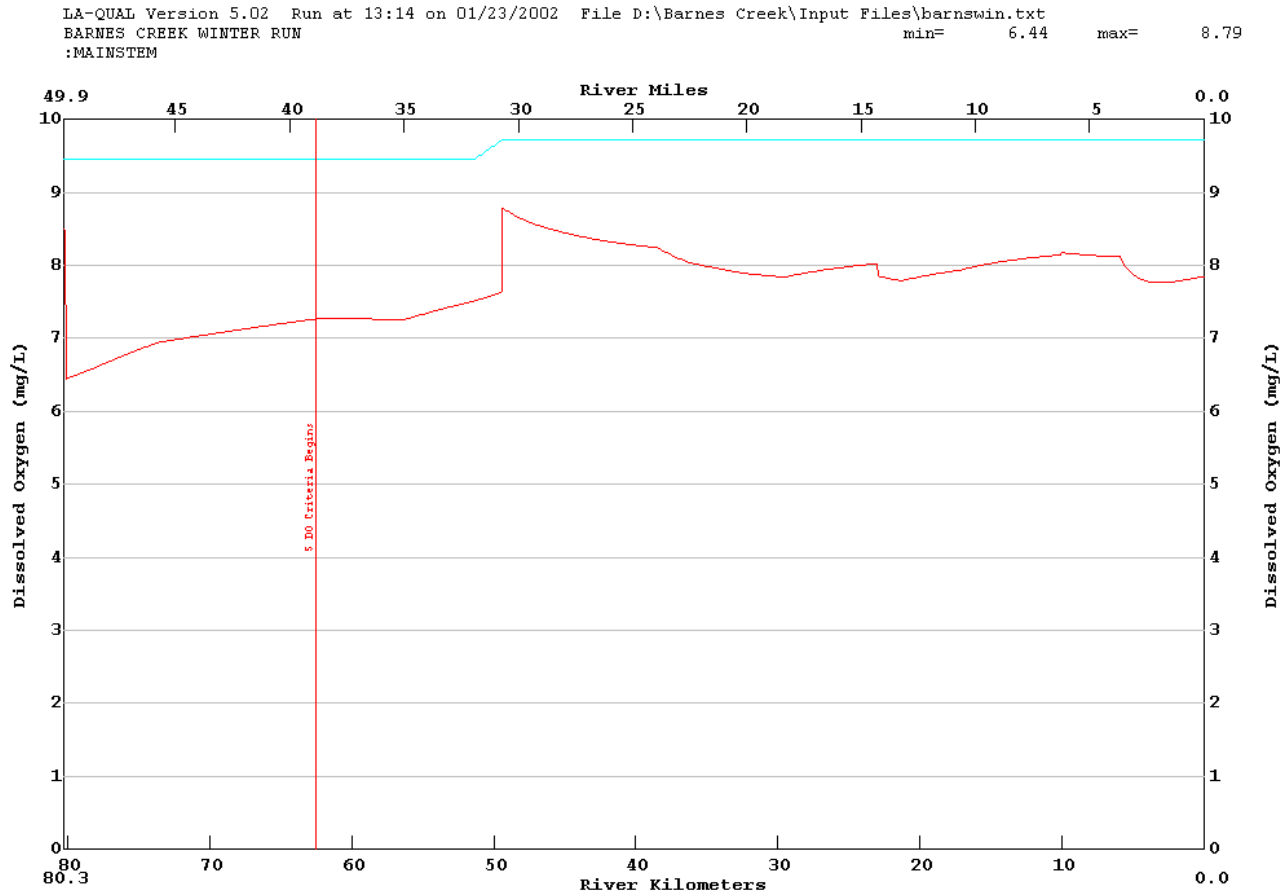
Figure 3. Summer Projection at 70% Removal of Total NPS Loads



4.3.2 Winter Projection For Current Standards

The results of the model show that the water quality criterion for dissolved oxygen for Barnes Creek of 5.0 mg/l can be maintained during the winter critical season. The minimum dissolved oxygen is 6.44 mg/l. To achieve the criterion, the model assumed a 70% reduction from all manmade nonpoint sources. A graph of the dissolved oxygen concentration versus river kilometer for the winter projection is presented in Figure 5.

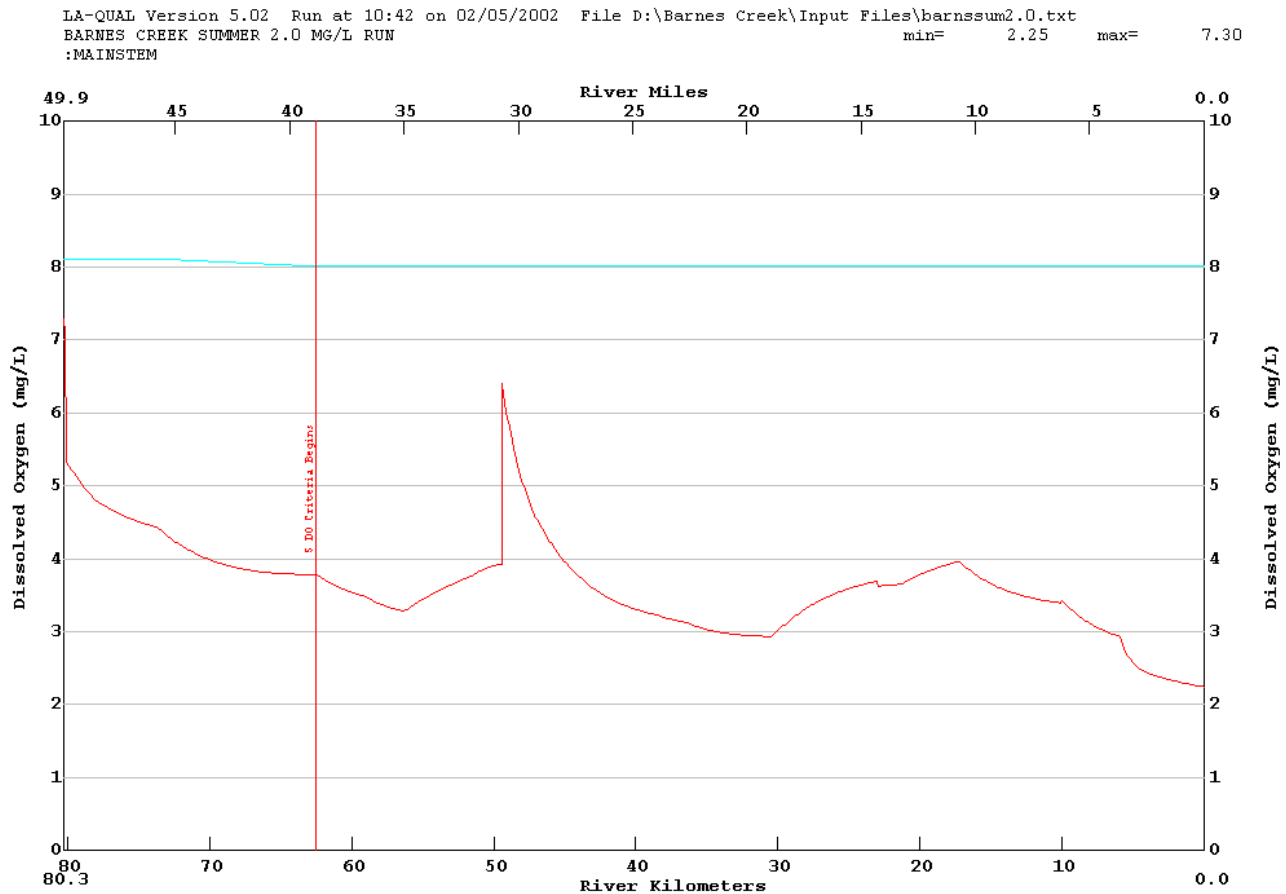
Figure 4. Winter Projection at 70% Removal of Total NPS Loads



4.3.3 Projection to 2.0 Dissolved Oxygen Summer Concentration for 030602

Summer critical season projections were also run for an alternative dissolved oxygen endpoint of 2.0 mg/L May – November. In order to meet the dissolved oxygen level of 2.0 mg/L, a 35% reduction of total nonpoint sources is necessary. With these percentage reductions in the benthic oxygen demand loads, Barnes Creek meets a dissolved oxygen level of 2.0 mg/L. The minimum DO on the main stem is 2.25 mg/L. A graph of the dissolved oxygen concentrations versus river kilometers for the summer projection is presented in Figure 6.

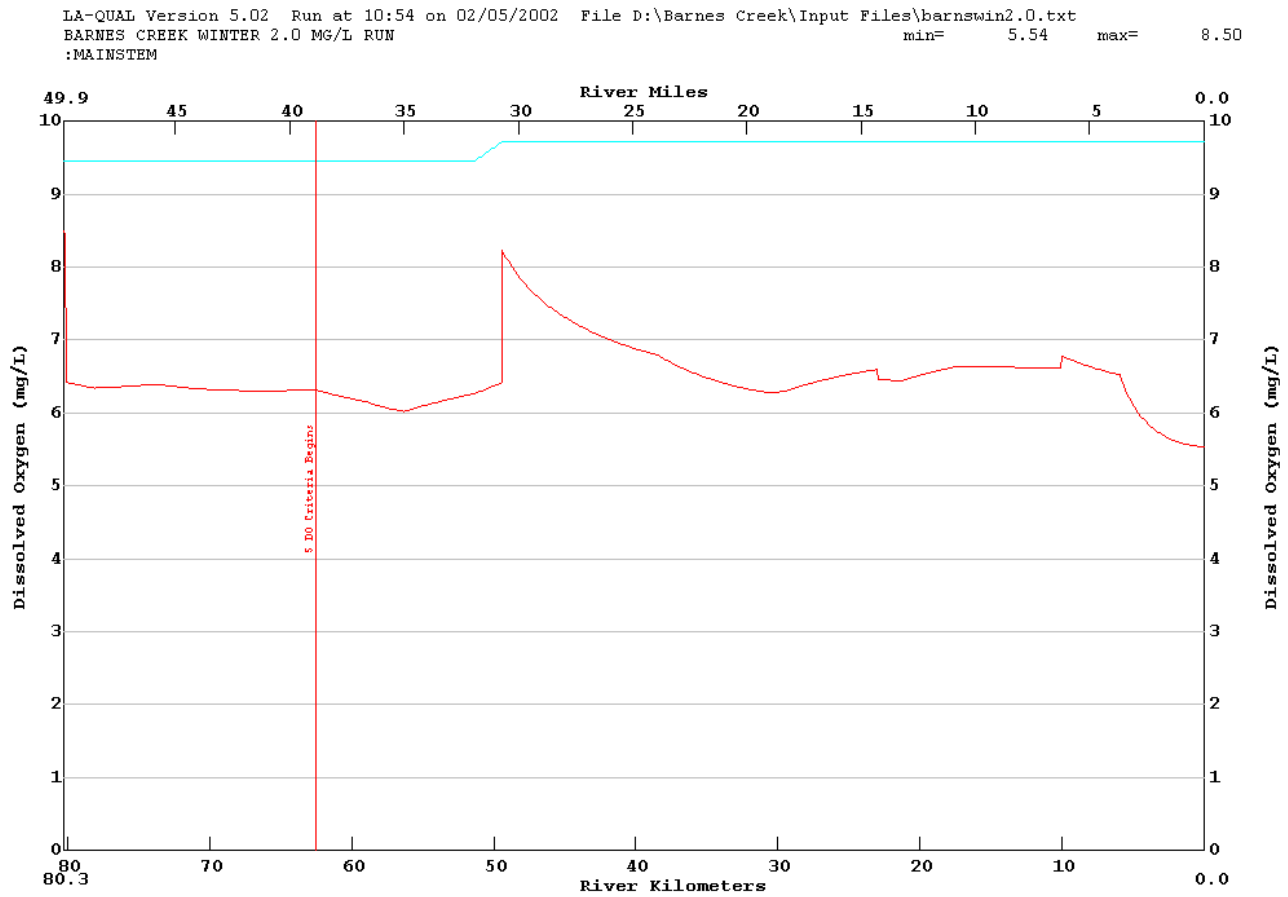
Figure 6. Summer Projection at 35% Removal of Total NPS Loads



4.3.4 Winter Projection for 2.0 DO summer concentration for 030602

The results of the model show that the water quality criterion for dissolved oxygen for Barnes Creek of 5.0 mg/l can be maintained during the winter critical season with a 35% reduction in nonpoint source load. The minimum dissolved oxygen is 5.54 mg/l with a 35% reduction from all manmade nonpoint sources. A graph of the dissolved oxygen concentration versus river kilometer for the alternative winter projection is presented in Figure 7.

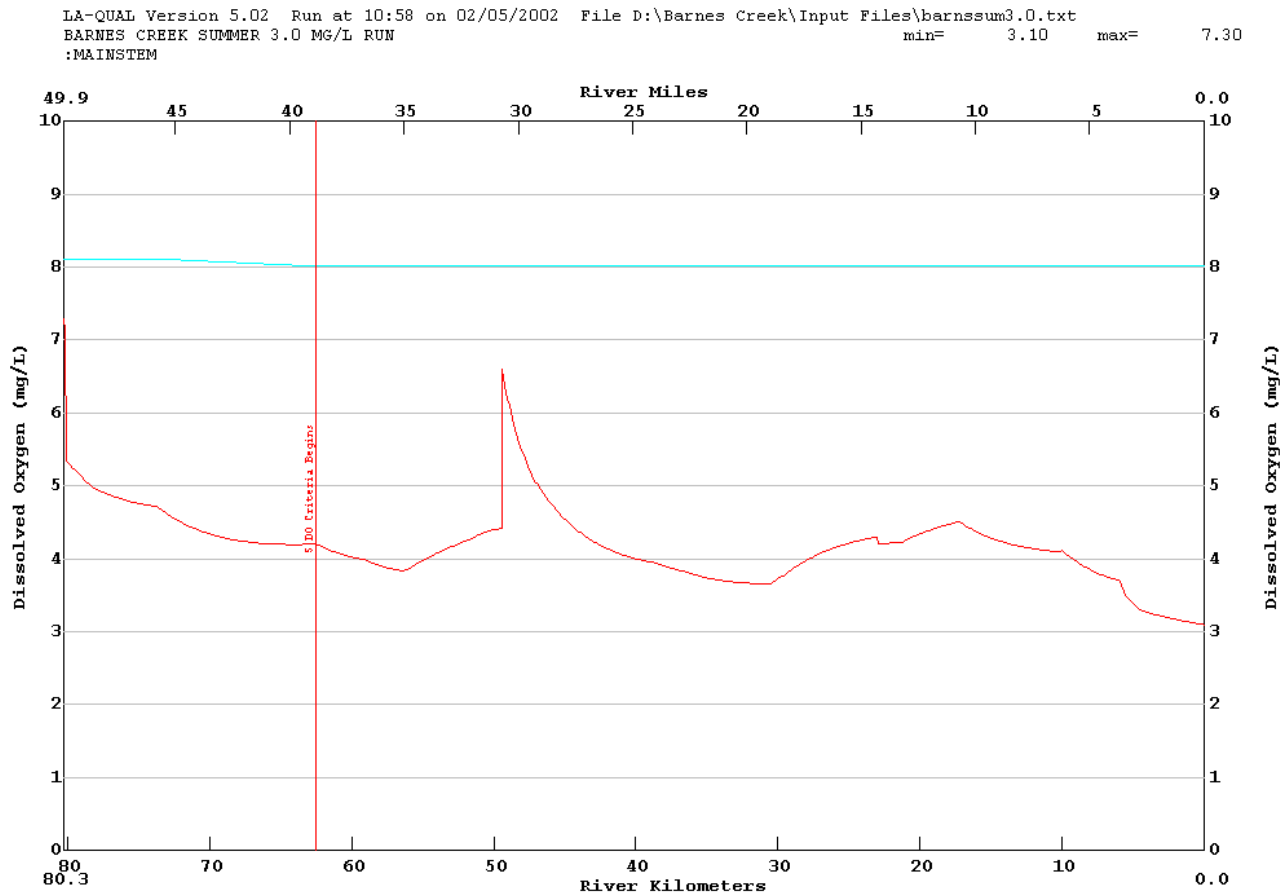
Figure 7. Winter Projection at 35% Removal of Total NPS Loads



4.3.5 Projection to 3.0 DO Summer Concentration for 030602

Summer critical season projections were run for a concentration of 3.0 mg/L May – November. In order to meet this level, a 45% reduction of total nonpoint sources is necessary. With these percentage reductions in the benthic oxygen demand loads, Barnes Creek meets a dissolved oxygen concentration of 3.0 mg/L. The minimum DO on the main stem is 3.10 mg/L. A graph of the dissolved oxygen concentrations versus river kilometers for the summer projection is presented in Figure 8.

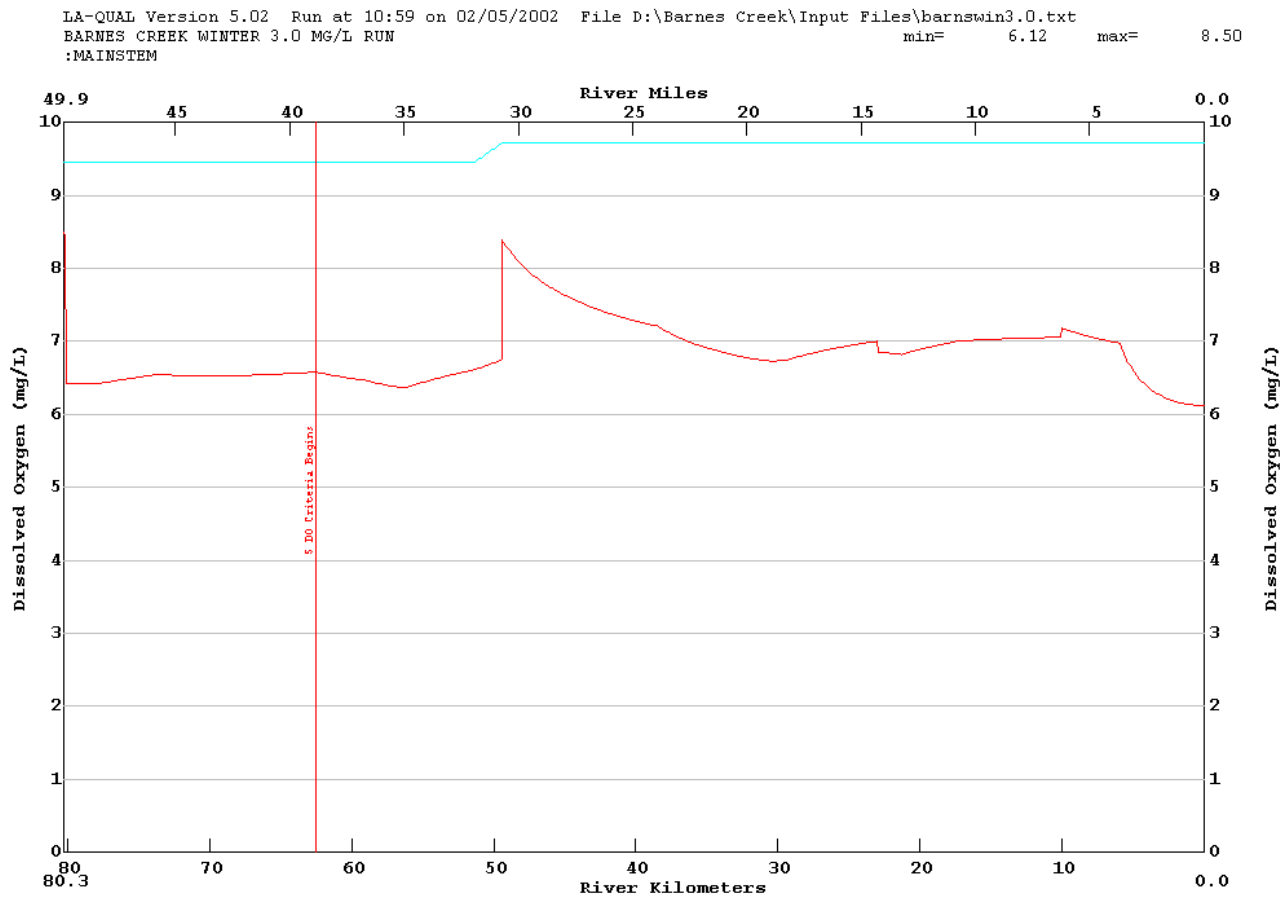
Figure 8. Summer Projection at 45% Removal of Total NPS Loads



4.3.6 Winter Projection for 3.0 DO summer concentration for 030602

The results of the model show that the water quality criterion for dissolved oxygen for Barnes Creek of 5.0 mg/l can be maintained during the winter critical season with a 45% reduction from all manmade nonpoint sources. The minimum dissolved oxygen is 6.12 mg/l. A graph of the dissolved oxygen concentration versus river kilometer for the winter projection is presented in Figure 9.

Figure 9. Winter Projection at 45% Removal of Total NPS Loads



4.4 Calculated TMDL, 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 calibration man-made benthic loading was determined as follows:

- Calibration resuspension and SOD loads were summed for each reach as $\text{gm O}_2/\text{m}^2\text{-day}$ to get the calibration benthic loading.

4.4.1.2 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. Where headwaters and tributaries exhibit man-made pollutant loads in excess of reference stream values, the loadings are reduced by the same uniform percent reduction as the benthic loads.

- The projection benthic loading at 20°C is calculated as the sum of the projection resuspension and SOD components expressed as $\text{gm O}_2/\text{m}^2\text{-day}$.
- The percent reduction of man-made loads for each reach is determined from the difference between the projected man-made nonpoint load and the man-made nonpoint load found during calibration.
- The projection loads are also computed in units of lb/d and kg/d for each reach.

4.4.1.3 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 and kg/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 and kg/d.
- Point source CBOD and NBOD loading in lb/d and kg/d.
- The margin of safety in lb/d and kg/d.

4.4.2 Barnes Creek TMDL

The TMDLs for the biochemical oxygen demanding constituents [CBOD(sum of components), NBOD, and SOD], have been calculated for the critical season. The TMDL's for the Barnes Creek watershed were set equal to the total stream loading capacity. They are presented in Appendix E by point source and reach. A summary of the loads is presented in Table 8 through 10.

Table 8. Total Maximum Daily Load For Current Standard
(Sum of CBOD, NH₃-N, and SOD)

ALLOCATION	Summer	Winter
	May – Oct (lbs/day)	Nov - Apr (lbs/day)
Point Source WLA	1144	1144
Point Source Reserve MOS	286	286
Total Nonpoint Source LA	1786	1208
Total Nonpoint Source Reserve MOS	445	301
Total Nonpoint Reduction	70%	70%
TMDL	3661	2939

Table 9. Total Maximum Daily Load for Proposed 2.0 mg/l Dissolved Oxygen Standard
(Sum of CBOD, NH₃-N, and SOD)

ALLOCATION	Summer	Winter
	May – Oct (lbs/day)	Nov - Apr (lbs/day)
Point Source WLA	1144	1144
Point Source Reserve MOS	286	286
Total Nonpoint Source LA	3870	2617
Total Nonpoint Source Reserve MOS	968	654
Total Nonpoint Reduction	35%	35%
TMDL	6268	4701

Table 10. Total Maximum Daily Load for Proposed 3.0 mg/l Dissolved Oxygen Standard
(Sum of CBOD, NH₃-N, and SOD)

ALLOCATION		Summer	Winter
		May – Oct (lbs/day)	Nov - Apr (lbs/day)
Point Source	WLA	1144	1144
Point Source	Reserve MOS	286	286
Total Nonpoint	Source LA	3275	2214
Total Nonpoint	Source Reserve MOS	819	553
Total Nonpoint Reduction		45%	45%
TMDL		5524	4198

5.0 Sensitivity Analyses

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. The LAQUAL model 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. The rest of the parameters listed in the sensitivity section are held at their original projection value. Thus the sensitivity of each parameter is reviewed separately. A sensitivity analysis was performed on the calibration model run. The sensitivity of the model's minimum DO projections to these parameters is presented in Appendix A5. Parameters were varied by +/- 30%, except temperature, which was adjusted +/- 2 degrees Centigrade.

As shown in the summary table, benthic demand is the parameter to which DO is most sensitive (-100.0% to 101.7%). The other parameters creating major variations in the minimum DO values are Reaeration (-100.0% to 93.6%), Initial Temperature (-53.6% to 36.2%), Stream Velocity (-15.4% to 3.5%), BOD Decay Rate (-7.8% to 7.0%), BOD Settling Rate (-10.4% to 5.7%), and Stream Depth (-4.7% to 4.5%). The model was only slightly sensitive to the rest of the parameters reviewed, with percentage changes in the minimum dissolved oxygen ranging between -2.0% and 2.0%.

Table 11. Summary of Calibration Model Sensitivity Analysis

Parameter	Positive Changes in parameter			Negative Changes in parameter		
	% change	Minimum DO (mg/l)	Percentage Difference	% change	Minimum DO (mg/l)	Percentage Difference
Benthic Demand	30	0.0	-100	-30	2.80	101.7
Stream Reaeration	30	2.69	93.6	-30	0.0	-100.0
Initial Temperature	2	0.64	-53.6	-2	1.89	36.2
Stream Velocity	30	1.17	-15.4	-30	1.44	3.5
BOD Decay Rate	30	1.28	-7.8	-30	1.48	7.0
BOD Settling Rate	30	1.47	5.7	-30	1.24	-10.4
Stream Depth	30	1.45	4.5	-30	1.32	-4.7
Nonconservative Decay	30	1.36	-2.1	-30	1.42	2.6
Nonconservative Settling	30	1.41	1.9	-30	1.35	-2.7
Stream Baseflow	30	1.39	0.2	-30	1.39	-0.1
Wasteload Flow	30	2.43	-2.8	-30	2.56	2.3
Headwater DO	30	2.53	1.1	-30	2.47	-1.1
Headwater BOD	30	2.47	-1.1	-30	2.53	1.1
Incremental Inflow	30	2.48	-0.7	-30	2.52	0.7
Wasteload BOD	30	2.49	-0.4	-30	2.51	0.4
Headwater Nonconservative	30	2.49	-0.3	-30	2.51	0.3
Headwater Flow	30	2.5	-0.2	-30	2.51	0.2
Incremental BOD	30	2.5	-0.2	-30	2.51	0.2
Wasteload Nonconservative	30	2.5	-0.1	-30	2.5	0.1
Incremental DO	30	2.5	0	-30	2.5	0
Headwater Temperature	30	2.5	0	-30	2.5	0
Wasteload Temperature	30	2.5	0	-30	2.5	0
Wasteload DO	30	2.5	0	-30	2.5	0
Incremental Temperature	30	2.5	0	-30	2.5	0
Incremental Nonconservative	30	2.5	0	-30	2.5	0

6.0 Conclusions

The modeling, which has been conducted for this TMDL, is conservative and based on limited information. The TMDL requires a watershed-wide 70% decrease in total nonpoint source loads in order to meet the DO criterion of 5.0 mg/L in the summer critical season. The existing point source, the City of DeRidder within Subsegment 030601 discharges into Barnes Creek and was included in the model. Based on model results and current dissolved oxygen criteria in this subsegment, it will require no changes to their current permitted discharge limits.

The results of the projection modeling show that the water quality standard for dissolved oxygen of 2.0 mg/l in subsegment 030601 and 5.0 mg/l in subsegment 030602 can be maintained during the summer critical season with an 70% reduction of the total nonpoint pollution. The summer critical season projection model minimum DO was 5.22 mg/l ranging from RK 66.7 km to RK 68.3 km.

As stated in the LDEQ 2000 305b report, the majority of the waterbodies assessed as not meeting the current dissolved oxygen standard are associated with natural sources. This is supported by recent land use data for this watershed showing that the watershed consists primarily of forested lands and the fact that there is only one significant discharger in the watershed. These facts and the high projected reduction in the total nonpoint loading needed to meet the dissolved oxygen standard of 5.0 mg/L indicate that the current criterion is inappropriate for subsegment 030602. A reassessment of the dissolved oxygen criterion for subsegment 030602 is recommended.

The results of the projection modeling show that the current water quality standard for dissolved oxygen of 2.0 mg/l in subsegment 030601 and a dissolved oxygen level of 2.0 mg/L in 030602 can be maintained during the summer critical season with a 35% reduction of the total nonpoint pollution.

The results of the projection modeling show that the current water quality standard for dissolved oxygen of 2.0 mg/l in subsegment 030601 and a dissolved oxygen level of 3.0 mg/l in subsegment 030602 can be maintained during the summer critical season with a 45% reduction of the total nonpoint pollution.

LDEQ has developed this TMDL to be consistent with the State antidegradation policy (LAC 33:IX.1109.A).

LDEQ will work with other agencies such as local Soil and Water Conservation Districts to implement agricultural best management practices in the watershed through the 319 programs. Louisiana's Nonpoint Source Pollution Management Plan outlines Louisiana's approach to nonpoint source pollution control. It describes the types of projects that have been and will be implemented, and it presents information on BMPs that have been determined to be technically feasible and effective in reduction of pollutant loadings and runoff.

LDEQ will also continue to monitor the waters to determine whether standards are being attained. 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 next five years is shown below.

2002 - Red and Sabine River Basins
2003 - Mermentau and Vermilion-Teche River Basins
2004 - Calcasieu and Ouachita River Basins
2005 - Barataria and Terrebonne Basins
2006 - Lake Pontchartrain Basin and Pearl River Basin

(Atchafalaya and Mississippi Rivers will be sampled continuously.)

As part of the monitoring program, compliance inspections are also being conducted in the targeted basins each year as part of the watershed approach to monitoring and to identify enforcement needs.

Compliance Inspections conducted during 1999:

Calcasieu Basin - 33 major NPDES facilities, 260 minor facilities

Ouachita Basin - 348 facilities (total) inspected

7.0 References

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LA DEQ ALPS Database

LA DEQ Ambient Network Database

LA DEQ Assessment Network Database

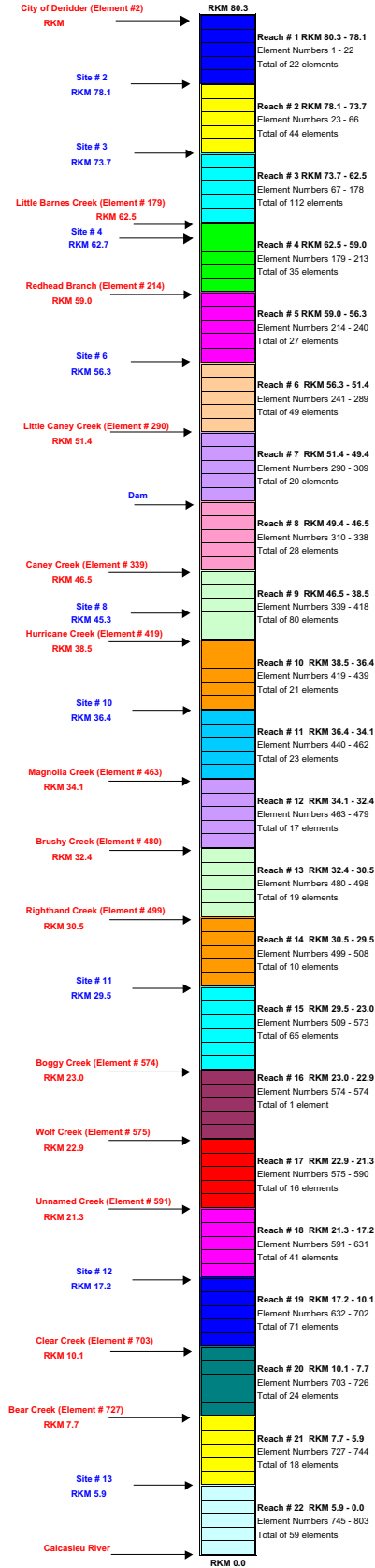
Louisiana Department of Environmental Quality Permit Tracking System (PTS)

8.0 Appendices

APPENDIX A – Calibration Model Development

APPENDIX A1 - Vector Diagram

Barnes Creek Model Layout

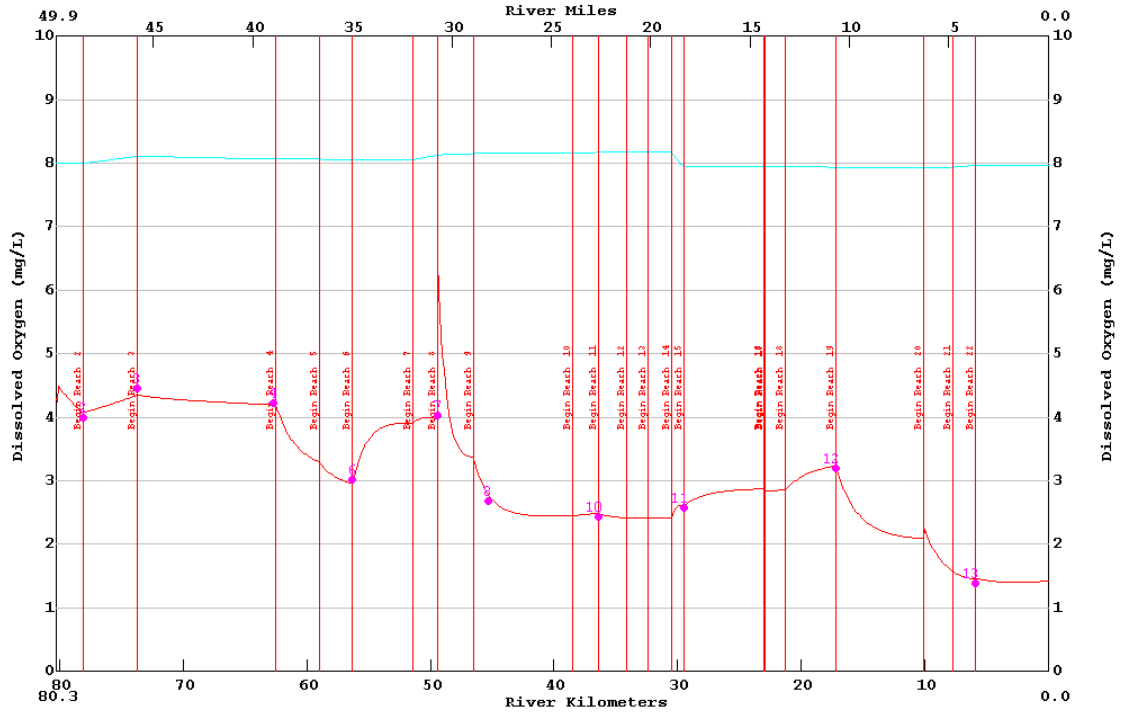


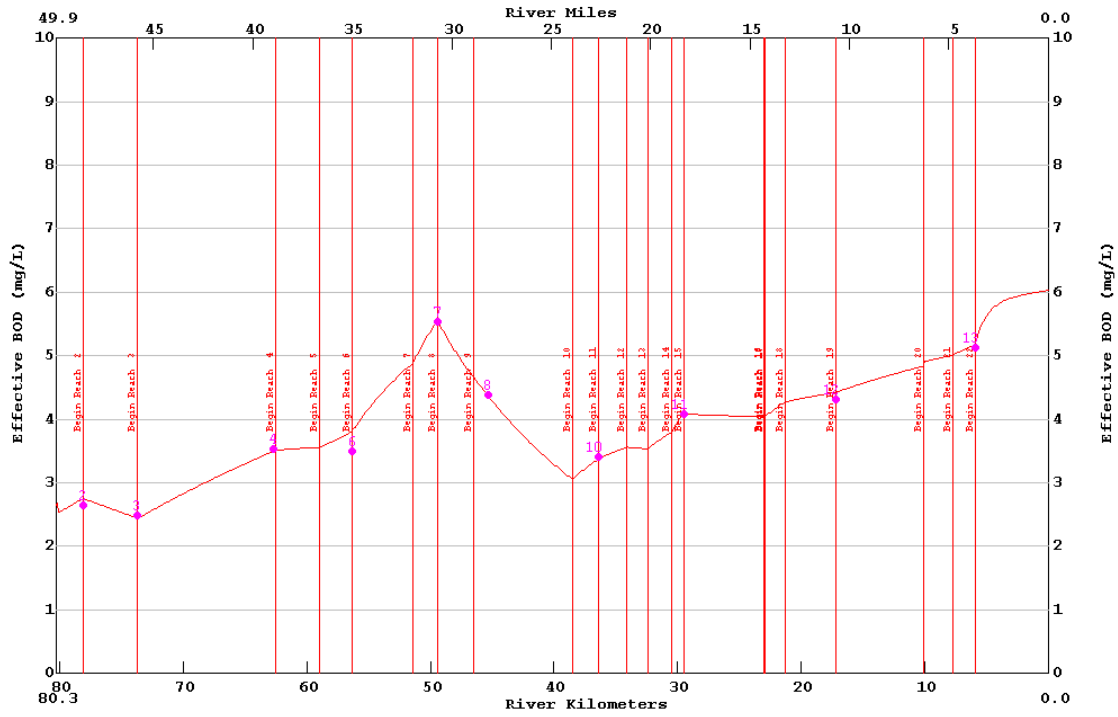
APPENDIX A2 - Reach parameter calculations

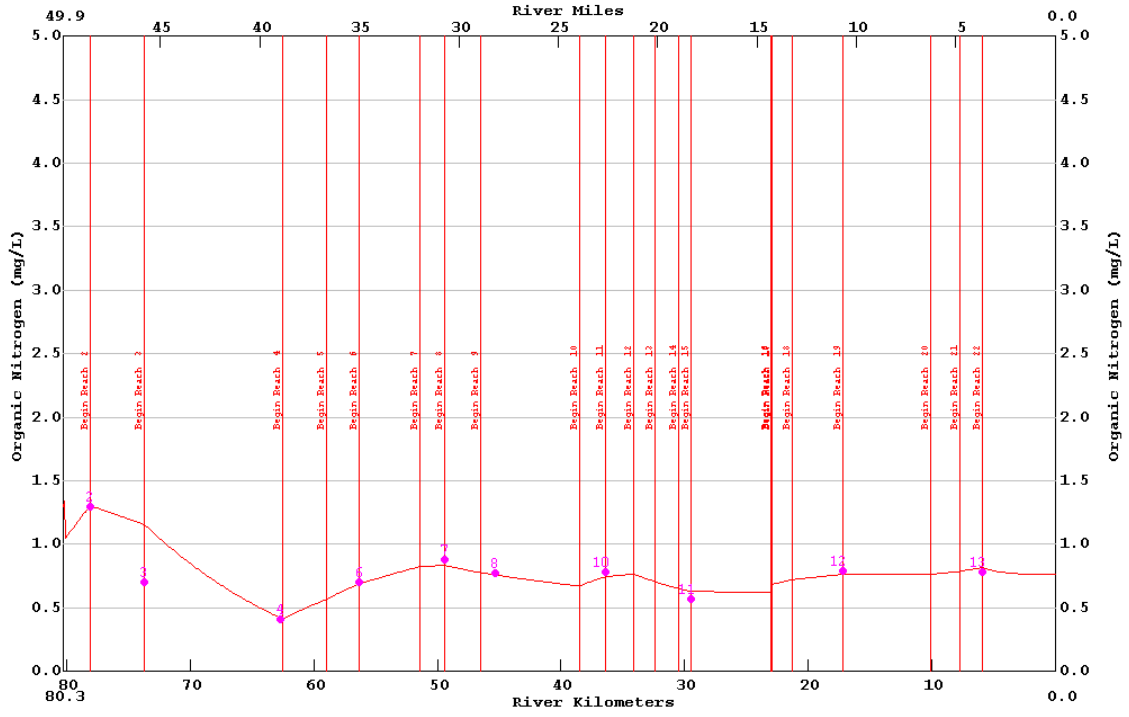
Barnes Creek

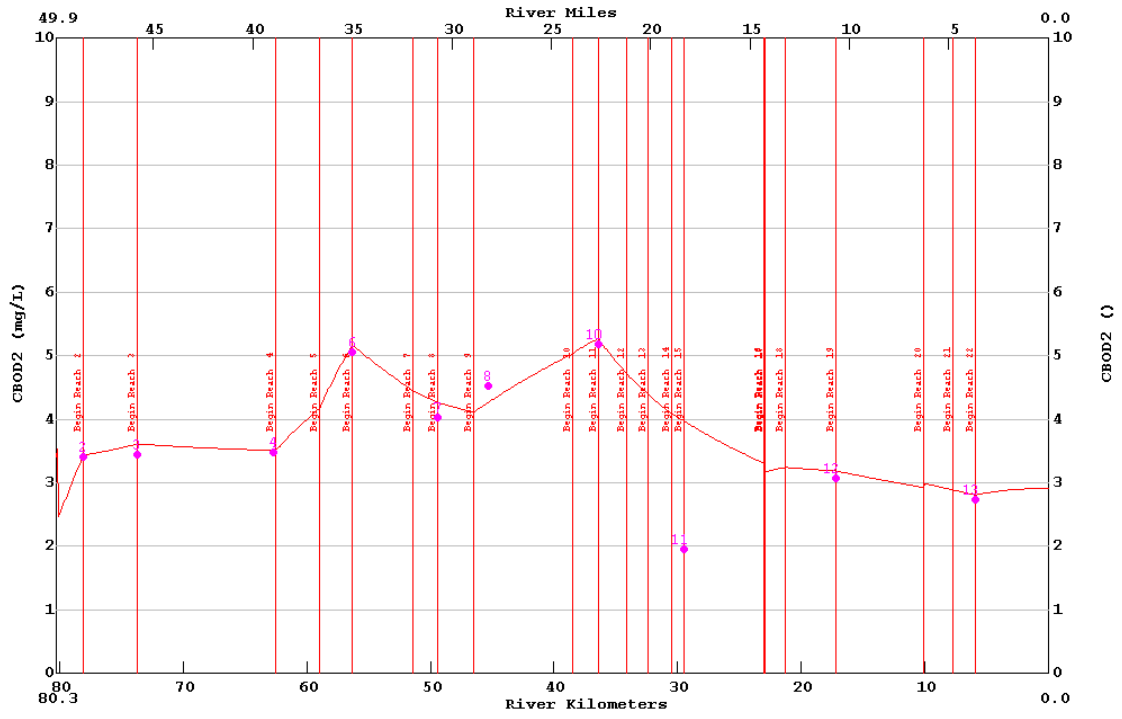
Reach #	Description	Headwater Yes/No	Starting modeled Kilometer	Ending modeled Kilometer	Modeled Length	Element Length	Element Count	Cumulative Elements	Begin Element #	End Element #
					kilometers	kilometers				
1	Headwater to Site 2	Yes	80.3	78.1	2.20	0.100	22	22	1	22
2	Site 2 to Site 3	No	78.1	73.7	4.40	0.100	44	44	23	66
3	Site 3 to Little Barnes Creek	No	73.7	62.5	11.20	0.100	112	112	67	178
4	Little Barnes Creek to Redhead Branch	No	62.5	59	3.50	0.100	35	57	179	213
5	Redhead Branch to Site 6	No	59	56.3	2.70	0.100	27	84	214	240
6	Site 6 to Little Caney Creek	No	56.3	51.4	4.90	0.100	49	133	241	289
7	Little Caney Creek to dam	No	51.4	49.4	2.00	0.100	20	153	290	309
8	dam to Caney Creek	No	49.4	46.5	2.90	0.100	29	182	310	338
9	Caney Creek to Hurricane Creek	No	46.5	38.5	8.00	0.100	80	262	339	418
10	Hurricane Creek to Site 10	No	38.5	36.4	2.10	0.100	21	283	419	439
11	Site 10 to Magnolia Creek	No	36.4	34.1	2.30	0.100	23	306	440	462
12	Magnolia Creek to Brushy Creek	No	34.1	32.4	1.70	0.100	17	323	463	479
13	Brushy Creek to Righthand Creek	No	32.4	30.5	1.90	0.100	19	342	480	498
14	Righthand Creek to Site 11	No	30.5	29.5	1.00	0.100	10	352	499	508
15	Site 11 to Boggy Creek	No	29.5	23	6.50	0.100	65	417	509	573
16	Boggy Creek to Wolf Creek	No	23	22.9	0.10	0.100	1	418	574	574
17	Wolf Creek to Unnamed Creek	No	22.9	21.3	1.60	0.100	16	434	575	590
18	Unnamed Creek to Site 12	No	21.3	17.2	4.10	0.100	41	475	591	631
19	Site 12 to Clear Creek	No	17.2	10.1	7.10	0.100	71	546	632	702
20	Clear Creek to Bear Creek	No	10.1	7.7	2.40	0.100	24	570	703	726
21	Bear Creek to Site 13	No	7.7	5.9	1.80	0.100	18	588	727	744
22	Site 13 to Calcasieu River	No	5.9	0	5.90	0.100	59	647	745	803

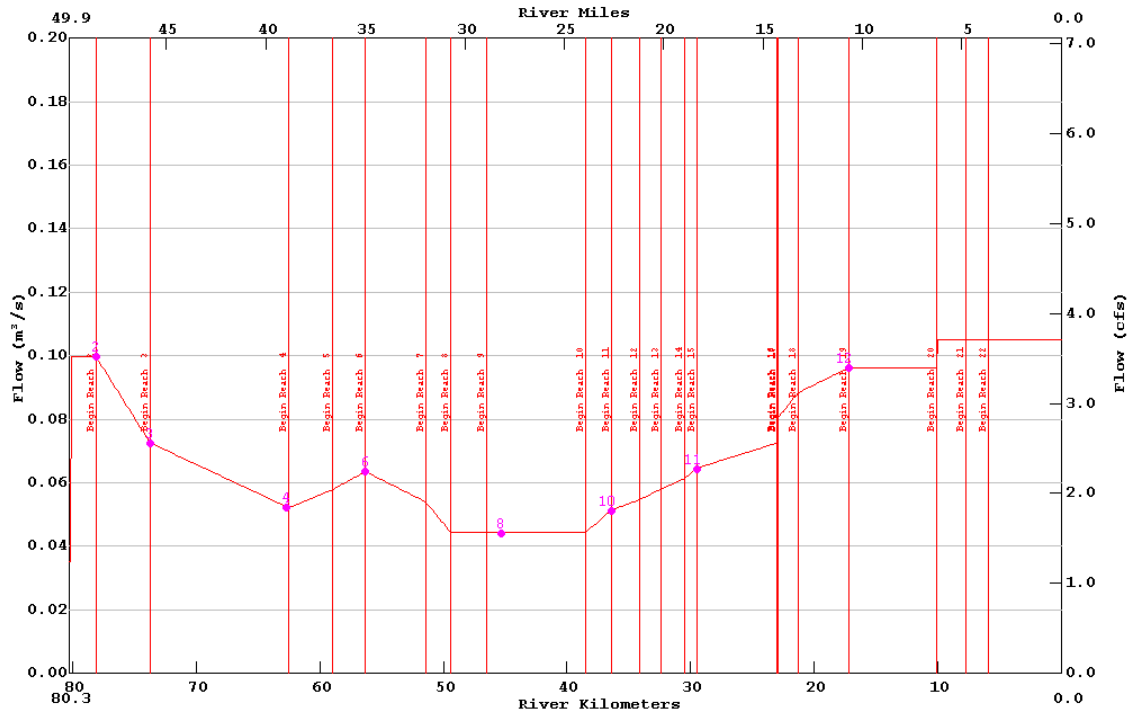
APPENDIX A3 - Calibration model input/output and graphs

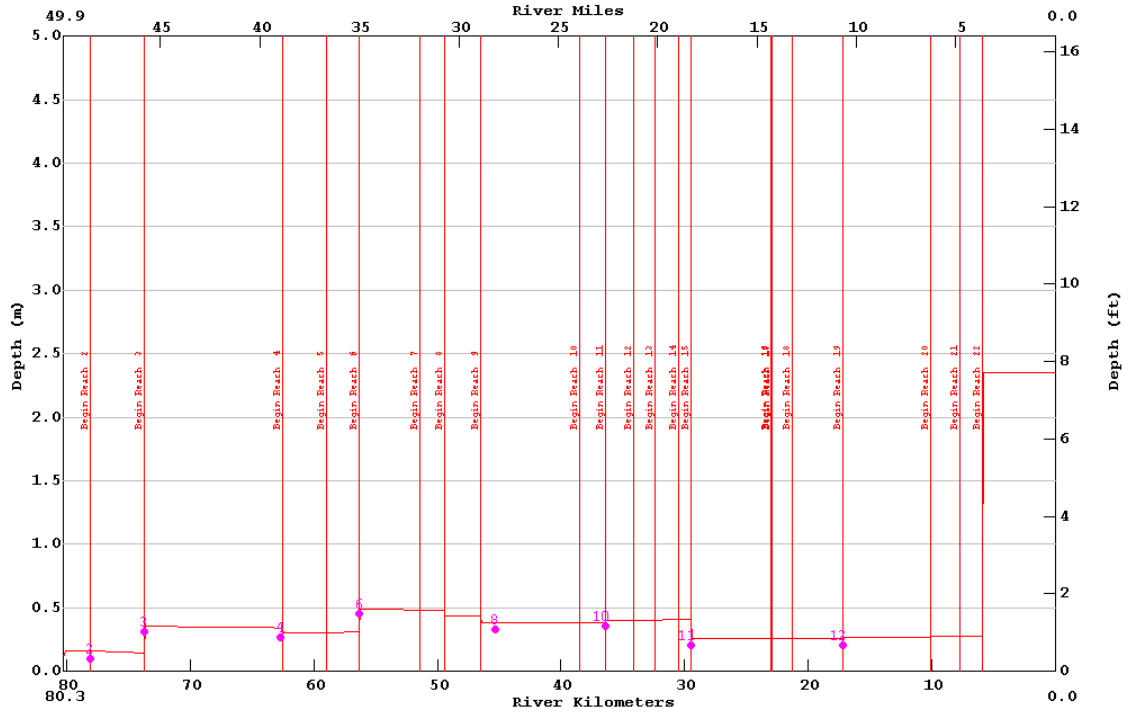


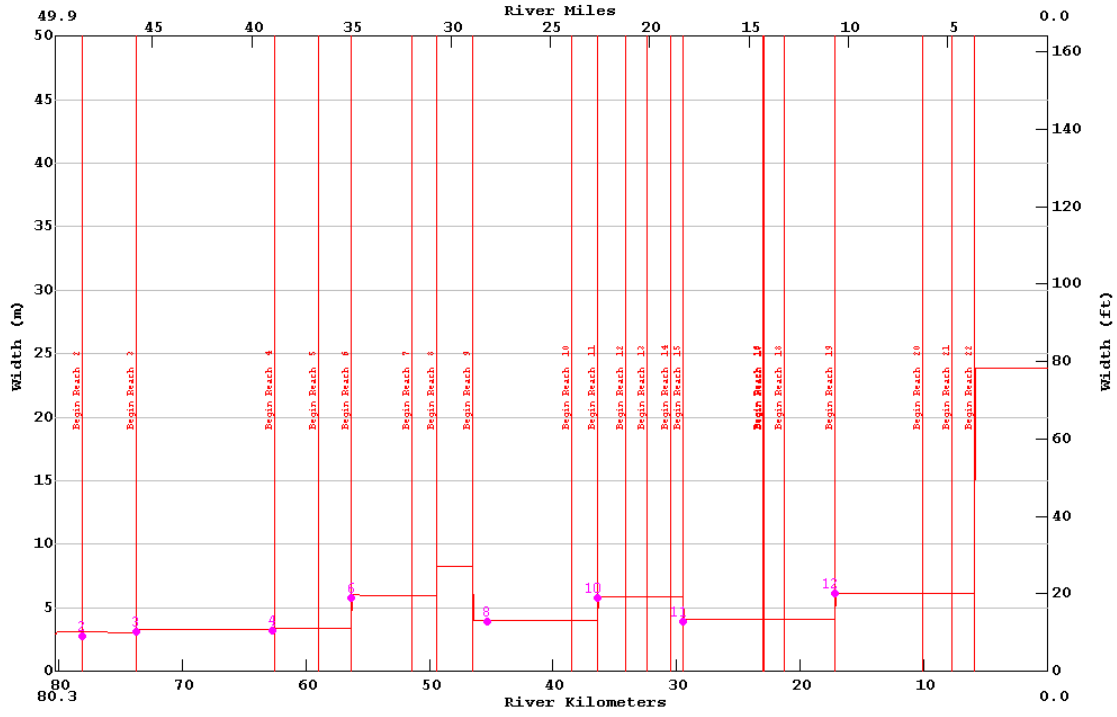












LA-QUAL Version 5.02
Louisiana Department of Environmental Quality

Input file is D:\Barnes Creek\Input Files\barnscalbd.txt
Output produced at 09:23 on 02/19/2002

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

CARD TYPE		CONTROL TITLES
TITLE01		BARNES CREEK WATERSHED MODEL
TITLE02		BARNES CREEK CALIBRATION RUN
CNTROL04	YES	METRIC UNITS
CNTROL05	YES	OXYGEN DEPENDENT RATES
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	YES	CONSERVATIVE MATERIAL II = SULFATES	IN MG/L
MODOPT05	YES	DISSOLVED OXYGEN	
MODOPT06	YES	BIOCHEMICAL OXYGEN DEMAND	
MODOPT07	YES	NITROGEN	
MODOPT08	NO	PHOSPHORUS	
MODOPT09	NO	CHLOROPHYLL A	
MODOPT10	NO	MACROPHYTES	
MODOPT11	NO	COLIFORM	
MODOPT12	YES	NONCONSERVATIVE MATERIAL = CBOD2	IN mg/L
ENDATA02			

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
PROGRAM	MAXIMUM ITERATION LIMIT	= 1000.00000
PROGRAM	PLOT TYPE	= 3.00000
PROGRAM	FINAL REPORT TYPE	= 1.00000
PROGRAM	SPECIAL REPORT TYPE	= 3.00000
PROGRAM	KL MINIMUM	= 0.70000 meters/day
PROGRAM	NCM OXYGEN UPTAKE RATE	= 1.00000 mg O/mg NCM
PROGRAM	INHIBITION CONTROL VALUE	= 3.00000
PROGRAM	NH3 OXYGEN UPTAKE RATE	= 0.00000 mg O/mg N
PROGRAM	K2 MAXIMUM	= 25.00000 per day
PROGRAM	HYDRAULIC CALCULATION METHOD	= 2.00000 (widths and depths)
PROGRAM	SETTLING RATE UNITS	= 2.00000 (per day)
PROGRAM	OCEAN EXCHANGE RATIO	= 0.00000

```

PROGRAM      EFFECTIVE BOD DUE TO ALGAE      =      0.15000 mg/L BOD per ug/L chl a
PROGRAM      ORGN OXYGEN UPTAKE RATE          =      1.00000 mg O/mg N
PROGRAM      ALGAE OXYGEN PROD                =      0.05000 mg O/ug chl a/day
PROGRAM      N MACROPHYTE UPTAKE              =      0.00300 mg N/mg macrophyte/day
PROGRAM      MACROPHYTE OXYGEN PROD           =      0.00000 mg O/mg macrophyte/day
PROGRAM      N PREFERENCE                      =      0.60000 (0.0=NH3 1.0=NO3)
ENDATA03

```

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

```

CARD TYPE    RATE CODE    THETA VALUE
THETA        NCM DECA     1.04700
THETA        ORGN DEC     1.07000
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	BC	HEADWATER - SITE 2	80.30	TO 78.10	0.1000	2.20	22	1	22
REACH ID	2	BC	SITE 2 - SITE 3	78.10	TO 73.70	0.1000	4.40	44	23	66
REACH ID	3	BC	SITE 3 - LITTLE BARNES CR	73.70	TO 62.50	0.1000	11.20	112	67	178
REACH ID	4	BC	LITTLE BARNES - REDHEAD CR	62.50	TO 59.00	0.1000	3.50	35	179	213
REACH ID	5	BC	REDHEAD CR - SITE 6	59.00	TO 56.30	0.1000	2.70	27	214	240
REACH ID	6	BC	SITE 6 - LITTLE CANEY CR	56.30	TO 51.40	0.1000	4.90	49	241	289
REACH ID	7	BC	LITTLE CANEY CR - DAM	51.40	TO 49.40	0.1000	2.00	20	290	309
REACH ID	8	BC	DAM - CANEY CREEK	49.40	TO 46.50	0.1000	2.90	29	310	338
REACH ID	9	BC	CANEY CR - HURRICANE CR	46.50	TO 38.50	0.1000	8.00	80	339	418
REACH ID	10	BC	HURRICANE CR - SITE 10	38.50	TO 36.40	0.1000	2.10	21	419	439
REACH ID	11	BC	SITE 10 - MAGNOLIA CR	36.40	TO 34.10	0.1000	2.30	23	440	462

REACH ID	12	BC	MAGNOLIA CR - BRUSHY CR	34.10	TO	32.40	0.1000	1.70	17	463	479
REACH ID	13	BC	BRUSHY CR - RIGHTHAND CR	32.40	TO	30.50	0.1000	1.90	19	480	498
REACH ID	14	BC	RIGHTHAND CR - SITE 11	30.50	TO	29.50	0.1000	1.00	10	499	508
REACH ID	15	BC	SITE 11 - BOGGY CR	29.50	TO	23.00	0.1000	6.50	65	509	573
REACH ID	16	BC	BOGGY CR - WOLF CREEK	23.00	TO	22.90	0.1000	0.10	1	574	574
REACH ID	17	BC	WOLF CR - UNNAMED CREEK	22.90	TO	21.30	0.1000	1.60	16	575	590
REACH ID	18	BC	UNNAMED CR - SITE 12	21.30	TO	17.20	0.1000	4.10	41	591	631
REACH ID	19	BC	SITE 12 - CLEAR CR	17.20	TO	10.10	0.1000	7.10	71	632	702
REACH ID	20	BC	CLEAR CR - BEAR CR	10.10	TO	7.70	0.1000	2.40	24	703	726
REACH ID	21	BC	BEAR CR - SITE 13	7.70	TO	5.90	0.1000	1.80	18	727	744
REACH ID	22	BC	SITE 13 - CALCASIEU RIVER	5.90	TO	0.00	0.1000	5.90	59	745	803

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"
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 1										
HYDR-1	1	BC	2.680	0.930	2.800	0.620	1.000	0.100	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 2										
HYDR-1	2	BC	2.680	0.930	2.800	0.620	1.000	0.100	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 3										
HYDR-1	3	BC	2.680	0.930	3.100	0.620	1.000	0.310	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 4										
HYDR-1	4	BC	2.680	0.930	3.200	0.620	1.000	0.270	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 5										
HYDR-1	5	BC	2.680	0.930	3.200	0.620	1.000	0.270	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 6										
HYDR-1	6	BC	2.680	0.930	5.800	0.620	1.000	0.450	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 7										
HYDR-1	7	BC	2.680	0.930	5.800	0.620	1.000	0.450	0.00000	0.027
HYDR-1	8	BC	0.230	0.540	8.200	0.100	0.210	0.380	0.00000	0.027
HYDR-1	9	BC	0.230	0.540	4.000	0.100	0.210	0.330	0.00000	0.027
HYDR-1	10	BC	0.230	0.540	4.000	0.100	0.210	0.330	0.00000	0.027
HYDR-1	11	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	12	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	13	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	14	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	15	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	16	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	17	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	18	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	19	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	20	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	21	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	22	BC	0.230	0.540	23.800	0.100	0.210	2.290	0.00000	0.027

ENDATA09

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

CARD TYPE	REACH	ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"
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ENDATA10

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

CARD TYPE	REACH	ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
INITIAL	1	BC	26.81	0.00	4.30	0.00	0.56	0.00	2.60	0.00
INITIAL	2	BC	26.81	0.00	4.30	0.00	0.56	0.00	2.60	0.00
INITIAL	3	BC	26.02	0.00	4.46	0.00	0.37	0.00	2.00	0.00
INITIAL	4	BC	26.34	0.00	4.23	0.00	0.09	0.00	1.90	0.00
INITIAL	5	BC	26.34	0.00	4.23	0.00	0.09	0.00	1.90	0.00
INITIAL	6	BC	26.42	0.00	3.01	0.00	0.10	0.00	6.10	0.00
INITIAL	7	BC	26.42	0.00	3.01	0.00	0.10	0.00	6.10	0.00
INITIAL	8	BC	25.88	0.00	3.72	0.00	0.07	0.00	1.00	0.00
INITIAL	9	BC	25.74	0.00	2.68	0.00	0.09	0.00	0.60	0.00
INITIAL	10	BC	25.74	0.00	2.68	0.00	0.09	0.00	0.60	0.00
INITIAL	11	BC	25.61	0.00	2.44	0.00	0.08	0.00	1.10	0.00
INITIAL	12	BC	25.61	0.00	2.44	0.00	0.08	0.00	1.10	0.00
INITIAL	13	BC	25.61	0.00	2.44	0.00	0.08	0.00	1.10	0.00
INITIAL	14	BC	25.61	0.00	2.44	0.00	0.08	0.00	1.10	0.00
INITIAL	15	BC	27.15	0.00	2.58	0.00	0.08	0.00	0.90	0.00
INITIAL	16	BC	27.15	0.00	2.58	0.00	0.08	0.00	0.90	0.00
INITIAL	17	BC	27.15	0.00	2.58	0.00	0.08	0.00	0.90	0.00
INITIAL	18	BC	27.15	0.00	2.58	0.00	0.08	0.00	0.90	0.00
INITIAL	19	BC	27.22	0.00	3.20	0.00	0.10	0.00	0.90	0.00
INITIAL	20	BC	27.22	0.00	3.20	0.00	0.10	0.00	0.90	0.00
INITIAL	21	BC	27.22	0.00	3.20	0.00	0.10	0.00	0.90	0.00
INITIAL	22	BC	27.03	0.00	1.34	0.00	0.06	0.00	1.90	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 g/m ² /d	AEROB BOD DECAY per day	BOD SETT m/d	BOD CONV TO SOD	ANAER BOD DECAY
COEF-1	1	BC	20 K2=a/D	0.700	0.000	0.000	2.200	0.180	0.100	0.000	0.000
COEF-1	2	BC	20 K2=a/D	0.700	0.000	0.000	1.800	0.180	0.100	0.000	0.000
COEF-1	3	BC	20 K2=a/D	0.700	0.000	0.000	1.800	0.130	0.100	0.000	0.000
COEF-1	4	BC	20 K2=a/D	0.700	0.000	0.000	2.500	0.100	0.100	0.000	0.000
COEF-1	5	BC	20 K2=a/D	0.700	0.000	0.000	2.700	0.100	0.100	0.000	0.000
COEF-1	6	BC	20 K2=a/D	0.700	0.000	0.000	2.000	0.130	0.100	0.000	0.000
COEF-1	7	BC	20 K2=a/D	0.700	0.000	0.000	1.900	0.130	0.100	0.000	0.000
COEF-1	8	BC	20 K2=a/D	0.700	0.000	0.000	2.500	0.050	0.100	0.000	0.000
COEF-1	9	BC	20 K2=a/D	0.700	0.000	0.000	3.000	0.050	0.100	0.000	0.000
COEF-1	10	BC	20 K2=a/D	0.700	0.000	0.000	3.000	0.050	0.100	0.000	0.000

COEF-1	11	BC	20	K2=a/D	0.700	0.000	0.000	3.000	0.090	0.100	0.000	0.000
COEF-1	12	BC	20	K2=a/D	0.700	0.000	0.000	3.000	0.090	0.100	0.000	0.000
COEF-1	13	BC	20	K2=a/D	0.700	0.000	0.000	3.000	0.090	0.100	0.000	0.000
COEF-1	14	BC	20	K2=a/D	0.700	0.000	0.000	2.600	0.090	0.100	0.000	0.000
COEF-1	15	BC	20	K2=a/D	0.700	0.000	0.000	2.500	0.060	0.100	0.000	0.000
COEF-1	16	BC	20	K2=a/D	0.700	0.000	0.000	2.500	0.060	0.100	0.000	0.000
COEF-1	17	BC	20	K2=a/D	0.700	0.000	0.000	2.500	0.060	0.100	0.000	0.000
COEF-1	18	BC	20	K2=a/D	0.700	0.000	0.000	2.250	0.060	0.100	0.000	0.000
COEF-1	19	BC	20	K2=a/D	0.700	0.000	0.000	2.900	0.070	0.100	0.000	0.000
COEF-1	20	BC	20	K2=a/D	0.700	0.000	0.000	3.300	0.070	0.100	0.000	0.000
COEF-1	21	BC	20	K2=a/D	0.700	0.000	0.000	3.300	0.070	0.100	0.000	0.000
COEF-1	22	BC	20	K2=a/D	0.700	0.000	0.000	2.900	0.060	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
COEF-2	1	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	2	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	3	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	4	BC	0.050	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	5	BC	0.050	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	6	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	7	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	8	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	9	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	10	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	11	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	12	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	13	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	14	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	15	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	16	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	17	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	18	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	19	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	20	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	21	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	22	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000

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	BC	0.00	0.13	0.05	0.00
COEF-4	2	BC	0.00	0.13	0.05	0.00
COEF-4	3	BC	0.00	0.13	0.05	0.00
COEF-4	4	BC	0.00	0.05	0.05	0.00
COEF-4	5	BC	0.00	0.05	0.05	0.00
COEF-4	6	BC	0.00	0.04	0.05	0.00
COEF-4	7	BC	0.00	0.04	0.05	0.00
COEF-4	8	BC	0.00	0.02	0.05	0.00
COEF-4	9	BC	0.00	0.03	0.05	0.00
COEF-4	10	BC	0.00	0.03	0.05	0.00
COEF-4	11	BC	0.00	0.03	0.05	0.00
COEF-4	12	BC	0.00	0.03	0.05	0.00
COEF-4	13	BC	0.00	0.03	0.05	0.00
COEF-4	14	BC	0.00	0.03	0.05	0.00
COEF-4	15	BC	0.00	0.04	0.05	0.00
COEF-4	16	BC	0.00	0.04	0.05	0.00
COEF-4	17	BC	0.00	0.04	0.05	0.00
COEF-4	18	BC	0.00	0.04	0.05	0.00
COEF-4	19	BC	0.00	0.02	0.05	0.00
COEF-4	20	BC	0.00	0.02	0.05	0.00
COEF-4	21	BC	0.00	0.02	0.05	0.00
COEF-4	22	BC	0.00	0.03	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	IN/DIST	OUT/DIST
INCR-1	1	BC	0.00000	0.00000	26.81	0.00	33.90	12.40	0.00000	0.00000
INCR-1	2	BC	-0.02720	0.00000	26.81	0.00	33.90	12.40	0.00000	-0.00618
INCR-1	3	BC	-0.02040	0.00000	26.02	0.00	33.60	11.00	0.00000	-0.00182
INCR-1	4	BC	0.00000	0.00570	26.34	0.00	30.20	7.90	0.00163	0.00000
INCR-1	5	BC	0.00000	0.00570	26.34	0.00	30.20	7.90	0.00211	0.00000
INCR-1	6	BC	-0.00960	0.00000	26.42	0.00	23.60	6.00	0.00000	-0.00196
INCR-1	7	BC	-0.00960	0.00000	26.42	0.00	23.60	6.00	0.00000	-0.00480
INCR-1	8	BC	0.00000	0.00000	26.88	0.00	8.80	3.20	0.00000	0.00000
INCR-1	9	BC	0.00000	0.00000	25.74	0.00	6.90	2.70	0.00000	0.00000
INCR-1	10	BC	0.00000	0.00710	25.74	0.00	6.90	2.70	0.00338	0.00000
INCR-1	11	BC	0.00000	0.00330	25.61	0.00	9.20	3.40	0.00143	0.00000
INCR-1	12	BC	0.00000	0.00330	25.61	0.00	9.20	3.40	0.00194	0.00000
INCR-1	13	BC	0.00000	0.00330	25.61	0.00	9.20	3.40	0.00174	0.00000
INCR-1	14	BC	0.00000	0.00330	25.61	0.00	9.20	3.40	0.00330	0.00000
INCR-1	15	BC	0.00000	0.00790	27.15	0.00	13.60	4.10	0.00122	0.00000
INCR-1	16	BC	0.00000	0.00790	27.15	0.00	13.60	4.10	0.07900	0.00000
INCR-1	17	BC	0.00000	0.00790	27.15	0.00	13.60	4.10	0.00494	0.00000

INCR-1	18	BC	0.00000	0.00790	27.15	0.00	13.60	4.10	0.00193	0.00000
INCR-1	19	BC	0.00000	0.00000	27.22	0.00	20.90	5.00	0.00000	0.00000
INCR-1	20	BC	0.00000	0.00000	27.22	0.00	20.90	5.00	0.00000	0.00000
INCR-1	21	BC	0.00000	0.00000	27.22	0.00	20.90	5.00	0.00000	0.00000
INCR-1	22	BC	0.00000	0.00000	27.03	0.00	9.30	2.70	0.00000	0.00000

ENDATA16

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

CARD TYPE	REACH	ID	DO	BOD	ORG-N	NH3	NO3+2
INCR-2	1	BC	4.30	2.65	1.30	0.00	0.56
INCR-2	2	BC	4.30	2.65	1.30	0.00	0.56
INCR-2	3	BC	4.46	2.49	0.70	0.00	0.37
INCR-2	4	BC	4.23	3.53	0.41	0.00	0.09
INCR-2	5	BC	4.23	3.53	0.41	0.00	0.09
INCR-2	6	BC	3.01	3.50	0.70	0.00	0.10
INCR-2	7	BC	3.01	3.50	0.70	0.00	0.10
INCR-2	8	BC	3.72	5.54	0.88	0.00	0.07
INCR-2	9	BC	2.68	4.38	0.77	0.00	0.09
INCR-2	10	BC	2.68	4.38	0.77	0.00	0.09
INCR-2	11	BC	2.44	3.41	0.78	0.00	0.08
INCR-2	12	BC	2.44	3.41	0.78	0.00	0.08
INCR-2	13	BC	2.44	3.41	0.78	0.00	0.08
INCR-2	14	BC	2.44	3.41	0.78	0.00	0.08
INCR-2	15	BC	2.58	4.08	0.57	0.00	0.08
INCR-2	16	BC	2.58	4.08	0.57	0.00	0.08
INCR-2	17	BC	2.58	4.08	0.57	0.00	0.08
INCR-2	18	BC	2.58	4.08	0.57	0.00	0.08
INCR-2	19	BC	3.20	4.32	0.79	0.00	0.10
INCR-2	20	BC	3.20	4.32	0.79	0.00	0.10
INCR-2	21	BC	3.20	4.32	0.79	0.00	0.10
INCR-2	22	BC	1.34	5.12	0.78	0.00	0.06

ENDATA17

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

CARD TYPE	REACH	ID	PHOS	CHL A	COLI	NCM
INCR-3	1	BC	0.00	4.30	0.00	3.40
INCR-3	2	BC	0.00	4.30	0.00	3.40
INCR-3	3	BC	0.00	4.46	0.00	3.45
INCR-3	4	BC	0.00	4.23	0.00	3.48
INCR-3	5	BC	0.00	4.23	0.00	3.48
INCR-3	6	BC	0.00	3.01	0.00	5.05
INCR-3	7	BC	0.00	3.01	0.00	5.05
INCR-3	8	BC	0.00	3.72	0.00	4.03
INCR-3	9	BC	0.00	2.68	0.00	4.52
INCR-3	10	BC	0.00	2.68	0.00	4.52
INCR-3	11	BC	0.00	2.44	0.00	5.18

INCR-3	12	BC	0.00	2.44	0.00	5.18
INCR-3	13	BC	0.00	2.44	0.00	5.18
INCR-3	14	BC	0.00	2.44	0.00	5.18
INCR-3	15	BC	0.00	2.58	0.00	1.96
INCR-3	16	BC	0.00	2.58	0.00	1.96
INCR-3	17	BC	0.00	2.58	0.00	1.96
INCR-3	18	BC	0.00	2.58	0.00	1.96
INCR-3	19	BC	0.00	3.20	0.00	3.07
INCR-3	20	BC	0.00	3.20	0.00	3.07
INCR-3	21	BC	0.00	3.20	0.00	3.07
INCR-3	22	BC	0.00	1.34	0.00	2.73

ENDATA18

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

CARD TYPE	REACH	ID	BOD	ORG-N	COLI	NCM	DO
NONPOINT	1	BC	3.00	3.00	0.00	10.00	0.00
NONPOINT	2	BC	0.00	0.00	0.00	3.00	0.00
NONPOINT	3	BC	16.00	0.00	0.00	10.00	0.00
NONPOINT	4	BC	3.00	1.00	0.00	5.00	0.00
NONPOINT	5	BC	0.00	1.00	0.00	7.50	0.00
NONPOINT	6	BC	20.00	2.00	0.00	4.00	0.00
NONPOINT	7	BC	14.00	0.60	0.00	2.00	0.00
NONPOINT	8	BC	6.00	0.50	0.00	3.00	0.00
NONPOINT	9	BC	2.00	0.50	0.00	9.00	0.00
NONPOINT	10	BC	2.00	0.50	0.00	3.00	0.00
NONPOINT	11	BC	5.00	0.50	0.00	0.00	0.00
NONPOINT	12	BC	3.00	0.00	0.00	0.00	0.00
NONPOINT	13	BC	5.00	0.00	0.00	0.00	0.00
NONPOINT	14	BC	4.00	0.00	0.00	0.00	0.00
NONPOINT	15	BC	5.00	0.50	0.00	0.00	0.00
NONPOINT	16	BC	0.00	0.50	0.00	0.00	0.00
NONPOINT	17	BC	3.00	0.50	0.00	2.00	0.00
NONPOINT	18	BC	5.00	0.85	0.00	2.00	0.00
NONPOINT	19	BC	15.00	0.85	0.00	1.00	0.00
NONPOINT	20	BC	5.00	0.50	0.00	0.00	0.00
NONPOINT	21	BC	3.00	0.50	0.00	0.00	0.00
NONPOINT	22	BC	330.00	27.00	0.00	85.00	0.00

ENDATA19

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

CARD TYPE	ELEMENT	NAME	UNIT	FLOW m ³ /s	FLOW cfs	TEMP deg C	SALIN ppt	CM-I MG/L	CM-II MG/L
HDWTR-1	1	HEADWATER	0	0.03511	1.240	26.83	0.00	33.900	12.400

ENDATA20

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

WSTLD-2	419	HURRICANE CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	463	MAGNOLIA CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	480	BRUSHY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	499	RIGHTHAND CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	574	BOGGY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	575	WOLF CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	591	UNNAMED CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	703	CLEAR CREEK	4.38	5.55	0.00	0.75	0.00	0.00	0.06
WSTLD-2	727	BEAR CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ENDATA25

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

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
WSTLD-3	2	CITY OF DERIDDER	0.00	0.90	0.00	1.80
WSTLD-3	179	LITTLE BARNES CR	0.00	0.00	0.00	0.00
WSTLD-3	214	REDHEAD BRANCH	0.00	0.00	0.00	0.00
WSTLD-3	290	LITTLE CANEY CR	0.00	0.00	0.00	0.00
WSTLD-3	339	CANEY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	419	HURRICANE CREEK	0.00	0.00	0.00	0.00
WSTLD-3	463	MAGNOLIA CREEK	0.00	0.00	0.00	0.00
WSTLD-3	480	BRUSHY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	499	RIGHTHAND CREEK	0.00	0.00	0.00	0.00
WSTLD-3	574	BOGGY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	575	WOLF CREEK	0.00	0.00	0.00	0.00
WSTLD-3	591	UNNAMED CREEK	0.00	0.00	0.00	0.00
WSTLD-3	703	CLEAR CREEK	0.00	4.30	0.00	3.76
WSTLD-3	727	BEAR CREEK	0.00	0.00	0.00	0.00

ENDATA26

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

CARD TYPE	CONSTITUENT	CONCENTRATION
LOWER BC	TEMPERATURE	= 27.030 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	= 0.000 mg/L
LOWER BC	BIOCHEMICAL OXYGEN DEMAND	= 0.000 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	= 1.900 µg/L
LOWER BC	COLIFORM	= 0.000 #/100 mL
LOWER BC	NONCONSERVATIVE MATERIAL	= 0.000 mg/L

ENDATA27

\$\$\$ DATA TYPE 28 (DAM DATA) \$\$\$

CARD TYPE	ELEMENT	NAME	EQN	"A"	"B"	"H"
DAM DATA ENDATA28	310	DAM AT SITE 7	1	1.000	0.800	4.740

\$\$\$ 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 = 22
PLOT RCH 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
ENDATA30

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

OVERLAY 1 barnsovl.txt :MAINSTEM
ENDATA31

.....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

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
REACH NO. 1 HEADWATER - SITE 2 BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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	0.03511	26.83	0.00	33.90	12.40	4.30	2.26	2.65	1.30	0.00	0.56	0.00	2.60	0.00	3.40
2	WSTLD	0.06460	28.17	0.00	32.10	14.10	4.67	2.04	2.04	0.87	0.00	0.46	0.00	0.90	0.00	1.80

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² / s	MEAN VELO m/s
1	80.30	80.20	0.03511	0.00	0.09879	0.01	0.12	2.92	35.54	291.90	0.36	0.00	0.000	0.009	0.099
2	80.20	80.10	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
3	80.10	80.00	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
4	80.00	79.90	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
5	79.90	79.80	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
6	79.80	79.70	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
7	79.70	79.60	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
8	79.60	79.50	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
9	79.50	79.40	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
10	79.40	79.30	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
11	79.30	79.20	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
12	79.20	79.10	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
13	79.10	79.00	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
14	79.00	78.90	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
15	78.90	78.80	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
16	78.80	78.70	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
17	78.70	78.60	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
18	78.60	78.50	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
19	78.50	78.40	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
20	78.40	78.30	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
21	78.30	78.20	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
22	78.20	78.10	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022	0.198
TOT						0.13			1093.77	6831.37					
AVG					0.18925		0.16	3.11			0.50				
CUM						0.13									

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

ELEM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
1/da		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
1	80.200	8.00	6.54	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
2	80.100	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
3	80.000	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
4	79.900	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18

0.06																			
5	79.800	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
6	79.700	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
7	79.600	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
8	79.500	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
9	79.400	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
10	79.300	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
11	79.200	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
12	79.100	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
13	79.000	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
14	78.900	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
15	78.800	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
16	78.700	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
17	78.600	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
18	78.500	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
19	78.400	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
20	78.300	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
21	78.200	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
22	78.100	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
0.06																			
	20 DEG C RATE			0.18		0.00	2.20			0.13		0.00	0.00	0.00	0.00			0.00	0.13
	AVG 20 DEG C RATE		4.39		0.10					0.20									
0.05																			

* g/m²/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 *
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1	80.200	26.81	0.00	33.90	12.40	4.25	2.29	2.68	1.34	0.00	0.56	1.90	0.00	2.60	0.00	0.00	3.54
2	80.100	26.81	0.00	32.73	13.50	4.49	2.14	2.53	1.05	0.00	0.50	1.55	0.00	2.60	0.00	0.00	2.46
3	80.000	26.81	0.00	32.73	13.50	4.47	2.15	2.54	1.06	0.00	0.50	1.56	0.00	2.60	0.00	0.00	2.51
4	79.900	26.81	0.00	32.73	13.50	4.44	2.16	2.55	1.07	0.00	0.50	1.57	0.00	2.60	0.00	0.00	2.56
5	79.800	26.81	0.00	32.73	13.50	4.42	2.17	2.56	1.09	0.01	0.50	1.59	0.00	2.60	0.00	0.00	2.61
6	79.700	26.81	0.00	32.73	13.50	4.39	2.19	2.58	1.10	0.01	0.50	1.60	0.00	2.60	0.00	0.00	2.66
7	79.600	26.81	0.00	32.73	13.50	4.37	2.20	2.59	1.11	0.01	0.50	1.62	0.00	2.60	0.00	0.00	2.71
8	79.500	26.81	0.00	32.73	13.50	4.34	2.21	2.60	1.13	0.01	0.49	1.63	0.00	2.60	0.00	0.00	2.76
9	79.400	26.81	0.00	32.73	13.50	4.32	2.22	2.61	1.14	0.01	0.49	1.65	0.00	2.60	0.00	0.00	2.81
10	79.300	26.81	0.00	32.73	13.50	4.30	2.23	2.62	1.15	0.01	0.49	1.66	0.00	2.60	0.00	0.00	2.85
11	79.200	26.81	0.00	32.73	13.50	4.28	2.24	2.63	1.16	0.01	0.49	1.67	0.00	2.60	0.00	0.00	2.90
12	79.100	26.81	0.00	32.73	13.50	4.26	2.25	2.64	1.18	0.02	0.49	1.69	0.00	2.60	0.00	0.00	2.95
13	79.000	26.81	0.00	32.73	13.50	4.24	2.26	2.65	1.19	0.02	0.49	1.70	0.00	2.60	0.00	0.00	3.00
14	78.900	26.81	0.00	32.73	13.50	4.22	2.27	2.66	1.20	0.02	0.49	1.72	0.00	2.60	0.00	0.00	3.05
15	78.800	26.81	0.00	32.73	13.50	4.20	2.29	2.68	1.22	0.02	0.49	1.73	0.00	2.60	0.00	0.00	3.10
16	78.700	26.81	0.00	32.73	13.50	4.18	2.30	2.69	1.23	0.02	0.49	1.74	0.00	2.60	0.00	0.00	3.15
17	78.600	26.81	0.00	32.73	13.50	4.16	2.31	2.70	1.24	0.02	0.49	1.76	0.00	2.60	0.00	0.00	3.19
18	78.500	26.81	0.00	32.73	13.50	4.14	2.32	2.71	1.25	0.02	0.49	1.77	0.00	2.60	0.00	0.00	3.24
19	78.400	26.81	0.00	32.73	13.50	4.12	2.33	2.72	1.27	0.03	0.49	1.79	0.00	2.60	0.00	0.00	3.29
20	78.300	26.81	0.00	32.73	13.50	4.10	2.34	2.73	1.28	0.03	0.49	1.80	0.00	2.60	0.00	0.00	3.34
21	78.200	26.81	0.00	32.73	13.50	4.09	2.35	2.74	1.29	0.03	0.49	1.81	0.00	2.60	0.00	0.00	3.39
22	78.100	26.81	0.00	32.73	13.50	4.07	2.36	2.75	1.30	0.03	0.49	1.83	0.00	2.60	0.00	0.00	3.43

* CM-I = CHLORIDES
MG/L
** g/m³

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

FINAL REPORT HEADWATER
REACH NO. 2 SITE 2 - SITE 3

BARNES CREEK WATERSHED MODEL
BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
23	UPR RCH	0.09971	26.81	0.00	32.73	13.50	4.07	2.36	2.75	1.30	0.03	0.49	0.00	2.60	0.00	3.43
EACH	INCR	-0.0006														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
23	78.10	78.00	0.09909	64.79	0.19723	0.01	0.16	3.11	50.24	311.22	0.50	0.00	0.000	0.022	0.197
24	78.00	77.90	0.09848	64.79	0.19658	0.01	0.16	3.11	50.09	311.04	0.50	0.00	0.000	0.021	0.197
25	77.90	77.80	0.09786	64.79	0.19593	0.01	0.16	3.11	49.95	310.86	0.50	0.00	0.000	0.021	0.196

26	77.80	77.70	0.09724	64.79	0.19527	0.01	0.16	3.11	49.80	310.68	0.50	0.00	0.000	0.021	0.195
27	77.70	77.60	0.09662	64.79	0.19461	0.01	0.16	3.10	49.65	310.50	0.50	0.00	0.000	0.021	0.195
28	77.60	77.50	0.09600	64.79	0.19394	0.01	0.16	3.10	49.50	310.32	0.50	0.00	0.000	0.021	0.194
29	77.50	77.40	0.09539	64.79	0.19327	0.01	0.16	3.10	49.35	310.13	0.49	0.00	0.000	0.021	0.193
30	77.40	77.30	0.09477	64.79	0.19259	0.01	0.16	3.10	49.21	309.95	0.49	0.00	0.000	0.021	0.193
31	77.30	77.20	0.09415	64.79	0.19191	0.01	0.16	3.10	49.06	309.77	0.49	0.00	0.000	0.021	0.192
32	77.20	77.10	0.09353	64.79	0.19122	0.01	0.16	3.10	48.91	309.59	0.49	0.00	0.000	0.021	0.191
33	77.10	77.00	0.09291	64.79	0.19053	0.01	0.16	3.09	48.76	309.41	0.49	0.00	0.000	0.020	0.191
34	77.00	76.90	0.09229	64.79	0.18984	0.01	0.16	3.09	48.62	309.22	0.49	0.00	0.000	0.020	0.190
35	76.90	76.80	0.09168	64.79	0.18914	0.01	0.16	3.09	48.47	309.04	0.48	0.00	0.000	0.020	0.189
36	76.80	76.70	0.09106	64.79	0.18844	0.01	0.16	3.09	48.32	308.86	0.48	0.00	0.000	0.020	0.188
37	76.70	76.60	0.09044	64.79	0.18773	0.01	0.16	3.09	48.18	308.68	0.48	0.00	0.000	0.020	0.188
38	76.60	76.50	0.08982	64.79	0.18701	0.01	0.16	3.08	48.03	308.50	0.48	0.00	0.000	0.020	0.187
39	76.50	76.40	0.08920	64.79	0.18630	0.01	0.16	3.08	47.88	308.31	0.48	0.00	0.000	0.020	0.186
40	76.40	76.30	0.08859	64.79	0.18557	0.01	0.15	3.08	47.74	308.13	0.48	0.00	0.000	0.020	0.186
41	76.30	76.20	0.08797	64.79	0.18484	0.01	0.15	3.08	47.59	307.95	0.48	0.00	0.000	0.020	0.185
42	76.20	76.10	0.08735	64.79	0.18411	0.01	0.15	3.08	47.44	307.77	0.47	0.00	0.000	0.019	0.184
43	76.10	76.00	0.08673	64.79	0.18337	0.01	0.15	3.08	47.30	307.58	0.47	0.00	0.000	0.019	0.183
44	76.00	75.90	0.08611	64.79	0.18263	0.01	0.15	3.07	47.15	307.40	0.47	0.00	0.000	0.019	0.183
45	75.90	75.80	0.08549	64.79	0.18188	0.01	0.15	3.07	47.01	307.22	0.47	0.00	0.000	0.019	0.182
46	75.80	75.70	0.08488	64.79	0.18113	0.01	0.15	3.07	46.86	307.03	0.47	0.00	0.000	0.019	0.181
47	75.70	75.60	0.08426	64.79	0.18037	0.01	0.15	3.07	46.72	306.85	0.47	0.00	0.000	0.019	0.180
48	75.60	75.50	0.08364	64.79	0.17960	0.01	0.15	3.07	46.57	306.67	0.47	0.00	0.000	0.019	0.180
49	75.50	75.40	0.08302	64.79	0.17883	0.01	0.15	3.06	46.42	306.48	0.46	0.00	0.000	0.019	0.179
50	75.40	75.30	0.08240	64.79	0.17806	0.01	0.15	3.06	46.28	306.30	0.46	0.00	0.000	0.018	0.178
51	75.30	75.20	0.08179	64.79	0.17728	0.01	0.15	3.06	46.13	306.12	0.46	0.00	0.000	0.018	0.177
52	75.20	75.10	0.08117	64.79	0.17649	0.01	0.15	3.06	45.99	305.93	0.46	0.00	0.000	0.018	0.176
53	75.10	75.00	0.08055	64.79	0.17570	0.01	0.15	3.06	45.84	305.75	0.46	0.00	0.000	0.018	0.176
54	75.00	74.90	0.07993	64.79	0.17491	0.01	0.15	3.06	45.70	305.57	0.46	0.00	0.000	0.018	0.175
55	74.90	74.80	0.07931	64.79	0.17410	0.01	0.15	3.05	45.56	305.38	0.46	0.00	0.000	0.018	0.174
56	74.80	74.70	0.07869	64.79	0.17330	0.01	0.15	3.05	45.41	305.20	0.45	0.00	0.000	0.018	0.173
57	74.70	74.60	0.07808	64.79	0.17248	0.01	0.15	3.05	45.27	305.01	0.45	0.00	0.000	0.018	0.172
58	74.60	74.50	0.07746	64.79	0.17166	0.01	0.15	3.05	45.12	304.83	0.45	0.00	0.000	0.017	0.172
59	74.50	74.40	0.07684	64.79	0.17084	0.01	0.15	3.05	44.98	304.65	0.45	0.00	0.000	0.017	0.171
60	74.40	74.30	0.07622	64.79	0.17001	0.01	0.15	3.04	44.83	304.46	0.45	0.00	0.000	0.017	0.170
61	74.30	74.20	0.07560	64.79	0.16917	0.01	0.15	3.04	44.69	304.28	0.45	0.00	0.000	0.017	0.169
62	74.20	74.10	0.07499	64.79	0.16833	0.01	0.15	3.04	44.55	304.09	0.45	0.00	0.000	0.017	0.168
63	74.10	74.00	0.07437	64.79	0.16748	0.01	0.15	3.04	44.40	303.91	0.44	0.00	0.000	0.017	0.167
64	74.00	73.90	0.07375	64.79	0.16663	0.01	0.15	3.04	44.26	303.72	0.44	0.00	0.000	0.017	0.167
65	73.90	73.80	0.07313	64.79	0.16577	0.01	0.15	3.04	44.12	303.54	0.44	0.00	0.000	0.017	0.166
66	73.80	73.70	0.07251	64.79	0.16490	0.01	0.14	3.03	43.97	303.35	0.44	0.00	0.000	0.017	0.165

TOT
AVG
CUM

0.18134
0.28
0.15 3.07
0.42

2071.93 13521.24

0.47

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

ELEM ENDING SAT REAER CBOD CBOD ANBOD BKGD FULL CORR ORGN ORGN NH3 NH3 DENIT PO4 ALG MAC COLI NCM

NCM NO. SETT	DIST	D.O. mg/L	RATE 1/da	DECAY 1/da	SETT 1/da	DECAY 1/da	SOD *	SOD *	SOD *	DECAY 1/da	SETT 1/da	DECAY 1/da	SRCE *	RATE 1/da	SRCE *	PROD **	PROD **	DECAY 1/da	DECAY 1/da
23 0.06	78.000	8.00	4.93	0.25	0.12	0.00	2.76	2.76	2.76	0.21	0.23	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
24 0.06	77.900	8.00	4.94	0.25	0.12	0.00	2.76	2.76	2.76	0.21	0.23	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
25 0.06	77.800	8.00	4.95	0.25	0.12	0.00	2.75	2.75	2.75	0.21	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.18
26 0.06	77.700	8.01	4.96	0.25	0.12	0.00	2.75	2.75	2.75	0.21	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.18
27 0.06	77.600	8.01	4.97	0.25	0.12	0.00	2.75	2.75	2.75	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.18
28 0.06	77.500	8.01	4.98	0.24	0.12	0.00	2.75	2.75	2.75	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.18
29 0.06	77.400	8.01	4.99	0.24	0.12	0.00	2.74	2.74	2.74	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.18
30 0.06	77.300	8.02	5.00	0.24	0.12	0.00	2.74	2.74	2.74	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.18
31 0.06	77.200	8.02	5.01	0.24	0.12	0.00	2.74	2.74	2.74	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.18
32 0.06	77.100	8.02	5.02	0.24	0.12	0.00	2.73	2.73	2.73	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.18
33 0.06	77.000	8.02	5.03	0.24	0.12	0.00	2.73	2.73	2.73	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.18
34 0.06	76.900	8.03	5.04	0.24	0.12	0.00	2.73	2.73	2.73	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.18
35 0.06	76.800	8.03	5.05	0.24	0.12	0.00	2.72	2.72	2.72	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.18
36 0.06	76.700	8.03	5.06	0.24	0.12	0.00	2.72	2.72	2.72	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.18
37 0.06	76.600	8.03	5.08	0.24	0.12	0.00	2.72	2.72	2.72	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.18
38 0.06	76.500	8.04	5.09	0.24	0.12	0.00	2.71	2.71	2.71	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.18
39 0.06	76.400	8.04	5.10	0.24	0.12	0.00	2.71	2.71	2.71	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.18
40 0.06	76.300	8.04	5.11	0.24	0.12	0.00	2.71	2.71	2.71	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.18
41 0.06	76.200	8.04	5.12	0.24	0.12	0.00	2.71	2.71	2.71	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
42 0.06	76.100	8.05	5.13	0.24	0.12	0.00	2.70	2.70	2.70	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
43 0.06	76.000	8.05	5.14	0.24	0.12	0.00	2.70	2.70	2.70	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
44 0.06	75.900	8.05	5.15	0.24	0.12	0.00	2.70	2.70	2.70	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17

45	75.800	8.06	5.16	0.24	0.12	0.00	2.69	2.69	2.69	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
46	75.700	8.06	5.18	0.24	0.12	0.00	2.69	2.69	2.69	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
47	75.600	8.06	5.19	0.24	0.12	0.00	2.69	2.69	2.69	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
48	75.500	8.06	5.20	0.24	0.12	0.00	2.68	2.68	2.68	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
49	75.400	8.07	5.21	0.24	0.12	0.00	2.68	2.68	2.68	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
50	75.300	8.07	5.22	0.24	0.12	0.00	2.68	2.68	2.68	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
51	75.200	8.07	5.23	0.24	0.12	0.00	2.67	2.67	2.67	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
52	75.100	8.07	5.24	0.24	0.12	0.00	2.67	2.67	2.67	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
53	75.000	8.08	5.26	0.24	0.12	0.00	2.67	2.67	2.67	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
54	74.900	8.08	5.27	0.24	0.12	0.00	2.67	2.67	2.67	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
55	74.800	8.08	5.28	0.24	0.12	0.00	2.66	2.66	2.66	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
56	74.700	8.08	5.29	0.24	0.12	0.00	2.66	2.66	2.66	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
57	74.600	8.09	5.30	0.24	0.12	0.00	2.66	2.66	2.66	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
58	74.500	8.09	5.32	0.24	0.12	0.00	2.65	2.65	2.65	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
59	74.400	8.09	5.33	0.24	0.12	0.00	2.65	2.65	2.65	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
60	74.300	8.09	5.34	0.24	0.12	0.00	2.65	2.65	2.65	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
61	74.200	8.10	5.35	0.24	0.12	0.00	2.64	2.64	2.64	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
62	74.100	8.10	5.36	0.24	0.12	0.00	2.64	2.64	2.64	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
63	74.000	8.10	5.38	0.24	0.12	0.00	2.64	2.64	2.64	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
64	73.900	8.11	5.39	0.24	0.12	0.00	2.64	2.64	2.64	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
65	73.800	8.11	5.40	0.24	0.12	0.00	2.63	2.63	2.63	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
66	73.700	8.11	5.41	0.24	0.12	0.00	2.63	2.63	2.63	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
20 DEG C RATE					0.18		0.00	1.80		0.13		0.00	0.00	0.00	0.00			0.00	0.13
AVG 20 DEG C RATE			4.57		0.10						0.20								
0.05																			

* g/m²/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 *
23	78.000	26.79	0.00	32.73	13.50	4.08	2.36	2.74	1.30	0.03	0.49	1.83	0.00	2.59	0.00	0.00	3.44
24	77.900	26.77	0.00	32.73	13.50	4.08	2.35	2.74	1.30	0.03	0.49	1.82	0.00	2.57	0.00	0.00	3.44
25	77.800	26.76	0.00	32.73	13.50	4.09	2.35	2.73	1.29	0.04	0.49	1.82	0.00	2.56	0.00	0.00	3.44
26	77.700	26.74	0.00	32.73	13.50	4.09	2.34	2.72	1.29	0.04	0.49	1.82	0.00	2.55	0.00	0.00	3.45
27	77.600	26.72	0.00	32.73	13.50	4.10	2.34	2.72	1.29	0.04	0.49	1.82	0.00	2.53	0.00	0.00	3.45
28	77.500	26.70	0.00	32.73	13.50	4.10	2.33	2.71	1.28	0.04	0.49	1.82	0.00	2.52	0.00	0.00	3.45
29	77.400	26.68	0.00	32.73	13.50	4.11	2.33	2.70	1.28	0.04	0.49	1.82	0.00	2.50	0.00	0.00	3.46
30	77.300	26.67	0.00	32.73	13.50	4.12	2.32	2.70	1.28	0.04	0.49	1.81	0.00	2.49	0.00	0.00	3.46
31	77.200	26.65	0.00	32.73	13.50	4.12	2.32	2.69	1.27	0.04	0.49	1.81	0.00	2.48	0.00	0.00	3.46
32	77.100	26.63	0.00	32.73	13.50	4.13	2.31	2.68	1.27	0.05	0.49	1.81	0.00	2.46	0.00	0.00	3.47
33	77.000	26.61	0.00	32.73	13.50	4.13	2.31	2.67	1.27	0.05	0.49	1.81	0.00	2.45	0.00	0.00	3.47
34	76.900	26.59	0.00	32.73	13.50	4.14	2.30	2.67	1.26	0.05	0.49	1.81	0.00	2.44	0.00	0.00	3.48
35	76.800	26.58	0.00	32.73	13.50	4.15	2.30	2.66	1.26	0.05	0.49	1.80	0.00	2.42	0.00	0.00	3.48
36	76.700	26.56	0.00	32.73	13.50	4.15	2.29	2.65	1.26	0.05	0.49	1.80	0.00	2.41	0.00	0.00	3.48
37	76.600	26.54	0.00	32.73	13.50	4.16	2.29	2.65	1.25	0.05	0.49	1.80	0.00	2.40	0.00	0.00	3.49
38	76.500	26.52	0.00	32.73	13.50	4.16	2.28	2.64	1.25	0.06	0.49	1.80	0.00	2.38	0.00	0.00	3.49
39	76.400	26.50	0.00	32.73	13.50	4.17	2.28	2.63	1.25	0.06	0.49	1.80	0.00	2.37	0.00	0.00	3.49
40	76.300	26.49	0.00	32.73	13.50	4.18	2.27	2.62	1.24	0.06	0.49	1.80	0.00	2.35	0.00	0.00	3.50
41	76.200	26.47	0.00	32.73	13.50	4.18	2.27	2.62	1.24	0.06	0.49	1.79	0.00	2.34	0.00	0.00	3.50
42	76.100	26.45	0.00	32.73	13.50	4.19	2.26	2.61	1.24	0.06	0.49	1.79	0.00	2.33	0.00	0.00	3.51
43	76.000	26.43	0.00	32.73	13.50	4.20	2.26	2.60	1.23	0.06	0.49	1.79	0.00	2.31	0.00	0.00	3.51
44	75.900	26.42	0.00	32.73	13.50	4.20	2.25	2.60	1.23	0.06	0.49	1.79	0.00	2.30	0.00	0.00	3.51
45	75.800	26.40	0.00	32.73	13.50	4.21	2.25	2.59	1.23	0.07	0.49	1.79	0.00	2.29	0.00	0.00	3.52
46	75.700	26.38	0.00	32.73	13.50	4.21	2.24	2.58	1.22	0.07	0.49	1.78	0.00	2.27	0.00	0.00	3.52
47	75.600	26.36	0.00	32.73	13.50	4.22	2.24	2.57	1.22	0.07	0.49	1.78	0.00	2.26	0.00	0.00	3.53
48	75.500	26.34	0.00	32.73	13.50	4.23	2.23	2.57	1.22	0.07	0.49	1.78	0.00	2.25	0.00	0.00	3.53
49	75.400	26.33	0.00	32.73	13.50	4.23	2.23	2.56	1.21	0.07	0.49	1.78	0.00	2.23	0.00	0.00	3.53
50	75.300	26.31	0.00	32.73	13.50	4.24	2.22	2.55	1.21	0.07	0.49	1.78	0.00	2.22	0.00	0.00	3.54
51	75.200	26.29	0.00	32.73	13.50	4.25	2.22	2.55	1.21	0.07	0.49	1.77	0.00	2.20	0.00	0.00	3.54
52	75.100	26.27	0.00	32.73	13.50	4.25	2.21	2.54	1.20	0.08	0.49	1.77	0.00	2.19	0.00	0.00	3.55
53	75.000	26.25	0.00	32.73	13.50	4.26	2.21	2.53	1.20	0.08	0.49	1.77	0.00	2.18	0.00	0.00	3.55
54	74.900	26.24	0.00	32.73	13.50	4.27	2.20	2.52	1.20	0.08	0.49	1.77	0.00	2.16	0.00	0.00	3.56
55	74.800	26.22	0.00	32.73	13.50	4.27	2.19	2.52	1.19	0.08	0.49	1.77	0.00	2.15	0.00	0.00	3.56
56	74.700	26.20	0.00	32.73	13.50	4.28	2.19	2.51	1.19	0.08	0.49	1.77	0.00	2.14	0.00	0.00	3.56
57	74.600	26.18	0.00	32.73	13.50	4.29	2.18	2.50	1.19	0.08	0.49	1.76	0.00	2.12	0.00	0.00	3.57
58	74.500	26.16	0.00	32.73	13.50	4.29	2.18	2.50	1.18	0.09	0.49	1.76	0.00	2.11	0.00	0.00	3.57
59	74.400	26.15	0.00	32.73	13.50	4.30	2.17	2.49	1.18	0.09	0.49	1.76	0.00	2.10	0.00	0.00	3.58
60	74.300	26.13	0.00	32.73	13.50	4.31	2.17	2.48	1.18	0.09	0.49	1.76	0.00	2.08	0.00	0.00	3.58
61	74.200	26.11	0.00	32.73	13.50	4.31	2.16	2.47	1.17	0.09	0.49	1.76	0.00	2.07	0.00	0.00	3.59
62	74.100	26.09	0.00	32.73	13.50	4.32	2.16	2.47	1.17	0.09	0.49	1.75	0.00	2.05	0.00	0.00	3.59
63	74.000	26.07	0.00	32.73	13.50	4.33	2.15	2.46	1.17	0.09	0.49	1.75	0.00	2.04	0.00	0.00	3.60
64	73.900	26.06	0.00	32.73	13.50	4.34	2.15	2.45	1.16	0.10	0.49	1.75	0.00	2.03	0.00	0.00	3.60
65	73.800	26.04	0.00	32.73	13.50	4.34	2.14	2.44	1.16	0.10	0.49	1.75	0.00	2.01	0.00	0.00	3.61

66 73.700 26.02 0.00 32.73 13.50 4.35 2.14 2.44 1.16 0.10 0.49 1.75 0.00 2.00 0.00 0.00 3.61

* CM-I = CHLORIDES CM-II = SULFATES NCM = CBOD2
 MG/L MG/L mg/L
 ** g/m³

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
 REACH NO. 3 SITE 3 - LITTLE BARNES CR BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m³/	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 *
67	UPR RCH	0.07251	26.02	0.00	32.73	13.50	4.35	2.14	2.44	1.16	0.10	0.49	0.00	2.00	0.00	3.61
EACH	INCR	-0.0002														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s	MEAN VELO m/s
67	73.70	73.60	0.07233	64.79	0.06116	0.02	0.35	3.33	118.27	333.30	1.18	0.00	0.000	0.013	0.061
68	73.60	73.50	0.07215	64.79	0.06103	0.02	0.35	3.33	118.21	333.24	1.18	0.00	0.000	0.013	0.061
69	73.50	73.40	0.07197	64.79	0.06091	0.02	0.35	3.33	118.15	333.19	1.18	0.00	0.000	0.013	0.061
70	73.40	73.30	0.07178	64.79	0.06078	0.02	0.35	3.33	118.10	333.13	1.18	0.00	0.000	0.013	0.061
71	73.30	73.20	0.07160	64.79	0.06066	0.02	0.35	3.33	118.04	333.08	1.18	0.00	0.000	0.013	0.061
72	73.20	73.10	0.07142	64.79	0.06053	0.02	0.35	3.33	117.98	333.02	1.18	0.00	0.000	0.013	0.061
73	73.10	73.00	0.07124	64.79	0.06041	0.02	0.35	3.33	117.93	332.97	1.18	0.00	0.000	0.013	0.060
74	73.00	72.90	0.07106	64.79	0.06028	0.02	0.35	3.33	117.87	332.92	1.18	0.00	0.000	0.013	0.060
75	72.90	72.80	0.07087	64.79	0.06016	0.02	0.35	3.33	117.81	332.86	1.18	0.00	0.000	0.013	0.060
76	72.80	72.70	0.07069	64.79	0.06003	0.02	0.35	3.33	117.76	332.81	1.18	0.00	0.000	0.013	0.060
77	72.70	72.60	0.07051	64.79	0.05991	0.02	0.35	3.33	117.70	332.75	1.18	0.00	0.000	0.013	0.060
78	72.60	72.50	0.07033	64.79	0.05978	0.02	0.35	3.33	117.64	332.70	1.18	0.00	0.000	0.013	0.060
79	72.50	72.40	0.07015	64.79	0.05965	0.02	0.35	3.33	117.59	332.64	1.18	0.00	0.000	0.013	0.060
80	72.40	72.30	0.06996	64.79	0.05953	0.02	0.35	3.33	117.53	332.59	1.18	0.00	0.000	0.013	0.060
81	72.30	72.20	0.06978	64.79	0.05940	0.02	0.35	3.33	117.47	332.53	1.17	0.00	0.000	0.012	0.059
82	72.20	72.10	0.06960	64.79	0.05928	0.02	0.35	3.32	117.41	332.48	1.17	0.00	0.000	0.012	0.059
83	72.10	72.00	0.06942	64.79	0.05915	0.02	0.35	3.32	117.36	332.42	1.17	0.00	0.000	0.012	0.059
84	72.00	71.90	0.06923	64.79	0.05902	0.02	0.35	3.32	117.30	332.37	1.17	0.00	0.000	0.012	0.059
85	71.90	71.80	0.06905	64.79	0.05890	0.02	0.35	3.32	117.24	332.31	1.17	0.00	0.000	0.012	0.059
86	71.80	71.70	0.06887	64.79	0.05877	0.02	0.35	3.32	117.19	332.26	1.17	0.00	0.000	0.012	0.059
87	71.70	71.60	0.06869	64.79	0.05864	0.02	0.35	3.32	117.13	332.20	1.17	0.00	0.000	0.012	0.059
88	71.60	71.50	0.06851	64.79	0.05852	0.02	0.35	3.32	117.07	332.15	1.17	0.00	0.000	0.012	0.059
89	71.50	71.40	0.06832	64.79	0.05839	0.02	0.35	3.32	117.02	332.09	1.17	0.00	0.000	0.012	0.058
90	71.40	71.30	0.06814	64.79	0.05826	0.02	0.35	3.32	116.96	332.04	1.17	0.00	0.000	0.012	0.058

91	71.30	71.20	0.06796	64.79	0.05813	0.02	0.35	3.32	116.90	331.98	1.17	0.00	0.000	0.012	0.058
92	71.20	71.10	0.06778	64.79	0.05801	0.02	0.35	3.32	116.85	331.93	1.17	0.00	0.000	0.012	0.058
93	71.10	71.00	0.06760	64.79	0.05788	0.02	0.35	3.32	116.79	331.88	1.17	0.00	0.000	0.012	0.058
94	71.00	70.90	0.06741	64.79	0.05775	0.02	0.35	3.32	116.73	331.82	1.17	0.00	0.000	0.012	0.058
95	70.90	70.80	0.06723	64.79	0.05762	0.02	0.35	3.32	116.68	331.77	1.17	0.00	0.000	0.012	0.058
96	70.80	70.70	0.06705	64.79	0.05749	0.02	0.35	3.32	116.62	331.71	1.17	0.00	0.000	0.012	0.057
97	70.70	70.60	0.06687	64.79	0.05737	0.02	0.35	3.32	116.56	331.66	1.17	0.00	0.000	0.012	0.057
98	70.60	70.50	0.06668	64.79	0.05724	0.02	0.35	3.32	116.51	331.60	1.17	0.00	0.000	0.012	0.057
99	70.50	70.40	0.06650	64.79	0.05711	0.02	0.35	3.32	116.45	331.55	1.16	0.00	0.000	0.012	0.057
100	70.40	70.30	0.06632	64.79	0.05698	0.02	0.35	3.31	116.39	331.49	1.16	0.00	0.000	0.012	0.057
101	70.30	70.20	0.06614	64.79	0.05685	0.02	0.35	3.31	116.34	331.44	1.16	0.00	0.000	0.012	0.057
102	70.20	70.10	0.06596	64.79	0.05672	0.02	0.35	3.31	116.28	331.38	1.16	0.00	0.000	0.012	0.057
103	70.10	70.00	0.06577	64.79	0.05659	0.02	0.35	3.31	116.22	331.33	1.16	0.00	0.000	0.012	0.057
104	70.00	69.90	0.06559	64.79	0.05646	0.02	0.35	3.31	116.17	331.27	1.16	0.00	0.000	0.012	0.056
105	69.90	69.80	0.06541	64.79	0.05633	0.02	0.35	3.31	116.11	331.22	1.16	0.00	0.000	0.012	0.056
106	69.80	69.70	0.06523	64.79	0.05620	0.02	0.35	3.31	116.05	331.16	1.16	0.00	0.000	0.012	0.056
107	69.70	69.60	0.06505	64.79	0.05608	0.02	0.35	3.31	116.00	331.11	1.16	0.00	0.000	0.012	0.056
108	69.60	69.50	0.06486	64.79	0.05595	0.02	0.35	3.31	115.94	331.05	1.16	0.00	0.000	0.012	0.056
109	69.50	69.40	0.06468	64.79	0.05582	0.02	0.35	3.31	115.88	331.00	1.16	0.00	0.000	0.012	0.056
110	69.40	69.30	0.06450	64.79	0.05569	0.02	0.35	3.31	115.83	330.94	1.16	0.00	0.000	0.012	0.056
111	69.30	69.20	0.06432	64.79	0.05556	0.02	0.35	3.31	115.77	330.89	1.16	0.00	0.000	0.012	0.056
112	69.20	69.10	0.06413	64.79	0.05543	0.02	0.35	3.31	115.71	330.83	1.16	0.00	0.000	0.012	0.055
113	69.10	69.00	0.06395	64.79	0.05530	0.02	0.35	3.31	115.66	330.78	1.16	0.00	0.000	0.012	0.055
114	69.00	68.90	0.06377	64.79	0.05516	0.02	0.35	3.31	115.60	330.72	1.16	0.00	0.000	0.011	0.055
115	68.90	68.80	0.06359	64.79	0.05503	0.02	0.35	3.31	115.54	330.67	1.16	0.00	0.000	0.011	0.055
116	68.80	68.70	0.06341	64.79	0.05490	0.02	0.35	3.31	115.49	330.61	1.15	0.00	0.000	0.011	0.055
117	68.70	68.60	0.06322	64.79	0.05477	0.02	0.35	3.31	115.43	330.56	1.15	0.00	0.000	0.011	0.055
118	68.60	68.50	0.06304	64.79	0.05464	0.02	0.35	3.31	115.37	330.50	1.15	0.00	0.000	0.011	0.055
119	68.50	68.40	0.06286	64.79	0.05451	0.02	0.35	3.30	115.32	330.45	1.15	0.00	0.000	0.011	0.055
120	68.40	68.30	0.06268	64.79	0.05438	0.02	0.35	3.30	115.26	330.39	1.15	0.00	0.000	0.011	0.054
121	68.30	68.20	0.06250	64.79	0.05425	0.02	0.35	3.30	115.20	330.34	1.15	0.00	0.000	0.011	0.054
122	68.20	68.10	0.06231	64.79	0.05412	0.02	0.35	3.30	115.15	330.28	1.15	0.00	0.000	0.011	0.054
123	68.10	68.00	0.06213	64.79	0.05398	0.02	0.35	3.30	115.09	330.23	1.15	0.00	0.000	0.011	0.054
124	68.00	67.90	0.06195	64.79	0.05385	0.02	0.35	3.30	115.03	330.17	1.15	0.00	0.000	0.011	0.054
125	67.90	67.80	0.06177	64.79	0.05372	0.02	0.35	3.30	114.98	330.12	1.15	0.00	0.000	0.011	0.054
126	67.80	67.70	0.06158	64.79	0.05359	0.02	0.35	3.30	114.92	330.06	1.15	0.00	0.000	0.011	0.054
127	67.70	67.60	0.06140	64.79	0.05346	0.02	0.35	3.30	114.86	330.01	1.15	0.00	0.000	0.011	0.053
128	67.60	67.50	0.06122	64.79	0.05332	0.02	0.35	3.30	114.81	329.95	1.15	0.00	0.000	0.011	0.053
129	67.50	67.40	0.06104	64.79	0.05319	0.02	0.35	3.30	114.75	329.89	1.15	0.00	0.000	0.011	0.053
130	67.40	67.30	0.06086	64.79	0.05306	0.02	0.35	3.30	114.70	329.84	1.15	0.00	0.000	0.011	0.053
131	67.30	67.20	0.06067	64.79	0.05293	0.02	0.35	3.30	114.64	329.78	1.15	0.00	0.000	0.011	0.053
132	67.20	67.10	0.06049	64.79	0.05279	0.02	0.35	3.30	114.58	329.73	1.15	0.00	0.000	0.011	0.053
133	67.10	67.00	0.06031	64.79	0.05266	0.02	0.35	3.30	114.53	329.67	1.15	0.00	0.000	0.011	0.053
134	67.00	66.90	0.06013	64.79	0.05253	0.02	0.35	3.30	114.47	329.62	1.14	0.00	0.000	0.011	0.053
135	66.90	66.80	0.05995	64.79	0.05239	0.02	0.35	3.30	114.41	329.56	1.14	0.00	0.000	0.011	0.052
136	66.80	66.70	0.05976	64.79	0.05226	0.02	0.35	3.30	114.36	329.51	1.14	0.00	0.000	0.011	0.052
137	66.70	66.60	0.05958	64.79	0.05213	0.02	0.35	3.29	114.30	329.45	1.14	0.00	0.000	0.011	0.052
138	66.60	66.50	0.05940	64.79	0.05199	0.02	0.35	3.29	114.24	329.40	1.14	0.00	0.000	0.011	0.052
139	66.50	66.40	0.05922	64.79	0.05186	0.02	0.35	3.29	114.19	329.34	1.14	0.00	0.000	0.011	0.052
140	66.40	66.30	0.05903	64.79	0.05172	0.02	0.35	3.29	114.13	329.29	1.14	0.00	0.000	0.011	0.052

0.06																			
166	63.700	8.07	2.30	0.17	0.12	0.00	2.68	2.68	2.68	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
167	63.600	8.07	2.30	0.17	0.12	0.00	2.68	2.68	2.68	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
168	63.500	8.07	2.30	0.17	0.12	0.00	2.68	2.68	2.68	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
169	63.400	8.07	2.30	0.17	0.12	0.00	2.68	2.68	2.68	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
170	63.300	8.07	2.30	0.17	0.12	0.00	2.68	2.68	2.68	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
171	63.200	8.07	2.30	0.17	0.12	0.00	2.68	2.68	2.68	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
172	63.100	8.07	2.30	0.17	0.12	0.00	2.68	2.68	2.68	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
173	63.000	8.07	2.30	0.17	0.12	0.00	2.68	2.68	2.68	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
174	62.900	8.07	2.30	0.17	0.12	0.00	2.68	2.68	2.68	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
175	62.800	8.06	2.30	0.17	0.12	0.00	2.68	2.68	2.68	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
176	62.700	8.06	2.30	0.17	0.12	0.00	2.68	2.68	2.68	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
177	62.600	8.06	2.30	0.17	0.12	0.00	2.68	2.68	2.68	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
178	62.500	8.06	2.31	0.17	0.12	0.00	2.68	2.68	2.68	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
20 DEG C RATE				0.13		0.00	1.80			0.13		0.00	0.00	0.00	0.00			0.00	0.13
AVG 20 DEG C RATE			2.01		0.10						0.20								
0.05																			

* g/m²/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 *
67	73.600	26.02	0.00	32.73	13.50	4.35	2.15	2.45	1.15	0.10	0.49	1.74	0.00	2.00	0.00	0.00	3.61
68	73.500	26.03	0.00	32.73	13.50	4.34	2.16	2.46	1.14	0.11	0.49	1.74	0.00	2.00	0.00	0.00	3.61
69	73.400	26.03	0.00	32.73	13.50	4.34	2.17	2.47	1.13	0.11	0.49	1.73	0.00	2.00	0.00	0.00	3.61
70	73.300	26.03	0.00	32.73	13.50	4.34	2.18	2.48	1.12	0.11	0.49	1.73	0.00	2.00	0.00	0.00	3.61
71	73.200	26.03	0.00	32.73	13.50	4.33	2.19	2.49	1.11	0.12	0.49	1.72	0.00	2.00	0.00	0.00	3.61
72	73.100	26.04	0.00	32.73	13.50	4.33	2.20	2.50	1.10	0.12	0.49	1.72	0.00	1.99	0.00	0.00	3.60
73	73.000	26.04	0.00	32.73	13.50	4.33	2.22	2.51	1.09	0.13	0.49	1.71	0.00	1.99	0.00	0.00	3.60
74	72.900	26.04	0.00	32.73	13.50	4.33	2.23	2.53	1.08	0.13	0.49	1.71	0.00	1.99	0.00	0.00	3.60
75	72.800	26.05	0.00	32.73	13.50	4.32	2.24	2.54	1.07	0.13	0.49	1.70	0.00	1.99	0.00	0.00	3.60
76	72.700	26.05	0.00	32.73	13.50	4.32	2.25	2.55	1.07	0.14	0.49	1.70	0.00	1.99	0.00	0.00	3.60

77	72.600	26.05	0.00	32.73	13.50	4.32	2.26	2.56	1.06	0.14	0.49	1.69	0.00	1.99	0.00	0.00	3.60
78	72.500	26.05	0.00	32.73	13.50	4.32	2.27	2.57	1.05	0.15	0.49	1.69	0.00	1.99	0.00	0.00	3.60
79	72.400	26.06	0.00	32.73	13.50	4.31	2.28	2.58	1.04	0.15	0.49	1.68	0.00	1.99	0.00	0.00	3.59
80	72.300	26.06	0.00	32.73	13.50	4.31	2.29	2.59	1.03	0.15	0.49	1.68	0.00	1.99	0.00	0.00	3.59
81	72.200	26.06	0.00	32.73	13.50	4.31	2.30	2.60	1.02	0.16	0.49	1.67	0.00	1.99	0.00	0.00	3.59
82	72.100	26.07	0.00	32.73	13.50	4.31	2.31	2.61	1.01	0.16	0.49	1.67	0.00	1.99	0.00	0.00	3.59
83	72.000	26.07	0.00	32.73	13.50	4.31	2.32	2.62	1.01	0.17	0.49	1.66	0.00	1.98	0.00	0.00	3.59
84	71.900	26.07	0.00	32.73	13.50	4.30	2.33	2.63	1.00	0.17	0.49	1.66	0.00	1.98	0.00	0.00	3.59
85	71.800	26.07	0.00	32.73	13.50	4.30	2.35	2.64	0.99	0.17	0.49	1.65	0.00	1.98	0.00	0.00	3.59
86	71.700	26.08	0.00	32.73	13.50	4.30	2.36	2.65	0.98	0.18	0.49	1.65	0.00	1.98	0.00	0.00	3.59
87	71.600	26.08	0.00	32.73	13.50	4.30	2.37	2.66	0.97	0.18	0.49	1.65	0.00	1.98	0.00	0.00	3.58
88	71.500	26.08	0.00	32.73	13.50	4.30	2.38	2.67	0.96	0.18	0.49	1.64	0.00	1.98	0.00	0.00	3.58
89	71.400	26.09	0.00	32.73	13.50	4.29	2.39	2.68	0.96	0.19	0.49	1.64	0.00	1.98	0.00	0.00	3.58
90	71.300	26.09	0.00	32.73	13.50	4.29	2.40	2.69	0.95	0.19	0.49	1.63	0.00	1.98	0.00	0.00	3.58
91	71.200	26.09	0.00	32.73	13.50	4.29	2.41	2.71	0.94	0.20	0.49	1.63	0.00	1.98	0.00	0.00	3.58
92	71.100	26.09	0.00	32.73	13.50	4.29	2.42	2.72	0.93	0.20	0.49	1.62	0.00	1.98	0.00	0.00	3.58
93	71.000	26.10	0.00	32.73	13.50	4.29	2.43	2.73	0.92	0.20	0.49	1.62	0.00	1.98	0.00	0.00	3.58
94	70.900	26.10	0.00	32.73	13.50	4.29	2.44	2.74	0.92	0.21	0.49	1.61	0.00	1.98	0.00	0.00	3.58
95	70.800	26.10	0.00	32.73	13.50	4.28	2.45	2.75	0.91	0.21	0.49	1.61	0.00	1.97	0.00	0.00	3.58
96	70.700	26.11	0.00	32.73	13.50	4.28	2.46	2.76	0.90	0.21	0.49	1.61	0.00	1.97	0.00	0.00	3.57
97	70.600	26.11	0.00	32.73	13.50	4.28	2.47	2.77	0.89	0.22	0.49	1.60	0.00	1.97	0.00	0.00	3.57
98	70.500	26.11	0.00	32.73	13.50	4.28	2.48	2.78	0.89	0.22	0.49	1.60	0.00	1.97	0.00	0.00	3.57
99	70.400	26.11	0.00	32.73	13.50	4.28	2.49	2.79	0.88	0.22	0.49	1.59	0.00	1.97	0.00	0.00	3.57
100	70.300	26.12	0.00	32.73	13.50	4.28	2.50	2.80	0.87	0.23	0.49	1.59	0.00	1.97	0.00	0.00	3.57
101	70.200	26.12	0.00	32.73	13.50	4.28	2.51	2.81	0.86	0.23	0.49	1.58	0.00	1.97	0.00	0.00	3.57
102	70.100	26.12	0.00	32.73	13.50	4.27	2.52	2.82	0.86	0.23	0.49	1.58	0.00	1.97	0.00	0.00	3.57
103	70.000	26.13	0.00	32.73	13.50	4.27	2.53	2.83	0.85	0.24	0.49	1.58	0.00	1.97	0.00	0.00	3.57
104	69.900	26.13	0.00	32.73	13.50	4.27	2.54	2.84	0.84	0.24	0.49	1.57	0.00	1.97	0.00	0.00	3.57
105	69.800	26.13	0.00	32.73	13.50	4.27	2.55	2.85	0.83	0.24	0.49	1.57	0.00	1.97	0.00	0.00	3.56
106	69.700	26.13	0.00	32.73	13.50	4.27	2.56	2.86	0.83	0.25	0.49	1.56	0.00	1.96	0.00	0.00	3.56
107	69.600	26.14	0.00	32.73	13.50	4.27	2.57	2.87	0.82	0.25	0.49	1.56	0.00	1.96	0.00	0.00	3.56
108	69.500	26.14	0.00	32.73	13.50	4.27	2.58	2.88	0.81	0.25	0.49	1.56	0.00	1.96	0.00	0.00	3.56
109	69.400	26.14	0.00	32.73	13.50	4.26	2.59	2.89	0.81	0.26	0.49	1.55	0.00	1.96	0.00	0.00	3.56
110	69.300	26.15	0.00	32.73	13.50	4.26	2.60	2.90	0.80	0.26	0.49	1.55	0.00	1.96	0.00	0.00	3.56
111	69.200	26.15	0.00	32.73	13.50	4.26	2.61	2.91	0.79	0.26	0.49	1.54	0.00	1.96	0.00	0.00	3.56
112	69.100	26.15	0.00	32.73	13.50	4.26	2.62	2.92	0.78	0.27	0.49	1.54	0.00	1.96	0.00	0.00	3.56
113	69.000	26.15	0.00	32.73	13.50	4.26	2.63	2.93	0.78	0.27	0.49	1.54	0.00	1.96	0.00	0.00	3.56
114	68.900	26.16	0.00	32.73	13.50	4.26	2.64	2.94	0.77	0.27	0.49	1.53	0.00	1.96	0.00	0.00	3.56
115	68.800	26.16	0.00	32.73	13.50	4.26	2.65	2.95	0.76	0.28	0.49	1.53	0.00	1.96	0.00	0.00	3.55
116	68.700	26.16	0.00	32.73	13.50	4.26	2.66	2.96	0.76	0.28	0.49	1.52	0.00	1.96	0.00	0.00	3.55
117	68.600	26.17	0.00	32.73	13.50	4.26	2.67	2.97	0.75	0.28	0.49	1.52	0.00	1.95	0.00	0.00	3.55
118	68.500	26.17	0.00	32.73	13.50	4.25	2.68	2.98	0.74	0.28	0.49	1.52	0.00	1.95	0.00	0.00	3.55
119	68.400	26.17	0.00	32.73	13.50	4.25	2.69	2.99	0.74	0.29	0.49	1.51	0.00	1.95	0.00	0.00	3.55
120	68.300	26.17	0.00	32.73	13.50	4.25	2.70	2.99	0.73	0.29	0.49	1.51	0.00	1.95	0.00	0.00	3.55
121	68.200	26.18	0.00	32.73	13.50	4.25	2.71	3.00	0.72	0.29	0.49	1.51	0.00	1.95	0.00	0.00	3.55
122	68.100	26.18	0.00	32.73	13.50	4.25	2.72	3.01	0.72	0.30	0.49	1.50	0.00	1.95	0.00	0.00	3.55
123	68.000	26.18	0.00	32.73	13.50	4.25	2.73	3.02	0.71	0.30	0.49	1.50	0.00	1.95	0.00	0.00	3.55
124	67.900	26.19	0.00	32.73	13.50	4.25	2.74	3.03	0.70	0.30	0.49	1.49	0.00	1.95	0.00	0.00	3.55
125	67.800	26.19	0.00	32.73	13.50	4.25	2.75	3.04	0.70	0.31	0.49	1.49	0.00	1.95	0.00	0.00	3.55
126	67.700	26.19	0.00	32.73	13.50	4.25	2.76	3.05	0.69	0.31	0.49	1.49	0.00	1.95	0.00	0.00	3.54

127	67.600	26.19	0.00	32.73	13.50	4.24	2.77	3.06	0.68	0.31	0.49	1.48	0.00	1.95	0.00	0.00	3.54
128	67.500	26.20	0.00	32.73	13.50	4.24	2.78	3.07	0.68	0.31	0.49	1.48	0.00	1.94	0.00	0.00	3.54
129	67.400	26.20	0.00	32.73	13.50	4.24	2.79	3.08	0.67	0.32	0.49	1.48	0.00	1.94	0.00	0.00	3.54
130	67.300	26.20	0.00	32.73	13.50	4.24	2.80	3.09	0.67	0.32	0.49	1.47	0.00	1.94	0.00	0.00	3.54
131	67.200	26.21	0.00	32.73	13.50	4.24	2.81	3.10	0.66	0.32	0.49	1.47	0.00	1.94	0.00	0.00	3.54
132	67.100	26.21	0.00	32.73	13.50	4.24	2.82	3.11	0.65	0.33	0.49	1.47	0.00	1.94	0.00	0.00	3.54
133	67.000	26.21	0.00	32.73	13.50	4.24	2.83	3.12	0.65	0.33	0.49	1.46	0.00	1.94	0.00	0.00	3.54
134	66.900	26.21	0.00	32.73	13.50	4.24	2.84	3.13	0.64	0.33	0.49	1.46	0.00	1.94	0.00	0.00	3.54
135	66.800	26.22	0.00	32.73	13.50	4.24	2.85	3.14	0.64	0.33	0.49	1.46	0.00	1.94	0.00	0.00	3.54
136	66.700	26.22	0.00	32.73	13.50	4.23	2.86	3.15	0.63	0.34	0.49	1.45	0.00	1.94	0.00	0.00	3.54
137	66.600	26.22	0.00	32.73	13.50	4.23	2.86	3.15	0.62	0.34	0.49	1.45	0.00	1.94	0.00	0.00	3.54
138	66.500	26.23	0.00	32.73	13.50	4.23	2.87	3.16	0.62	0.34	0.49	1.45	0.00	1.94	0.00	0.00	3.53
139	66.400	26.23	0.00	32.73	13.50	4.23	2.88	3.17	0.61	0.34	0.49	1.44	0.00	1.93	0.00	0.00	3.53
140	66.300	26.23	0.00	32.73	13.50	4.23	2.89	3.18	0.61	0.35	0.49	1.44	0.00	1.93	0.00	0.00	3.53
141	66.200	26.23	0.00	32.73	13.50	4.23	2.90	3.19	0.60	0.35	0.49	1.44	0.00	1.93	0.00	0.00	3.53
142	66.100	26.24	0.00	32.73	13.50	4.23	2.91	3.20	0.59	0.35	0.49	1.43	0.00	1.93	0.00	0.00	3.53
143	66.000	26.24	0.00	32.73	13.50	4.23	2.92	3.21	0.59	0.35	0.49	1.43	0.00	1.93	0.00	0.00	3.53
144	65.900	26.24	0.00	32.73	13.50	4.23	2.93	3.22	0.58	0.36	0.49	1.43	0.00	1.93	0.00	0.00	3.53
145	65.800	26.25	0.00	32.73	13.50	4.23	2.94	3.23	0.58	0.36	0.49	1.42	0.00	1.93	0.00	0.00	3.53
146	65.700	26.25	0.00	32.73	13.50	4.22	2.95	3.24	0.57	0.36	0.49	1.42	0.00	1.93	0.00	0.00	3.53
147	65.600	26.25	0.00	32.73	13.50	4.22	2.96	3.25	0.57	0.36	0.49	1.42	0.00	1.93	0.00	0.00	3.53
148	65.500	26.25	0.00	32.73	13.50	4.22	2.97	3.25	0.56	0.37	0.49	1.41	0.00	1.93	0.00	0.00	3.53
149	65.400	26.26	0.00	32.73	13.50	4.22	2.97	3.26	0.56	0.37	0.49	1.41	0.00	1.93	0.00	0.00	3.53
150	65.300	26.26	0.00	32.73	13.50	4.22	2.98	3.27	0.55	0.37	0.49	1.41	0.00	1.92	0.00	0.00	3.53
151	65.200	26.26	0.00	32.73	13.50	4.22	2.99	3.28	0.54	0.37	0.49	1.41	0.00	1.92	0.00	0.00	3.53
152	65.100	26.27	0.00	32.73	13.50	4.22	3.00	3.29	0.54	0.38	0.49	1.40	0.00	1.92	0.00	0.00	3.52
153	65.000	26.27	0.00	32.73	13.50	4.22	3.01	3.30	0.53	0.38	0.49	1.40	0.00	1.92	0.00	0.00	3.52
154	64.900	26.27	0.00	32.73	13.50	4.22	3.02	3.31	0.53	0.38	0.49	1.40	0.00	1.92	0.00	0.00	3.52
155	64.800	26.27	0.00	32.73	13.50	4.22	3.03	3.32	0.52	0.38	0.49	1.39	0.00	1.92	0.00	0.00	3.52
156	64.700	26.28	0.00	32.73	13.50	4.21	3.04	3.33	0.52	0.39	0.49	1.39	0.00	1.92	0.00	0.00	3.52
157	64.600	26.28	0.00	32.73	13.50	4.21	3.05	3.33	0.51	0.39	0.49	1.39	0.00	1.92	0.00	0.00	3.52
158	64.500	26.28	0.00	32.73	13.50	4.21	3.06	3.34	0.51	0.39	0.49	1.38	0.00	1.92	0.00	0.00	3.52
159	64.400	26.29	0.00	32.73	13.50	4.21	3.06	3.35	0.50	0.39	0.49	1.38	0.00	1.92	0.00	0.00	3.52
160	64.300	26.29	0.00	32.73	13.50	4.21	3.07	3.36	0.50	0.40	0.49	1.38	0.00	1.92	0.00	0.00	3.52
161	64.200	26.29	0.00	32.73	13.50	4.21	3.08	3.37	0.49	0.40	0.49	1.38	0.00	1.92	0.00	0.00	3.52
162	64.100	26.29	0.00	32.73	13.50	4.21	3.09	3.38	0.49	0.40	0.49	1.37	0.00	1.91	0.00	0.00	3.52
163	64.000	26.30	0.00	32.73	13.50	4.21	3.10	3.39	0.48	0.40	0.49	1.37	0.00	1.91	0.00	0.00	3.52
164	63.900	26.30	0.00	32.73	13.50	4.21	3.11	3.39	0.48	0.40	0.49	1.37	0.00	1.91	0.00	0.00	3.52
165	63.800	26.30	0.00	32.73	13.50	4.21	3.12	3.40	0.47	0.41	0.49	1.36	0.00	1.91	0.00	0.00	3.52
166	63.700	26.31	0.00	32.73	13.50	4.20	3.13	3.41	0.47	0.41	0.49	1.36	0.00	1.91	0.00	0.00	3.52
167	63.600	26.31	0.00	32.73	13.50	4.20	3.13	3.42	0.46	0.41	0.48	1.36	0.00	1.91	0.00	0.00	3.52
168	63.500	26.31	0.00	32.73	13.50	4.20	3.14	3.43	0.46	0.41	0.48	1.36	0.00	1.91	0.00	0.00	3.52
169	63.400	26.31	0.00	32.73	13.50	4.20	3.15	3.44	0.45	0.42	0.48	1.35	0.00	1.91	0.00	0.00	3.51
170	63.300	26.32	0.00	32.73	13.50	4.20	3.16	3.45	0.45	0.42	0.48	1.35	0.00	1.91	0.00	0.00	3.51
171	63.200	26.32	0.00	32.73	13.50	4.20	3.17	3.45	0.44	0.42	0.48	1.35	0.00	1.91	0.00	0.00	3.51
172	63.100	26.32	0.00	32.73	13.50	4.20	3.18	3.46	0.44	0.42	0.48	1.35	0.00	1.91	0.00	0.00	3.51
173	63.000	26.33	0.00	32.73	13.50	4.20	3.19	3.47	0.44	0.42	0.48	1.34	0.00	1.90	0.00	0.00	3.51
174	62.900	26.33	0.00	32.73	13.50	4.20	3.19	3.48	0.43	0.43	0.48	1.34	0.00	1.90	0.00	0.00	3.51
175	62.800	26.33	0.00	32.73	13.50	4.20	3.20	3.49	0.43	0.43	0.48	1.34	0.00	1.90	0.00	0.00	3.51
176	62.700	26.33	0.00	32.73	13.50	4.19	3.21	3.50	0.42	0.43	0.48	1.34	0.00	1.90	0.00	0.00	3.51

177	62.600	26.34	0.00	32.73	13.50	4.19	3.22	3.50	0.42	0.43	0.48	1.33	0.00	1.90	0.00	0.00	3.51
178	62.500	26.34	0.00	32.73	13.50	4.19	3.23	3.51	0.41	0.43	0.48	1.33	0.00	1.90	0.00	0.00	3.51

* CM-I = CHLORIDES
MG/L
** g/m³
CM-II = SULFATES
MG/L
NCM = CBOD2
mg/L

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
REACH NO. 4 LITTLE BARNES - REDHEAD CR BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
179	UPR RCH	0.05211	26.34	0.00	32.73	13.50	4.19	3.23	3.51	0.41	0.43	0.48	0.00	1.90	0.00	3.51
EACH	INCR	0.0002	26.34	0.00	30.20	7.90	4.23	3.53	3.53	0.41	0.00	0.09	0.00		0.00	3.48

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
179	62.50	62.40	0.05228	64.58	0.05126	0.02	0.30	3.37	101.98	337.22	1.02	0.00	0.000	0.009	0.051
180	62.40	62.30	0.05244	64.38	0.05140	0.02	0.30	3.37	102.03	337.27	1.02	0.00	0.000	0.009	0.051
181	62.30	62.20	0.05260	64.18	0.05153	0.02	0.30	3.37	102.08	337.32	1.02	0.00	0.000	0.010	0.052
182	62.20	62.10	0.05276	63.99	0.05166	0.02	0.30	3.37	102.13	337.37	1.02	0.00	0.000	0.010	0.052
183	62.10	62.00	0.05293	63.79	0.05180	0.02	0.30	3.37	102.18	337.42	1.02	0.00	0.000	0.010	0.052
184	62.00	61.90	0.05309	63.59	0.05193	0.02	0.30	3.37	102.23	337.47	1.02	0.00	0.000	0.010	0.052
185	61.90	61.80	0.05325	63.40	0.05207	0.02	0.30	3.38	102.28	337.52	1.02	0.00	0.000	0.010	0.052
186	61.80	61.70	0.05342	63.21	0.05220	0.02	0.30	3.38	102.32	337.57	1.02	0.00	0.000	0.010	0.052
187	61.70	61.60	0.05358	63.01	0.05234	0.02	0.30	3.38	102.37	337.62	1.02	0.00	0.000	0.010	0.052
188	61.60	61.50	0.05374	62.82	0.05247	0.02	0.30	3.38	102.42	337.67	1.02	0.00	0.000	0.010	0.052
189	61.50	61.40	0.05390	62.63	0.05260	0.02	0.30	3.38	102.47	337.72	1.02	0.00	0.000	0.010	0.053
190	61.40	61.30	0.05407	62.44	0.05274	0.02	0.30	3.38	102.52	337.77	1.03	0.00	0.000	0.010	0.053
191	61.30	61.20	0.05423	62.26	0.05287	0.02	0.30	3.38	102.57	337.82	1.03	0.00	0.000	0.010	0.053
192	61.20	61.10	0.05439	62.07	0.05300	0.02	0.30	3.38	102.62	337.87	1.03	0.00	0.000	0.010	0.053
193	61.10	61.00	0.05456	61.89	0.05314	0.02	0.30	3.38	102.67	337.92	1.03	0.00	0.000	0.010	0.053
194	61.00	60.90	0.05472	61.70	0.05327	0.02	0.30	3.38	102.72	337.97	1.03	0.00	0.000	0.010	0.053
195	60.90	60.80	0.05488	61.52	0.05340	0.02	0.30	3.38	102.77	338.02	1.03	0.00	0.000	0.010	0.053
196	60.80	60.70	0.05504	61.34	0.05354	0.02	0.30	3.38	102.82	338.07	1.03	0.00	0.000	0.010	0.054
197	60.70	60.60	0.05521	61.16	0.05367	0.02	0.30	3.38	102.87	338.12	1.03	0.00	0.000	0.010	0.054
198	60.60	60.50	0.05537	60.98	0.05380	0.02	0.30	3.38	102.92	338.17	1.03	0.00	0.000	0.010	0.054
199	60.50	60.40	0.05553	60.80	0.05393	0.02	0.30	3.38	102.96	338.22	1.03	0.00	0.000	0.010	0.054
200	60.40	60.30	0.05570	60.62	0.05407	0.02	0.30	3.38	103.01	338.27	1.03	0.00	0.000	0.010	0.054
201	60.30	60.20	0.05586	60.44	0.05420	0.02	0.30	3.38	103.06	338.32	1.03	0.00	0.000	0.010	0.054

202	60.20	60.10	0.05602	60.27	0.05433	0.02	0.30	3.38	103.11	338.37	1.03	0.00	0.000	0.010	0.054
203	60.10	60.00	0.05618	60.09	0.05446	0.02	0.30	3.38	103.16	338.42	1.03	0.00	0.000	0.010	0.054
204	60.00	59.90	0.05635	59.92	0.05459	0.02	0.30	3.38	103.21	338.47	1.03	0.00	0.000	0.010	0.055
205	59.90	59.80	0.05651	59.75	0.05473	0.02	0.31	3.39	103.26	338.52	1.03	0.00	0.000	0.010	0.055
206	59.80	59.70	0.05667	59.57	0.05486	0.02	0.31	3.39	103.31	338.57	1.03	0.00	0.000	0.010	0.055
207	59.70	59.60	0.05684	59.40	0.05499	0.02	0.31	3.39	103.36	338.62	1.03	0.00	0.000	0.010	0.055
208	59.60	59.50	0.05700	59.23	0.05512	0.02	0.31	3.39	103.41	338.67	1.03	0.00	0.000	0.010	0.055
209	59.50	59.40	0.05716	59.06	0.05525	0.02	0.31	3.39	103.46	338.72	1.03	0.00	0.000	0.010	0.055
210	59.40	59.30	0.05732	58.90	0.05538	0.02	0.31	3.39	103.51	338.77	1.04	0.00	0.000	0.010	0.055
211	59.30	59.20	0.05749	58.73	0.05551	0.02	0.31	3.39	103.56	338.82	1.04	0.00	0.000	0.010	0.056
212	59.20	59.10	0.05765	58.56	0.05564	0.02	0.31	3.39	103.61	338.87	1.04	0.00	0.000	0.010	0.056
213	59.10	59.00	0.05781	58.40	0.05577	0.02	0.31	3.39	103.66	338.92	1.04	0.00	0.000	0.010	0.056
TOT															
AVG					0.05350		0.76			3598.60	11832.49				
CUM							3.59	0.30	3.38			1.03			

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY	
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da	
179	62.400	8.06	2.61	0.13	0.12	0.00	3.73	3.73	3.73	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07	
0.06																				
180	62.300	8.06	2.61	0.13	0.12	0.00	3.73	3.73	3.73	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07	
0.06																				
181	62.200	8.06	2.61	0.13	0.12	0.00	3.73	3.73	3.73	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07	
0.06																				
182	62.100	8.06	2.61	0.13	0.12	0.00	3.73	3.73	3.73	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07	
0.06																				
183	62.000	8.06	2.61	0.13	0.12	0.00	3.73	3.73	3.73	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07	
0.06																				
184	61.900	8.06	2.61	0.13	0.12	0.00	3.73	3.73	3.73	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07	
0.06																				
185	61.800	8.06	2.60	0.13	0.12	0.00	3.73	3.73	3.73	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07	
0.06																				
186	61.700	8.06	2.60	0.13	0.12	0.00	3.73	3.73	3.73	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07	
0.06																				
187	61.600	8.06	2.60	0.13	0.12	0.00	3.73	3.73	3.73	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07	
0.06																				
188	61.500	8.06	2.60	0.13	0.12	0.00	3.73	3.73	3.73	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07	
0.06																				
189	61.400	8.06	2.60	0.13	0.12	0.00	3.73	3.73	3.73	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07	
0.06																				
190	61.300	8.06	2.60	0.13	0.12	0.00	3.73	3.73	3.73	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07	

0.05

* g/m²/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 *
179	62.400	26.34	0.00	32.73	13.48	4.13	3.23	3.51	0.42	0.43	0.48	1.33	0.00	1.90	0.00	0.00	3.53
180	62.300	26.34	0.00	32.72	13.47	4.08	3.23	3.52	0.42	0.43	0.48	1.34	0.00	1.90	0.00	0.00	3.55
181	62.200	26.34	0.00	32.71	13.45	4.02	3.23	3.52	0.43	0.43	0.48	1.34	0.00	1.90	0.00	0.00	3.57
182	62.100	26.34	0.00	32.70	13.43	3.98	3.23	3.52	0.43	0.43	0.48	1.34	0.00	1.90	0.00	0.00	3.60
183	62.000	26.34	0.00	32.69	13.42	3.93	3.24	3.52	0.44	0.43	0.48	1.35	0.00	1.90	0.00	0.00	3.62
184	61.900	26.34	0.00	32.69	13.40	3.89	3.24	3.52	0.44	0.43	0.48	1.35	0.00	1.90	0.00	0.00	3.64
185	61.800	26.34	0.00	32.68	13.38	3.84	3.24	3.52	0.45	0.43	0.47	1.35	0.00	1.90	0.00	0.00	3.66
186	61.700	26.34	0.00	32.67	13.36	3.81	3.24	3.53	0.45	0.43	0.47	1.35	0.00	1.90	0.00	0.00	3.68
187	61.600	26.34	0.00	32.66	13.35	3.77	3.24	3.53	0.46	0.43	0.47	1.36	0.00	1.90	0.00	0.00	3.70
188	61.500	26.34	0.00	32.66	13.33	3.74	3.24	3.53	0.46	0.43	0.47	1.36	0.00	1.90	0.00	0.00	3.72
189	61.400	26.34	0.00	32.65	13.32	3.70	3.24	3.53	0.47	0.43	0.47	1.36	0.00	1.90	0.00	0.00	3.74
190	61.300	26.34	0.00	32.64	13.30	3.67	3.25	3.53	0.47	0.43	0.47	1.37	0.00	1.90	0.00	0.00	3.76
191	61.200	26.34	0.00	32.63	13.28	3.64	3.25	3.53	0.47	0.43	0.47	1.37	0.00	1.90	0.00	0.00	3.78
192	61.100	26.34	0.00	32.63	13.27	3.62	3.25	3.53	0.48	0.43	0.47	1.37	0.00	1.90	0.00	0.00	3.80
193	61.000	26.34	0.00	32.62	13.25	3.59	3.25	3.54	0.48	0.42	0.47	1.37	0.00	1.90	0.00	0.00	3.81
194	60.900	26.34	0.00	32.61	13.23	3.57	3.25	3.54	0.49	0.42	0.46	1.38	0.00	1.90	0.00	0.00	3.83
195	60.800	26.34	0.00	32.61	13.22	3.55	3.25	3.54	0.49	0.42	0.46	1.38	0.00	1.90	0.00	0.00	3.85
196	60.700	26.34	0.00	32.60	13.20	3.52	3.25	3.54	0.50	0.42	0.46	1.38	0.00	1.90	0.00	0.00	3.87
197	60.600	26.34	0.00	32.59	13.19	3.50	3.26	3.54	0.50	0.42	0.46	1.38	0.00	1.90	0.00	0.00	3.89
198	60.500	26.34	0.00	32.58	13.17	3.48	3.26	3.54	0.51	0.42	0.46	1.39	0.00	1.90	0.00	0.00	3.91
199	60.400	26.34	0.00	32.58	13.16	3.47	3.26	3.54	0.51	0.42	0.46	1.39	0.00	1.90	0.00	0.00	3.92
200	60.300	26.34	0.00	32.57	13.14	3.45	3.26	3.54	0.51	0.42	0.46	1.39	0.00	1.90	0.00	0.00	3.94
201	60.200	26.34	0.00	32.56	13.13	3.43	3.26	3.54	0.52	0.42	0.46	1.39	0.00	1.90	0.00	0.00	3.96
202	60.100	26.34	0.00	32.56	13.11	3.42	3.26	3.55	0.52	0.42	0.45	1.40	0.00	1.90	0.00	0.00	3.98
203	60.000	26.34	0.00	32.55	13.10	3.40	3.26	3.55	0.53	0.42	0.45	1.40	0.00	1.90	0.00	0.00	4.00
204	59.900	26.34	0.00	32.54	13.08	3.39	3.26	3.55	0.53	0.42	0.45	1.40	0.00	1.90	0.00	0.00	4.01
205	59.800	26.34	0.00	32.54	13.07	3.38	3.26	3.55	0.53	0.42	0.45	1.40	0.00	1.90	0.00	0.00	4.03
206	59.700	26.34	0.00	32.53	13.05	3.37	3.27	3.55	0.54	0.42	0.45	1.41	0.00	1.90	0.00	0.00	4.05
207	59.600	26.34	0.00	32.52	13.04	3.36	3.27	3.55	0.54	0.42	0.45	1.41	0.00	1.90	0.00	0.00	4.06
208	59.500	26.34	0.00	32.52	13.02	3.34	3.27	3.55	0.55	0.42	0.45	1.41	0.00	1.90	0.00	0.00	4.08
209	59.400	26.34	0.00	32.51	13.01	3.33	3.27	3.55	0.55	0.42	0.45	1.41	0.00	1.90	0.00	0.00	4.10
210	59.300	26.34	0.00	32.50	12.99	3.32	3.27	3.55	0.55	0.42	0.45	1.42	0.00	1.90	0.00	0.00	4.11
211	59.200	26.34	0.00	32.50	12.98	3.32	3.27	3.56	0.56	0.42	0.44	1.42	0.00	1.90	0.00	0.00	4.13
212	59.100	26.34	0.00	32.49	12.96	3.31	3.27	3.56	0.56	0.42	0.44	1.42	0.00	1.90	0.00	0.00	4.14
213	59.000	26.34	0.00	32.48	12.95	3.30	3.27	3.56	0.56	0.42	0.44	1.42	0.00	1.90	0.00	0.00	4.16

* CM-I = CHLORIDES MG/L

CM-II = SULFATES MG/L

NCM = CBOD2 mg/L

** g/m³

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
214	UPR RCH	0.05781	26.34	0.00	32.48	12.95	3.30	3.27	3.56	0.56	0.42	0.44	0.00	1.90	0.00	4.16
EACH	INCR	0.0002	26.34	0.00	30.20	7.90	4.23	3.53	3.53	0.41	0.00	0.09	0.00		0.00	3.48

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
214	59.00	58.90	0.05802	58.19	0.05594	0.02	0.31	3.39	103.72	338.98	1.04	0.00	0.000	0.010	0.056
215	58.90	58.80	0.05824	57.98	0.05611	0.02	0.31	3.39	103.78	339.04	1.04	0.00	0.000	0.010	0.056
216	58.80	58.70	0.05845	57.77	0.05628	0.02	0.31	3.39	103.85	339.11	1.04	0.00	0.000	0.011	0.056
217	58.70	58.60	0.05866	57.56	0.05645	0.02	0.31	3.39	103.91	339.17	1.04	0.00	0.000	0.011	0.056
218	58.60	58.50	0.05887	57.35	0.05662	0.02	0.31	3.39	103.98	339.24	1.04	0.00	0.000	0.011	0.057
219	58.50	58.40	0.05908	57.15	0.05679	0.02	0.31	3.39	104.04	339.30	1.04	0.00	0.000	0.011	0.057
220	58.40	58.30	0.05929	56.94	0.05695	0.02	0.31	3.39	104.10	339.36	1.04	0.00	0.000	0.011	0.057
221	58.30	58.20	0.05950	56.74	0.05712	0.02	0.31	3.39	104.17	339.43	1.04	0.00	0.000	0.011	0.057
222	58.20	58.10	0.05971	56.54	0.05729	0.02	0.31	3.39	104.23	339.49	1.04	0.00	0.000	0.011	0.057
223	58.10	58.00	0.05992	56.34	0.05746	0.02	0.31	3.40	104.30	339.56	1.04	0.00	0.000	0.011	0.057
224	58.00	57.90	0.06014	56.14	0.05762	0.02	0.31	3.40	104.36	339.62	1.04	0.00	0.000	0.011	0.058
225	57.90	57.80	0.06035	55.95	0.05779	0.02	0.31	3.40	104.42	339.69	1.04	0.00	0.000	0.011	0.058
226	57.80	57.70	0.06056	55.75	0.05796	0.02	0.31	3.40	104.49	339.75	1.04	0.00	0.000	0.011	0.058
227	57.70	57.60	0.06077	55.56	0.05812	0.02	0.31	3.40	104.55	339.81	1.05	0.00	0.000	0.011	0.058
228	57.60	57.50	0.06098	55.37	0.05829	0.02	0.31	3.40	104.62	339.88	1.05	0.00	0.000	0.011	0.058
229	57.50	57.40	0.06119	55.18	0.05845	0.02	0.31	3.40	104.68	339.94	1.05	0.00	0.000	0.011	0.058
230	57.40	57.30	0.06140	54.99	0.05862	0.02	0.31	3.40	104.75	340.01	1.05	0.00	0.000	0.011	0.059
231	57.30	57.20	0.06161	54.80	0.05879	0.02	0.31	3.40	104.81	340.07	1.05	0.00	0.000	0.011	0.059
232	57.20	57.10	0.06182	54.61	0.05895	0.02	0.31	3.40	104.87	340.13	1.05	0.00	0.000	0.011	0.059
233	57.10	57.00	0.06204	54.42	0.05912	0.02	0.31	3.40	104.94	340.20	1.05	0.00	0.000	0.011	0.059
234	57.00	56.90	0.06225	54.24	0.05928	0.02	0.31	3.40	105.00	340.26	1.05	0.00	0.000	0.011	0.059
235	56.90	56.80	0.06246	54.06	0.05945	0.02	0.31	3.40	105.07	340.32	1.05	0.00	0.000	0.011	0.059
236	56.80	56.70	0.06267	53.87	0.05961	0.02	0.31	3.40	105.13	340.39	1.05	0.00	0.000	0.011	0.060
237	56.70	56.60	0.06288	53.69	0.05977	0.02	0.31	3.40	105.19	340.45	1.05	0.00	0.000	0.011	0.060
238	56.60	56.50	0.06309	53.51	0.05994	0.02	0.31	3.41	105.26	340.52	1.05	0.00	0.000	0.011	0.060
239	56.50	56.40	0.06330	53.33	0.06010	0.02	0.31	3.41	105.32	340.58	1.05	0.00	0.000	0.011	0.060
240	56.40	56.30	0.06351	53.16	0.06027	0.02	0.31	3.41	105.39	340.64	1.05	0.00	0.000	0.011	0.060
TOT						0.54			2822.93	9174.95					
AVG					0.05809		0.31	3.40			1.05				

CUM

4.13

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
214	58.900	8.06	2.58	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.07
215	58.800	8.06	2.58	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.07
216	58.700	8.06	2.58	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.07
217	58.600	8.06	2.58	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.07
218	58.500	8.06	2.58	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.07
219	58.400	8.06	2.57	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.07
220	58.300	8.06	2.57	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.07
221	58.200	8.06	2.57	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.07
222	58.100	8.06	2.57	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.07
223	58.000	8.06	2.57	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.07
224	57.900	8.06	2.57	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.07
225	57.800	8.06	2.57	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.07
226	57.700	8.06	2.57	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.07
227	57.600	8.06	2.57	0.13	0.12	0.00	4.04	4.04	4.04	0.08	0.06	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.07
228	57.500	8.06	2.57	0.13	0.12	0.00	4.04	4.04	4.04	0.08	0.06	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.07
229	57.400	8.06	2.57	0.13	0.12	0.00	4.04	4.04	4.04	0.08	0.06	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.07
230	57.300	8.06	2.56	0.13	0.12	0.00	4.04	4.04	4.04	0.08	0.06	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.07
231	57.200	8.06	2.56	0.13	0.12	0.00	4.04	4.04	4.04	0.08	0.06	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.07
232	57.100	8.06	2.56	0.13	0.12	0.00	4.04	4.04	4.04	0.08	0.06	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.07

233	57.000	8.05	2.56	0.13	0.12	0.00	4.04	4.04	4.04	0.08	0.06	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.07
0.06																			
234	56.900	8.05	2.56	0.13	0.12	0.00	4.04	4.04	4.04	0.08	0.06	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.07
0.06																			
235	56.800	8.05	2.56	0.13	0.12	0.00	4.04	4.04	4.04	0.08	0.06	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.07
0.06																			
236	56.700	8.05	2.56	0.13	0.12	0.00	4.04	4.04	4.04	0.08	0.06	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.07
0.06																			
237	56.600	8.05	2.56	0.13	0.12	0.00	4.04	4.04	4.04	0.08	0.06	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.07
0.06																			
238	56.500	8.05	2.56	0.13	0.12	0.00	4.04	4.04	4.04	0.08	0.06	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.07
0.06																			
239	56.400	8.05	2.56	0.13	0.12	0.00	4.04	4.04	4.04	0.08	0.06	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.07
0.06																			
240	56.300	8.05	2.55	0.13	0.12	0.00	4.05	4.05	4.05	0.08	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.07
0.06																			
20 DEG C RATE				0.10		0.00	2.70			0.05		0.00	0.00	0.00	0.00			0.00	0.05
AVG 20 DEG C RATE			2.28		0.10						0.05								
0.05																			

* g/m²/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 *
214	58.900	26.34	0.00	32.48	12.93	3.27	3.26	3.56	0.57	0.42	0.44	1.43	0.00	2.06	0.00	0.00	4.20
215	58.800	26.35	0.00	32.47	12.91	3.25	3.24	3.57	0.57	0.42	0.44	1.43	0.00	2.21	0.00	0.00	4.24
216	58.700	26.35	0.00	32.46	12.89	3.23	3.22	3.58	0.58	0.41	0.44	1.43	0.00	2.37	0.00	0.00	4.29
217	58.600	26.35	0.00	32.45	12.88	3.20	3.21	3.59	0.59	0.41	0.44	1.44	0.00	2.52	0.00	0.00	4.33
218	58.500	26.35	0.00	32.44	12.86	3.18	3.19	3.60	0.59	0.41	0.44	1.44	0.00	2.68	0.00	0.00	4.37
219	58.400	26.36	0.00	32.44	12.84	3.16	3.18	3.60	0.60	0.41	0.43	1.44	0.00	2.83	0.00	0.00	4.41
220	58.300	26.36	0.00	32.43	12.82	3.15	3.16	3.61	0.60	0.41	0.43	1.44	0.00	2.99	0.00	0.00	4.45
221	58.200	26.36	0.00	32.42	12.81	3.13	3.15	3.62	0.60	0.41	0.43	1.45	0.00	3.14	0.00	0.00	4.49
222	58.100	26.37	0.00	32.41	12.79	3.11	3.14	3.63	0.61	0.41	0.43	1.45	0.00	3.30	0.00	0.00	4.52
223	58.000	26.37	0.00	32.40	12.77	3.10	3.12	3.64	0.61	0.41	0.43	1.45	0.00	3.46	0.00	0.00	4.56
224	57.900	26.37	0.00	32.40	12.75	3.09	3.11	3.65	0.62	0.41	0.43	1.46	0.00	3.61	0.00	0.00	4.60
225	57.800	26.38	0.00	32.39	12.74	3.07	3.09	3.66	0.62	0.41	0.43	1.46	0.00	3.77	0.00	0.00	4.64
226	57.700	26.38	0.00	32.38	12.72	3.06	3.08	3.67	0.63	0.41	0.42	1.46	0.00	3.92	0.00	0.00	4.68
227	57.600	26.38	0.00	32.37	12.70	3.05	3.07	3.68	0.63	0.41	0.42	1.46	0.00	4.08	0.00	0.00	4.71
228	57.500	26.38	0.00	32.37	12.69	3.04	3.05	3.69	0.64	0.41	0.42	1.47	0.00	4.23	0.00	0.00	4.75
229	57.400	26.39	0.00	32.36	12.67	3.03	3.04	3.70	0.64	0.41	0.42	1.47	0.00	4.39	0.00	0.00	4.79
230	57.300	26.39	0.00	32.35	12.65	3.02	3.02	3.71	0.65	0.41	0.42	1.47	0.00	4.54	0.00	0.00	4.82
231	57.200	26.39	0.00	32.34	12.64	3.01	3.01	3.72	0.65	0.41	0.42	1.48	0.00	4.70	0.00	0.00	4.86
232	57.100	26.40	0.00	32.34	12.62	3.00	3.00	3.73	0.66	0.41	0.42	1.48	0.00	4.86	0.00	0.00	4.89
233	57.000	26.40	0.00	32.33	12.61	3.00	2.99	3.74	0.66	0.40	0.42	1.48	0.00	5.01	0.00	0.00	4.93
234	56.900	26.40	0.00	32.32	12.59	2.99	2.97	3.75	0.66	0.40	0.41	1.48	0.00	5.17	0.00	0.00	4.96

235	56.800	26.41	0.00	32.31	12.57	2.98	2.96	3.76	0.67	0.40	0.41	1.48	0.00	5.32	0.00	0.00	5.00
236	56.700	26.41	0.00	32.31	12.56	2.98	2.95	3.77	0.67	0.40	0.41	1.49	0.00	5.48	0.00	0.00	5.03
237	56.600	26.41	0.00	32.30	12.54	2.97	2.94	3.78	0.68	0.40	0.41	1.49	0.00	5.63	0.00	0.00	5.06
238	56.500	26.41	0.00	32.29	12.53	2.97	2.92	3.79	0.68	0.40	0.41	1.49	0.00	5.79	0.00	0.00	5.10
239	56.400	26.42	0.00	32.29	12.51	2.96	2.91	3.80	0.68	0.40	0.41	1.49	0.00	5.94	0.00	0.00	5.13
240	56.300	26.42	0.00	32.28	12.50	2.96	2.90	3.81	0.69	0.40	0.41	1.50	0.00	6.10	0.00	0.00	5.16

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 6 SITE 6 - LITTLE CANEY CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m³/	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 *
241	UPR RCH	0.06351	26.42	0.00	32.28	12.50	2.96	2.90	3.81	0.69	0.40	0.41	0.00	6.10	0.00	5.16
EACH	INCR	-0.0002														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s	MEAN VELO m/s
241	56.30	56.20	0.06332	53.16	0.02155	0.05	0.49	6.01	293.84	600.58	2.94	0.00	0.000	0.006	0.022
242	56.20	56.10	0.06312	53.16	0.02149	0.05	0.49	6.01	293.74	600.53	2.94	0.00	0.000	0.006	0.021
243	56.10	56.00	0.06293	53.16	0.02143	0.05	0.49	6.00	293.64	600.47	2.94	0.00	0.000	0.006	0.021
244	56.00	55.90	0.06273	53.16	0.02137	0.05	0.49	6.00	293.53	600.41	2.94	0.00	0.000	0.006	0.021
245	55.90	55.80	0.06253	53.16	0.02131	0.05	0.49	6.00	293.43	600.35	2.93	0.00	0.000	0.006	0.021
246	55.80	55.70	0.06234	53.16	0.02125	0.05	0.49	6.00	293.33	600.29	2.93	0.00	0.000	0.006	0.021
247	55.70	55.60	0.06214	53.16	0.02119	0.05	0.49	6.00	293.23	600.23	2.93	0.00	0.000	0.006	0.021
248	55.60	55.50	0.06195	53.16	0.02113	0.05	0.49	6.00	293.13	600.17	2.93	0.00	0.000	0.006	0.021
249	55.50	55.40	0.06175	53.16	0.02107	0.05	0.49	6.00	293.02	600.11	2.93	0.00	0.000	0.006	0.021
250	55.40	55.30	0.06155	53.16	0.02101	0.06	0.49	6.00	292.92	600.05	2.93	0.00	0.000	0.006	0.021
251	55.30	55.20	0.06136	53.16	0.02095	0.06	0.49	6.00	292.82	599.99	2.93	0.00	0.000	0.006	0.021
252	55.20	55.10	0.06116	53.16	0.02089	0.06	0.49	6.00	292.72	599.93	2.93	0.00	0.000	0.006	0.021
253	55.10	55.00	0.06097	53.16	0.02083	0.06	0.49	6.00	292.62	599.87	2.93	0.00	0.000	0.006	0.021
254	55.00	54.90	0.06077	53.16	0.02077	0.06	0.49	6.00	292.52	599.81	2.93	0.00	0.000	0.006	0.021
255	54.90	54.80	0.06057	53.16	0.02072	0.06	0.49	6.00	292.41	599.75	2.92	0.00	0.000	0.006	0.021
256	54.80	54.70	0.06038	53.16	0.02066	0.06	0.49	6.00	292.31	599.69	2.92	0.00	0.000	0.006	0.021
257	54.70	54.60	0.06018	53.16	0.02060	0.06	0.49	6.00	292.21	599.64	2.92	0.00	0.000	0.006	0.021
258	54.60	54.50	0.05999	53.16	0.02054	0.06	0.49	6.00	292.11	599.58	2.92	0.00	0.000	0.006	0.021
259	54.50	54.40	0.05979	53.16	0.02048	0.06	0.49	6.00	292.01	599.52	2.92	0.00	0.000	0.006	0.020

260	54.40	54.30	0.05959	53.16	0.02042	0.06	0.49	5.99	291.90	599.46	2.92	0.00	0.000	0.006	0.020
261	54.30	54.20	0.05940	53.16	0.02036	0.06	0.49	5.99	291.80	599.40	2.92	0.00	0.000	0.006	0.020
262	54.20	54.10	0.05920	53.16	0.02030	0.06	0.49	5.99	291.70	599.34	2.92	0.00	0.000	0.006	0.020
263	54.10	54.00	0.05901	53.16	0.02024	0.06	0.49	5.99	291.60	599.28	2.92	0.00	0.000	0.006	0.020
264	54.00	53.90	0.05881	53.16	0.02018	0.06	0.49	5.99	291.50	599.22	2.91	0.00	0.000	0.006	0.020
265	53.90	53.80	0.05861	53.16	0.02012	0.06	0.49	5.99	291.40	599.16	2.91	0.00	0.000	0.006	0.020
266	53.80	53.70	0.05842	53.16	0.02005	0.06	0.49	5.99	291.29	599.10	2.91	0.00	0.000	0.006	0.020
267	53.70	53.60	0.05822	53.16	0.01999	0.06	0.49	5.99	291.19	599.04	2.91	0.00	0.000	0.005	0.020
268	53.60	53.50	0.05803	53.16	0.01993	0.06	0.49	5.99	291.09	598.98	2.91	0.00	0.000	0.005	0.020
269	53.50	53.40	0.05783	53.16	0.01987	0.06	0.49	5.99	290.99	598.92	2.91	0.00	0.000	0.005	0.020
270	53.40	53.30	0.05764	53.16	0.01981	0.06	0.49	5.99	290.89	598.86	2.91	0.00	0.000	0.005	0.020
271	53.30	53.20	0.05744	53.16	0.01975	0.06	0.49	5.99	290.79	598.80	2.91	0.00	0.000	0.005	0.020
272	53.20	53.10	0.05724	53.16	0.01969	0.06	0.49	5.99	290.68	598.74	2.91	0.00	0.000	0.005	0.020
273	53.10	53.00	0.05705	53.16	0.01963	0.06	0.49	5.99	290.58	598.68	2.91	0.00	0.000	0.005	0.020
274	53.00	52.90	0.05685	53.16	0.01957	0.06	0.49	5.99	290.48	598.62	2.90	0.00	0.000	0.005	0.020
275	52.90	52.80	0.05666	53.16	0.01951	0.06	0.49	5.99	290.38	598.56	2.90	0.00	0.000	0.005	0.020
276	52.80	52.70	0.05646	53.16	0.01945	0.06	0.49	5.99	290.28	598.50	2.90	0.00	0.000	0.005	0.019
277	52.70	52.60	0.05626	53.16	0.01939	0.06	0.48	5.98	290.18	598.44	2.90	0.00	0.000	0.005	0.019
278	52.60	52.50	0.05607	53.16	0.01933	0.06	0.48	5.98	290.07	598.38	2.90	0.00	0.000	0.005	0.019
279	52.50	52.40	0.05587	53.16	0.01927	0.06	0.48	5.98	289.97	598.32	2.90	0.00	0.000	0.005	0.019
280	52.40	52.30	0.05568	53.16	0.01921	0.06	0.48	5.98	289.87	598.26	2.90	0.00	0.000	0.005	0.019
281	52.30	52.20	0.05548	53.16	0.01915	0.06	0.48	5.98	289.77	598.20	2.90	0.00	0.000	0.005	0.019
282	52.20	52.10	0.05528	53.16	0.01909	0.06	0.48	5.98	289.67	598.14	2.90	0.00	0.000	0.005	0.019
283	52.10	52.00	0.05509	53.16	0.01902	0.06	0.48	5.98	289.57	598.09	2.90	0.00	0.000	0.005	0.019
284	52.00	51.90	0.05489	53.16	0.01896	0.06	0.48	5.98	289.46	598.03	2.89	0.00	0.000	0.005	0.019
285	51.90	51.80	0.05470	53.16	0.01890	0.06	0.48	5.98	289.36	597.97	2.89	0.00	0.000	0.005	0.019
286	51.80	51.70	0.05450	53.16	0.01884	0.06	0.48	5.98	289.26	597.91	2.89	0.00	0.000	0.005	0.019
287	51.70	51.60	0.05430	53.16	0.01878	0.06	0.48	5.98	289.16	597.85	2.89	0.00	0.000	0.005	0.019
288	51.60	51.50	0.05411	53.16	0.01872	0.06	0.48	5.98	289.06	597.79	2.89	0.00	0.000	0.005	0.019
289	51.50	51.40	0.05391	53.16	0.01866	0.06	0.48	5.98	288.96	597.73	2.89	0.00	0.000	0.005	0.019
TOT						2.83			14278.44	29358.74					
AVG			0.02007				0.49	5.99			2.91				
CUM						6.95									

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY	
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da	
241	56.200	8.05	1.62	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05	
0.06																				
242	56.100	8.05	1.62	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05	
0.06																				
243	56.000	8.05	1.62	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05	

0.06																			
269	53.400	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
270	53.300	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
271	53.200	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
272	53.100	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
273	53.000	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
274	52.900	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
275	52.800	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
276	52.700	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
277	52.600	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
278	52.500	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
279	52.400	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
280	52.300	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
281	52.200	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
282	52.100	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
283	52.000	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
284	51.900	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
285	51.800	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
286	51.700	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
287	51.600	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
288	51.500	8.05	1.63	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
289	51.400	8.05	1.64	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
20 DEG C RATE				0.13		0.00	2.00			0.04		0.00	0.00	0.00	0.00			0.00	0.04
AVG 20 DEG C RATE			1.44		0.10						0.05								
0.05																			

* g/m²/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 *
241	56.200	26.42	0.00	32.28	12.50	3.04	2.93	3.84	0.69	0.40	0.41	1.50	0.00	6.10	0.00	0.00	5.15
242	56.100	26.42	0.00	32.28	12.50	3.12	2.96	3.87	0.69	0.40	0.41	1.51	0.00	6.10	0.00	0.00	5.13
243	56.000	26.42	0.00	32.28	12.50	3.19	2.99	3.90	0.70	0.41	0.40	1.51	0.00	6.10	0.00	0.00	5.12
244	55.900	26.42	0.00	32.28	12.50	3.25	3.01	3.93	0.70	0.41	0.40	1.51	0.00	6.10	0.00	0.00	5.10
245	55.800	26.42	0.00	32.28	12.50	3.31	3.04	3.96	0.70	0.41	0.40	1.52	0.00	6.10	0.00	0.00	5.08
246	55.700	26.42	0.00	32.28	12.50	3.37	3.07	3.98	0.71	0.41	0.40	1.52	0.00	6.10	0.00	0.00	5.07
247	55.600	26.42	0.00	32.28	12.50	3.42	3.09	4.01	0.71	0.41	0.40	1.53	0.00	6.10	0.00	0.00	5.05
248	55.500	26.42	0.00	32.28	12.50	3.46	3.12	4.04	0.71	0.42	0.40	1.53	0.00	6.10	0.00	0.00	5.04
249	55.400	26.42	0.00	32.28	12.50	3.51	3.15	4.06	0.72	0.42	0.40	1.53	0.00	6.10	0.00	0.00	5.02
250	55.300	26.42	0.00	32.28	12.50	3.54	3.17	4.09	0.72	0.42	0.40	1.54	0.00	6.10	0.00	0.00	5.01
251	55.200	26.42	0.00	32.28	12.50	3.58	3.20	4.11	0.72	0.42	0.40	1.54	0.00	6.10	0.00	0.00	4.99
252	55.100	26.42	0.00	32.28	12.50	3.61	3.22	4.14	0.72	0.42	0.40	1.55	0.00	6.10	0.00	0.00	4.98
253	55.000	26.42	0.00	32.28	12.50	3.64	3.25	4.16	0.73	0.43	0.40	1.55	0.00	6.10	0.00	0.00	4.96
254	54.900	26.42	0.00	32.28	12.50	3.67	3.27	4.19	0.73	0.43	0.40	1.56	0.00	6.10	0.00	0.00	4.94
255	54.800	26.42	0.00	32.28	12.50	3.69	3.30	4.21	0.73	0.43	0.40	1.56	0.00	6.10	0.00	0.00	4.93
256	54.700	26.42	0.00	32.28	12.50	3.72	3.32	4.24	0.74	0.43	0.40	1.56	0.00	6.10	0.00	0.00	4.91
257	54.600	26.42	0.00	32.28	12.50	3.74	3.34	4.26	0.74	0.43	0.40	1.57	0.00	6.10	0.00	0.00	4.90
258	54.500	26.42	0.00	32.28	12.50	3.75	3.37	4.28	0.74	0.44	0.39	1.57	0.00	6.10	0.00	0.00	4.88
259	54.400	26.42	0.00	32.28	12.50	3.77	3.39	4.31	0.74	0.44	0.39	1.58	0.00	6.10	0.00	0.00	4.87
260	54.300	26.42	0.00	32.28	12.50	3.79	3.41	4.33	0.75	0.44	0.39	1.58	0.00	6.10	0.00	0.00	4.85
261	54.200	26.42	0.00	32.28	12.50	3.80	3.44	4.35	0.75	0.44	0.39	1.59	0.00	6.10	0.00	0.00	4.84
262	54.100	26.42	0.00	32.28	12.50	3.81	3.46	4.37	0.75	0.45	0.39	1.59	0.00	6.10	0.00	0.00	4.82
263	54.000	26.42	0.00	32.28	12.50	3.83	3.48	4.40	0.76	0.45	0.39	1.59	0.00	6.10	0.00	0.00	4.81
264	53.900	26.42	0.00	32.28	12.50	3.84	3.50	4.42	0.76	0.45	0.39	1.60	0.00	6.10	0.00	0.00	4.80
265	53.800	26.42	0.00	32.28	12.50	3.85	3.52	4.44	0.76	0.45	0.39	1.60	0.00	6.10	0.00	0.00	4.78
266	53.700	26.42	0.00	32.28	12.50	3.85	3.55	4.46	0.76	0.45	0.39	1.61	0.00	6.10	0.00	0.00	4.77
267	53.600	26.42	0.00	32.28	12.50	3.86	3.57	4.48	0.77	0.46	0.39	1.61	0.00	6.10	0.00	0.00	4.75
268	53.500	26.42	0.00	32.28	12.50	3.87	3.59	4.50	0.77	0.46	0.39	1.62	0.00	6.10	0.00	0.00	4.74
269	53.400	26.42	0.00	32.28	12.50	3.88	3.61	4.52	0.77	0.46	0.39	1.62	0.00	6.10	0.00	0.00	4.72
270	53.300	26.42	0.00	32.28	12.50	3.88	3.63	4.54	0.78	0.46	0.39	1.62	0.00	6.10	0.00	0.00	4.71
271	53.200	26.42	0.00	32.28	12.50	3.89	3.65	4.56	0.78	0.47	0.39	1.63	0.00	6.10	0.00	0.00	4.69
272	53.100	26.42	0.00	32.28	12.50	3.89	3.67	4.58	0.78	0.47	0.38	1.63	0.00	6.10	0.00	0.00	4.68
273	53.000	26.42	0.00	32.28	12.50	3.89	3.69	4.60	0.78	0.47	0.38	1.64	0.00	6.10	0.00	0.00	4.67
274	52.900	26.42	0.00	32.28	12.50	3.90	3.71	4.62	0.79	0.47	0.38	1.64	0.00	6.10	0.00	0.00	4.65
275	52.800	26.42	0.00	32.28	12.50	3.90	3.73	4.64	0.79	0.48	0.38	1.65	0.00	6.10	0.00	0.00	4.64
276	52.700	26.42	0.00	32.28	12.50	3.90	3.74	4.66	0.79	0.48	0.38	1.65	0.00	6.10	0.00	0.00	4.62
277	52.600	26.42	0.00	32.28	12.50	3.90	3.76	4.68	0.79	0.48	0.38	1.66	0.00	6.10	0.00	0.00	4.61
278	52.500	26.42	0.00	32.28	12.50	3.91	3.78	4.70	0.80	0.48	0.38	1.66	0.00	6.10	0.00	0.00	4.60
279	52.400	26.42	0.00	32.28	12.50	3.91	3.80	4.71	0.80	0.49	0.38	1.66	0.00	6.10	0.00	0.00	4.58
280	52.300	26.42	0.00	32.28	12.50	3.91	3.82	4.73	0.80	0.49	0.38	1.67	0.00	6.10	0.00	0.00	4.57
281	52.200	26.42	0.00	32.28	12.50	3.91	3.83	4.75	0.80	0.49	0.38	1.67	0.00	6.10	0.00	0.00	4.55
282	52.100	26.42	0.00	32.28	12.50	3.91	3.85	4.77	0.81	0.49	0.38	1.68	0.00	6.10	0.00	0.00	4.54
283	52.000	26.42	0.00	32.28	12.50	3.91	3.87	4.78	0.81	0.50	0.38	1.68	0.00	6.10	0.00	0.00	4.53
284	51.900	26.42	0.00	32.28	12.50	3.91	3.89	4.80	0.81	0.50	0.38	1.69	0.00	6.10	0.00	0.00	4.51

285	51.800	26.42	0.00	32.28	12.50	3.91	3.90	4.82	0.82	0.50	0.37	1.69	0.00	6.10	0.00	0.00	4.50
286	51.700	26.42	0.00	32.28	12.50	3.91	3.92	4.83	0.82	0.50	0.37	1.70	0.00	6.10	0.00	0.00	4.49
287	51.600	26.42	0.00	32.28	12.50	3.91	3.94	4.85	0.82	0.51	0.37	1.70	0.00	6.10	0.00	0.00	4.47
288	51.500	26.42	0.00	32.28	12.50	3.91	3.95	4.87	0.82	0.51	0.37	1.70	0.00	6.10	0.00	0.00	4.46
289	51.400	26.42	0.00	32.28	12.50	3.91	3.97	4.88	0.83	0.51	0.37	1.71	0.00	6.10	0.00	0.00	4.45

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 7 LITTLE CANEY CR - DAM

BARNES CREEK WATERSHED MODEL
BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
290	UPR RCH	0.05391	26.42	0.00	32.28	12.50	3.91	3.97	4.88	0.83	0.51	0.37	0.00	6.10	0.00	4.45
EACH	INCR	-0.0005														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
290	51.40	51.30	0.05343	53.16	0.01851	0.06	0.48	5.98	288.71	597.58	2.89	0.00	0.000	0.005	0.019
291	51.30	51.20	0.05295	53.16	0.01836	0.06	0.48	5.97	288.46	597.43	2.88	0.00	0.000	0.005	0.018
292	51.20	51.10	0.05247	53.16	0.01821	0.06	0.48	5.97	288.21	597.29	2.88	0.00	0.000	0.005	0.018
293	51.10	51.00	0.05199	53.16	0.01806	0.06	0.48	5.97	287.96	597.14	2.88	0.00	0.000	0.005	0.018
294	51.00	50.90	0.05151	53.16	0.01790	0.06	0.48	5.97	287.71	596.99	2.88	0.00	0.000	0.005	0.018
295	50.90	50.80	0.05103	53.16	0.01775	0.07	0.48	5.97	287.46	596.84	2.87	0.00	0.000	0.005	0.018
296	50.80	50.70	0.05055	53.16	0.01760	0.07	0.48	5.97	287.22	596.70	2.87	0.00	0.000	0.005	0.018
297	50.70	50.60	0.05007	53.16	0.01745	0.07	0.48	5.97	286.97	596.55	2.87	0.00	0.000	0.005	0.017
298	50.60	50.50	0.04959	53.16	0.01730	0.07	0.48	5.96	286.72	596.40	2.87	0.00	0.000	0.005	0.017
299	50.50	50.40	0.04911	53.16	0.01714	0.07	0.48	5.96	286.47	596.25	2.86	0.00	0.000	0.005	0.017
300	50.40	50.30	0.04863	53.16	0.01699	0.07	0.48	5.96	286.22	596.11	2.86	0.00	0.000	0.005	0.017
301	50.30	50.20	0.04815	53.16	0.01684	0.07	0.48	5.96	285.97	595.96	2.86	0.00	0.000	0.005	0.017
302	50.20	50.10	0.04767	53.16	0.01668	0.07	0.48	5.96	285.72	595.81	2.86	0.00	0.000	0.005	0.017
303	50.10	50.00	0.04719	53.16	0.01653	0.07	0.48	5.96	285.48	595.66	2.85	0.00	0.000	0.004	0.017
304	50.00	49.90	0.04671	53.16	0.01638	0.07	0.48	5.96	285.23	595.51	2.85	0.00	0.000	0.004	0.016
305	49.90	49.80	0.04623	53.16	0.01622	0.07	0.48	5.95	284.98	595.37	2.85	0.00	0.000	0.004	0.016
306	49.80	49.70	0.04575	53.16	0.01607	0.07	0.48	5.95	284.73	595.22	2.85	0.00	0.000	0.004	0.016
307	49.70	49.60	0.04527	53.16	0.01591	0.07	0.48	5.95	284.48	595.07	2.84	0.00	0.000	0.004	0.016
308	49.60	49.50	0.04479	53.16	0.01576	0.07	0.48	5.95	284.24	594.92	2.84	0.00	0.000	0.004	0.016
309	49.50	49.40	0.04431	53.16	0.01560	0.07	0.48	5.95	283.99	594.77	2.84	0.00	0.000	0.004	0.016

TOT																					
AVG																					
CUM																					

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI	NCM
NCM																			
NO.	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY	DECAY
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																			
290	51.300	8.06	1.64	0.17	0.12	0.00	2.84	2.84	2.84	0.06	0.06	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.05
0.06																			
291	51.200	8.06	1.64	0.17	0.12	0.00	2.84	2.84	2.84	0.06	0.06	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.05
0.06																			
292	51.100	8.06	1.64	0.17	0.12	0.00	2.83	2.83	2.83	0.06	0.06	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.05
0.06																			
293	51.000	8.07	1.64	0.17	0.12	0.00	2.83	2.83	2.83	0.06	0.06	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.05
0.06																			
294	50.900	8.07	1.64	0.17	0.12	0.00	2.82	2.82	2.82	0.06	0.06	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.05
0.06																			
295	50.800	8.08	1.64	0.17	0.12	0.00	2.82	2.82	2.82	0.06	0.06	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.05
0.06																			
296	50.700	8.08	1.64	0.17	0.12	0.00	2.81	2.81	2.81	0.06	0.06	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.05
0.06																			
297	50.600	8.08	1.64	0.17	0.12	0.00	2.81	2.81	2.81	0.06	0.06	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.05
0.06																			
298	50.500	8.09	1.64	0.17	0.12	0.00	2.80	2.80	2.80	0.06	0.06	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.05
0.06																			
299	50.400	8.09	1.64	0.17	0.12	0.00	2.80	2.80	2.80	0.06	0.06	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.05
0.06																			
300	50.300	8.10	1.64	0.17	0.12	0.00	2.79	2.79	2.79	0.06	0.06	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.05
0.06																			
301	50.200	8.10	1.64	0.17	0.12	0.00	2.79	2.79	2.79	0.06	0.06	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.05
0.06																			
302	50.100	8.10	1.64	0.17	0.12	0.00	2.78	2.78	2.78	0.06	0.06	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.05
0.06																			
303	50.000	8.11	1.64	0.17	0.12	0.00	2.78	2.78	2.78	0.06	0.06	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.05
0.06																			
304	49.900	8.11	1.64	0.17	0.12	0.00	2.77	2.77	2.77	0.06	0.06	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.05
0.06																			
305	49.800	8.12	1.64	0.17	0.12	0.00	2.77	2.77	2.77	0.06	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.05
0.06																			
306	49.700	8.12	1.64	0.17	0.12	0.00	2.77	2.77	2.77	0.06	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.05
0.06																			
307	49.600	8.12	1.64	0.17	0.12	0.00	2.76	2.76	2.76	0.06	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.05

0.06
 308 49.500 8.13 1.64 0.17 0.12 0.00 2.76 2.76 2.76 0.06 0.06 0.00 0.00 0.00 0.00 0.08 0.00 0.00 0.05
 0.06
 309 49.400 8.13 1.64 0.17 0.11 0.00 2.75 2.75 2.75 0.06 0.06 0.00 0.00 0.00 0.00 0.07 0.00 0.00 0.05
 0.06
 20 DEG C RATE 0.13 0.00 1.90 0.04 0.00 0.00 0.00 0.00
 AVG 20 DEG C RATE 1.46 0.10 0.05 0.00 0.04
 0.05

* g/m²/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 *
290	51.300	26.39	0.00	32.28	12.50	3.93	4.05	4.92	0.83	0.51	0.37	1.71	0.00	5.84	0.00	0.00	4.44
291	51.200	26.37	0.00	32.28	12.50	3.94	4.12	4.96	0.83	0.52	0.37	1.71	0.00	5.59	0.00	0.00	4.43
292	51.100	26.34	0.00	32.28	12.50	3.95	4.20	5.00	0.83	0.52	0.37	1.72	0.00	5.34	0.00	0.00	4.42
293	51.000	26.31	0.00	32.28	12.50	3.96	4.27	5.04	0.83	0.52	0.37	1.72	0.00	5.08	0.00	0.00	4.41
294	50.900	26.28	0.00	32.28	12.50	3.97	4.35	5.07	0.83	0.52	0.37	1.72	0.00	4.82	0.00	0.00	4.40
295	50.800	26.26	0.00	32.28	12.50	3.98	4.42	5.11	0.83	0.53	0.37	1.72	0.00	4.57	0.00	0.00	4.39
296	50.700	26.23	0.00	32.28	12.50	3.99	4.50	5.15	0.83	0.53	0.37	1.73	0.00	4.32	0.00	0.00	4.38
297	50.600	26.20	0.00	32.28	12.50	3.99	4.57	5.18	0.83	0.53	0.37	1.73	0.00	4.06	0.00	0.00	4.37
298	50.500	26.18	0.00	32.28	12.50	3.99	4.64	5.22	0.83	0.54	0.37	1.73	0.00	3.80	0.00	0.00	4.36
299	50.400	26.15	0.00	32.28	12.50	3.99	4.72	5.25	0.83	0.54	0.37	1.73	0.00	3.55	0.00	0.00	4.36
300	50.300	26.12	0.00	32.28	12.50	3.99	4.79	5.28	0.83	0.54	0.37	1.74	0.00	3.30	0.00	0.00	4.35
301	50.200	26.10	0.00	32.28	12.50	3.99	4.86	5.32	0.83	0.55	0.36	1.74	0.00	3.04	0.00	0.00	4.34
302	50.100	26.07	0.00	32.28	12.50	3.99	4.93	5.35	0.83	0.55	0.36	1.74	0.00	2.78	0.00	0.00	4.33
303	50.000	26.04	0.00	32.28	12.50	3.99	5.00	5.38	0.83	0.55	0.36	1.75	0.00	2.53	0.00	0.00	4.32
304	49.900	26.01	0.00	32.28	12.50	3.99	5.07	5.41	0.83	0.56	0.36	1.75	0.00	2.28	0.00	0.00	4.31
305	49.800	25.99	0.00	32.28	12.50	3.99	5.14	5.44	0.83	0.56	0.36	1.75	0.00	2.02	0.00	0.00	4.30
306	49.700	25.96	0.00	32.28	12.50	3.98	5.21	5.48	0.83	0.56	0.36	1.76	0.00	1.76	0.00	0.00	4.29
307	49.600	25.93	0.00	32.28	12.50	3.98	5.28	5.51	0.83	0.57	0.36	1.76	0.00	1.51	0.00	0.00	4.28
308	49.500	25.91	0.00	32.28	12.50	3.97	5.35	5.54	0.83	0.57	0.36	1.77	0.00	1.25	0.00	0.00	4.28
309	49.400	25.88	0.00	32.28	12.50	3.97	5.41	5.56	0.83	0.57	0.36	1.77	0.00	1.00	0.00	0.00	4.27

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = CBOD2
 mg/L

** g/m³

FINAL REPORT HEADWATER
 REACH NO. 8 DAM - CANEY CREEK

BARNES CREEK WATERSHED MODEL
 BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
310	UPR RCH	0.04431	25.88	0.00	32.28	12.50	3.97	5.41	5.56	0.83	0.57	0.36	0.00	1.00	0.00	4.27
310	DAM	DAM AT SITE 7 ADDS 2.50 MG/L DISSOLVED OXYGEN GIVING 6.47 MG/L D.O. FOR THE UPR RCH INPUT														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
310	49.40	49.30	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
311	49.30	49.20	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
312	49.20	49.10	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
313	49.10	49.00	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
314	49.00	48.90	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
315	48.90	48.80	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
316	48.80	48.70	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
317	48.70	48.60	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
318	48.60	48.50	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
319	48.50	48.40	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
320	48.40	48.30	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
321	48.30	48.20	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
322	48.20	48.10	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
323	48.10	48.00	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
324	48.00	47.90	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
325	47.90	47.80	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
326	47.80	47.70	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
327	47.70	47.60	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
328	47.60	47.50	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
329	47.50	47.40	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
330	47.40	47.30	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
331	47.30	47.20	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
332	47.20	47.10	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
333	47.10	47.00	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
334	47.00	46.90	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
335	46.90	46.80	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
336	46.80	46.70	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
337	46.70	46.60	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
338	46.60	46.50	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003	0.012
TOT						2.70			10325.84	23903.95					
AVG					0.01245		0.43	8.24			3.56				
CUM						11.01									

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
310	49.300	8.13	1.81	0.07	0.11	0.00	3.62	3.62	3.62	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
311	49.200	8.13	1.81	0.07	0.11	0.00	3.62	3.62	3.62	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
312	49.100	8.13	1.81	0.07	0.11	0.00	3.62	3.62	3.62	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
313	49.000	8.13	1.81	0.07	0.11	0.00	3.62	3.62	3.62	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
314	48.900	8.13	1.81	0.07	0.11	0.00	3.61	3.61	3.61	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
315	48.800	8.14	1.81	0.07	0.11	0.00	3.61	3.61	3.61	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
316	48.700	8.14	1.81	0.07	0.11	0.00	3.61	3.61	3.61	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
317	48.600	8.14	1.81	0.07	0.11	0.00	3.61	3.61	3.61	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
318	48.500	8.14	1.81	0.07	0.11	0.00	3.61	3.61	3.61	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
319	48.400	8.14	1.81	0.07	0.11	0.00	3.61	3.61	3.61	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
320	48.300	8.14	1.81	0.07	0.11	0.00	3.61	3.61	3.61	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
321	48.200	8.14	1.81	0.07	0.11	0.00	3.61	3.61	3.61	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
322	48.100	8.14	1.81	0.07	0.11	0.00	3.61	3.61	3.61	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
323	48.000	8.14	1.81	0.07	0.11	0.00	3.61	3.61	3.61	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
324	47.900	8.14	1.81	0.07	0.11	0.00	3.60	3.60	3.60	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
325	47.800	8.14	1.81	0.07	0.11	0.00	3.60	3.60	3.60	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
326	47.700	8.14	1.81	0.07	0.11	0.00	3.60	3.60	3.60	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
327	47.600	8.14	1.81	0.07	0.11	0.00	3.60	3.60	3.60	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
328	47.500	8.14	1.81	0.07	0.11	0.00	3.60	3.60	3.60	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
329	47.400	8.15	1.81	0.07	0.11	0.00	3.60	3.60	3.60	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
330	47.300	8.15	1.81	0.07	0.11	0.00	3.60	3.60	3.60	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
331	47.200	8.15	1.81	0.07	0.11	0.00	3.60	3.60	3.60	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03

0.06																			
332	47.100	8.15	1.81	0.07	0.11	0.00	3.60	3.60	3.60	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03
0.06																			
333	47.000	8.15	1.81	0.07	0.11	0.00	3.59	3.59	3.59	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03
0.06																			
334	46.900	8.15	1.81	0.07	0.11	0.00	3.59	3.59	3.59	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03
0.06																			
335	46.800	8.15	1.81	0.07	0.11	0.00	3.59	3.59	3.59	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03
0.06																			
336	46.700	8.15	1.81	0.07	0.11	0.00	3.59	3.59	3.59	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03
0.06																			
337	46.600	8.15	1.81	0.07	0.11	0.00	3.59	3.59	3.59	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03
0.06																			
338	46.500	8.15	1.81	0.07	0.11	0.00	3.59	3.59	3.59	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03
0.06																			
20 DEG C RATE					0.05		0.00	2.50		0.02		0.00	0.00	0.00	0.00			0.00	0.02
AVG 20 DEG C RATE			1.62		0.10						0.05								
0.05																			

* g/m²/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 *
310	49.300	25.88	0.00	32.28	12.50	6.01	5.38	5.53	0.83	0.57	0.36	1.77	0.00	0.99	0.00	0.00	4.26
311	49.200	25.87	0.00	32.28	12.50	5.62	5.34	5.49	0.83	0.58	0.36	1.77	0.00	0.97	0.00	0.00	4.26
312	49.100	25.87	0.00	32.28	12.50	5.28	5.31	5.45	0.83	0.58	0.36	1.77	0.00	0.96	0.00	0.00	4.25
313	49.000	25.86	0.00	32.28	12.50	4.99	5.27	5.41	0.83	0.58	0.36	1.77	0.00	0.94	0.00	0.00	4.24
314	48.900	25.86	0.00	32.28	12.50	4.75	5.24	5.38	0.82	0.58	0.36	1.77	0.00	0.93	0.00	0.00	4.24
315	48.800	25.85	0.00	32.28	12.50	4.54	5.21	5.34	0.82	0.59	0.36	1.77	0.00	0.92	0.00	0.00	4.23
316	48.700	25.85	0.00	32.28	12.50	4.36	5.17	5.31	0.82	0.59	0.36	1.77	0.00	0.90	0.00	0.00	4.23
317	48.600	25.84	0.00	32.28	12.50	4.20	5.14	5.27	0.82	0.59	0.36	1.77	0.00	0.89	0.00	0.00	4.22
318	48.500	25.84	0.00	32.28	12.50	4.07	5.11	5.24	0.82	0.59	0.36	1.77	0.00	0.88	0.00	0.00	4.21
319	48.400	25.83	0.00	32.28	12.50	3.96	5.08	5.21	0.81	0.59	0.36	1.77	0.00	0.86	0.00	0.00	4.21
320	48.300	25.83	0.00	32.28	12.50	3.86	5.05	5.18	0.81	0.60	0.36	1.77	0.00	0.85	0.00	0.00	4.20
321	48.200	25.82	0.00	32.28	12.50	3.78	5.02	5.14	0.81	0.60	0.36	1.77	0.00	0.83	0.00	0.00	4.20
322	48.100	25.82	0.00	32.28	12.50	3.71	4.99	5.11	0.81	0.60	0.36	1.77	0.00	0.82	0.00	0.00	4.19
323	48.000	25.81	0.00	32.28	12.50	3.66	4.96	5.08	0.80	0.60	0.36	1.77	0.00	0.81	0.00	0.00	4.19
324	47.900	25.81	0.00	32.28	12.50	3.61	4.93	5.05	0.80	0.60	0.36	1.77	0.00	0.79	0.00	0.00	4.18
325	47.800	25.80	0.00	32.28	12.50	3.56	4.90	5.02	0.80	0.61	0.36	1.77	0.00	0.78	0.00	0.00	4.18
326	47.700	25.80	0.00	32.28	12.50	3.53	4.88	4.99	0.80	0.61	0.36	1.77	0.00	0.77	0.00	0.00	4.17
327	47.600	25.79	0.00	32.28	12.50	3.50	4.85	4.96	0.80	0.61	0.36	1.77	0.00	0.75	0.00	0.00	4.16
328	47.500	25.79	0.00	32.28	12.50	3.47	4.82	4.93	0.80	0.61	0.36	1.77	0.00	0.74	0.00	0.00	4.16
329	47.400	25.78	0.00	32.28	12.50	3.45	4.80	4.90	0.79	0.62	0.36	1.77	0.00	0.72	0.00	0.00	4.15
330	47.300	25.78	0.00	32.28	12.50	3.43	4.77	4.88	0.79	0.62	0.36	1.77	0.00	0.71	0.00	0.00	4.15
331	47.200	25.77	0.00	32.28	12.50	3.42	4.74	4.85	0.79	0.62	0.36	1.77	0.00	0.70	0.00	0.00	4.14

332	47.100	25.77	0.00	32.28	12.50	3.40	4.72	4.82	0.79	0.62	0.36	1.77	0.00	0.68	0.00	0.00	4.14
333	47.000	25.76	0.00	32.28	12.50	3.39	4.69	4.80	0.79	0.62	0.36	1.77	0.00	0.67	0.00	0.00	4.13
334	46.900	25.76	0.00	32.28	12.50	3.38	4.67	4.77	0.78	0.63	0.36	1.77	0.00	0.66	0.00	0.00	4.13
335	46.800	25.75	0.00	32.28	12.50	3.38	4.65	4.74	0.78	0.63	0.36	1.77	0.00	0.64	0.00	0.00	4.12
336	46.700	25.75	0.00	32.28	12.50	3.37	4.62	4.72	0.78	0.63	0.36	1.77	0.00	0.63	0.00	0.00	4.12
337	46.600	25.74	0.00	32.28	12.50	3.37	4.60	4.69	0.78	0.63	0.36	1.77	0.00	0.61	0.00	0.00	4.11
338	46.500	25.74	0.00	32.28	12.50	3.36	4.58	4.67	0.78	0.63	0.36	1.77	0.00	0.60	0.00	0.00	4.11

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 9 CANEY CR - HURRICANE CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
339	UPR RCH	0.04431	25.74	0.00	32.28	12.50	3.36	4.58	4.67	0.78	0.63	0.36	0.00	0.60	0.00	4.11

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
339	46.50	46.40	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
340	46.40	46.30	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
341	46.30	46.20	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
342	46.20	46.10	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
343	46.10	46.00	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
344	46.00	45.90	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
345	45.90	45.80	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
346	45.80	45.70	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
347	45.70	45.60	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
348	45.60	45.50	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
349	45.50	45.40	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
350	45.40	45.30	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
351	45.30	45.20	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
352	45.20	45.10	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
353	45.10	45.00	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
354	45.00	44.90	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
355	44.90	44.80	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
356	44.80	44.70	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029
357	44.70	44.60	0.04431	53.16	0.02870	0.04	0.38	4.04	154.42	404.27	1.54	0.00	0.000	0.006	0.029

401	40.200	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
402	40.100	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
403	40.000	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
404	39.900	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
405	39.800	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
406	39.700	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
407	39.600	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
408	39.500	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
409	39.400	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
410	39.300	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
411	39.200	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
412	39.100	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
413	39.000	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
414	38.900	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
415	38.800	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
416	38.700	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
417	38.600	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
418	38.500	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			

20 DEG C RATE 0.05 0.00 3.00 0.03 0.00 0.00 0.00 0.00
AVG 20 DEG C RATE 1.83 0.10 0.05 0.00 0.04 0.00 0.00

* g/m²/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 *
339	46.400	25.74	0.00	32.28	12.50	3.29	4.55	4.64	0.78	0.64	0.36	1.77	0.00	0.60	0.00	0.00	4.12

340	46.300	25.74	0.00	32.28	12.50	3.22	4.53	4.62	0.77	0.64	0.36	1.77	0.00	0.60	0.00	0.00	4.14
341	46.200	25.74	0.00	32.28	12.50	3.16	4.50	4.59	0.77	0.64	0.36	1.77	0.00	0.60	0.00	0.00	4.15
342	46.100	25.74	0.00	32.28	12.50	3.11	4.47	4.56	0.77	0.64	0.36	1.77	0.00	0.60	0.00	0.00	4.16
343	46.000	25.74	0.00	32.28	12.50	3.05	4.45	4.54	0.77	0.64	0.36	1.77	0.00	0.60	0.00	0.00	4.18
344	45.900	25.74	0.00	32.28	12.50	3.00	4.42	4.51	0.77	0.64	0.36	1.77	0.00	0.60	0.00	0.00	4.19
345	45.800	25.74	0.00	32.28	12.50	2.96	4.40	4.49	0.77	0.64	0.36	1.77	0.00	0.60	0.00	0.00	4.20
346	45.700	25.74	0.00	32.28	12.50	2.92	4.37	4.46	0.76	0.64	0.36	1.77	0.00	0.60	0.00	0.00	4.21
347	45.600	25.74	0.00	32.28	12.50	2.88	4.35	4.44	0.76	0.65	0.36	1.77	0.00	0.60	0.00	0.00	4.23
348	45.500	25.74	0.00	32.28	12.50	2.85	4.32	4.41	0.76	0.65	0.36	1.77	0.00	0.60	0.00	0.00	4.24
349	45.400	25.74	0.00	32.28	12.50	2.81	4.30	4.39	0.76	0.65	0.36	1.77	0.00	0.60	0.00	0.00	4.25
350	45.300	25.74	0.00	32.28	12.50	2.78	4.27	4.36	0.76	0.65	0.36	1.77	0.00	0.60	0.00	0.00	4.27
351	45.200	25.74	0.00	32.28	12.50	2.76	4.25	4.34	0.76	0.65	0.36	1.77	0.00	0.60	0.00	0.00	4.28
352	45.100	25.74	0.00	32.28	12.50	2.73	4.22	4.31	0.76	0.65	0.36	1.77	0.00	0.60	0.00	0.00	4.29
353	45.000	25.74	0.00	32.28	12.50	2.71	4.20	4.29	0.75	0.65	0.36	1.77	0.00	0.60	0.00	0.00	4.30
354	44.900	25.74	0.00	32.28	12.50	2.69	4.18	4.27	0.75	0.66	0.36	1.77	0.00	0.60	0.00	0.00	4.32
355	44.800	25.74	0.00	32.28	12.50	2.67	4.15	4.24	0.75	0.66	0.36	1.77	0.00	0.60	0.00	0.00	4.33
356	44.700	25.74	0.00	32.28	12.50	2.65	4.13	4.22	0.75	0.66	0.36	1.77	0.00	0.60	0.00	0.00	4.34
357	44.600	25.74	0.00	32.28	12.50	2.63	4.11	4.20	0.75	0.66	0.36	1.77	0.00	0.60	0.00	0.00	4.35
358	44.500	25.74	0.00	32.28	12.50	2.61	4.08	4.17	0.75	0.66	0.36	1.77	0.00	0.60	0.00	0.00	4.37
359	44.400	25.74	0.00	32.28	12.50	2.60	4.06	4.15	0.75	0.66	0.36	1.77	0.00	0.60	0.00	0.00	4.38
360	44.300	25.74	0.00	32.28	12.50	2.59	4.04	4.13	0.74	0.66	0.36	1.76	0.00	0.60	0.00	0.00	4.39
361	44.200	25.74	0.00	32.28	12.50	2.57	4.02	4.11	0.74	0.66	0.36	1.76	0.00	0.60	0.00	0.00	4.40
362	44.100	25.74	0.00	32.28	12.50	2.56	3.99	4.08	0.74	0.67	0.36	1.76	0.00	0.60	0.00	0.00	4.42
363	44.000	25.74	0.00	32.28	12.50	2.55	3.97	4.06	0.74	0.67	0.36	1.76	0.00	0.60	0.00	0.00	4.43
364	43.900	25.74	0.00	32.28	12.50	2.54	3.95	4.04	0.74	0.67	0.36	1.76	0.00	0.60	0.00	0.00	4.44
365	43.800	25.74	0.00	32.28	12.50	2.54	3.93	4.02	0.74	0.67	0.36	1.76	0.00	0.60	0.00	0.00	4.45
366	43.700	25.74	0.00	32.28	12.50	2.53	3.91	4.00	0.74	0.67	0.36	1.76	0.00	0.60	0.00	0.00	4.46
367	43.600	25.74	0.00	32.28	12.50	2.52	3.88	3.97	0.73	0.67	0.36	1.76	0.00	0.60	0.00	0.00	4.48
368	43.500	25.74	0.00	32.28	12.50	2.51	3.86	3.95	0.73	0.67	0.36	1.76	0.00	0.60	0.00	0.00	4.49
369	43.400	25.74	0.00	32.28	12.50	2.51	3.84	3.93	0.73	0.67	0.36	1.76	0.00	0.60	0.00	0.00	4.50
370	43.300	25.74	0.00	32.28	12.50	2.50	3.82	3.91	0.73	0.68	0.36	1.76	0.00	0.60	0.00	0.00	4.51
371	43.200	25.74	0.00	32.28	12.50	2.50	3.80	3.89	0.73	0.68	0.36	1.76	0.00	0.60	0.00	0.00	4.52
372	43.100	25.74	0.00	32.28	12.50	2.49	3.78	3.87	0.73	0.68	0.36	1.76	0.00	0.60	0.00	0.00	4.54
373	43.000	25.74	0.00	32.28	12.50	2.49	3.76	3.85	0.73	0.68	0.36	1.76	0.00	0.60	0.00	0.00	4.55
374	42.900	25.74	0.00	32.28	12.50	2.48	3.74	3.83	0.73	0.68	0.36	1.76	0.00	0.60	0.00	0.00	4.56
375	42.800	25.74	0.00	32.28	12.50	2.48	3.72	3.81	0.72	0.68	0.36	1.76	0.00	0.60	0.00	0.00	4.57
376	42.700	25.74	0.00	32.28	12.50	2.48	3.70	3.79	0.72	0.68	0.36	1.76	0.00	0.60	0.00	0.00	4.58
377	42.600	25.74	0.00	32.28	12.50	2.47	3.68	3.77	0.72	0.68	0.36	1.76	0.00	0.60	0.00	0.00	4.59
378	42.500	25.74	0.00	32.28	12.50	2.47	3.66	3.75	0.72	0.69	0.36	1.76	0.00	0.60	0.00	0.00	4.61
379	42.400	25.74	0.00	32.28	12.50	2.47	3.64	3.73	0.72	0.69	0.36	1.76	0.00	0.60	0.00	0.00	4.62
380	42.300	25.74	0.00	32.28	12.50	2.46	3.62	3.71	0.72	0.69	0.36	1.76	0.00	0.60	0.00	0.00	4.63
381	42.200	25.74	0.00	32.28	12.50	2.46	3.60	3.69	0.72	0.69	0.36	1.76	0.00	0.60	0.00	0.00	4.64
382	42.100	25.74	0.00	32.28	12.50	2.46	3.58	3.67	0.71	0.69	0.36	1.76	0.00	0.60	0.00	0.00	4.65
383	42.000	25.74	0.00	32.28	12.50	2.46	3.56	3.65	0.71	0.69	0.36	1.76	0.00	0.60	0.00	0.00	4.66
384	41.900	25.74	0.00	32.28	12.50	2.46	3.54	3.63	0.71	0.69	0.36	1.76	0.00	0.60	0.00	0.00	4.67
385	41.800	25.74	0.00	32.28	12.50	2.46	3.52	3.61	0.71	0.69	0.36	1.76	0.00	0.60	0.00	0.00	4.68
386	41.700	25.74	0.00	32.28	12.50	2.45	3.50	3.59	0.71	0.70	0.36	1.76	0.00	0.60	0.00	0.00	4.70
387	41.600	25.74	0.00	32.28	12.50	2.45	3.48	3.57	0.71	0.70	0.36	1.76	0.00	0.60	0.00	0.00	4.71
388	41.500	25.74	0.00	32.28	12.50	2.45	3.46	3.55	0.71	0.70	0.36	1.76	0.00	0.60	0.00	0.00	4.72
389	41.400	25.74	0.00	32.28	12.50	2.45	3.45	3.54	0.71	0.70	0.36	1.76	0.00	0.60	0.00	0.00	4.73

390	41.300	25.74	0.00	32.28	12.50	2.45	3.43	3.52	0.70	0.70	0.36	1.76	0.00	0.60	0.00	0.00	4.74
391	41.200	25.74	0.00	32.28	12.50	2.45	3.41	3.50	0.70	0.70	0.36	1.76	0.00	0.60	0.00	0.00	4.75
392	41.100	25.74	0.00	32.28	12.50	2.45	3.39	3.48	0.70	0.70	0.36	1.76	0.00	0.60	0.00	0.00	4.76
393	41.000	25.74	0.00	32.28	12.50	2.45	3.37	3.46	0.70	0.70	0.36	1.76	0.00	0.60	0.00	0.00	4.77
394	40.900	25.74	0.00	32.28	12.50	2.45	3.36	3.45	0.70	0.71	0.36	1.76	0.00	0.60	0.00	0.00	4.78
395	40.800	25.74	0.00	32.28	12.50	2.45	3.34	3.43	0.70	0.71	0.36	1.76	0.00	0.60	0.00	0.00	4.79
396	40.700	25.74	0.00	32.28	12.50	2.45	3.32	3.41	0.70	0.71	0.36	1.76	0.00	0.60	0.00	0.00	4.80
397	40.600	25.74	0.00	32.28	12.50	2.45	3.30	3.39	0.70	0.71	0.36	1.76	0.00	0.60	0.00	0.00	4.82
398	40.500	25.74	0.00	32.28	12.50	2.45	3.29	3.38	0.69	0.71	0.36	1.76	0.00	0.60	0.00	0.00	4.83
399	40.400	25.74	0.00	32.28	12.50	2.45	3.27	3.36	0.69	0.71	0.36	1.76	0.00	0.60	0.00	0.00	4.84
400	40.300	25.74	0.00	32.28	12.50	2.45	3.25	3.34	0.69	0.71	0.36	1.76	0.00	0.60	0.00	0.00	4.85
401	40.200	25.74	0.00	32.28	12.50	2.45	3.23	3.32	0.69	0.71	0.36	1.76	0.00	0.60	0.00	0.00	4.86
402	40.100	25.74	0.00	32.28	12.50	2.45	3.22	3.31	0.69	0.72	0.36	1.76	0.00	0.60	0.00	0.00	4.87
403	40.000	25.74	0.00	32.28	12.50	2.45	3.20	3.29	0.69	0.72	0.36	1.76	0.00	0.60	0.00	0.00	4.88
404	39.900	25.74	0.00	32.28	12.50	2.45	3.18	3.27	0.69	0.72	0.36	1.76	0.00	0.60	0.00	0.00	4.89
405	39.800	25.74	0.00	32.28	12.50	2.45	3.17	3.26	0.69	0.72	0.36	1.76	0.00	0.60	0.00	0.00	4.90
406	39.700	25.74	0.00	32.28	12.50	2.45	3.15	3.24	0.69	0.72	0.36	1.76	0.00	0.60	0.00	0.00	4.91
407	39.600	25.74	0.00	32.28	12.50	2.45	3.14	3.23	0.68	0.72	0.36	1.76	0.00	0.60	0.00	0.00	4.92
408	39.500	25.74	0.00	32.28	12.50	2.45	3.12	3.21	0.68	0.72	0.36	1.76	0.00	0.60	0.00	0.00	4.93
409	39.400	25.74	0.00	32.28	12.50	2.45	3.10	3.19	0.68	0.72	0.36	1.76	0.00	0.60	0.00	0.00	4.94
410	39.300	25.74	0.00	32.28	12.50	2.45	3.09	3.18	0.68	0.72	0.36	1.76	0.00	0.60	0.00	0.00	4.95
411	39.200	25.74	0.00	32.28	12.50	2.45	3.07	3.16	0.68	0.73	0.36	1.76	0.00	0.60	0.00	0.00	4.96
412	39.100	25.74	0.00	32.28	12.50	2.45	3.06	3.15	0.68	0.73	0.36	1.76	0.00	0.60	0.00	0.00	4.97
413	39.000	25.74	0.00	32.28	12.50	2.45	3.04	3.13	0.68	0.73	0.36	1.76	0.00	0.60	0.00	0.00	4.98
414	38.900	25.74	0.00	32.28	12.50	2.45	3.03	3.12	0.68	0.73	0.36	1.76	0.00	0.60	0.00	0.00	4.99
415	38.800	25.74	0.00	32.28	12.50	2.45	3.01	3.10	0.67	0.73	0.36	1.76	0.00	0.60	0.00	0.00	5.00
416	38.700	25.74	0.00	32.28	12.50	2.45	2.99	3.08	0.67	0.73	0.36	1.76	0.00	0.60	0.00	0.00	5.01
417	38.600	25.74	0.00	32.28	12.50	2.45	2.98	3.07	0.67	0.73	0.35	1.76	0.00	0.60	0.00	0.00	5.02
418	38.500	25.74	0.00	32.28	12.50	2.45	2.97	3.06	0.67	0.73	0.35	1.76	0.00	0.60	0.00	0.00	5.03

* CM-I = CHLORIDES
 MG/L
 ** g/m³

CM-II = SULFATES
 MG/L

NCM = CBOD2
 mg/L

FINAL REPORT HEADWATER
 REACH NO. 10 HURRICANE CR - SITE 10

BARNES CREEK WATERSHED MODEL
 BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
419	UPR RCH	0.04431	25.74	0.00	32.28	12.50	2.45	2.97	3.06	0.67	0.73	0.35	0.00	0.60	0.00	5.03
EACH	INCR	0.0003	25.74	0.00	6.90	2.70	2.68	4.38	4.38	0.77	0.00	0.09	0.00		0.00	4.52

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
419	38.50	38.40	0.04465	52.76	0.02891	0.04	0.38	4.04	154.46	404.29	1.54	0.00	0.000	0.006	0.029
420	38.40	38.30	0.04499	52.36	0.02912	0.04	0.38	4.04	154.50	404.31	1.55	0.00	0.000	0.007	0.029
421	38.30	38.20	0.04533	51.97	0.02933	0.04	0.38	4.04	154.54	404.33	1.55	0.00	0.000	0.007	0.029
422	38.20	38.10	0.04567	51.58	0.02954	0.04	0.38	4.04	154.58	404.34	1.55	0.00	0.000	0.007	0.030
423	38.10	38.00	0.04600	51.20	0.02975	0.04	0.38	4.04	154.62	404.36	1.55	0.00	0.000	0.007	0.030
424	38.00	37.90	0.04634	50.83	0.02996	0.04	0.38	4.04	154.66	404.38	1.55	0.00	0.000	0.007	0.030
425	37.90	37.80	0.04668	50.46	0.03017	0.04	0.38	4.04	154.70	404.40	1.55	0.00	0.000	0.007	0.030
426	37.80	37.70	0.04702	50.10	0.03039	0.04	0.38	4.04	154.74	404.41	1.55	0.00	0.000	0.007	0.030
427	37.70	37.60	0.04736	49.74	0.03060	0.04	0.38	4.04	154.78	404.43	1.55	0.00	0.000	0.007	0.031
428	37.60	37.50	0.04769	49.39	0.03081	0.04	0.38	4.04	154.81	404.45	1.55	0.00	0.000	0.007	0.031
429	37.50	37.40	0.04803	49.04	0.03102	0.04	0.38	4.04	154.85	404.46	1.55	0.00	0.000	0.007	0.031
430	37.40	37.30	0.04837	48.70	0.03123	0.04	0.38	4.04	154.89	404.48	1.55	0.00	0.000	0.007	0.031
431	37.30	37.20	0.04871	48.36	0.03144	0.04	0.38	4.04	154.93	404.50	1.55	0.00	0.000	0.007	0.031
432	37.20	37.10	0.04905	48.03	0.03165	0.04	0.38	4.05	154.97	404.51	1.55	0.00	0.000	0.007	0.032
433	37.10	37.00	0.04938	47.70	0.03186	0.04	0.38	4.05	155.00	404.53	1.55	0.00	0.000	0.007	0.032
434	37.00	36.90	0.04972	47.37	0.03207	0.04	0.38	4.05	155.04	404.55	1.55	0.00	0.000	0.007	0.032
435	36.90	36.80	0.05006	47.05	0.03228	0.04	0.38	4.05	155.08	404.57	1.55	0.00	0.000	0.007	0.032
436	36.80	36.70	0.05040	46.74	0.03249	0.04	0.38	4.05	155.12	404.58	1.55	0.00	0.000	0.007	0.032
437	36.70	36.60	0.05074	46.43	0.03270	0.04	0.38	4.05	155.15	404.60	1.55	0.00	0.000	0.007	0.033
438	36.60	36.50	0.05107	46.12	0.03291	0.04	0.38	4.05	155.19	404.61	1.55	0.00	0.000	0.007	0.033
439	36.50	36.40	0.05141	45.82	0.03312	0.03	0.38	4.05	155.22	404.63	1.55	0.00	0.000	0.007	0.033
TOT						0.78			3251.84	8493.73					
AVG					0.03096		0.38	4.04			1.55				
CUM						15.02									

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

ELEM NCM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
1/da	mg/L	1/da	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
419	38.400	8.15	2.04	0.07	0.11	0.00	4.30	4.30	4.30	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
420	38.300	8.15	2.04	0.07	0.11	0.00	4.30	4.30	4.30	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
421	38.200	8.15	2.04	0.07	0.11	0.00	4.30	4.30	4.30	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
422	38.100	8.16	2.04	0.07	0.11	0.00	4.30	4.30	4.30	0.04	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
423	38.000	8.16	2.04	0.06	0.11	0.00	4.30	4.30	4.30	0.04	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04

424	37.900	8.16	2.04	0.06	0.11	0.00	4.30	4.30	4.30	0.04	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
425	37.800	8.16	2.04	0.06	0.11	0.00	4.29	4.29	4.29	0.04	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
426	37.700	8.16	2.04	0.06	0.11	0.00	4.29	4.29	4.29	0.04	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
427	37.600	8.16	2.04	0.06	0.11	0.00	4.29	4.29	4.29	0.04	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
428	37.500	8.16	2.04	0.06	0.11	0.00	4.29	4.29	4.29	0.04	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
429	37.400	8.16	2.04	0.06	0.11	0.00	4.29	4.29	4.29	0.04	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
430	37.300	8.16	2.04	0.06	0.11	0.00	4.29	4.29	4.29	0.04	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
431	37.200	8.16	2.04	0.06	0.11	0.00	4.28	4.28	4.28	0.04	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
432	37.100	8.16	2.03	0.06	0.11	0.00	4.28	4.28	4.28	0.04	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
433	37.000	8.17	2.03	0.06	0.11	0.00	4.28	4.28	4.28	0.04	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
434	36.900	8.17	2.03	0.06	0.11	0.00	4.28	4.28	4.28	0.04	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
435	36.800	8.17	2.03	0.06	0.11	0.00	4.28	4.28	4.28	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
436	36.700	8.17	2.03	0.06	0.11	0.00	4.28	4.28	4.28	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
437	36.600	8.17	2.03	0.06	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
438	36.500	8.17	2.03	0.06	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
439	36.400	8.17	2.03	0.06	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
20 DEG C RATE				0.05		0.00	3.00			0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG 20 DEG C RATE			1.83		0.10						0.05								
0.05																			

* g/m²/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 *
419	38.400	25.73	0.00	32.09	12.42	2.45	2.98	3.07	0.68	0.73	0.35	1.76	0.00	0.62	0.00	0.00	5.04
420	38.300	25.73	0.00	31.90	12.35	2.45	2.99	3.09	0.68	0.73	0.35	1.76	0.00	0.65	0.00	0.00	5.06
421	38.200	25.72	0.00	31.71	12.28	2.45	3.01	3.11	0.68	0.72	0.35	1.75	0.00	0.67	0.00	0.00	5.07
422	38.100	25.72	0.00	31.53	12.21	2.46	3.02	3.12	0.69	0.72	0.35	1.75	0.00	0.70	0.00	0.00	5.08
423	38.000	25.71	0.00	31.35	12.14	2.46	3.03	3.14	0.69	0.71	0.34	1.75	0.00	0.72	0.00	0.00	5.10

424	37.900	25.70	0.00	31.17	12.07	2.46	3.04	3.16	0.70	0.71	0.34	1.75	0.00	0.74	0.00	0.00	5.11
425	37.800	25.70	0.00	30.99	12.00	2.46	3.06	3.17	0.70	0.70	0.34	1.74	0.00	0.77	0.00	0.00	5.12
426	37.700	25.69	0.00	30.82	11.93	2.46	3.07	3.19	0.70	0.70	0.34	1.74	0.00	0.79	0.00	0.00	5.13
427	37.600	25.68	0.00	30.65	11.87	2.47	3.08	3.20	0.71	0.70	0.34	1.74	0.00	0.81	0.00	0.00	5.15
428	37.500	25.68	0.00	30.48	11.80	2.47	3.09	3.22	0.71	0.69	0.34	1.74	0.00	0.84	0.00	0.00	5.16
429	37.400	25.67	0.00	30.31	11.74	2.47	3.10	3.23	0.71	0.69	0.33	1.74	0.00	0.86	0.00	0.00	5.17
430	37.300	25.67	0.00	30.15	11.67	2.47	3.11	3.25	0.72	0.69	0.33	1.73	0.00	0.89	0.00	0.00	5.18
431	37.200	25.66	0.00	29.99	11.61	2.47	3.12	3.26	0.72	0.68	0.33	1.73	0.00	0.91	0.00	0.00	5.19
432	37.100	25.65	0.00	29.83	11.55	2.48	3.14	3.28	0.72	0.68	0.33	1.73	0.00	0.93	0.00	0.00	5.20
433	37.000	25.65	0.00	29.67	11.49	2.48	3.15	3.29	0.73	0.68	0.33	1.73	0.00	0.96	0.00	0.00	5.21
434	36.900	25.64	0.00	29.52	11.43	2.48	3.16	3.30	0.73	0.67	0.33	1.73	0.00	0.98	0.00	0.00	5.22
435	36.800	25.63	0.00	29.36	11.37	2.48	3.17	3.32	0.73	0.67	0.32	1.72	0.00	1.00	0.00	0.00	5.23
436	36.700	25.63	0.00	29.21	11.31	2.48	3.18	3.33	0.74	0.66	0.32	1.72	0.00	1.03	0.00	0.00	5.24
437	36.600	25.62	0.00	29.07	11.26	2.49	3.19	3.34	0.74	0.66	0.32	1.72	0.00	1.05	0.00	0.00	5.25
438	36.500	25.62	0.00	28.92	11.20	2.49	3.19	3.36	0.74	0.66	0.32	1.72	0.00	1.08	0.00	0.00	5.26
439	36.400	25.61	0.00	28.77	11.14	2.49	3.20	3.37	0.74	0.65	0.32	1.72	0.00	1.10	0.00	0.00	5.27

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 11 SITE 10 - MAGNOLIA CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
440	UPR RCH	0.05141	25.61	0.00	28.77	11.14	2.49	3.20	3.37	0.74	0.65	0.32	0.00	1.10	0.00	5.27
EACH	INCR	0.0001	25.61	0.00	9.20	3.40	2.44	3.41	3.41	0.78	0.00	0.08	0.00		0.00	5.18

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
440	36.40	36.30	0.05156	45.69	0.02185	0.05	0.40	5.85	235.99	584.64	2.36	0.00	0.000	0.005	0.022
441	36.30	36.20	0.05170	45.56	0.02191	0.05	0.40	5.85	236.01	584.65	2.36	0.00	0.000	0.005	0.022
442	36.20	36.10	0.05184	45.44	0.02196	0.05	0.40	5.85	236.03	584.65	2.36	0.00	0.000	0.005	0.022
443	36.10	36.00	0.05199	45.31	0.02202	0.05	0.40	5.85	236.05	584.66	2.36	0.00	0.000	0.005	0.022
444	36.00	35.90	0.05213	45.19	0.02208	0.05	0.40	5.85	236.07	584.67	2.36	0.00	0.000	0.005	0.022
445	35.90	35.80	0.05227	45.06	0.02214	0.05	0.40	5.85	236.10	584.67	2.36	0.00	0.000	0.005	0.022
446	35.80	35.70	0.05242	44.94	0.02220	0.05	0.40	5.85	236.12	584.68	2.36	0.00	0.000	0.005	0.022
447	35.70	35.60	0.05256	44.82	0.02226	0.05	0.40	5.85	236.14	584.69	2.36	0.00	0.000	0.005	0.022
448	35.60	35.50	0.05270	44.69	0.02232	0.05	0.40	5.85	236.16	584.69	2.36	0.00	0.000	0.005	0.022

449	35.50	35.40	0.05285	44.57	0.02238	0.05	0.40	5.85	236.18	584.70	2.36	0.00	0.000	0.005	0.022
450	35.40	35.30	0.05299	44.45	0.02243	0.05	0.40	5.85	236.20	584.71	2.36	0.00	0.000	0.005	0.022
451	35.30	35.20	0.05313	44.33	0.02249	0.05	0.40	5.85	236.22	584.71	2.36	0.00	0.000	0.005	0.022
452	35.20	35.10	0.05328	44.21	0.02255	0.05	0.40	5.85	236.24	584.72	2.36	0.00	0.000	0.005	0.023
453	35.10	35.00	0.05342	44.09	0.02261	0.05	0.40	5.85	236.26	584.73	2.36	0.00	0.000	0.005	0.023
454	35.00	34.90	0.05357	43.98	0.02267	0.05	0.40	5.85	236.28	584.74	2.36	0.00	0.000	0.005	0.023
455	34.90	34.80	0.05371	43.86	0.02273	0.05	0.40	5.85	236.30	584.74	2.36	0.00	0.000	0.005	0.023
456	34.80	34.70	0.05385	43.74	0.02279	0.05	0.40	5.85	236.32	584.75	2.36	0.00	0.000	0.005	0.023
457	34.70	34.60	0.05400	43.63	0.02285	0.05	0.40	5.85	236.34	584.76	2.36	0.00	0.000	0.005	0.023
458	34.60	34.50	0.05414	43.51	0.02290	0.05	0.40	5.85	236.36	584.76	2.36	0.00	0.000	0.005	0.023
459	34.50	34.40	0.05428	43.39	0.02296	0.05	0.40	5.85	236.38	584.77	2.36	0.00	0.000	0.005	0.023
460	34.40	34.30	0.05443	43.28	0.02302	0.05	0.40	5.85	236.40	584.78	2.36	0.00	0.000	0.005	0.023
461	34.30	34.20	0.05457	43.17	0.02308	0.05	0.40	5.85	236.42	584.78	2.36	0.00	0.000	0.005	0.023
462	34.20	34.10	0.05471	43.05	0.02314	0.05	0.40	5.85	236.45	584.79	2.36	0.00	0.000	0.005	0.023

TOT 1.18 5433.04 13448.43
AVG 0.02249 0.40 5.85 2.36
CUM 16.20

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

ELEM NCM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
440	36.300	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
441	36.200	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
442	36.100	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
443	36.000	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
444	35.900	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
445	35.800	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
446	35.700	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
447	35.600	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
448	35.500	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
449	35.400	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
450	35.300	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04

0.06																			
451	35.200	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
452	35.100	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
453	35.000	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
454	34.900	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
455	34.800	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
456	34.700	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
457	34.600	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
458	34.500	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
459	34.400	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
460	34.300	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
461	34.200	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
462	34.100	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
20 DEG C RATE				0.09		0.00	3.00			0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG 20 DEG C RATE			1.73		0.10						0.05								
0.05																			

* g/m²/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 *
440	36.300	25.61	0.00	28.72	11.12	2.48	3.21	3.38	0.75	0.65	0.32	1.72	0.00	1.10	0.00	0.00	5.24
441	36.200	25.61	0.00	28.67	11.10	2.48	3.22	3.39	0.75	0.65	0.32	1.72	0.00	1.10	0.00	0.00	5.22
442	36.100	25.61	0.00	28.61	11.08	2.47	3.23	3.40	0.75	0.65	0.31	1.72	0.00	1.10	0.00	0.00	5.19
443	36.000	25.61	0.00	28.56	11.06	2.46	3.24	3.41	0.75	0.65	0.31	1.72	0.00	1.10	0.00	0.00	5.17
444	35.900	25.61	0.00	28.50	11.04	2.46	3.25	3.42	0.75	0.65	0.31	1.72	0.00	1.10	0.00	0.00	5.14
445	35.800	25.61	0.00	28.45	11.02	2.45	3.26	3.43	0.75	0.65	0.31	1.72	0.00	1.10	0.00	0.00	5.11
446	35.700	25.61	0.00	28.40	10.99	2.45	3.27	3.44	0.75	0.65	0.31	1.72	0.00	1.10	0.00	0.00	5.09
447	35.600	25.61	0.00	28.35	10.97	2.45	3.28	3.44	0.75	0.65	0.31	1.72	0.00	1.10	0.00	0.00	5.06
448	35.500	25.61	0.00	28.29	10.95	2.44	3.29	3.45	0.75	0.65	0.31	1.72	0.00	1.10	0.00	0.00	5.04
449	35.400	25.61	0.00	28.24	10.93	2.44	3.30	3.46	0.75	0.65	0.31	1.72	0.00	1.10	0.00	0.00	5.01
450	35.300	25.61	0.00	28.19	10.91	2.44	3.31	3.47	0.76	0.65	0.31	1.72	0.00	1.10	0.00	0.00	4.99
451	35.200	25.61	0.00	28.14	10.89	2.43	3.31	3.48	0.76	0.65	0.31	1.72	0.00	1.10	0.00	0.00	4.97

479 32.400 8.17 1.92 0.12 0.11 0.00 4.27 4.27 4.27 0.04 0.06 0.00 0.00 0.00 0.00 0.07 0.00 0.00 0.04
0.06
20 DEG C RATE 0.09 0.00 3.00 0.03 0.00 0.00 0.00 0.00
AVG 20 DEG C RATE 1.73 0.10 0.05
0.05

* g/m²/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 *
463	34.000	25.61	0.00	27.53	10.65	2.42	3.39	3.56	0.76	0.65	0.30	1.71	0.00	1.10	0.00	0.00	4.70
464	33.900	25.61	0.00	27.46	10.62	2.42	3.39	3.56	0.76	0.65	0.30	1.71	0.00	1.10	0.00	0.00	4.68
465	33.800	25.61	0.00	27.40	10.60	2.41	3.39	3.56	0.75	0.65	0.30	1.70	0.00	1.10	0.00	0.00	4.66
466	33.700	25.61	0.00	27.34	10.57	2.41	3.39	3.55	0.75	0.65	0.30	1.70	0.00	1.10	0.00	0.00	4.64
467	33.600	25.61	0.00	27.27	10.55	2.41	3.39	3.55	0.75	0.65	0.30	1.69	0.00	1.10	0.00	0.00	4.62
468	33.500	25.61	0.00	27.21	10.52	2.41	3.39	3.55	0.74	0.65	0.30	1.69	0.00	1.10	0.00	0.00	4.60
469	33.400	25.61	0.00	27.15	10.50	2.41	3.38	3.55	0.74	0.65	0.29	1.68	0.00	1.10	0.00	0.00	4.58
470	33.300	25.61	0.00	27.09	10.48	2.41	3.38	3.55	0.74	0.65	0.29	1.68	0.00	1.10	0.00	0.00	4.56
471	33.200	25.61	0.00	27.02	10.45	2.41	3.38	3.55	0.73	0.65	0.29	1.67	0.00	1.10	0.00	0.00	4.54
472	33.100	25.61	0.00	26.96	10.43	2.41	3.38	3.54	0.73	0.64	0.29	1.67	0.00	1.10	0.00	0.00	4.52
473	33.000	25.61	0.00	26.90	10.40	2.41	3.38	3.54	0.73	0.64	0.29	1.66	0.00	1.10	0.00	0.00	4.50
474	32.900	25.61	0.00	26.84	10.38	2.41	3.38	3.54	0.72	0.64	0.29	1.66	0.00	1.10	0.00	0.00	4.48
475	32.800	25.61	0.00	26.78	10.36	2.41	3.38	3.54	0.72	0.64	0.29	1.65	0.00	1.10	0.00	0.00	4.47
476	32.700	25.61	0.00	26.72	10.33	2.41	3.37	3.54	0.72	0.64	0.29	1.65	0.00	1.10	0.00	0.00	4.45
477	32.600	25.61	0.00	26.66	10.31	2.41	3.37	3.54	0.71	0.64	0.29	1.64	0.00	1.10	0.00	0.00	4.43
478	32.500	25.61	0.00	26.61	10.29	2.41	3.37	3.54	0.71	0.64	0.29	1.64	0.00	1.10	0.00	0.00	4.41
479	32.400	25.61	0.00	26.55	10.26	2.41	3.37	3.53	0.71	0.64	0.29	1.63	0.00	1.10	0.00	0.00	4.39

* CM-I = CHLORIDES MG/L CM-II = SULFATES MG/L NCM = CBOD2 mg/L
** g/m³

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
REACH NO. 13 BRUSHY CR - RIGHTHAND CR BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
480	UPR RCH	0.05801	25.61	0.00	26.55	10.26	2.41	3.37	3.53	0.71	0.64	0.29	0.00	1.10	0.00	4.39
EACH	INCR	0.0002	25.61	0.00	9.20	3.40	2.44	3.41	3.41	0.78	0.00	0.08	0.00		0.00	5.18

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
480	32.40	32.30	0.05819	40.48	0.02456	0.05	0.41	5.85	236.92	584.95	2.37	0.00	0.000	0.006	0.025
481	32.30	32.20	0.05836	40.36	0.02463	0.05	0.41	5.85	236.95	584.96	2.37	0.00	0.000	0.006	0.025
482	32.20	32.10	0.05853	40.24	0.02470	0.05	0.41	5.85	236.97	584.97	2.37	0.00	0.000	0.006	0.025
483	32.10	32.00	0.05871	40.12	0.02477	0.05	0.41	5.85	236.99	584.98	2.37	0.00	0.000	0.006	0.025
484	32.00	31.90	0.05888	40.01	0.02484	0.05	0.41	5.85	237.02	584.98	2.37	0.00	0.000	0.006	0.025
485	31.90	31.80	0.05906	39.89	0.02491	0.05	0.41	5.85	237.04	584.99	2.37	0.00	0.000	0.006	0.025
486	31.80	31.70	0.05923	39.77	0.02498	0.05	0.41	5.85	237.06	585.00	2.37	0.00	0.000	0.006	0.025
487	31.70	31.60	0.05940	39.65	0.02506	0.05	0.41	5.85	237.09	585.01	2.37	0.00	0.000	0.006	0.025
488	31.60	31.50	0.05958	39.54	0.02513	0.05	0.41	5.85	237.11	585.01	2.37	0.00	0.000	0.006	0.025
489	31.50	31.40	0.05975	39.42	0.02520	0.05	0.41	5.85	237.13	585.02	2.37	0.00	0.000	0.006	0.025
490	31.40	31.30	0.05992	39.31	0.02527	0.05	0.41	5.85	237.16	585.03	2.37	0.00	0.000	0.006	0.025
491	31.30	31.20	0.06010	39.20	0.02534	0.05	0.41	5.85	237.18	585.04	2.37	0.00	0.000	0.006	0.025
492	31.20	31.10	0.06027	39.08	0.02541	0.05	0.41	5.85	237.20	585.05	2.37	0.00	0.000	0.006	0.025
493	31.10	31.00	0.06044	38.97	0.02548	0.05	0.41	5.85	237.22	585.05	2.37	0.00	0.000	0.006	0.025
494	31.00	30.90	0.06062	38.86	0.02555	0.05	0.41	5.85	237.25	585.06	2.37	0.00	0.000	0.006	0.026
495	30.90	30.80	0.06079	38.75	0.02562	0.05	0.41	5.85	237.27	585.07	2.37	0.00	0.000	0.006	0.026
496	30.80	30.70	0.06097	38.64	0.02569	0.05	0.41	5.85	237.29	585.08	2.37	0.00	0.000	0.006	0.026
497	30.70	30.60	0.06114	38.53	0.02576	0.04	0.41	5.85	237.31	585.09	2.37	0.00	0.000	0.006	0.026
498	30.60	30.50	0.06131	38.42	0.02583	0.04	0.41	5.85	237.34	585.09	2.37	0.00	0.000	0.006	0.026
TOT						0.87			4505.50	11115.43					
AVG					0.02519		0.41	5.85			2.37				
CUM						17.90									

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

ELEM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECA	CBOD SETT	ANBOD DECA	BKGD SOD	FULL SOD	CORR SOD	ORGN DECA	ORGN SETT	NH3 DECA	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECA	NCM DECA
SETT		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
480	32.300	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
481	32.200	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
482	32.100	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
483	32.000	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
484	31.900	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04

0.06																			
485	31.800	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
486	31.700	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
487	31.600	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
488	31.500	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
489	31.400	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
490	31.300	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
491	31.200	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
492	31.100	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
493	31.000	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
494	30.900	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
495	30.800	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
496	30.700	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
497	30.600	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
498	30.500	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
20 DEG C RATE				0.09		0.00	3.00			0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG 20 DEG C RATE			1.73		0.10						0.05								
0.05																			

* g/m²/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 *
480	32.300	25.61	0.00	26.50	10.24	2.41	3.39	3.55	0.70	0.64	0.29	1.63	0.00	1.10	0.00	0.00	4.38
481	32.200	25.61	0.00	26.44	10.22	2.41	3.40	3.57	0.70	0.64	0.28	1.62	0.00	1.10	0.00	0.00	4.36
482	32.100	25.61	0.00	26.39	10.20	2.41	3.42	3.58	0.70	0.64	0.28	1.62	0.00	1.10	0.00	0.00	4.34
483	32.000	25.61	0.00	26.34	10.18	2.41	3.43	3.60	0.69	0.64	0.28	1.61	0.00	1.10	0.00	0.00	4.33
484	31.900	25.61	0.00	26.29	10.16	2.41	3.45	3.61	0.69	0.64	0.28	1.61	0.00	1.10	0.00	0.00	4.31
485	31.800	25.61	0.00	26.24	10.14	2.41	3.46	3.62	0.69	0.64	0.28	1.61	0.00	1.10	0.00	0.00	4.29
486	31.700	25.61	0.00	26.19	10.12	2.41	3.47	3.64	0.69	0.64	0.28	1.60	0.00	1.10	0.00	0.00	4.28
487	31.600	25.61	0.00	26.14	10.10	2.41	3.49	3.65	0.68	0.64	0.28	1.60	0.00	1.10	0.00	0.00	4.26

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

ELEM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECA	CBOD SETT	ANBOD DECA	BKGD SOD	FULL SOD	CORR SOD	ORGN DECA	ORGN SETT	NH3 DECA	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECA	NCM DECA	
SETT		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da	
499	30.400	8.15	1.93	0.12	0.11	0.00	3.74	3.74	3.74	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
500	30.300	8.13	1.93	0.12	0.12	0.00	3.77	3.77	3.77	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
501	30.200	8.10	1.94	0.12	0.12	0.00	3.81	3.81	3.81	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
502	30.100	8.08	1.94	0.12	0.12	0.00	3.85	3.85	3.85	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
503	30.000	8.06	1.95	0.12	0.12	0.00	3.89	3.89	3.89	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
504	29.900	8.04	1.95	0.12	0.12	0.00	3.92	3.92	3.92	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
505	29.800	8.01	1.96	0.12	0.12	0.00	3.96	3.96	3.96	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
506	29.700	7.99	1.96	0.12	0.12	0.00	4.00	4.00	4.00	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04	
507	29.600	7.97	1.97	0.12	0.12	0.00	4.04	4.04	4.04	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04	
508	29.500	7.95	1.97	0.12	0.12	0.00	4.08	4.08	4.08	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04	
20	DEG C RATE			0.09	0.00			2.60		0.03			0.00	0.00	0.00	0.00	0.00			0.03
AVG	20 DEG C RATE			1.72	0.10						0.05									
0.05																				

* g/m²/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 *
499	30.400	25.76	0.00	25.53	9.86	2.46	3.66	3.82	0.65	0.63	0.27	1.55	0.00	1.08	0.00	0.00	4.08
500	30.300	25.92	0.00	25.44	9.82	2.51	3.70	3.86	0.65	0.62	0.27	1.54	0.00	1.06	0.00	0.00	4.07
501	30.200	26.07	0.00	25.35	9.79	2.54	3.73	3.89	0.65	0.62	0.27	1.54	0.00	1.04	0.00	0.00	4.06
502	30.100	26.23	0.00	25.27	9.76	2.57	3.77	3.92	0.64	0.62	0.27	1.53	0.00	1.02	0.00	0.00	4.05
503	30.000	26.38	0.00	25.18	9.72	2.59	3.80	3.95	0.64	0.62	0.27	1.53	0.00	1.00	0.00	0.00	4.03
504	29.900	26.53	0.00	25.10	9.69	2.60	3.83	3.98	0.64	0.62	0.27	1.52	0.00	0.98	0.00	0.00	4.02

505	29.800	26.69	0.00	25.02	9.66	2.61	3.86	4.00	0.64	0.61	0.27	1.52	0.00	0.96	0.00	0.00	4.01
506	29.700	26.84	0.00	24.94	9.62	2.62	3.89	4.03	0.63	0.61	0.26	1.51	0.00	0.94	0.00	0.00	4.00
507	29.600	27.00	0.00	24.86	9.59	2.61	3.92	4.06	0.63	0.61	0.26	1.51	0.00	0.92	0.00	0.00	3.99
508	29.500	27.15	0.00	24.78	9.56	2.61	3.95	4.08	0.63	0.61	0.26	1.50	0.00	0.90	0.00	0.00	3.98

* CM-I = CHLORIDES
 MG/L
 ** g/m³
 CM-II = SULFATES
 MG/L
 NCM = CBOD2
 mg/L

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
 REACH NO. 15 SITE 11 - BOGGY CR BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m³/	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 *
509	UPR RCH	0.06461	27.15	0.00	24.78	9.56	2.61	3.95	4.08	0.63	0.61	0.26	0.00	0.90	0.00	3.98
EACH	INCR	0.00001	27.15	0.00	13.60	4.10	2.58	4.08	4.08	0.57	0.00	0.08	0.00		0.00	1.96

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s	MEAN VELO m/s
509	29.50	29.40	0.06473	36.39	0.06233	0.02	0.26	4.05	103.86	405.24	1.04	0.00	0.000	0.010	0.062
510	29.40	29.30	0.06486	36.32	0.06244	0.02	0.26	4.05	103.87	405.25	1.04	0.00	0.000	0.010	0.062
511	29.30	29.20	0.06498	36.25	0.06255	0.02	0.26	4.05	103.88	405.26	1.04	0.00	0.000	0.010	0.063
512	29.20	29.10	0.06510	36.18	0.06266	0.02	0.26	4.05	103.89	405.26	1.04	0.00	0.000	0.010	0.063
513	29.10	29.00	0.06522	36.12	0.06277	0.02	0.26	4.05	103.90	405.27	1.04	0.00	0.000	0.010	0.063
514	29.00	28.90	0.06534	36.05	0.06289	0.02	0.26	4.05	103.91	405.27	1.04	0.00	0.000	0.010	0.063
515	28.90	28.80	0.06546	35.98	0.06300	0.02	0.26	4.05	103.92	405.28	1.04	0.00	0.000	0.010	0.063
516	28.80	28.70	0.06559	35.92	0.06311	0.02	0.26	4.05	103.93	405.28	1.04	0.00	0.000	0.010	0.063
517	28.70	28.60	0.06571	35.85	0.06322	0.02	0.26	4.05	103.94	405.29	1.04	0.00	0.000	0.010	0.063
518	28.60	28.50	0.06583	35.78	0.06333	0.02	0.26	4.05	103.95	405.29	1.04	0.00	0.000	0.010	0.063
519	28.50	28.40	0.06595	35.72	0.06344	0.02	0.26	4.05	103.96	405.30	1.04	0.00	0.000	0.010	0.063
520	28.40	28.30	0.06607	35.65	0.06355	0.02	0.26	4.05	103.97	405.30	1.04	0.00	0.000	0.010	0.064
521	28.30	28.20	0.06619	35.59	0.06366	0.02	0.26	4.05	103.98	405.31	1.04	0.00	0.000	0.010	0.064
522	28.20	28.10	0.06631	35.52	0.06377	0.02	0.26	4.05	103.99	405.31	1.04	0.00	0.000	0.010	0.064
523	28.10	28.00	0.06644	35.46	0.06388	0.02	0.26	4.05	104.00	405.32	1.04	0.00	0.000	0.010	0.064
524	28.00	27.90	0.06656	35.39	0.06399	0.02	0.26	4.05	104.01	405.32	1.04	0.00	0.000	0.010	0.064
525	27.90	27.80	0.06668	35.33	0.06410	0.02	0.26	4.05	104.02	405.33	1.04	0.00	0.000	0.010	0.064
526	27.80	27.70	0.06680	35.26	0.06421	0.02	0.26	4.05	104.03	405.33	1.04	0.00	0.000	0.010	0.064
527	27.70	27.60	0.06692	35.20	0.06432	0.02	0.26	4.05	104.04	405.34	1.04	0.00	0.000	0.010	0.064
528	27.60	27.50	0.06704	35.13	0.06443	0.02	0.26	4.05	104.05	405.35	1.04	0.00	0.000	0.010	0.064
529	27.50	27.40	0.06717	35.07	0.06455	0.02	0.26	4.05	104.06	405.35	1.04	0.00	0.000	0.010	0.065

530	27.40	27.30	0.06729	35.01	0.06466	0.02	0.26	4.05	104.07	405.36	1.04	0.00	0.000	0.010	0.065
531	27.30	27.20	0.06741	34.94	0.06477	0.02	0.26	4.05	104.08	405.36	1.04	0.00	0.000	0.010	0.065
532	27.20	27.10	0.06753	34.88	0.06488	0.02	0.26	4.05	104.09	405.37	1.04	0.00	0.000	0.010	0.065
533	27.10	27.00	0.06765	34.82	0.06499	0.02	0.26	4.05	104.10	405.37	1.04	0.00	0.000	0.010	0.065
534	27.00	26.90	0.06777	34.76	0.06510	0.02	0.26	4.05	104.11	405.38	1.04	0.00	0.000	0.010	0.065
535	26.90	26.80	0.06789	34.69	0.06521	0.02	0.26	4.05	104.12	405.38	1.04	0.00	0.000	0.011	0.065
536	26.80	26.70	0.06802	34.63	0.06532	0.02	0.26	4.05	104.13	405.39	1.04	0.00	0.000	0.011	0.065
537	26.70	26.60	0.06814	34.57	0.06543	0.02	0.26	4.05	104.14	405.39	1.04	0.00	0.000	0.011	0.065
538	26.60	26.50	0.06826	34.51	0.06554	0.02	0.26	4.05	104.15	405.40	1.04	0.00	0.000	0.011	0.066
539	26.50	26.40	0.06838	34.45	0.06565	0.02	0.26	4.05	104.16	405.40	1.04	0.00	0.000	0.011	0.066
540	26.40	26.30	0.06850	34.39	0.06576	0.02	0.26	4.05	104.17	405.41	1.04	0.00	0.000	0.011	0.066
541	26.30	26.20	0.06862	34.33	0.06587	0.02	0.26	4.05	104.18	405.41	1.04	0.00	0.000	0.011	0.066
542	26.20	26.10	0.06875	34.27	0.06598	0.02	0.26	4.05	104.19	405.42	1.04	0.00	0.000	0.011	0.066
543	26.10	26.00	0.06887	34.20	0.06609	0.02	0.26	4.05	104.20	405.42	1.04	0.00	0.000	0.011	0.066
544	26.00	25.90	0.06899	34.14	0.06620	0.02	0.26	4.05	104.21	405.43	1.04	0.00	0.000	0.011	0.066
545	25.90	25.80	0.06911	34.08	0.06631	0.02	0.26	4.05	104.22	405.43	1.04	0.00	0.000	0.011	0.066
546	25.80	25.70	0.06923	34.02	0.06642	0.02	0.26	4.05	104.23	405.44	1.04	0.00	0.000	0.011	0.066
547	25.70	25.60	0.06935	33.96	0.06653	0.02	0.26	4.05	104.24	405.44	1.04	0.00	0.000	0.011	0.067
548	25.60	25.50	0.06947	33.91	0.06664	0.02	0.26	4.05	104.25	405.45	1.04	0.00	0.000	0.011	0.067
549	25.50	25.40	0.06960	33.85	0.06675	0.02	0.26	4.05	104.26	405.45	1.04	0.00	0.000	0.011	0.067
550	25.40	25.30	0.06972	33.79	0.06686	0.02	0.26	4.05	104.27	405.46	1.04	0.00	0.000	0.011	0.067
551	25.30	25.20	0.06984	33.73	0.06697	0.02	0.26	4.05	104.28	405.46	1.04	0.00	0.000	0.011	0.067
552	25.20	25.10	0.06996	33.67	0.06708	0.02	0.26	4.05	104.29	405.47	1.04	0.00	0.000	0.011	0.067
553	25.10	25.00	0.07008	33.61	0.06719	0.02	0.26	4.05	104.30	405.47	1.04	0.00	0.000	0.011	0.067
554	25.00	24.90	0.07020	33.55	0.06730	0.02	0.26	4.05	104.31	405.48	1.04	0.00	0.000	0.011	0.067
555	24.90	24.80	0.07033	33.50	0.06741	0.02	0.26	4.05	104.32	405.48	1.04	0.00	0.000	0.011	0.067
556	24.80	24.70	0.07045	33.44	0.06753	0.02	0.26	4.05	104.33	405.49	1.04	0.00	0.000	0.011	0.068
557	24.70	24.60	0.07057	33.38	0.06764	0.02	0.26	4.05	104.34	405.50	1.04	0.00	0.000	0.011	0.068
558	24.60	24.50	0.07069	33.32	0.06775	0.02	0.26	4.06	104.35	405.50	1.04	0.00	0.000	0.011	0.068
559	24.50	24.40	0.07081	33.27	0.06786	0.02	0.26	4.06	104.36	405.51	1.04	0.00	0.000	0.011	0.068
560	24.40	24.30	0.07093	33.21	0.06797	0.02	0.26	4.06	104.37	405.51	1.04	0.00	0.000	0.011	0.068
561	24.30	24.20	0.07105	33.15	0.06808	0.02	0.26	4.06	104.38	405.52	1.04	0.00	0.000	0.011	0.068
562	24.20	24.10	0.07118	33.09	0.06819	0.02	0.26	4.06	104.39	405.52	1.04	0.00	0.000	0.011	0.068
563	24.10	24.00	0.07130	33.04	0.06830	0.02	0.26	4.06	104.39	405.53	1.04	0.00	0.000	0.011	0.068
564	24.00	23.90	0.07142	32.98	0.06841	0.02	0.26	4.06	104.40	405.53	1.04	0.00	0.000	0.011	0.068
565	23.90	23.80	0.07154	32.93	0.06852	0.02	0.26	4.06	104.41	405.54	1.04	0.00	0.000	0.011	0.069
566	23.80	23.70	0.07166	32.87	0.06863	0.02	0.26	4.06	104.42	405.54	1.04	0.00	0.000	0.011	0.069
567	23.70	23.60	0.07178	32.81	0.06874	0.02	0.26	4.06	104.43	405.55	1.04	0.00	0.000	0.011	0.069
568	23.60	23.50	0.07191	32.76	0.06885	0.02	0.26	4.06	104.44	405.55	1.04	0.00	0.000	0.011	0.069
569	23.50	23.40	0.07203	32.70	0.06896	0.02	0.26	4.06	104.45	405.56	1.04	0.00	0.000	0.011	0.069
570	23.40	23.30	0.07215	32.65	0.06907	0.02	0.26	4.06	104.46	405.56	1.04	0.00	0.000	0.011	0.069
571	23.30	23.20	0.07227	32.59	0.06918	0.02	0.26	4.06	104.47	405.57	1.04	0.00	0.000	0.011	0.069
572	23.20	23.10	0.07239	32.54	0.06929	0.02	0.26	4.06	104.48	405.57	1.04	0.00	0.000	0.011	0.069
573	23.10	23.00	0.07251	32.48	0.06940	0.02	0.26	4.06	104.49	405.58	1.04	0.00	0.000	0.011	0.069

TOT
AVG
CUM

0.06580

1.14
19.48

0.26 4.05

6771.53 26351.79

1.04

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
509	29.400	7.95	3.13	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
510	29.300	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
511	29.200	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
512	29.100	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
513	29.000	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
514	28.900	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
515	28.800	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
516	28.700	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
517	28.600	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
518	28.500	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
519	28.400	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
520	28.300	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
521	28.200	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
522	28.100	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
523	28.000	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
524	27.900	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
525	27.800	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
526	27.700	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
527	27.600	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
528	27.500	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
529	27.400	7.95	3.12	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06

0.06																			
555	24.800	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
556	24.700	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
557	24.600	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
558	24.500	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
559	24.400	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
560	24.300	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
561	24.200	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
562	24.100	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
563	24.000	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
564	23.900	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
565	23.800	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
566	23.700	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
567	23.600	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
568	23.500	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
569	23.400	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
570	23.300	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
571	23.200	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
572	23.100	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
573	23.000	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
	20 DEG C RATE			0.06		0.00	2.50			0.04		0.00	0.00	0.00	0.00			0.00	0.04
	AVG 20 DEG C RATE		2.72		0.10						0.05								
0.05																			

* g/m²/d

** mg/L/day

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

ELEM	ENDING	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	TOTN	PHOS	CHL A	MACRO	COLI	NCM
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NO.	DIST	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	**	#/100mL	*
509	29.400	27.15	0.00	24.75	9.55	2.62	3.95	4.08	0.63	0.61	0.26	1.50	0.00	0.90	0.00	0.00	3.97
510	29.300	27.15	0.00	24.73	9.54	2.64	3.94	4.08	0.63	0.61	0.26	1.50	0.00	0.90	0.00	0.00	3.95
511	29.200	27.15	0.00	24.71	9.53	2.65	3.94	4.08	0.63	0.61	0.26	1.50	0.00	0.90	0.00	0.00	3.94
512	29.100	27.15	0.00	24.69	9.52	2.66	3.94	4.08	0.63	0.61	0.26	1.50	0.00	0.90	0.00	0.00	3.93
513	29.000	27.15	0.00	24.67	9.51	2.67	3.94	4.08	0.63	0.61	0.26	1.50	0.00	0.90	0.00	0.00	3.92
514	28.900	27.15	0.00	24.65	9.50	2.68	3.94	4.08	0.63	0.61	0.26	1.50	0.00	0.90	0.00	0.00	3.91
515	28.800	27.15	0.00	24.63	9.49	2.69	3.94	4.08	0.63	0.61	0.26	1.49	0.00	0.90	0.00	0.00	3.89
516	28.700	27.15	0.00	24.61	9.48	2.70	3.94	4.08	0.63	0.61	0.26	1.49	0.00	0.90	0.00	0.00	3.88
517	28.600	27.15	0.00	24.59	9.47	2.71	3.94	4.07	0.63	0.61	0.26	1.49	0.00	0.90	0.00	0.00	3.87
518	28.500	27.15	0.00	24.57	9.46	2.72	3.94	4.07	0.63	0.60	0.26	1.49	0.00	0.90	0.00	0.00	3.86
519	28.400	27.15	0.00	24.55	9.45	2.73	3.94	4.07	0.63	0.60	0.26	1.49	0.00	0.90	0.00	0.00	3.85
520	28.300	27.15	0.00	24.53	9.44	2.74	3.94	4.07	0.63	0.60	0.26	1.49	0.00	0.90	0.00	0.00	3.84
521	28.200	27.15	0.00	24.51	9.43	2.75	3.94	4.07	0.63	0.60	0.26	1.49	0.00	0.90	0.00	0.00	3.82
522	28.100	27.15	0.00	24.49	9.42	2.75	3.94	4.07	0.63	0.60	0.26	1.49	0.00	0.90	0.00	0.00	3.81
523	28.000	27.15	0.00	24.47	9.41	2.76	3.94	4.07	0.63	0.60	0.26	1.49	0.00	0.90	0.00	0.00	3.80
524	27.900	27.15	0.00	24.45	9.40	2.77	3.93	4.07	0.63	0.60	0.26	1.49	0.00	0.90	0.00	0.00	3.79
525	27.800	27.15	0.00	24.43	9.39	2.77	3.93	4.07	0.63	0.60	0.26	1.49	0.00	0.90	0.00	0.00	3.78
526	27.700	27.15	0.00	24.41	9.38	2.78	3.93	4.07	0.63	0.60	0.26	1.48	0.00	0.90	0.00	0.00	3.77
527	27.600	27.15	0.00	24.39	9.37	2.78	3.93	4.07	0.63	0.60	0.26	1.48	0.00	0.90	0.00	0.00	3.76
528	27.500	27.15	0.00	24.37	9.36	2.79	3.93	4.07	0.63	0.60	0.26	1.48	0.00	0.90	0.00	0.00	3.75
529	27.400	27.15	0.00	24.35	9.35	2.79	3.93	4.07	0.63	0.60	0.25	1.48	0.00	0.90	0.00	0.00	3.74
530	27.300	27.15	0.00	24.33	9.34	2.80	3.93	4.07	0.63	0.60	0.25	1.48	0.00	0.90	0.00	0.00	3.72
531	27.200	27.15	0.00	24.31	9.33	2.80	3.93	4.06	0.63	0.60	0.25	1.48	0.00	0.90	0.00	0.00	3.71
532	27.100	27.15	0.00	24.29	9.33	2.81	3.93	4.06	0.63	0.60	0.25	1.48	0.00	0.90	0.00	0.00	3.70
533	27.000	27.15	0.00	24.27	9.32	2.81	3.93	4.06	0.63	0.60	0.25	1.48	0.00	0.90	0.00	0.00	3.69
534	26.900	27.15	0.00	24.25	9.31	2.81	3.93	4.06	0.63	0.60	0.25	1.48	0.00	0.90	0.00	0.00	3.68
535	26.800	27.15	0.00	24.24	9.30	2.82	3.93	4.06	0.63	0.60	0.25	1.48	0.00	0.90	0.00	0.00	3.67
536	26.700	27.15	0.00	24.22	9.29	2.82	3.93	4.06	0.63	0.60	0.25	1.48	0.00	0.90	0.00	0.00	3.66
537	26.600	27.15	0.00	24.20	9.28	2.82	3.93	4.06	0.63	0.60	0.25	1.47	0.00	0.90	0.00	0.00	3.65
538	26.500	27.15	0.00	24.18	9.27	2.83	3.92	4.06	0.62	0.60	0.25	1.47	0.00	0.90	0.00	0.00	3.64
539	26.400	27.15	0.00	24.16	9.26	2.83	3.92	4.06	0.62	0.60	0.25	1.47	0.00	0.90	0.00	0.00	3.63
540	26.300	27.15	0.00	24.14	9.25	2.83	3.92	4.06	0.62	0.60	0.25	1.47	0.00	0.90	0.00	0.00	3.62
541	26.200	27.15	0.00	24.12	9.24	2.83	3.92	4.06	0.62	0.60	0.25	1.47	0.00	0.90	0.00	0.00	3.61
542	26.100	27.15	0.00	24.10	9.23	2.84	3.92	4.06	0.62	0.60	0.25	1.47	0.00	0.90	0.00	0.00	3.60
543	26.000	27.15	0.00	24.08	9.22	2.84	3.92	4.06	0.62	0.60	0.25	1.47	0.00	0.90	0.00	0.00	3.59
544	25.900	27.15	0.00	24.07	9.21	2.84	3.92	4.06	0.62	0.60	0.25	1.47	0.00	0.90	0.00	0.00	3.58
545	25.800	27.15	0.00	24.05	9.21	2.84	3.92	4.06	0.62	0.59	0.25	1.47	0.00	0.90	0.00	0.00	3.57
546	25.700	27.15	0.00	24.03	9.20	2.84	3.92	4.05	0.62	0.59	0.25	1.47	0.00	0.90	0.00	0.00	3.56
547	25.600	27.15	0.00	24.01	9.19	2.85	3.92	4.05	0.62	0.59	0.25	1.47	0.00	0.90	0.00	0.00	3.55
548	25.500	27.15	0.00	23.99	9.18	2.85	3.92	4.05	0.62	0.59	0.25	1.47	0.00	0.90	0.00	0.00	3.54
549	25.400	27.15	0.00	23.98	9.17	2.85	3.92	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	3.53
550	25.300	27.15	0.00	23.96	9.16	2.85	3.92	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	3.52
551	25.200	27.15	0.00	23.94	9.15	2.85	3.92	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	3.51
552	25.100	27.15	0.00	23.92	9.14	2.85	3.92	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	3.50
553	25.000	27.15	0.00	23.90	9.14	2.86	3.92	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	3.49
554	24.900	27.15	0.00	23.89	9.13	2.86	3.91	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	3.48
555	24.800	27.15	0.00	23.87	9.12	2.86	3.91	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	3.47
556	24.700	27.15	0.00	23.85	9.11	2.86	3.91	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	3.46

557	24.600	27.15	0.00	23.83	9.10	2.86	3.91	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	3.45
558	24.500	27.15	0.00	23.81	9.09	2.86	3.91	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	3.44
559	24.400	27.15	0.00	23.80	9.08	2.86	3.91	4.05	0.62	0.59	0.24	1.46	0.00	0.90	0.00	0.00	3.43
560	24.300	27.15	0.00	23.78	9.07	2.86	3.91	4.05	0.62	0.59	0.24	1.46	0.00	0.90	0.00	0.00	3.42
561	24.200	27.15	0.00	23.76	9.07	2.86	3.91	4.05	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	3.42
562	24.100	27.15	0.00	23.74	9.06	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	3.41
563	24.000	27.15	0.00	23.73	9.05	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	3.40
564	23.900	27.15	0.00	23.71	9.04	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	3.39
565	23.800	27.15	0.00	23.69	9.03	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	3.38
566	23.700	27.15	0.00	23.68	9.02	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	3.37
567	23.600	27.15	0.00	23.66	9.02	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	3.36
568	23.500	27.15	0.00	23.64	9.01	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	3.35
569	23.400	27.15	0.00	23.62	9.00	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	3.34
570	23.300	27.15	0.00	23.61	8.99	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	3.34
571	23.200	27.15	0.00	23.59	8.98	2.87	3.90	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	3.33
572	23.100	27.15	0.00	23.57	8.97	2.87	3.90	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	3.32
573	23.000	27.15	0.00	23.56	8.97	2.87	3.90	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	3.31

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 16 BOGGY CR - WOLF CREEK

BARNES CREEK WATERSHED MODEL
BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
574	UPR RCH	0.07251	27.15	0.00	23.56	8.97	2.87	3.90	4.04	0.62	0.59	0.24	0.00	0.90	0.00	3.31
EACH	INCR	0.0079	27.15	0.00	13.60	4.10	2.58	4.08	4.08	0.57	0.00	0.08	0.00		0.00	1.96

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
574	23.00	22.90	0.08041	29.29	0.07652	0.02	0.26	4.06	105.09	405.90	1.05	0.00	0.000	0.012	0.077
TOT						0.02			105.09	405.90	1.05				
AVG					0.07652		0.26	4.06							
CUM						19.50									

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

ELEM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECA	CBOD SETT	ANBOD DECA	BKGD SOD	FULL SOD	CORR SOD	ORGN DECA	ORGN SETT	NH3 DECA	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECA	NCM DECA
574	22.900	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
20 DEG C RATE				0.06	0.00	2.50					0.04	0.00	0.00	0.00	0.00				
AVG 20 DEG C RATE				2.70	0.10					0.05									
* g/m ² /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 *
574	22.900	27.15	0.00	22.58	8.49	2.85	3.91	4.04	0.69	0.53	0.22	1.44	0.00	0.90	0.00	0.00	3.17
* CM-I = CHLORIDES MG/L				CM-II = SULFATES MG/L				NCM = CBOD2 mg/L									
** g/m ³																	

FINAL REPORT HEADWATER
REACH NO. 17 WOLF CR - UNNAMED CREEK

BARNES CREEK WATERSHED MODEL
BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
575	UPR RCH	0.08041	27.15	0.00	22.58	8.49	2.85	3.91	4.04	0.69	0.53	0.22	0.00	0.90	0.00	3.17
EACH	INCR	0.0005	27.15	0.00	13.60	4.10	2.58	4.08	4.08	0.57	0.00	0.08	0.00	0.00		1.96

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
575	22.90	22.80	0.08091	29.11	0.07696	0.02	0.26	4.06	105.12	405.92	1.05	0.00	0.000	0.012	0.077

576	22.80	22.70	0.08140	28.94	0.07741	0.01	0.26	4.06	105.16	405.94	1.05	0.00	0.000	0.013	0.077
577	22.70	22.60	0.08189	28.76	0.07785	0.01	0.26	4.06	105.19	405.96	1.05	0.00	0.000	0.013	0.078
578	22.60	22.50	0.08239	28.59	0.07829	0.01	0.26	4.06	105.23	405.97	1.05	0.00	0.000	0.013	0.078
579	22.50	22.40	0.08288	28.42	0.07874	0.01	0.26	4.06	105.26	405.99	1.05	0.00	0.000	0.013	0.079
580	22.40	22.30	0.08338	28.25	0.07918	0.01	0.26	4.06	105.30	406.01	1.05	0.00	0.000	0.013	0.079
581	22.30	22.20	0.08387	28.09	0.07962	0.01	0.26	4.06	105.33	406.03	1.05	0.00	0.000	0.013	0.080
582	22.20	22.10	0.08436	27.92	0.08006	0.01	0.26	4.06	105.37	406.05	1.05	0.00	0.000	0.013	0.080
583	22.10	22.00	0.08486	27.76	0.08051	0.01	0.26	4.06	105.40	406.07	1.05	0.00	0.000	0.013	0.081
584	22.00	21.90	0.08535	27.60	0.08095	0.01	0.26	4.06	105.44	406.09	1.05	0.00	0.000	0.013	0.081
585	21.90	21.80	0.08584	27.44	0.08139	0.01	0.26	4.06	105.47	406.11	1.05	0.00	0.000	0.013	0.081
586	21.80	21.70	0.08634	27.28	0.08183	0.01	0.26	4.06	105.51	406.13	1.06	0.00	0.000	0.013	0.082
587	21.70	21.60	0.08683	27.13	0.08227	0.01	0.26	4.06	105.54	406.15	1.06	0.00	0.000	0.013	0.082
588	21.60	21.50	0.08733	26.97	0.08271	0.01	0.26	4.06	105.57	406.17	1.06	0.00	0.000	0.013	0.083
589	21.50	21.40	0.08782	26.82	0.08316	0.01	0.26	4.06	105.61	406.18	1.06	0.00	0.000	0.014	0.083
590	21.40	21.30	0.08831	26.67	0.08360	0.01	0.26	4.06	105.64	406.20	1.06	0.00	0.000	0.014	0.084

TOT
AVG
CUM

0.08023
19.73

0.23
0.26 4.06

1686.16 6496.97

1.05

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

ELEM NCM NO. SETT	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI	NCM
	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY	DECAY
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
575	22.800	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
576	22.700	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
577	22.600	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
578	22.500	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
579	22.400	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
580	22.300	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
581	22.200	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
582	22.100	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
583	22.000	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
584	21.900	7.95	3.08	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06

585	21.800	7.95	3.08	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
586	21.700	7.95	3.08	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
587	21.600	7.95	3.08	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
588	21.500	7.95	3.08	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
589	21.400	7.95	3.08	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
590	21.300	7.95	3.08	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
20 DEG C RATE				0.06		0.00	2.50			0.04		0.00	0.00	0.00	0.00			0.00	0.04
AVG 20 DEG C RATE			2.70		0.10						0.05								
0.05																			

* g/m²/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 *
575	22.800	27.15	0.00	22.52	8.46	2.85	3.92	4.06	0.69	0.53	0.22	1.44	0.00	0.90	0.00	0.00	3.18
576	22.700	27.15	0.00	22.47	8.43	2.85	3.94	4.08	0.69	0.52	0.22	1.44	0.00	0.90	0.00	0.00	3.18
577	22.600	27.15	0.00	22.42	8.41	2.85	3.96	4.09	0.69	0.52	0.22	1.44	0.00	0.90	0.00	0.00	3.19
578	22.500	27.15	0.00	22.36	8.38	2.85	3.97	4.11	0.70	0.52	0.22	1.43	0.00	0.90	0.00	0.00	3.19
579	22.400	27.15	0.00	22.31	8.36	2.85	3.99	4.12	0.70	0.52	0.22	1.43	0.00	0.90	0.00	0.00	3.20
580	22.300	27.15	0.00	22.26	8.33	2.85	4.00	4.14	0.70	0.51	0.22	1.43	0.00	0.90	0.00	0.00	3.20
581	22.200	27.15	0.00	22.21	8.31	2.85	4.02	4.15	0.70	0.51	0.22	1.43	0.00	0.90	0.00	0.00	3.20
582	22.100	27.15	0.00	22.16	8.28	2.85	4.03	4.16	0.70	0.51	0.22	1.43	0.00	0.90	0.00	0.00	3.21
583	22.000	27.15	0.00	22.11	8.26	2.85	4.04	4.18	0.71	0.51	0.22	1.43	0.00	0.90	0.00	0.00	3.21
584	21.900	27.15	0.00	22.06	8.23	2.85	4.06	4.19	0.71	0.50	0.22	1.43	0.00	0.90	0.00	0.00	3.22
585	21.800	27.15	0.00	22.01	8.21	2.85	4.07	4.21	0.71	0.50	0.22	1.43	0.00	0.90	0.00	0.00	3.22
586	21.700	27.15	0.00	21.96	8.19	2.85	4.09	4.22	0.71	0.50	0.21	1.43	0.00	0.90	0.00	0.00	3.23
587	21.600	27.15	0.00	21.92	8.16	2.85	4.10	4.23	0.72	0.50	0.21	1.43	0.00	0.90	0.00	0.00	3.23
588	21.500	27.15	0.00	21.87	8.14	2.85	4.11	4.25	0.72	0.50	0.21	1.43	0.00	0.90	0.00	0.00	3.24
589	21.400	27.15	0.00	21.82	8.12	2.85	4.12	4.26	0.72	0.49	0.21	1.42	0.00	0.90	0.00	0.00	3.24
590	21.300	27.15	0.00	21.78	8.10	2.85	4.14	4.27	0.72	0.49	0.21	1.42	0.00	0.90	0.00	0.00	3.24

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 18 UNNAMED CR - SITE 12

BARNES CREEK WATERSHED MODEL
BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
591	UPR RCH	0.08831	27.15	0.00	21.78	8.10	2.85	4.14	4.27	0.72	0.49	0.21	0.00	0.90	0.00	3.24
EACH	INCR	0.0002	27.15	0.00	13.60	4.10	2.58	4.08	4.08	0.57	0.00	0.08	0.00		0.00	1.96

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
591	21.30	21.20	0.08851	26.61	0.08377	0.01	0.26	4.06	105.65	406.21	1.06	0.00	0.000	0.014	0.084
592	21.20	21.10	0.08870	26.56	0.08394	0.01	0.26	4.06	105.67	406.22	1.06	0.00	0.000	0.014	0.084
593	21.10	21.00	0.08889	26.50	0.08411	0.01	0.26	4.06	105.68	406.22	1.06	0.00	0.000	0.014	0.084
594	21.00	20.90	0.08908	26.44	0.08428	0.01	0.26	4.06	105.69	406.23	1.06	0.00	0.000	0.014	0.084
595	20.90	20.80	0.08928	26.39	0.08446	0.01	0.26	4.06	105.71	406.24	1.06	0.00	0.000	0.014	0.084
596	20.80	20.70	0.08947	26.33	0.08463	0.01	0.26	4.06	105.72	406.25	1.06	0.00	0.000	0.014	0.085
597	20.70	20.60	0.08966	26.27	0.08480	0.01	0.26	4.06	105.73	406.25	1.06	0.00	0.000	0.014	0.085
598	20.60	20.50	0.08985	26.22	0.08497	0.01	0.26	4.06	105.75	406.26	1.06	0.00	0.000	0.014	0.085
599	20.50	20.40	0.09005	26.16	0.08514	0.01	0.26	4.06	105.76	406.27	1.06	0.00	0.000	0.014	0.085
600	20.40	20.30	0.09024	26.10	0.08532	0.01	0.26	4.06	105.77	406.28	1.06	0.00	0.000	0.014	0.085
601	20.30	20.20	0.09043	26.05	0.08549	0.01	0.26	4.06	105.78	406.28	1.06	0.00	0.000	0.014	0.085
602	20.20	20.10	0.09063	25.99	0.08566	0.01	0.26	4.06	105.80	406.29	1.06	0.00	0.000	0.014	0.086
603	20.10	20.00	0.09082	25.94	0.08583	0.01	0.26	4.06	105.81	406.30	1.06	0.00	0.000	0.014	0.086
604	20.00	19.90	0.09101	25.88	0.08600	0.01	0.26	4.06	105.82	406.30	1.06	0.00	0.000	0.014	0.086
605	19.90	19.80	0.09120	25.83	0.08617	0.01	0.26	4.06	105.84	406.31	1.06	0.00	0.000	0.014	0.086
606	19.80	19.70	0.09140	25.77	0.08635	0.01	0.26	4.06	105.85	406.32	1.06	0.00	0.000	0.014	0.086
607	19.70	19.60	0.09159	25.72	0.08652	0.01	0.26	4.06	105.86	406.33	1.06	0.00	0.000	0.014	0.087
608	19.60	19.50	0.09178	25.67	0.08669	0.01	0.26	4.06	105.87	406.33	1.06	0.00	0.000	0.014	0.087
609	19.50	19.40	0.09197	25.61	0.08686	0.01	0.26	4.06	105.89	406.34	1.06	0.00	0.000	0.014	0.087
610	19.40	19.30	0.09217	25.56	0.08703	0.01	0.26	4.06	105.90	406.35	1.06	0.00	0.000	0.014	0.087
611	19.30	19.20	0.09236	25.50	0.08720	0.01	0.26	4.06	105.91	406.35	1.06	0.00	0.000	0.014	0.087
612	19.20	19.10	0.09255	25.45	0.08738	0.01	0.26	4.06	105.92	406.36	1.06	0.00	0.000	0.014	0.087
613	19.10	19.00	0.09274	25.40	0.08755	0.01	0.26	4.06	105.94	406.37	1.06	0.00	0.000	0.014	0.088
614	19.00	18.90	0.09294	25.35	0.08772	0.01	0.26	4.06	105.95	406.38	1.06	0.00	0.000	0.014	0.088
615	18.90	18.80	0.09313	25.29	0.08789	0.01	0.26	4.06	105.96	406.38	1.06	0.00	0.000	0.014	0.088
616	18.80	18.70	0.09332	25.24	0.08806	0.01	0.26	4.06	105.97	406.39	1.06	0.00	0.000	0.014	0.088
617	18.70	18.60	0.09352	25.19	0.08823	0.01	0.26	4.06	105.99	406.40	1.06	0.00	0.000	0.014	0.088
618	18.60	18.50	0.09371	25.14	0.08840	0.01	0.26	4.06	106.00	406.40	1.06	0.00	0.000	0.014	0.088
619	18.50	18.40	0.09390	25.09	0.08858	0.01	0.26	4.06	106.01	406.41	1.06	0.00	0.000	0.014	0.089
620	18.40	18.30	0.09409	25.03	0.08875	0.01	0.26	4.06	106.02	406.42	1.06	0.00	0.000	0.014	0.089
621	18.30	18.20	0.09429	24.98	0.08892	0.01	0.26	4.06	106.04	406.43	1.06	0.00	0.000	0.015	0.089
622	18.20	18.10	0.09448	24.93	0.08909	0.01	0.26	4.06	106.05	406.43	1.06	0.00	0.000	0.015	0.089
623	18.10	18.00	0.09467	24.88	0.08926	0.01	0.26	4.06	106.06	406.44	1.06	0.00	0.000	0.015	0.089
624	18.00	17.90	0.09486	24.83	0.08943	0.01	0.26	4.06	106.07	406.45	1.06	0.00	0.000	0.015	0.089

625	17.90	17.80	0.09506	24.78	0.08960	0.01	0.26	4.06	106.09	406.45	1.06	0.00	0.000	0.015	0.090
626	17.80	17.70	0.09525	24.73	0.08977	0.01	0.26	4.06	106.10	406.46	1.06	0.00	0.000	0.015	0.090
627	17.70	17.60	0.09544	24.68	0.08994	0.01	0.26	4.06	106.11	406.47	1.06	0.00	0.000	0.015	0.090
628	17.60	17.50	0.09564	24.63	0.09012	0.01	0.26	4.06	106.12	406.48	1.06	0.00	0.000	0.015	0.090
629	17.50	17.40	0.09583	24.58	0.09029	0.01	0.26	4.06	106.14	406.48	1.06	0.00	0.000	0.015	0.090
630	17.40	17.30	0.09602	24.53	0.09046	0.01	0.26	4.06	106.15	406.49	1.06	0.00	0.000	0.015	0.090
631	17.30	17.20	0.09621	24.48	0.09063	0.01	0.26	4.06	106.16	406.50	1.06	0.00	0.000	0.015	0.091
TOT							0.54		4342.33	16660.52					
AVG					0.08716			0.26	4.06					1.06	
CUM							20.27								

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
591	21.200	7.95	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
592	21.100	7.95	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
593	21.000	7.95	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
594	20.900	7.95	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
595	20.800	7.95	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
596	20.700	7.95	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
597	20.600	7.95	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
598	20.500	7.94	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
599	20.400	7.94	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
600	20.300	7.94	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
601	20.200	7.94	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
602	20.100	7.94	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
603	20.000	7.94	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
604	19.900	7.94	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06

630	17.300	7.94	3.07	0.08	0.12	0.00	3.54	3.54	3.54	0.07	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
631	17.200	7.94	3.07	0.08	0.12	0.00	3.55	3.55	3.55	0.07	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
0.06																			
20 DEG C RATE				0.06		0.00	2.25			0.04		0.00	0.00	0.00	0.00			0.00	0.04
AVG 20 DEG C RATE	2.69				0.10						0.05								
0.05																			

* g/m²/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 *
591	21.200	27.15	0.00	21.76	8.09	2.87	4.14	4.28	0.72	0.49	0.21	1.42	0.00	0.90	0.00	0.00	3.24
592	21.100	27.15	0.00	21.74	8.08	2.89	4.15	4.28	0.72	0.49	0.21	1.42	0.00	0.90	0.00	0.00	3.24
593	21.000	27.16	0.00	21.72	8.07	2.91	4.15	4.29	0.72	0.49	0.21	1.42	0.00	0.90	0.00	0.00	3.24
594	20.900	27.16	0.00	21.71	8.06	2.93	4.15	4.29	0.73	0.49	0.21	1.43	0.00	0.90	0.00	0.00	3.24
595	20.800	27.16	0.00	21.69	8.05	2.94	4.16	4.29	0.73	0.49	0.21	1.43	0.00	0.90	0.00	0.00	3.24
596	20.700	27.16	0.00	21.67	8.04	2.96	4.16	4.30	0.73	0.49	0.21	1.43	0.00	0.90	0.00	0.00	3.23
597	20.600	27.16	0.00	21.65	8.04	2.98	4.17	4.30	0.73	0.49	0.21	1.43	0.00	0.90	0.00	0.00	3.23
598	20.500	27.16	0.00	21.64	8.03	2.99	4.17	4.31	0.73	0.49	0.21	1.43	0.00	0.90	0.00	0.00	3.23
599	20.400	27.17	0.00	21.62	8.02	3.01	4.17	4.31	0.73	0.49	0.21	1.43	0.00	0.90	0.00	0.00	3.23
600	20.300	27.17	0.00	21.60	8.01	3.02	4.18	4.31	0.73	0.49	0.21	1.43	0.00	0.90	0.00	0.00	3.23
601	20.200	27.17	0.00	21.58	8.00	3.03	4.18	4.32	0.73	0.49	0.21	1.43	0.00	0.90	0.00	0.00	3.23
602	20.100	27.17	0.00	21.57	7.99	3.04	4.19	4.32	0.73	0.49	0.21	1.43	0.00	0.90	0.00	0.00	3.23
603	20.000	27.17	0.00	21.55	7.99	3.06	4.19	4.33	0.74	0.49	0.21	1.43	0.00	0.90	0.00	0.00	3.22
604	19.900	27.17	0.00	21.53	7.98	3.07	4.19	4.33	0.74	0.48	0.21	1.43	0.00	0.90	0.00	0.00	3.22
605	19.800	27.18	0.00	21.52	7.97	3.08	4.20	4.33	0.74	0.48	0.21	1.43	0.00	0.90	0.00	0.00	3.22
606	19.700	27.18	0.00	21.50	7.96	3.09	4.20	4.34	0.74	0.48	0.21	1.43	0.00	0.90	0.00	0.00	3.22
607	19.600	27.18	0.00	21.48	7.95	3.10	4.21	4.34	0.74	0.48	0.21	1.43	0.00	0.90	0.00	0.00	3.22
608	19.500	27.18	0.00	21.47	7.94	3.11	4.21	4.34	0.74	0.48	0.21	1.43	0.00	0.90	0.00	0.00	3.22
609	19.400	27.18	0.00	21.45	7.94	3.12	4.21	4.35	0.74	0.48	0.21	1.43	0.00	0.90	0.00	0.00	3.22
610	19.300	27.18	0.00	21.43	7.93	3.13	4.22	4.35	0.74	0.48	0.21	1.43	0.00	0.90	0.00	0.00	3.21
611	19.200	27.19	0.00	21.42	7.92	3.13	4.22	4.36	0.74	0.48	0.21	1.43	0.00	0.90	0.00	0.00	3.21
612	19.100	27.19	0.00	21.40	7.91	3.14	4.22	4.36	0.74	0.48	0.20	1.43	0.00	0.90	0.00	0.00	3.21
613	19.000	27.19	0.00	21.39	7.90	3.15	4.23	4.36	0.75	0.48	0.20	1.43	0.00	0.90	0.00	0.00	3.21
614	18.900	27.19	0.00	21.37	7.90	3.16	4.23	4.37	0.75	0.48	0.20	1.43	0.00	0.90	0.00	0.00	3.21
615	18.800	27.19	0.00	21.35	7.89	3.16	4.24	4.37	0.75	0.48	0.20	1.43	0.00	0.90	0.00	0.00	3.21
616	18.700	27.19	0.00	21.34	7.88	3.17	4.24	4.37	0.75	0.48	0.20	1.43	0.00	0.90	0.00	0.00	3.21
617	18.600	27.20	0.00	21.32	7.87	3.17	4.24	4.38	0.75	0.48	0.20	1.43	0.00	0.90	0.00	0.00	3.20
618	18.500	27.20	0.00	21.31	7.87	3.18	4.25	4.38	0.75	0.48	0.20	1.43	0.00	0.90	0.00	0.00	3.20
619	18.400	27.20	0.00	21.29	7.86	3.19	4.25	4.38	0.75	0.48	0.20	1.43	0.00	0.90	0.00	0.00	3.20
620	18.300	27.20	0.00	21.27	7.85	3.19	4.25	4.39	0.75	0.48	0.20	1.43	0.00	0.90	0.00	0.00	3.20
621	18.200	27.20	0.00	21.26	7.84	3.20	4.26	4.39	0.75	0.48	0.20	1.43	0.00	0.90	0.00	0.00	3.20
622	18.100	27.20	0.00	21.24	7.83	3.20	4.26	4.39	0.75	0.48	0.20	1.43	0.00	0.90	0.00	0.00	3.20
623	18.000	27.21	0.00	21.23	7.83	3.21	4.26	4.40	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.20

624	17.900	27.21	0.00	21.21	7.82	3.21	4.27	4.40	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.19
625	17.800	27.21	0.00	21.20	7.81	3.21	4.27	4.40	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.19
626	17.700	27.21	0.00	21.18	7.80	3.22	4.27	4.41	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.19
627	17.600	27.21	0.00	21.17	7.80	3.22	4.28	4.41	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.19
628	17.500	27.21	0.00	21.15	7.79	3.22	4.28	4.41	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.19
629	17.400	27.22	0.00	21.14	7.78	3.23	4.28	4.42	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.19
630	17.300	27.22	0.00	21.12	7.77	3.23	4.29	4.42	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.19
631	17.200	27.22	0.00	21.10	7.77	3.23	4.29	4.42	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.19

* CM-I = CHLORIDES CM-II = SULFATES NCM = CBOD2
 MG/L MG/L mg/L
 ** g/m³

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
 REACH NO. 19 SITE 12 - CLEAR CR BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
632	UPR RCH	0.09621	27.22	0.00	21.10	7.77	3.23	4.29	4.42	0.76	0.48	0.20	0.00	0.90	0.00	3.19

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
632	17.20	17.10	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
633	17.10	17.00	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
634	17.00	16.90	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
635	16.90	16.80	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
636	16.80	16.70	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
637	16.70	16.60	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
638	16.60	16.50	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
639	16.50	16.40	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
640	16.40	16.30	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
641	16.30	16.20	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
642	16.20	16.10	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
643	16.10	16.00	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
644	16.00	15.90	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
645	15.90	15.80	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
646	15.80	15.70	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
647	15.70	15.60	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
648	15.60	15.50	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058
649	15.50	15.40	0.09621	24.48	0.05755	0.02	0.27	6.16	167.17	616.50	1.67	0.00	0.000	0.010	0.058

698	10.500	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
699	10.400	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
700	10.300	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
701	10.200	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
702	10.100	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
20 DEG C RATE				0.07		0.00	2.90			0.02		0.00	0.00	0.00	0.00			0.00	0.02
AVG 20 DEG C RATE		2.58			0.10						0.05								
0.05																			

* g/m²/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 *
632	17.100	27.22	0.00	21.10	7.77	3.17	4.30	4.43	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.18
633	17.000	27.22	0.00	21.10	7.77	3.11	4.30	4.44	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.18
634	16.900	27.22	0.00	21.10	7.77	3.05	4.31	4.44	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.17
635	16.800	27.22	0.00	21.10	7.77	3.00	4.32	4.45	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.17
636	16.700	27.22	0.00	21.10	7.77	2.94	4.32	4.46	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.17
637	16.600	27.22	0.00	21.10	7.77	2.90	4.33	4.46	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.16
638	16.500	27.22	0.00	21.10	7.77	2.85	4.34	4.47	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.16
639	16.400	27.22	0.00	21.10	7.77	2.81	4.34	4.48	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.16
640	16.300	27.22	0.00	21.10	7.77	2.77	4.35	4.48	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.15
641	16.200	27.22	0.00	21.10	7.77	2.73	4.35	4.49	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.15
642	16.100	27.22	0.00	21.10	7.77	2.69	4.36	4.50	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.14
643	16.000	27.22	0.00	21.10	7.77	2.66	4.37	4.50	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.14
644	15.900	27.22	0.00	21.10	7.77	2.62	4.37	4.51	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.14
645	15.800	27.22	0.00	21.10	7.77	2.59	4.38	4.52	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.13
646	15.700	27.22	0.00	21.10	7.77	2.56	4.39	4.52	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	3.13
647	15.600	27.22	0.00	21.10	7.77	2.54	4.39	4.53	0.76	0.48	0.20	1.45	0.00	0.90	0.00	0.00	3.12
648	15.500	27.22	0.00	21.10	7.77	2.51	4.40	4.53	0.76	0.48	0.20	1.45	0.00	0.90	0.00	0.00	3.12
649	15.400	27.22	0.00	21.10	7.77	2.49	4.41	4.54	0.76	0.48	0.20	1.45	0.00	0.90	0.00	0.00	3.12
650	15.300	27.22	0.00	21.10	7.77	2.46	4.41	4.55	0.76	0.48	0.20	1.45	0.00	0.90	0.00	0.00	3.11
651	15.200	27.22	0.00	21.10	7.77	2.44	4.42	4.55	0.76	0.48	0.20	1.45	0.00	0.90	0.00	0.00	3.11
652	15.100	27.22	0.00	21.10	7.77	2.42	4.42	4.56	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.11
653	15.000	27.22	0.00	21.10	7.77	2.40	4.43	4.57	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.10
654	14.900	27.22	0.00	21.10	7.77	2.38	4.44	4.57	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.10
655	14.800	27.22	0.00	21.10	7.77	2.37	4.44	4.58	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.09
656	14.700	27.22	0.00	21.10	7.77	2.35	4.45	4.58	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.09
657	14.600	27.22	0.00	21.10	7.77	2.33	4.45	4.59	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.09
658	14.500	27.22	0.00	21.10	7.77	2.32	4.46	4.60	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.08

659	14.400	27.22	0.00	21.10	7.77	2.31	4.47	4.60	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.08
660	14.300	27.22	0.00	21.10	7.77	2.29	4.47	4.61	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.08
661	14.200	27.22	0.00	21.10	7.77	2.28	4.48	4.61	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.07
662	14.100	27.22	0.00	21.10	7.77	2.27	4.48	4.62	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.07
663	14.000	27.22	0.00	21.10	7.77	2.26	4.49	4.63	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.06
664	13.900	27.22	0.00	21.10	7.77	2.25	4.50	4.63	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.06
665	13.800	27.22	0.00	21.10	7.77	2.24	4.50	4.64	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.06
666	13.700	27.22	0.00	21.10	7.77	2.23	4.51	4.64	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.05
667	13.600	27.22	0.00	21.10	7.77	2.22	4.51	4.65	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.05
668	13.500	27.22	0.00	21.10	7.77	2.21	4.52	4.65	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	3.05
669	13.400	27.22	0.00	21.10	7.77	2.20	4.53	4.66	0.76	0.49	0.20	1.46	0.00	0.90	0.00	0.00	3.04
670	13.300	27.22	0.00	21.10	7.77	2.20	4.53	4.67	0.76	0.49	0.20	1.46	0.00	0.90	0.00	0.00	3.04
671	13.200	27.22	0.00	21.10	7.77	2.19	4.54	4.67	0.76	0.49	0.20	1.46	0.00	0.90	0.00	0.00	3.04
672	13.100	27.22	0.00	21.10	7.77	2.18	4.54	4.68	0.76	0.49	0.20	1.46	0.00	0.90	0.00	0.00	3.03
673	13.000	27.22	0.00	21.10	7.77	2.18	4.55	4.68	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	3.03
674	12.900	27.22	0.00	21.10	7.77	2.17	4.55	4.69	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	3.02
675	12.800	27.22	0.00	21.10	7.77	2.17	4.56	4.69	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	3.02
676	12.700	27.22	0.00	21.10	7.77	2.16	4.56	4.70	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	3.02
677	12.600	27.22	0.00	21.10	7.77	2.16	4.57	4.71	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	3.01
678	12.500	27.22	0.00	21.10	7.77	2.15	4.58	4.71	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	3.01
679	12.400	27.22	0.00	21.10	7.77	2.15	4.58	4.72	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	3.01
680	12.300	27.22	0.00	21.10	7.77	2.14	4.59	4.72	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	3.00
681	12.200	27.22	0.00	21.10	7.77	2.14	4.59	4.73	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	3.00
682	12.100	27.22	0.00	21.10	7.77	2.13	4.60	4.73	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	3.00
683	12.000	27.22	0.00	21.10	7.77	2.13	4.60	4.74	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	2.99
684	11.900	27.22	0.00	21.10	7.77	2.13	4.61	4.74	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	2.99
685	11.800	27.22	0.00	21.10	7.77	2.12	4.61	4.75	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	2.99
686	11.700	27.22	0.00	21.10	7.77	2.12	4.62	4.75	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	2.98
687	11.600	27.22	0.00	21.10	7.77	2.12	4.62	4.76	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	2.98
688	11.500	27.22	0.00	21.10	7.77	2.12	4.63	4.76	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	2.97
689	11.400	27.22	0.00	21.10	7.77	2.11	4.64	4.77	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	2.97
690	11.300	27.22	0.00	21.10	7.77	2.11	4.64	4.78	0.76	0.50	0.20	1.47	0.00	0.90	0.00	0.00	2.97
691	11.200	27.22	0.00	21.10	7.77	2.11	4.65	4.78	0.76	0.50	0.20	1.47	0.00	0.90	0.00	0.00	2.96
692	11.100	27.22	0.00	21.10	7.77	2.11	4.65	4.79	0.76	0.50	0.20	1.47	0.00	0.90	0.00	0.00	2.96
693	11.000	27.22	0.00	21.10	7.77	2.10	4.66	4.79	0.76	0.50	0.20	1.47	0.00	0.90	0.00	0.00	2.96
694	10.900	27.22	0.00	21.10	7.77	2.10	4.66	4.80	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00	2.95
695	10.800	27.22	0.00	21.10	7.77	2.10	4.67	4.80	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00	2.95
696	10.700	27.22	0.00	21.10	7.77	2.10	4.67	4.81	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00	2.95
697	10.600	27.22	0.00	21.10	7.77	2.10	4.68	4.81	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00	2.94
698	10.500	27.22	0.00	21.10	7.77	2.10	4.68	4.82	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00	2.94
699	10.400	27.22	0.00	21.10	7.77	2.09	4.69	4.82	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00	2.94
700	10.300	27.22	0.00	21.10	7.77	2.09	4.69	4.83	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00	2.93
701	10.200	27.22	0.00	21.10	7.77	2.09	4.70	4.83	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00	2.93
702	10.100	27.22	0.00	21.10	7.77	2.09	4.70	4.84	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00	2.93

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
 REACH NO. 20 CLEAR CR - BEAR CR

BARNES CREEK WATERSHED MODEL
 BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
703	UPR RCH	0.09621	27.22	0.00	21.10	7.77	2.09	4.70	4.84	0.76	0.51	0.20	0.00	0.90	0.00	2.93
703	WSTLD	0.00880	25.56	0.00	5.50	1.30	4.38	5.55	5.55	0.75	0.00	0.06	0.00	4.30	0.00	3.76

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
703	10.10	10.00	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
704	10.00	9.90	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
705	9.90	9.80	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
706	9.80	9.70	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
707	9.70	9.60	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
708	9.60	9.50	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
709	9.50	9.40	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
710	9.40	9.30	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
711	9.30	9.20	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
712	9.20	9.10	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
713	9.10	9.00	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
714	9.00	8.90	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
715	8.90	8.80	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
716	8.80	8.70	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
717	8.70	8.60	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
718	8.60	8.50	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
719	8.50	8.40	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
720	8.40	8.30	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
721	8.30	8.20	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
722	8.20	8.10	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
723	8.10	8.00	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
724	8.00	7.90	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
725	7.90	7.80	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
726	7.80	7.70	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
TOT						0.44			4030.92	14803.46					
AVG					0.06252		0.27	6.17			1.68				
CUM						22.14									

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

724	7.900	7.94	2.94	0.08	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.02
0.06																			
725	7.800	7.94	2.94	0.08	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.02
0.06																			
726	7.700	7.94	2.94	0.08	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.02
0.06																			
20 DEG C RATE				0.07		0.00	3.30			0.02		0.00	0.00	0.00	0.00			0.00	0.02
AVG 20 DEG C RATE			2.57		0.10						0.05								
0.05																			

* g/m²/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 *
703	10.000	27.22	0.00	19.80	7.23	2.23	4.78	4.91	0.76	0.47	0.19	1.42	0.00	0.90	0.00	0.00	2.99
704	9.900	27.22	0.00	19.80	7.23	2.18	4.78	4.92	0.77	0.47	0.19	1.42	0.00	0.90	0.00	0.00	2.99
705	9.800	27.22	0.00	19.80	7.23	2.13	4.78	4.92	0.77	0.47	0.19	1.42	0.00	0.90	0.00	0.00	2.98
706	9.700	27.22	0.00	19.80	7.23	2.09	4.79	4.92	0.77	0.47	0.19	1.42	0.00	0.90	0.00	0.00	2.98
707	9.600	27.22	0.00	19.80	7.23	2.05	4.79	4.93	0.77	0.47	0.19	1.42	0.00	0.90	0.00	0.00	2.97
708	9.500	27.22	0.00	19.80	7.23	2.01	4.80	4.93	0.77	0.47	0.19	1.42	0.00	0.90	0.00	0.00	2.97
709	9.400	27.22	0.00	19.80	7.23	1.97	4.80	4.93	0.77	0.47	0.19	1.43	0.00	0.90	0.00	0.00	2.96
710	9.300	27.22	0.00	19.80	7.23	1.94	4.80	4.94	0.77	0.47	0.19	1.43	0.00	0.90	0.00	0.00	2.96
711	9.200	27.22	0.00	19.80	7.23	1.90	4.81	4.94	0.77	0.47	0.19	1.43	0.00	0.90	0.00	0.00	2.95
712	9.100	27.22	0.00	19.80	7.23	1.87	4.81	4.95	0.77	0.47	0.19	1.43	0.00	0.90	0.00	0.00	2.95
713	9.000	27.22	0.00	19.80	7.23	1.84	4.82	4.95	0.77	0.47	0.19	1.43	0.00	0.90	0.00	0.00	2.94
714	8.900	27.22	0.00	19.80	7.23	1.81	4.82	4.96	0.78	0.47	0.19	1.43	0.00	0.90	0.00	0.00	2.94
715	8.800	27.22	0.00	19.80	7.23	1.79	4.82	4.96	0.78	0.47	0.19	1.43	0.00	0.90	0.00	0.00	2.93
716	8.700	27.22	0.00	19.80	7.23	1.76	4.83	4.96	0.78	0.47	0.18	1.43	0.00	0.90	0.00	0.00	2.93
717	8.600	27.22	0.00	19.80	7.23	1.74	4.83	4.97	0.78	0.47	0.18	1.44	0.00	0.90	0.00	0.00	2.93
718	8.500	27.22	0.00	19.80	7.23	1.71	4.84	4.97	0.78	0.47	0.18	1.44	0.00	0.90	0.00	0.00	2.92
719	8.400	27.22	0.00	19.80	7.23	1.69	4.84	4.98	0.78	0.47	0.18	1.44	0.00	0.90	0.00	0.00	2.92
720	8.300	27.22	0.00	19.80	7.23	1.67	4.85	4.98	0.78	0.47	0.18	1.44	0.00	0.90	0.00	0.00	2.91
721	8.200	27.22	0.00	19.80	7.23	1.65	4.85	4.99	0.78	0.47	0.18	1.44	0.00	0.90	0.00	0.00	2.91
722	8.100	27.22	0.00	19.80	7.23	1.64	4.86	4.99	0.78	0.48	0.18	1.44	0.00	0.90	0.00	0.00	2.90
723	8.000	27.22	0.00	19.80	7.23	1.62	4.86	5.00	0.78	0.48	0.18	1.44	0.00	0.90	0.00	0.00	2.90
724	7.900	27.22	0.00	19.80	7.23	1.60	4.87	5.00	0.79	0.48	0.18	1.45	0.00	0.90	0.00	0.00	2.89
725	7.800	27.22	0.00	19.80	7.23	1.59	4.87	5.01	0.79	0.48	0.18	1.45	0.00	0.90	0.00	0.00	2.89
726	7.700	27.22	0.00	19.80	7.23	1.57	4.88	5.01	0.79	0.48	0.18	1.45	0.00	0.90	0.00	0.00	2.89

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
727	UPR RCH	0.10501	27.22	0.00	19.80	7.23	1.57	4.88	5.01	0.79	0.48	0.18	0.00	0.90	0.00	2.89

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
727	7.70	7.60	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
728	7.60	7.50	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
729	7.50	7.40	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
730	7.40	7.30	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
731	7.30	7.20	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
732	7.20	7.10	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
733	7.10	7.00	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
734	7.00	6.90	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
735	6.90	6.80	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
736	6.80	6.70	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
737	6.70	6.60	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
738	6.60	6.50	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
739	6.50	6.40	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
740	6.40	6.30	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
741	6.30	6.20	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
742	6.20	6.10	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
743	6.10	6.00	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
744	6.00	5.90	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011	0.063
TOT						0.33			3023.19	11102.59					
AVG					0.06252		0.27	6.17			1.68				
CUM						22.48									

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

ELEM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da

727	7.600	7.94	2.94	0.08	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.02
0.06																			
728	7.500	7.94	2.94	0.08	0.12	0.00	5.19	5.19	5.19	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.02
0.06																			
729	7.400	7.94	2.94	0.08	0.12	0.00	5.19	5.19	5.19	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.02
0.06																			
730	7.300	7.94	2.94	0.08	0.12	0.00	5.19	5.19	5.19	0.03	0.06	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.02
0.06																			
731	7.200	7.94	2.94	0.08	0.12	0.00	5.18	5.18	5.18	0.03	0.06	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.02
0.06																			
732	7.100	7.95	2.94	0.08	0.12	0.00	5.18	5.18	5.18	0.03	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.02
0.06																			
733	7.000	7.95	2.94	0.07	0.12	0.00	5.18	5.18	5.18	0.03	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.02
0.06																			
734	6.900	7.95	2.94	0.07	0.12	0.00	5.17	5.17	5.17	0.03	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.02
0.06																			
735	6.800	7.95	2.94	0.07	0.12	0.00	5.17	5.17	5.17	0.03	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.02
0.06																			
736	6.700	7.95	2.94	0.07	0.12	0.00	5.17	5.17	5.17	0.03	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.02
0.06																			
737	6.600	7.95	2.94	0.07	0.12	0.00	5.16	5.16	5.16	0.03	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.02
0.06																			
738	6.500	7.95	2.94	0.07	0.12	0.00	5.16	5.16	5.16	0.03	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.02
0.06																			
739	6.400	7.96	2.94	0.07	0.12	0.00	5.15	5.15	5.15	0.03	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.02
0.06																			
740	6.300	7.96	2.94	0.07	0.12	0.00	5.15	5.15	5.15	0.03	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.02
0.06																			
741	6.200	7.96	2.94	0.07	0.12	0.00	5.15	5.15	5.15	0.03	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.02
0.06																			
742	6.100	7.96	2.94	0.07	0.12	0.00	5.14	5.14	5.14	0.03	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.02
0.06																			
743	6.000	7.96	2.94	0.07	0.12	0.00	5.14	5.14	5.14	0.03	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.02
0.06																			
744	5.900	7.96	2.93	0.07	0.12	0.00	5.14	5.14	5.14	0.03	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.02
0.06																			

20 DEG C RATE				0.07		0.00	3.30			0.02		0.00	0.00	0.00	0.00			0.00	0.02
AVG 20 DEG C RATE			2.57		0.10						0.05								
0.05																			

* g/m²/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 *
727	7.600	27.21	0.00	19.80	7.23	1.56	4.88	5.02	0.79	0.48	0.18	1.45	0.00	0.96	0.00	0.00	2.88

728	7.500	27.20	0.00	19.80	7.23	1.55	4.88	5.03	0.79	0.48	0.18	1.45	0.00	1.01	0.00	0.00	2.88
729	7.400	27.19	0.00	19.80	7.23	1.54	4.88	5.04	0.79	0.48	0.18	1.46	0.00	1.07	0.00	0.00	2.87
730	7.300	27.18	0.00	19.80	7.23	1.53	4.88	5.05	0.79	0.48	0.18	1.46	0.00	1.12	0.00	0.00	2.87
731	7.200	27.17	0.00	19.80	7.23	1.52	4.88	5.06	0.80	0.48	0.18	1.46	0.00	1.18	0.00	0.00	2.86
732	7.100	27.16	0.00	19.80	7.23	1.51	4.88	5.07	0.80	0.48	0.18	1.46	0.00	1.23	0.00	0.00	2.86
733	7.000	27.15	0.00	19.80	7.23	1.50	4.88	5.08	0.80	0.48	0.18	1.46	0.00	1.29	0.00	0.00	2.86
734	6.900	27.14	0.00	19.80	7.23	1.49	4.88	5.09	0.80	0.48	0.18	1.47	0.00	1.34	0.00	0.00	2.85
735	6.800	27.12	0.00	19.80	7.23	1.49	4.89	5.10	0.80	0.48	0.18	1.47	0.00	1.40	0.00	0.00	2.85
736	6.700	27.11	0.00	19.80	7.23	1.48	4.89	5.10	0.80	0.48	0.18	1.47	0.00	1.46	0.00	0.00	2.84
737	6.600	27.10	0.00	19.80	7.23	1.48	4.89	5.11	0.81	0.48	0.18	1.47	0.00	1.51	0.00	0.00	2.84
738	6.500	27.09	0.00	19.80	7.23	1.47	4.89	5.12	0.81	0.48	0.18	1.47	0.00	1.57	0.00	0.00	2.83
739	6.400	27.08	0.00	19.80	7.23	1.47	4.89	5.13	0.81	0.48	0.18	1.48	0.00	1.62	0.00	0.00	2.83
740	6.300	27.07	0.00	19.80	7.23	1.47	4.89	5.14	0.81	0.48	0.18	1.48	0.00	1.68	0.00	0.00	2.83
741	6.200	27.06	0.00	19.80	7.23	1.46	4.89	5.15	0.81	0.48	0.18	1.48	0.00	1.73	0.00	0.00	2.82
742	6.100	27.05	0.00	19.80	7.23	1.46	4.89	5.16	0.81	0.48	0.18	1.48	0.00	1.79	0.00	0.00	2.82
743	6.000	27.04	0.00	19.80	7.23	1.46	4.89	5.17	0.82	0.48	0.18	1.48	0.00	1.84	0.00	0.00	2.81
744	5.900	27.03	0.00	19.80	7.23	1.46	4.90	5.18	0.82	0.49	0.18	1.49	0.00	1.90	0.00	0.00	2.81

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 22 SITE 13 - CALCASIEU RIVER

BARNES CREEK WATERSHED MODEL
BARNES CREEK CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
745	UPR RCH	0.10501	27.03	0.00	19.80	7.23	1.46	4.90	5.18	0.82	0.49	0.18	0.00	1.90	0.00	2.81

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
745	5.90	5.80	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002	0.002
746	5.80	5.70	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002	0.002
747	5.70	5.60	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002	0.002
748	5.60	5.50	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002	0.002
749	5.50	5.40	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002	0.002
750	5.40	5.30	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002	0.002
751	5.30	5.20	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002	0.002
752	5.20	5.10	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002	0.002
753	5.10	5.00	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002	0.002

TOT 36.51 331254.78 140821.91
AVG 0.00187 2.35 23.87 56.14
CUM 58.99

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
745 0.06	5.800	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
746 0.06	5.700	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
747 0.06	5.600	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
748 0.06	5.500	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
749 0.06	5.400	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
750 0.06	5.300	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
751 0.06	5.200	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
752 0.06	5.100	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
753 0.06	5.000	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
754 0.06	4.900	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
755 0.06	4.800	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
756 0.06	4.700	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
757 0.06	4.600	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
758 0.06	4.500	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
759 0.06	4.400	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
760 0.06	4.300	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
761 0.06	4.200	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
762	4.100	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03

0.06																			
788	1.500	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
789	1.400	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
790	1.300	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
791	1.200	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
792	1.100	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
793	1.000	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
794	0.900	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
795	0.800	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
796	0.700	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
797	0.600	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
798	0.500	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
799	0.400	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
800	0.300	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
801	0.200	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
802	0.100	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
803	0.000	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
20 DEG C RATE				0.06		0.00	2.90			0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG 20 DEG C RATE			0.30		0.10						0.05								
0.05																			

* g/m²/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 *	
745	5.800	27.03	0.00	19.80	7.23	1.46	4.97	5.25	0.81	0.51	0.18	1.50	0.00	1.90	0.00	0.00	0.00	2.81
746	5.700	27.03	0.00	19.80	7.23	1.46	5.03	5.31	0.81	0.53	0.18	1.52	0.00	1.90	0.00	0.00	0.00	2.82
747	5.600	27.03	0.00	19.80	7.23	1.46	5.08	5.37	0.81	0.55	0.18	1.54	0.00	1.90	0.00	0.00	0.00	2.82
748	5.500	27.03	0.00	19.80	7.23	1.45	5.14	5.42	0.80	0.58	0.17	1.55	0.00	1.90	0.00	0.00	0.00	2.82

749	5.400	27.03	0.00	19.80	7.23	1.45	5.18	5.47	0.80	0.60	0.17	1.57	0.00	1.90	0.00	0.00	2.83
750	5.300	27.03	0.00	19.80	7.23	1.44	5.23	5.51	0.80	0.62	0.17	1.59	0.00	1.90	0.00	0.00	2.83
751	5.200	27.03	0.00	19.80	7.23	1.44	5.26	5.55	0.80	0.64	0.17	1.61	0.00	1.90	0.00	0.00	2.83
752	5.100	27.03	0.00	19.80	7.23	1.44	5.30	5.58	0.79	0.66	0.16	1.62	0.00	1.90	0.00	0.00	2.84
753	5.000	27.03	0.00	19.80	7.23	1.43	5.33	5.62	0.79	0.69	0.16	1.64	0.00	1.90	0.00	0.00	2.84
754	4.900	27.03	0.00	19.80	7.23	1.43	5.36	5.65	0.79	0.71	0.16	1.66	0.00	1.90	0.00	0.00	2.84
755	4.800	27.03	0.00	19.80	7.23	1.43	5.39	5.67	0.79	0.73	0.16	1.67	0.00	1.90	0.00	0.00	2.85
756	4.700	27.03	0.00	19.80	7.23	1.42	5.41	5.70	0.79	0.75	0.15	1.69	0.00	1.90	0.00	0.00	2.85
757	4.600	27.03	0.00	19.80	7.23	1.42	5.43	5.72	0.78	0.77	0.15	1.71	0.00	1.90	0.00	0.00	2.85
758	4.500	27.03	0.00	19.80	7.23	1.42	5.46	5.74	0.78	0.80	0.15	1.73	0.00	1.90	0.00	0.00	2.86
759	4.400	27.03	0.00	19.80	7.23	1.42	5.47	5.76	0.78	0.82	0.15	1.75	0.00	1.90	0.00	0.00	2.86
760	4.300	27.03	0.00	19.80	7.23	1.41	5.49	5.78	0.78	0.84	0.14	1.76	0.00	1.90	0.00	0.00	2.86
761	4.200	27.03	0.00	19.80	7.23	1.41	5.51	5.79	0.78	0.86	0.14	1.78	0.00	1.90	0.00	0.00	2.86
762	4.100	27.03	0.00	19.80	7.23	1.41	5.52	5.81	0.78	0.88	0.14	1.80	0.00	1.90	0.00	0.00	2.87
763	4.000	27.03	0.00	19.80	7.23	1.41	5.54	5.82	0.78	0.90	0.14	1.82	0.00	1.90	0.00	0.00	2.87
764	3.900	27.03	0.00	19.80	7.23	1.41	5.55	5.83	0.78	0.93	0.13	1.84	0.00	1.90	0.00	0.00	2.87
765	3.800	27.03	0.00	19.80	7.23	1.41	5.56	5.84	0.77	0.95	0.13	1.85	0.00	1.90	0.00	0.00	2.87
766	3.700	27.03	0.00	19.80	7.23	1.41	5.57	5.86	0.77	0.97	0.13	1.87	0.00	1.90	0.00	0.00	2.88
767	3.600	27.03	0.00	19.80	7.23	1.40	5.58	5.86	0.77	0.99	0.13	1.89	0.00	1.90	0.00	0.00	2.88
768	3.500	27.03	0.00	19.80	7.23	1.40	5.59	5.87	0.77	1.01	0.13	1.91	0.00	1.90	0.00	0.00	2.88
769	3.400	27.03	0.00	19.80	7.23	1.40	5.60	5.88	0.77	1.03	0.12	1.93	0.00	1.90	0.00	0.00	2.88
770	3.300	27.03	0.00	19.80	7.23	1.40	5.60	5.89	0.77	1.05	0.12	1.94	0.00	1.90	0.00	0.00	2.88
771	3.200	27.03	0.00	19.80	7.23	1.40	5.61	5.90	0.77	1.08	0.12	1.96	0.00	1.90	0.00	0.00	2.89
772	3.100	27.03	0.00	19.80	7.23	1.40	5.62	5.90	0.77	1.10	0.12	1.98	0.00	1.90	0.00	0.00	2.89
773	3.000	27.03	0.00	19.80	7.23	1.40	5.62	5.91	0.77	1.12	0.11	2.00	0.00	1.90	0.00	0.00	2.89
774	2.900	27.03	0.00	19.80	7.23	1.40	5.63	5.91	0.77	1.14	0.11	2.02	0.00	1.90	0.00	0.00	2.89
775	2.800	27.03	0.00	19.80	7.23	1.40	5.63	5.92	0.77	1.16	0.11	2.04	0.00	1.90	0.00	0.00	2.89
776	2.700	27.03	0.00	19.80	7.23	1.40	5.64	5.92	0.77	1.18	0.11	2.05	0.00	1.90	0.00	0.00	2.90
777	2.600	27.03	0.00	19.80	7.23	1.40	5.64	5.93	0.77	1.20	0.10	2.07	0.00	1.90	0.00	0.00	2.90
778	2.500	27.03	0.00	19.80	7.23	1.40	5.65	5.93	0.77	1.22	0.10	2.09	0.00	1.90	0.00	0.00	2.90
779	2.400	27.03	0.00	19.80	7.23	1.40	5.65	5.94	0.77	1.25	0.10	2.11	0.00	1.90	0.00	0.00	2.90
780	2.300	27.03	0.00	19.80	7.23	1.40	5.66	5.94	0.77	1.27	0.10	2.13	0.00	1.90	0.00	0.00	2.90
781	2.200	27.03	0.00	19.80	7.23	1.40	5.66	5.95	0.76	1.29	0.09	2.15	0.00	1.90	0.00	0.00	2.90
782	2.100	27.03	0.00	19.80	7.23	1.40	5.67	5.95	0.76	1.31	0.09	2.16	0.00	1.90	0.00	0.00	2.90
783	2.000	27.03	0.00	19.80	7.23	1.40	5.67	5.96	0.76	1.33	0.09	2.18	0.00	1.90	0.00	0.00	2.90
784	1.900	27.03	0.00	19.80	7.23	1.40	5.68	5.96	0.76	1.35	0.09	2.20	0.00	1.90	0.00	0.00	2.90
785	1.800	27.03	0.00	19.80	7.23	1.41	5.68	5.97	0.76	1.37	0.08	2.22	0.00	1.90	0.00	0.00	2.90
786	1.700	27.03	0.00	19.80	7.23	1.41	5.69	5.97	0.76	1.39	0.08	2.24	0.00	1.90	0.00	0.00	2.90
787	1.600	27.03	0.00	19.80	7.23	1.41	5.69	5.98	0.76	1.42	0.08	2.26	0.00	1.90	0.00	0.00	2.91
788	1.500	27.03	0.00	19.80	7.23	1.41	5.69	5.98	0.76	1.44	0.08	2.28	0.00	1.90	0.00	0.00	2.91
789	1.400	27.03	0.00	19.80	7.23	1.41	5.70	5.98	0.76	1.46	0.07	2.29	0.00	1.90	0.00	0.00	2.91
790	1.300	27.03	0.00	19.80	7.23	1.41	5.70	5.99	0.76	1.48	0.07	2.31	0.00	1.90	0.00	0.00	2.91
791	1.200	27.03	0.00	19.80	7.23	1.41	5.71	5.99	0.76	1.50	0.07	2.33	0.00	1.90	0.00	0.00	2.91
792	1.100	27.03	0.00	19.80	7.23	1.41	5.71	5.99	0.76	1.52	0.07	2.35	0.00	1.90	0.00	0.00	2.91
793	1.000	27.03	0.00	19.80	7.23	1.41	5.71	6.00	0.76	1.54	0.06	2.37	0.00	1.90	0.00	0.00	2.91
794	0.900	27.03	0.00	19.80	7.23	1.41	5.72	6.00	0.76	1.56	0.06	2.39	0.00	1.90	0.00	0.00	2.91
795	0.800	27.03	0.00	19.80	7.23	1.41	5.72	6.00	0.76	1.58	0.06	2.41	0.00	1.90	0.00	0.00	2.91
796	0.700	27.03	0.00	19.80	7.23	1.41	5.72	6.01	0.76	1.61	0.06	2.42	0.00	1.90	0.00	0.00	2.91
797	0.600	27.03	0.00	19.80	7.23	1.41	5.73	6.01	0.76	1.63	0.05	2.44	0.00	1.90	0.00	0.00	2.91
798	0.500	27.03	0.00	19.80	7.23	1.41	5.73	6.01	0.76	1.65	0.05	2.46	0.00	1.90	0.00	0.00	2.91

799	0.400	27.03	0.00	19.80	7.23	1.42	5.73	6.02	0.76	1.67	0.05	2.48	0.00	1.90	0.00	0.00	2.91
800	0.300	27.03	0.00	19.80	7.23	1.42	5.73	6.02	0.76	1.69	0.05	2.50	0.00	1.90	0.00	0.00	2.91
801	0.200	27.03	0.00	19.80	7.23	1.42	5.74	6.02	0.76	1.71	0.04	2.52	0.00	1.90	0.00	0.00	2.91
802	0.100	27.03	0.00	19.80	7.23	1.42	5.74	6.03	0.76	1.73	0.04	2.54	0.00	1.90	0.00	0.00	2.91
803	0.000	27.03	0.00	19.80	7.23	1.42	5.74	6.03	0.76	1.75	0.04	2.55	0.00	1.90	0.00	0.00	2.91

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

STREAM SUMMARY
HEADWATER

BARNES CREEK WATERSHED MODEL
BARNES CREEK CALIBRATION RUN

TRAVEL TIME = 58.99 DAYS

MAXIMUM EFFLUENT = 64.79 PERCENT

FLOW = 0.03511 TO 0.10501 m³/s

DISPERSION = 0.0019 TO 0.0217 m²/s

VELOCITY = 0.00187 TO 0.19788 m/s

DEPTH = 0.12 TO 2.35 m

WIDTH = 2.92 TO 23.87 m

BOD DECAY = 0.06 TO 0.25 per day

NH3 DECAY = 0.00 TO 0.00 per day

SDMNT OXYGEN DMND= 2.63 TO 5.20 g/m²/d

NH3 SOURCE = 0.00 TO 0.00 g/m²/d

REAERATION = 0.34 TO 6.54 per day

BOD SETTLING = 0.11 TO 0.12 per day

ORGN DECAY = 0.03 TO 0.21 per day

ORGN SETTLING = 0.06 TO 0.24 per day

TEMPERATURE = 25.61 TO 27.22 deg C

DISSOLVED OXYGEN = 1.40 TO 6.01 mg/L

.....EXECUTION COMPLETED

APPENDIX A4 - Calibration input justification form

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 3, Program Constants

Description of Constant	Value	Result	Source/Justification
Maximum iteration limit	1000.0		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.
Settled rate units.	2.0	Sets the settled rate to a velocity (m/day).	By making the settling rate a velocity the rate becomes dependent upon the depth.
K2 Max	25.0	Max K2 at 20 C allowed for any computational element	EPA Policy in the absence of a measured value.
Effective BOD due to algae	0.2		
NCM Oxygen Uptake	1.0	Oxygen Uptake Rate per Unit of NBOD decay.	Standard LA modeling procedure

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 9, Advective Hydraulic Coefficients

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	2.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.1	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
2	Site 2 to Site 3	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	2.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.1	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
3	Site 3 to Little Barnes Creek	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.10	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.31	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
4	Little Barnes Creek to Redhead Branch	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.27	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
5	Redhead Branch to Site 6	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.27	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
6	Site 6 to Little Caney Creek	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
			Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.45	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
7	Little Caney Creek to dam	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.45	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 9, Advective Hydraulic Coefficients

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
8	dam to Caney Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	8.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.38	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
9	Caney Creek to Hurricane Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.33	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
10	Hurricane Creek to Site 10	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.33	Zero flow cross section
		Mannings - N	Unitless	0.27	Value determined by considering sluggish stream.
11	Site 10 to Magnolia Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	4.08	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
12	Magnolia Creek to Brushy Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
13	Brushy Creek to Righthand Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 11, INITIAL CONDITIONS

Reach #	REACH DESCRIPTION	Initial Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Temperature	°Celcius	26.81	Site 2
		Dissolved O ₂	mg/l	4.3	Site 2
		Ammonia N	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2
		Chlorophyll a	mg/l	2.6	Site 2
2	Site 2 to Site 3	Temperature	°Celcius	26.81	Site 2
		Dissolved O ₂	mg/l	4.3	Site 2
		Ammonia N	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2
		Chlorophyll a	mg/l	2.6	Site 2
3	Site 3 to Little Barnes Creek	Temperature	°Celcius	26.02	Site 3
		Dissolved O ₂	mg/l	4.46	Site 3
		Ammonia N	mg/l	0	Site 3
		Nitrate Nitrite	mg/l	0.37	Site 3
		Chlorophyll a	mg/l	2	Site 3
4	Little Barnes Creek to Redhead Branch	Temperature	°Celcius	26.34	Site 4
		Dissolved O ₂	mg/l	4.23	Site 4
		Ammonia N	mg/l	0	Site 4
		Nitrate Nitrite	mg/l	0.09	Site 4
		Chlorophyll a	mg/l	1.9	Site 4
5	Redhead Branch to Site 6	Temperature	°Celcius	26.34	Site 4
		Dissolved O ₂	mg/l	4.23	Site 4
		Ammonia N	mg/l	0	Site 4
		Nitrate Nitrite	mg/l	0.09	Site 4
		Chlorophyll a	mg/l	1.9	Site 4
6	Site 6 to Little Caney Creek	Temperature	°Celcius	26.42	Site 6
		Dissolved O ₂	mg/l	3.01	Site 6
		Ammonia N	mg/l	0	Site 6
		Nitrate Nitrite	mg/l	0.1	Site 6
		Chlorophyll a	mg/l	6.1	Site 6
7	Little Caney Creek to dam	Temperature	°Celcius	26.42	Site 6
		Dissolved O ₂	mg/l	3.01	Site 6
		Ammonia N	mg/l	0	Site 6
		Nitrate Nitrite	mg/l	0.1	Site 6
		Chlorophyll a	mg/l	6.1	Site 6
8	dam to Caney Creek	Temperature	°Celcius	25.88	Site 7
		Dissolved O ₂	mg/l	3.72	Site 7
		Ammonia N	mg/l	0	Site 7
		Nitrate Nitrite	mg/l	0.07	Site 7
		Chlorophyll a	mg/l	1	Site 7
9	Caney Creek to Hurricane Creek	Temperature	°Celcius	25.74	Site 8
		Dissolved O ₂	mg/l	2.68	Site 8
		Ammonia N	mg/l	0	Site 8
		Nitrate Nitrite	mg/l	0.09	Site 8
		Chlorophyll a	mg/l	0.6	Site 8

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 11, INITIAL CONDITIONS

Reach #	REACH DESCRIPTION	Initial Parameter	Units	Value	Source/Justification
10	Hurricane Creek to Site 10	Temperature	°Celcius	25.74	Site 8
		Dissolved O ₂	mg/l	2.68	Site 8
		Ammonia N	mg/l	0	Site 8
		Nitrate Nitrite	mg/l	0.09	Site 8
		Chlorophyll a	mg/l	0.6	Site 8
11	Site 10 to Magnolia Creek	Temperature	°Celcius	25.61	Site 10
		Dissolved O ₂	mg/l	2.44	Site 10
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
12	Magnolia Creek to Brushy Creek	Temperature	°Celcius	25.61	Site 10
		Dissolved O ₂	mg/l	2.44	Site 10
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
13	Brushy Creek to Righthand Creek	Temperature	°Celcius	25.61	Site 10
		Dissolved O ₂	mg/l	2.44	Site 10
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
14	Righthand Creek to Site 11	Temperature	°Celcius	25.61	Site 10
		Dissolved O ₂	mg/l	2.44	Site 10
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
15	Site 11 to Boggy Creek	Temperature	°Celcius	27.15	Site 11
		Dissolved O ₂	mg/l	2.58	Site 11
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
16	Boggy Creek to Wolf Creek	Temperature	°Celcius	27.15	Site 11
		Dissolved O ₂	mg/l	2.58	Site 11
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
17	Wolf Creek to Unnamed Creek	Temperature	°Celcius	27.15	Site 11
		Dissolved O ₂	mg/l	2.58	Site 11
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
18	Unnamed Creek to Site 12	Temperature	°Celcius	27.15	Site 11
		Dissolved O ₂	mg/l	2.58	Site 11
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
19	Site 12 to Clear Creek	Temperature	°Celcius	27.22	Site 12
		Dissolved O ₂	mg/l	3.2	Site 12
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
20	Clear Creek to Bear Creek	Temperature	°Celcius	27.22	Site 12
		Dissolved O ₂	mg/l	3.2	Site 12

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 11, INITIAL CONDITIONS

Reach #	REACH DESCRIPTION	Initial Parameter	Units	Value	Source/Justification
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
21	Bear Creek to Site 13	Temperature	°Celcius	27.22	Site 12
		Dissolved O ₂	mg/l	3.2	Site 12
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
22	Site 13 to Calcasieu River	Temperature	°Celcius	27.03	Site 13
		Dissolved O ₂	mg/l	1.34	Site 13
		Ammonia N	mg/l	0	Site 13
		Nitrate Nitrite	mg/l	0.06	Site 13
		Chlorophyll a	mg/l	1.9	Site 13

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 12, Reaeration, Sediment Oxygen Demand and BOD Coeff.

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.20	Calibration
		Aerobic BOD decay	1/day	0.18	Bottle Rate for Site 2
		BOD Settling rate	m/day	0.1	Calibration
2	Site 2 to Site 3	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.80	Calibration
		Aerobic BOD decay	1/day	0.18	Bottle Rate for Site 2
		BOD Settling rate	m/day	0.1	Calibration
3	Site 3 to Little Barnes Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.80	Calibration
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 3
		BOD Settling rate	m/day	0.1	Calibration
4	Little Barnes Creek to Redhead Branch	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.50	Calibration
		Aerobic BOD decay	1/day	0.1	Bottle Rate for Site 4
		BOD Settling rate	m/day	0.1	Calibration
5	Redhead Branch to Site 6	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.70	Calibration
		Aerobic BOD decay	1/day	0.1	Bottle Rate for Site 4
		BOD Settling rate	m/day	0.1	Calibration
6	Site 6 to Little Caney Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.00	Calibration
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 6
		BOD Settling rate	m/day	0.1	Calibration
7	Little Caney Creek to dam	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.90	Calibration
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 6
		BOD Settling rate	m/day	0.1	Calibration

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 12, Reaeration, Sediment Oxygen Demand and BOD Coeff.

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
8	dam to Caney Creek	K ₂ option	Unitless	20	0.7/Depth
		Background SOD	g/m ² -day	2.50	Calibration
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 7
		BOD Settling rate	m/day	0.1	Calibration
9	Caney Creek to Hurricane Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	3.00	Calibration
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 8
		BOD Settling rate	m/day	0.1	Calibration
10	Hurricane Creek to Site 10	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	3.00	Calibration
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 8
		BOD Settling rate	m/day	0.1	Calibration
11	Site 10 to Magnolia Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	3.00	Calibration
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
12	Magnolia Creek to Brushy Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	3.00	Calibration
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
13	Brushy Creek to Righthand Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	3.00	Calibration
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
14	Righthand Creek to Site 11	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.60	Calibration
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
15	Site 11 to Boggy Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.50	Calibration
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
16	Boggy Creek to Wolf Creek	K ₂ option	Unitless	20	0.7/Depth
		Background SOD	g/m ² -day	2.50	Calibration

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 12, Reaeration, Sediment Oxygen Demand and BOD Coeff.

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
17	Wolf Creek to Unnamed Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.50	Calibration
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
18	Unnamed Creek to Site 12	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.25	Calibration
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
19	Site 12 to Clear Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.90	Calibration
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
20	Clear Creek to Bear Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	3.30	Calibration
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
21	Bear Creek to Site 13	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	3.30	Calibration
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
22	Site 13 to Calcasieu River	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.90	Calibration
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 13
		BOD Settling rate	m/day	0.1	Calibration

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 13, Nitrogen and Phosphorus

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 2
		Org-N Settling rate	m/day	0.20	Calibration
2	Site 2 to Site 3	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 2
		Org-N Settling rate	m/day	0.2	Based on Louisiana Technical Procedures Manual.
3	Site 3 to Little Barnes Creek	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 3
		Org-N Settling rate	m/day	0.2	BPJ. Based on Texas's "Waste load Evaluation Methodology", Coefficient Determination paragraph #4.
4	Little Barnes Creek to Redhead Branch	Org-N Decay	1/day	0.05	NBOD Bottle Rate Site 4
		Org-N Settling rate	m/day	0.05	BPJ. Based on Texas's "Waste load Evaluation Methodology", Coefficient Determination paragraph #4.
5	Redhead Branch to Site 6	Org-N Decay	1/day	0.05	NBOD Bottle Rate Site 4
		Org-N Settling rate	m/day	0.05	BPJ. Based on Texas's "Waste load Evaluation Methodology", Coefficient Determination paragraph #4.
6	Site 6 to Little Caney Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 6
		Org-N Settling rate	m/day	0.05	Based on Louisiana Technical Procedures Manual.
7	Little Caney Creek to dam	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 6
		Org-N Settling rate	m/day	0.05	BPJ. Based on Texas's "Waste load Evaluation Methodology", Coefficient Determination paragraph #4.
8	dam to Caney Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 7
		Org-N Settling rate	m/day	0.05	BPJ. Based on Texas's "Waste load Evaluation Methodology", Coefficient Determination paragraph #4.
9	Caney Creek to Hurricane Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 8
		Org-N Settling rate	m/day	0.05	BPJ. Based on Texas's "Waste load Evaluation Methodology", Coefficient Determination paragraph #4.
10	Hurricane Creek to Site 10	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 8
		Org-N Settling rate	m/day	0.05	Based on Louisiana Technical Procedures Manual.
11	Site 10 to Magnolia Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	BPJ. Based on Texas's "Waste load Evaluation Methodology", Coefficient Determination paragraph #4.
12	Magnolia Creek to Brushy Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	BPJ. Based on Texas's "Waste load Evaluation Methodology", Coefficient Determination paragraph #4.
13	Brushy Creek to Righthand Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	BPJ. Based on Texas's "Waste load Evaluation Methodology", Coefficient Determination paragraph #4.
14	Righthand Creek to Site 11	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Based on Louisiana Technical Procedures Manual.
15	Site 11 to Boggy Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	BPJ. Based on Texas's "Waste load Evaluation Methodology", Coefficient Determination paragraph #4.

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 13, Nitrogen and Phosphorus

Reach #	NAME	Parameter	Units	Value	Source/Justification
16	Boggy Creek to Wolf Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	BPJ. Based on Texas's "Waste load Evaluation Methodology", Coefficient Determination paragraph #4.
17	Wolf Creek to Unnamed Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	BPJ. Based on Texas's "Waste load Evaluation Methodology", Coefficient Determination paragraph #4.
18	Unnamed Creek to Site 12	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Based on Louisiana Technical Procedures Manual.
19	Site 12 to Clear Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	BPJ. Based on Texas's "Waste load Evaluation Methodology", Coefficient Determination paragraph #4.
20	Clear Creek to Bear Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	BPJ. Based on Texas's "Waste load Evaluation Methodology", Coefficient Determination paragraph #4.
21	Bear Creek to Site 13	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	BPJ. Based on Texas's "Waste load Evaluation Methodology", Coefficient Determination paragraph #4.
22	Site 13 to Calcasieu River	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 13
		Org-N Settling rate	m/day	0.05	Based on Louisiana Technical Procedures Manual.

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 15, Coliform and Nonconservative Coefficients

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	NCM Decay	1/day	0.13	Bottle Rate Site 2
		NCM Settling Rate	m/day	0.05	Calibration
2	Site 2 to Site 3	NCM Decay	1/day	0.13	Bottle Rate Site 2
		NCM Settling Rate	m/day	0.05	Calibration
3	Site 3 to Little Barnes Creek	NCM Decay	1/day	0.13	Bottle Rate Site 3
		NCM Settling Rate	m/day	0.05	Calibration
4	Little Barnes Creek to Redhead Branch	NCM Decay	1/day	0.05	Bottle Rate Site 4
		NCM Settling Rate	m/day	0.05	Calibration
5	Redhead Branch to Site 6	NCM Decay	1/day	0.05	Bottle Rate Site 4
		NCM Settling Rate	m/day	0.05	Calibration
6	Site 6 to Little Caney Creek	NCM Decay	1/day	0.04	Bottle Rate Site 6
		NCM Settling Rate	m/day	0.05	Calibration
7	Little Caney Creek to dam	NCM Decay	1/day	0.04	Bottle Rate Site 6
		NCM Settling Rate	m/day	0.05	Calibration
8	dam to Caney Creek	NCM Decay	1/day	0.02	Bottle Rate Site 7
		NCM Settling Rate	m/day	0.05	Calibration
9	Caney Creek to Hurricane Creek	NCM Decay	1/day	0.03	Bottle Rate Site 8
		NCM Settling Rate	m/day	0.05	Calibration
10	Hurricane Creek to Site 10	NCM Decay	1/day	0.03	Bottle Rate Site 8
		NCM Settling Rate	m/day	0.05	Calibration
11	Site 10 to Magnolia Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
12	Magnolia Creek to Brushy Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
13	Brushy Creek to Righthand Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
14	Righthand Creek to Site 11	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
15	Site 11 to Boggy Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
16	Boggy Creek to Wolf Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
17	Wolf Creek to Unnamed Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
18	Unnamed Creek to Site 12	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
19	Site 12 to Clear Creek	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
20	Clear Creek to Bear Creek	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 15, Coliform and Nonconservative Coefficients

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
21	Bear Creek to Site 13	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
22	Site 13 to Calcasieu River	NCM Decay	1/day	0.03	Bottle Rate Site 13
		NCM Settling Rate	m/day	0.05	Calibration

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 16, Incremental Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Incremental Outflow	m ³ /s	-0.0272	
		Incremental Inflow	m ³ /s		
		Temperature	°Celcius	26.81	Site 2
		Salinity	ppt		
		Conservative Matl. I	mg/l	33.9	Site 2
		Conservative Matl. II	mg/l	12.4	Site 2
3	Site 3 to Little Barnes Creek	Incremental Outflow	m ³ /s	-0.0204	
		Incremental Inflow	m ³ /s		
		Temperature	°Celcius	26.02	Site 3
		Salinity	ppt		
		Conservative Matl. I	mg/l	33.6	Site 3
		Conservative Matl. II	mg/l	11	Site 3
4	Little Barnes Creek to Redhead Branch	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0057	
		Temperature	°Celcius	26.34	Site 4
		Salinity	ppt		
		Conservative Matl. I	mg/l	30.2	Site 4
		Conservative Matl. II	mg/l	7.9	Site 4
5	Redhead Branch to Site 6	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0057	
		Temperature	°Celcius	26.34	Site 4
		Salinity	ppt		
		Conservative Matl. I	mg/l	30.2	Site 4
		Conservative Matl. II	mg/l	7.9	Site 4
6	Site 6 to Little Caney Creek	Incremental Outflow	m ³ /s	-0.0317	
		Incremental Inflow	m ³ /s		
		Temperature	°Celcius	26.42	Site 6
		Salinity	ppt		
		Conservative Matl. I	mg/l	23.6	Site 6
		Conservative Matl. II	mg/l	6	Site 6

7	Little Caney Creek to dam	Incremental Outflow	m ³ /s	-0.0317	
		Incremental Inflow	m ³ /s		
		Temperature	°Celcius	26.42	Site 6
		Salinity	ppt		
		Conservative Matl. I	mg/l	23.6	Site 6
		Conservative Matl. II	mg/l	6	Site 6
8	dam to Caney Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0442	
		Temperature	°Celcius	25.88	Site 7
		Salinity	ppt		
		Conservative Matl. I	mg/l	8.8	Site 7
		Conservative Matl. II	mg/l	3.2	Site 7
10	Hurricane Creek to Site 10	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0071	
		Temperature	°Celcius	25.74	Site 8
		Salinity	ppt		
		Conservative Matl. I	mg/l	6.9	Site 8
		Conservative Matl. II	mg/l	2.7	Site 8
11	Site 10 to Magnolia Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°Celcius	25.61	Site 10
		Salinity	ppt		
		Conservative Matl. I	mg/l	9.2	Site 10
		Conservative Matl. II	mg/l	3.4	Site 10
12	Magnolia Creek to Brushy Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°Celcius	25.61	Site 10
		Salinity	ppt		
		Conservative Matl. I	mg/l	9.2	Site 10
		Conservative Matl. II	mg/l	3.4	Site 10
13	Brushy Creek to Righthand Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°Celcius	25.61	Site 10
		Salinity	ppt		
		Conservative Matl. I	mg/l	9.2	Site 10
		Conservative Matl. II	mg/l	3.4	Site 10
14	Righthand Creek to Site 11	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	

		Temperature	°Celcius	25.61	Site 10
		Salinity	ppt		
		Conservative Matl. I	mg/l	9.2	Site 10
		Conservative Matl. II	mg/l	3.4	Site 10
15	Site 11 to Boggy Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°Celcius	27.15	Site 11
		Salinity	ppt		
		Conservative Matl. I	mg/l	13.6	Site 11
		Conservative Matl. II	mg/l	4.1	Site 11
16	Boggy Creek to Wolf Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°Celcius	27.15	Site 11
		Salinity	ppt		
		Conservative Matl. I	mg/l	13.6	Site 11
		Conservative Matl. II	mg/l	4.1	Site 11
17	Wolf Creek to Unnamed Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°Celcius	27.15	Site 11
		Salinity	ppt		
		Conservative Matl. I	mg/l	13.6	Site 11
		Conservative Matl. II	mg/l	4.1	Site 11
18	Unnamed Creek to Site 12	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°Celcius	27.15	Site 11
		Salinity	ppt		
		Conservative Matl. I	mg/l	13.6	Site 11
		Conservative Matl. II	mg/l	4.1	Site 11

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 17, Incremental Data for DO, BOD, Nitrogen

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Dissolved O ₂	mg/l	4.3	Site 2
		BOD	mg/l	2.65	Site 2
		Org.-N	mg/l	1.3	Site 2
		NH ₃ -N	mg/l	0	Site 2
		NO ₂₊₃ - N	mg/l	0.56	Site 2
3	Site 3 to Little Barnes Creek	Dissolved O ₂	mg/l	4.46	Site 3
		BOD	mg/l	2.49	Site 3
		Org.-N	mg/l	0.7	Site 3
		NH ₃ -N	mg/l	0	Site 3
		NO ₂₊₃ - N	mg/l	0.37	Site 3
4	Little Barnes Creek to Redhead Branch	Dissolved O ₂	mg/l	4.23	Site 4
		BOD	mg/l	3.53	Site 4
		Org.-N	mg/l	0.41	Site 4
		NH ₃ -N	mg/l	0	Site 4
		NO ₂₊₃ - N	mg/l	0.09	Site 4
5	Redhead Branch to Site 6	Dissolved O ₂	mg/l	4.23	Site 4
		BOD	mg/l	3.53	Site 4
		Org.-N	mg/l	0.41	Site 4
		NH ₃ -N	mg/l	0	Site 4
		NO ₂₊₃ - N	mg/l	0.09	Site 4
6	Site 6 to Little Caney Creek	Dissolved O ₂	mg/l	3.01	Site 6
		BOD	mg/l	3.5	Site 6
		Org.-N	mg/l	0.7	Site 6
		NH ₃ -N	mg/l	0	Site 6
		NO ₂₊₃ - N	mg/l	0.1	Site 6
7	Little Caney Creek to dam	Dissolved O ₂	mg/l	3.01	Site 6
		BOD	mg/l	3.5	Site 6
		Org.-N	mg/l	0.7	Site 6
		NH ₃ -N	mg/l	0	Site 6
		NO ₂₊₃ - N	mg/l	0.1	Site 6
8	dam to Caney Creek	Dissolved O ₂	mg/l	3.72	Site 7
		BOD	mg/l	5.54	Site 7
		Org.-N	mg/l	0.88	Site 7
		NH ₃ -N	mg/l	0	Site 7
		NO ₂₊₃ - N	mg/l	0.07	Site 7
10	Hurricane Creek to Site 10	Dissolved O ₂	mg/l	2.68	Site 8
		BOD	mg/l	4.38	Site 8

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 17, Incremental Data for DO, BOD, Nitrogen

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
		Org.-N	mg/l	0.77	Site 8
		NH ₃ -N	mg/l	0	Site 8
		NO ₂₊₃ - N	mg/l	0.09	Site 8
11	Site 10 to Magnolia Creek	Dissolved O ₂	mg/l	2.44	Site 10
		BOD	mg/l	3.41	Site 10
		Org.-N	mg/l	0.78	Site 10
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ - N	mg/l	0.08	Site 10
12	Magnolia Creek to Brushy Creek	Dissolved O ₂	mg/l	2.44	Site 10
		BOD	mg/l	3.41	Site 10
		Org.-N	mg/l	0.78	Site 10
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ - N	mg/l	0.08	Site 10
13	Brushy Creek to Righthand Creek	Dissolved O ₂	mg/l	2.44	Site 10
		BOD	mg/l	3.41	Site 10
		Org.-N	mg/l	0.78	Site 10
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ - N	mg/l	0.08	Site 10
14	Righthand Creek to Site 11	Dissolved O ₂	mg/l	2.44	Site 10
		BOD	mg/l	3.41	Site 10
		Org.-N	mg/l	0.78	Site 10
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ - N	mg/l	0.08	Site 10
15	Site 11 to Boggy Creek	Dissolved O ₂	mg/l	2.58	Site 11
		BOD	mg/l	4.08	Site 11
		Org.-N	mg/l	0.57	Site 11
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ - N	mg/l	0.08	Site 11
16	Boggy Creek to Wolf Creek	Dissolved O ₂	mg/l	2.58	Site 11
		BOD	mg/l	4.08	Site 11
		Org.-N	mg/l	0.57	Site 11
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ - N	mg/l	0.08	Site 11

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 17, Incremental Data for DO, BOD, Nitrogen

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
17	Wolf Creek to Unnamed Creek	Dissolved O ₂	mg/l	2.58	Site 11
		BOD	mg/l	4.08	Site 11
		Org.-N	mg/l	0.57	Site 11
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ - N	mg/l	0.08	Site 11
18	Unnamed Creek to Site 12	Dissolved O ₂	mg/l	2.58	Site 11
		BOD	mg/l	4.08	Site 11
		Org.-N	mg/l	0.57	Site 11
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ - N	mg/l	0.08	Site 11

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 18, Incremental Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Chlorophyll a	ug/l	4.3	Site 2
		NCM	mg/l	3.4	Site 2
3	Site 3 to Little Barnes Creek	Chlorophyll a	ug/l	4.46	Site 3
		NCM	mg/l	3.45	Site 3
4	Little Barnes Creek to Redhead Branch	Chlorophyll a	ug/l	4.23	Site 4
		NCM	mg/l	3.48	Site 4
5	Redhead Branch to Site 6	Chlorophyll a	ug/l	4.23	Site 4
		NCM	mg/l	3.48	Site 4
6	Site 6 to Little Caney Creek	Chlorophyll a	ug/l	3.01	Site 6
		NCM	mg/l	5.05	Site 6
7	Little Caney Creek to dam	Chlorophyll a	ug/l	3.01	Site 6
		NCM	mg/l	5.05	Site 6
8	dam to Caney Creek	Chlorophyll a	ug/l	3.72	Site 7
		NCM	mg/l	4.03	Site 7
10	Hurricane Creek to Site 10	Chlorophyll a	ug/l	2.68	Site 8
		NCM	mg/l	4.52	Site 8
11	Site 10 to Magnolia Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
12	Magnolia Creek to Brushy Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
13	Brushy Creek to Righthand Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
14	Righthand Creek to Site 11	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
15	Site 11 to Boggy Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
16	Boggy Creek to Wolf Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
17	Wolf Creek to Unnamed Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
18	Unnamed Creek to Site 12	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 19, Nonpoint Source Data

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	CBOD1	kg/day	3	Calibration
		CBOD2	kg/day	10	Calibration
		O-N	kg/day	3	Calibration
2	Site 2 to Site 3	CBOD1	kg/day	0	Calibration
		CBOD2	kg/day	3	Calibration
		O-N	kg/day	0	Calibration
3	Site 3 to Little Barnes Creek	CBOD1	kg/day	17	Calibration
		CBOD2	kg/day	10	Calibration
		O-N	kg/day	0	Calibration
4	Little Barnes Creek to Redhead Branch	CBOD1	kg/day	3	Calibration
		CBOD2	kg/day	5	Calibration
		O-N	kg/day	1	Calibration
5	Redhead Branch to Site 6	CBOD1	kg/day	0	Calibration
		CBOD2	kg/day	7.5	Calibration
		O-N	kg/day	1	Calibration
6	Site 6 to Little Caney Creek	CBOD1	kg/day	20	Calibration
		CBOD2	kg/day	4	Calibration
		O-N	kg/day	2	Calibration
7	Little Caney Creek to dam	CBOD1	kg/day	9	Calibration
		CBOD2	kg/day	2	Calibration
		O-N	kg/day	0.6	Calibration
8	dam to Caney Creek	CBOD1	kg/day	5	Calibration
		CBOD2	kg/day	3	Calibration
		O-N	kg/day	0.5	Calibration
9	Caney Creek to Hurricane Creek	CBOD1	kg/day	1	Calibration
		CBOD2	kg/day	9	Calibration
		O-N	kg/day	0.5	Calibration
10	Hurricane Creek to Site 10	CBOD1	kg/day	3	Calibration
		CBOD2	kg/day	3	Calibration
		O-N	kg/day	0.5	Calibration
11	Site 10 to Magnolia Creek	CBOD1	kg/day	5	Calibration
		CBOD2	kg/day	0	Calibration
		O-N	kg/day	0.5	Calibration
12	Magnolia Creek to Brushy Creek	CBOD1	kg/day	3	Calibration
		CBOD2	kg/day	0	Calibration
		O-N	kg/day	0	Calibration
13	Brushy Creek to Righthand Creek	CBOD1	kg/day	5	Calibration
		CBOD2	kg/day	0	Calibration
		O-N	kg/day	0	Calibration
14	Righthand Creek to Site 11	CBOD1	kg/day	4	Calibration
		CBOD2	kg/day	0	Calibration
		O-N	kg/day	0	Calibration

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 19, Nonpoint Source Data

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
15	Site 11 to Boggy Creek	CBOD1	kg/day	5	Calibration
		CBOD2	kg/day	0	Calibration
		O-N	kg/day	0.5	Calibration
16	Boggy Creek to Wolf Creek	CBOD1	kg/day	0	Calibration
		CBOD2	kg/day	0	Calibration
		O-N	kg/day	0.5	Calibration
17	Wolf Creek to Unnamed Creek	CBOD1	kg/day	3	Calibration
		CBOD2	kg/day	2	Calibration
		O-N	kg/day	0.5	Calibration
18	Unnamed Creek to Site 12	CBOD1	kg/day	5	Calibration
		CBOD2	kg/day	2	Calibration
		O-N	kg/day	0.85	Calibration
19	Site 12 to Clear Creek	CBOD1	kg/day	15	Calibration
		CBOD2	kg/day	1	Calibration
		O-N	kg/day	0.85	Calibration
20	Clear Creek to Bear Creek	CBOD1	kg/day	5	Calibration
		CBOD2	kg/day	0	Calibration
		O-N	kg/day	0.5	Calibration
21	Bear Creek to Site 13	CBOD1	kg/day	3	Calibration
		CBOD2	kg/day	0	Calibration
		O-N	kg/day	0.5	Calibration
22	Site 13 to Calcasieu River	CBOD1	kg/day	330	Calibration
		CBOD2	kg/day	85	Calibration
		O-N	kg/day	27	Calibration

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 20, Headwater Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	
		Headwater name		Barnes Creek	
		Headwater flow	cms	0.0351	
		Temperature	°Celcius	26.83	Site 2
		Conservative Matl. I	mg/l	33.90	Site 2
		Conservative Matl. II	mg/l	12.40	Site 2

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 21, Headwater Data for DO, BOD, and Nitrogen

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	
		Dissolved O ₂	mg/l	4.3	Site 2
		BOD	mg/l	2.65	Site 2

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 22, Headwater Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	
		CBOD2	mg/l	3.4	Site 2

Barnes Creek Water Quality Calibration Model Input Description

DATA TYPE 27, Lower Boundary Conditions

Reach #	NAME	Parameter	Units	Value	Source/Justification
36	Sandy Creek - Hwy 124	Temperature	°Celcius	27.03	Site 13
		Salinity	ppt		
		Conservative Matl. I	mg/l		
		Conservative Matl. II			
		Dissolved O ₂	mg/l		
		BOD	mg/l		
		Org.- N	mg/l		
		NH ₃ -N	mg/l		
		NO ₂₊₃ -N	mg/l		
		Chlorophyll a	ug/l	1.9	Site 13
		Nonconservative	mg/l		

APPENDIX A5 - Calibration loading calculations

Calibration Model Non-Point Load Equivalent Calculations:

Modeled stream or water body:	Barnes Creek - 030601 and 030602
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Shaded cells are input values for calculations.

REACH NUMBER & DESCRIPTION	Calibration Model Reach Length (km)	Calibration Model Average Reach Width (meters)	Calibration Model UCBOD1 Nonpoint loading (kg/day)	Calibration Model UCBOD2 Nonpoint loading (kg/day)	Calibration Model UCBOD Nonpoint loading (kg/day)	Calibration Model UNBOD Nonpoint loading (kg/day)	Calibration Model UCBOD Nonpoint loading (gm O ₂ /m ² /day)	Calibration Model UNBOD Nonpoint loading (gm O ₂ /m ² /day)	Calibration Model SOD (gm O ₂ /m ² /day)	Calibration Model TOTAL Benthic Load (gm O ₂ /m ² /day)
	A	B			C	D (Note 1)	E = C / (A x B)	F = D / (A x B)	G	H = E + F + G
1	2.20	2.80	3.00	10.00	13.000	13.71	2.110	2.226	2.20	6.54
2	4.40	2.80	0.00	3.00	3.000	0.00	0.244	0.000	1.80	2.04
3	11.20	3.10	16.00	10.00	26.000	0.00	0.749	0.000	1.80	2.55
4	3.50	3.20	3.00	5.00	8.000	4.57	0.714	0.408	2.50	3.62
5	2.70	3.20	0.00	7.50	7.500	4.57	0.868	0.529	2.70	4.10
6	4.90	5.80	20.00	4.00	24.000	9.14	0.844	0.322	2.00	3.17
7	2.00	5.80	14.00	2.00	16.000	2.74	1.379	0.236	1.90	3.52
8	2.90	8.20	6.00	3.00	9.000	2.29	0.378	0.096	2.50	2.97
9	8.00	4.00	2.00	9.00	11.000	2.29	0.344	0.071	3.00	3.42
10	2.10	4.00	2.00	3.00	5.000	2.29	0.595	0.272	3.00	3.87
11	2.30	5.80	5.00	0.00	5.000	2.29	0.375	0.171	3.00	3.55
12	1.70	5.80	3.00	0.00	3.000	0.00	0.304	0.000	3.00	3.30
13	1.90	5.80	5.00	0.00	5.000	0.00	0.454	0.000	3.00	3.45
14	1.00	5.80	4.00	0.00	4.000	0.00	0.690	0.000	2.60	3.29
15	6.50	4.00	5.00	0.00	5.000	2.29	0.192	0.088	2.50	2.78
16	0.10	4.00	0.00	0.00	0.000	2.29	0.000	5.712	2.50	8.21
17	1.60	4.00	3.00	2.00	5.000	2.29	0.781	0.357	2.50	3.64
18	4.10	4.00	5.00	2.00	7.000	3.88	0.427	0.237	2.25	2.91
19	7.10	6.10	15.00	1.00	16.000	3.88	0.369	0.090	2.90	3.36
20	2.40	6.10	5.00	0.00	5.000	2.29	0.342	0.156	3.30	3.80
21	1.80	6.10	3.00	0.00	3.000	2.29	0.27	0.21	3.30	3.78
22	5.90	23.80	330.00	85.00	415.000	123.39	2.96	0.88	2.90	6.73

Organic Nitrogen (kg/day)
3.00
0.00
2.04
0.00
1.00
1.00
2.00
0.60
0.50
2.97
0.50
3.42
0.50
3.87
0.50
3.55
0.00
3.30
3.45
0.00
3.29
0.00
2.78
0.50
8.21
0.50
3.64
0.85
2.91
0.85
3.36
0.50
3.80
0.50
3.78
27.00

Note 1. This values was calculated as the resuspended non-point Organic Nitrogen input value for each reach multiplied by 4.57 to convert it to an equive oxygen demand load

APPENDIX A6 - Calibration model sensitivity input/output

SENSITIVITY ANALYSIS SUMMARY

:MAINSTEM
BARNES CREEK SENSITIVITY RUN

Plot 1 Base Model Minimum DO = 1.39

Parameter D.O.	%Param Chg	Min D.O.	%D.O. Chg	%Param Chg	Min D.O.	% Chg
Stream Baseflow	30.	1.39	0.2	-30.	1.39	-0.1
Initial Chorophyll a	30.	1.46	5.5	-30.	1.31	-5.3
Stream Velocity	30.	1.17	-15.4	-30.	1.44	3.5
Initial Temperature	2.	0.64	-53.6	-2.	1.89	36.2
BOD Decay Rate	30.	1.28	-7.8	-30.	1.48	7.0
BOD Settling Rate	30.	1.47	5.7	-30.	1.24	-10.4
Nonconservative Decay	30.	1.36	-2.1	-30.	1.42	2.6
Nonconservative Settling	30.	1.41	1.9	-30.	1.35	-2.7
Benthal Demand	30.	0.00	-100.0	-30.	2.80	101.7
Stream Dispersion	30.	1.39	0.0	-30.	1.39	0.0
Stream Reaeration	30.	2.69	93.6	-30.	0.00	-100.0
Headwater Flow	30.	1.39	0.1	-30.	1.39	0.0
Headwater Nonconservative	30.	1.39	0.0	-30.	1.39	0.0
Headwater DO	30.	1.39	0.0	-30.	1.39	0.0
Headwater BOD	30.	1.39	0.0	-30.	1.39	0.0
Stream Depth	30.	1.45	4.5	-30.	1.32	-4.7
Incremental Inflow	30.	1.39	0.1	-30.	1.39	-0.1
Incremental Outflow	30.	1.39	-0.1	-30.	1.39	0.1
Incremental Temperature	2.	1.39	0.0	-2.	1.39	0.0
Incremental DO	30.	1.39	0.0	-30.	1.39	0.0
Incremental BOD	30.	1.39	0.0	-30.	1.39	0.1
Incremental Nonconservative	30.	1.39	-0.1	-30.	1.39	0.1
Incremental Organic Nitrogen	30.	1.39	0.0	-30.	1.39	0.0
Organic Nitrogen	30.	1.38	-0.7	-30.	1.40	1.0
Organic Nitrogen Settling Rate	30.	1.40	0.7	-30.	1.37	-1.0
Headwater Organic Nitrogen	30.	1.39	0.0	-30.	1.39	0.0
Wasteload Flow	30.	1.39	0.1	-30.	1.39	-0.1
Wasteload Temperature	2.	1.39	0.0	-2.	1.39	0.0
Wasteload DO	30.	1.39	0.0	-30.	1.39	0.0
Wasteload BOD	30.	1.39	0.0	-30.	1.39	0.0
Wasteload Nonconservative	30.	1.39	0.0	-30.	1.39	0.0
Wasteload Organic Nitrogen	30.	1.39	0.0	-30.	1.39	0.0

LA-QUAL Version 5.02
Louisiana Department of Environmental Quality

Input file is D:\Barnes Creek\Input Files\barnssensi2.txt
Output produced at 09:41 on 02/19/2002

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

CARD TYPE	CONTROL TITLES
TITLE01	BARNES CREEK WATERSHED MODEL
TITLE02	BARNES CREEK SENSITIVITY RUN
CNTROL04 YES	METRIC UNITS
CNTROL05 YES	OXYGEN DEPENDENT RATES
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 YES	CONSERVATIVE MATERIAL II = SULFATES IN MG/L
MODOPT05 YES	DISSOLVED OXYGEN
MODOPT06 YES	BIOCHEMICAL OXYGEN DEMAND
MODOPT07 YES	NITROGEN
MODOPT08 NO	PHOSPHORUS
MODOPT09 NO	CHLOROPHYLL A
MODOPT10 NO	MACROPHYTES
MODOPT11 NO	COLIFORM
MODOPT12 YES	NONCONSERVATIVE MATERIAL = CBOD2 IN mg/L
ENDATA02	

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
PROGRAM	MAXIMUM ITERATION LIMIT	= 1000.00000
PROGRAM	KL MINIMUM	= 0.70000 meters/day
PROGRAM	NCM OXYGEN UPTAKE RATE	= 1.00000 mg O/mg NCM
PROGRAM	INHIBITION CONTROL VALUE	= 3.00000
PROGRAM	NH3 OXYGEN UPTAKE RATE	= 0.00000 mg O/mg N
PROGRAM	K2 MAXIMUM	= 25.00000 per day
PROGRAM	HYDRAULIC CALCULATION METHOD	= 2.00000 (widths and depths)
PROGRAM	SETTLING RATE UNITS	= 2.00000 (per day)
PROGRAM	OCEAN EXCHANGE RATIO	= 0.00000
PROGRAM	EFFECTIVE BOD DUE TO ALGAE	= 0.15000 mg/L BOD per ug/L chl a
PROGRAM	ORGN OXYGEN UPTAKE RATE	= 1.00000 mg O/mg N
PROGRAM	ALGAE OXYGEN PROD	= 0.05000 mg O/ug chl a/day
PROGRAM	N MACROPHYTE UPTAKE	= 0.00300 mg N/mg macrophyte/day
PROGRAM	MACROPHYTE OXYGEN PROD	= 0.00000 mg O/mg macrophyte/day
PROGRAM	N PREFERENCE	= 0.60000 (0.0=NH3 1.0=NO3)
ENDATA03		

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

CARD TYPE	RATE CODE	THETA VALUE
THETA	NCM DECA	1.04700
THETA	ORGN DEC	1.07000
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	BC	HEADWATER - SITE 2	80.30	TO 78.10	0.1000	2.20	22	1	22
REACH ID	2	BC	SITE 2 - SITE 3	78.10	TO 73.70	0.1000	4.40	44	23	66
REACH ID	3	BC	SITE 3 - LITTLE BARNES CR	73.70	TO 62.50	0.1000	11.20	112	67	178
REACH ID	4	BC	LITTLE BARNES - REDHEAD CR	62.50	TO 59.00	0.1000	3.50	35	179	213
REACH ID	5	BC	REDHEAD CR - SITE 6	59.00	TO 56.30	0.1000	2.70	27	214	240
REACH ID	6	BC	SITE 6 - LITTLE CANEY CR	56.30	TO 51.40	0.1000	4.90	49	241	289
REACH ID	7	BC	LITTLE CANEY CR - DAM	51.40	TO 49.40	0.1000	2.00	20	290	309
REACH ID	8	BC	DAM - CANEY CREEK	49.40	TO 46.50	0.1000	2.90	29	310	338
REACH ID	9	BC	CANEY CR - HURRICANE CR	46.50	TO 38.50	0.1000	8.00	80	339	418
REACH ID	10	BC	HURRICANE CR - SITE 10	38.50	TO 36.40	0.1000	2.10	21	419	439
REACH ID	11	BC	SITE 10 - MAGNOLIA CR	36.40	TO 34.10	0.1000	2.30	23	440	462
REACH ID	12	BC	MAGNOLIA CR - BRUSHY CR	34.10	TO 32.40	0.1000	1.70	17	463	479
REACH ID	13	BC	BRUSHY CR - RIGHTHAND CR	32.40	TO 30.50	0.1000	1.90	19	480	498
REACH ID	14	BC	RIGHTHAND CR - SITE 11	30.50	TO 29.50	0.1000	1.00	10	499	508
REACH ID	15	BC	SITE 11 - BOGGY CR	29.50	TO 23.00	0.1000	6.50	65	509	573
REACH ID	16	BC	BOGGY CR - WOLF CREEK	23.00	TO 22.90	0.1000	0.10	1	574	574
REACH ID	17	BC	WOLF CR - UNNAMED CREEK	22.90	TO 21.30	0.1000	1.60	16	575	590
REACH ID	18	BC	UNNAMED CR - SITE 12	21.30	TO 17.20	0.1000	4.10	41	591	631
REACH ID	19	BC	SITE 12 - CLEAR CR	17.20	TO 10.10	0.1000	7.10	71	632	702
REACH ID	20	BC	CLEAR CR - BEAR CR	10.10	TO 7.70	0.1000	2.40	24	703	726
REACH ID	21	BC	BEAR CR - SITE 13	7.70	TO 5.90	0.1000	1.80	18	727	744
REACH ID	22	BC	SITE 13 - CALCASIEU RIVER	5.90	TO 0.00	0.1000	5.90	59	745	803

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"
*****	WARNING:	VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 1								
HYDR-1	1	BC	2.680	0.930	2.800	0.620	1.000	0.100	0.00000	0.027
*****	WARNING:	VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 2								
HYDR-1	2	BC	2.680	0.930	2.800	0.620	1.000	0.100	0.00000	0.027
*****	WARNING:	VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 3								
HYDR-1	3	BC	2.680	0.930	3.100	0.620	1.000	0.310	0.00000	0.027
*****	WARNING:	VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 4								
HYDR-1	4	BC	2.680	0.930	3.200	0.620	1.000	0.270	0.00000	0.027
*****	WARNING:	VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 5								
HYDR-1	5	BC	2.680	0.930	3.200	0.620	1.000	0.270	0.00000	0.027
*****	WARNING:	VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 6								
HYDR-1	6	BC	2.680	0.930	5.800	0.620	1.000	0.450	0.00000	0.027
*****	WARNING:	VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 7								
HYDR-1	7	BC	2.680	0.930	5.800	0.620	1.000	0.450	0.00000	0.027
HYDR-1	8	BC	0.230	0.540	8.200	0.100	0.210	0.380	0.00000	0.027
HYDR-1	9	BC	0.230	0.540	4.000	0.100	0.210	0.330	0.00000	0.027
HYDR-1	10	BC	0.230	0.540	4.000	0.100	0.210	0.330	0.00000	0.027
HYDR-1	11	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	12	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	13	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	14	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	15	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	16	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	17	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	18	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	19	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	20	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	21	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	22	BC	0.230	0.540	23.800	0.100	0.210	2.290	0.00000	0.027

ENDATA09

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

CARD TYPE	REACH	ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"
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ENDATA10

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

CARD TYPE	REACH	ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
INITIAL	1	BC	26.81	0.00	4.30	0.00	0.56	0.00	2.60	0.00
INITIAL	2	BC	26.81	0.00	4.30	0.00	0.56	0.00	2.60	0.00
INITIAL	3	BC	26.02	0.00	4.46	0.00	0.37	0.00	2.00	0.00
INITIAL	4	BC	26.34	0.00	4.23	0.00	0.09	0.00	1.90	0.00
INITIAL	5	BC	26.34	0.00	4.23	0.00	0.09	0.00	1.90	0.00

INITIAL	6	BC	26.42	0.00	3.01	0.00	0.10	0.00	6.10	0.00
INITIAL	7	BC	26.42	0.00	3.01	0.00	0.10	0.00	6.10	0.00
INITIAL	8	BC	25.88	0.00	3.72	0.00	0.07	0.00	1.00	0.00
INITIAL	9	BC	25.74	0.00	2.68	0.00	0.09	0.00	0.60	0.00
INITIAL	10	BC	25.74	0.00	2.68	0.00	0.09	0.00	0.60	0.00
INITIAL	11	BC	25.61	0.00	2.44	0.00	0.08	0.00	1.10	0.00
INITIAL	12	BC	25.61	0.00	2.44	0.00	0.08	0.00	1.10	0.00
INITIAL	13	BC	25.61	0.00	2.44	0.00	0.08	0.00	1.10	0.00
INITIAL	14	BC	25.61	0.00	2.44	0.00	0.08	0.00	1.10	0.00
INITIAL	15	BC	27.15	0.00	2.58	0.00	0.08	0.00	0.90	0.00
INITIAL	16	BC	27.15	0.00	2.58	0.00	0.08	0.00	0.90	0.00
INITIAL	17	BC	27.15	0.00	2.58	0.00	0.08	0.00	0.90	0.00
INITIAL	18	BC	27.15	0.00	2.58	0.00	0.08	0.00	0.90	0.00
INITIAL	19	BC	27.22	0.00	3.20	0.00	0.10	0.00	0.90	0.00
INITIAL	20	BC	27.22	0.00	3.20	0.00	0.10	0.00	0.90	0.00
INITIAL	21	BC	27.22	0.00	3.20	0.00	0.10	0.00	0.90	0.00
INITIAL	22	BC	27.03	0.00	1.34	0.00	0.06	0.00	1.90	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 g/m ² /d	AEROB BOD DECAY per day	BOD SETT m/d	BOD CONV TO SOD	ANAER BOD DECAY
COEF-1	1	BC	20	K2=a/D	0.700	0.000	0.000	2.200	0.180	0.100	0.000	0.000
COEF-1	2	BC	20	K2=a/D	0.700	0.000	0.000	1.800	0.180	0.100	0.000	0.000
COEF-1	3	BC	20	K2=a/D	0.700	0.000	0.000	1.800	0.130	0.100	0.000	0.000
COEF-1	4	BC	20	K2=a/D	0.700	0.000	0.000	2.500	0.100	0.100	0.000	0.000
COEF-1	5	BC	20	K2=a/D	0.700	0.000	0.000	2.700	0.100	0.100	0.000	0.000
COEF-1	6	BC	20	K2=a/D	0.700	0.000	0.000	2.000	0.130	0.100	0.000	0.000
COEF-1	7	BC	20	K2=a/D	0.700	0.000	0.000	1.900	0.130	0.100	0.000	0.000
COEF-1	8	BC	20	K2=a/D	0.700	0.000	0.000	2.500	0.050	0.100	0.000	0.000
COEF-1	9	BC	20	K2=a/D	0.700	0.000	0.000	3.000	0.050	0.100	0.000	0.000
COEF-1	10	BC	20	K2=a/D	0.700	0.000	0.000	3.000	0.050	0.100	0.000	0.000
COEF-1	11	BC	20	K2=a/D	0.700	0.000	0.000	3.000	0.090	0.100	0.000	0.000
COEF-1	12	BC	20	K2=a/D	0.700	0.000	0.000	3.000	0.090	0.100	0.000	0.000
COEF-1	13	BC	20	K2=a/D	0.700	0.000	0.000	3.000	0.090	0.100	0.000	0.000
COEF-1	14	BC	20	K2=a/D	0.700	0.000	0.000	2.600	0.090	0.100	0.000	0.000
COEF-1	15	BC	20	K2=a/D	0.700	0.000	0.000	2.500	0.060	0.100	0.000	0.000
COEF-1	16	BC	20	K2=a/D	0.700	0.000	0.000	2.500	0.060	0.100	0.000	0.000
COEF-1	17	BC	20	K2=a/D	0.700	0.000	0.000	2.500	0.060	0.100	0.000	0.000
COEF-1	18	BC	20	K2=a/D	0.700	0.000	0.000	2.250	0.060	0.100	0.000	0.000
COEF-1	19	BC	20	K2=a/D	0.700	0.000	0.000	2.900	0.070	0.100	0.000	0.000
COEF-1	20	BC	20	K2=a/D	0.700	0.000	0.000	3.300	0.070	0.100	0.000	0.000
COEF-1	21	BC	20	K2=a/D	0.700	0.000	0.000	3.300	0.070	0.100	0.000	0.000
COEF-1	22	BC	20	K2=a/D	0.700	0.000	0.000	2.900	0.060	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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COEF-2	1	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	2	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	3	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	4	BC	0.050	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	5	BC	0.050	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	6	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	7	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	8	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	9	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	10	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	11	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	12	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	13	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	14	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	15	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	16	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	17	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	18	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	19	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	20	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	21	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	22	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000

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	BC	0.00	0.13	0.05	0.00
COEF-4	2	BC	0.00	0.13	0.05	0.00
COEF-4	3	BC	0.00	0.13	0.05	0.00
COEF-4	4	BC	0.00	0.05	0.05	0.00
COEF-4	5	BC	0.00	0.05	0.05	0.00
COEF-4	6	BC	0.00	0.04	0.05	0.00
COEF-4	7	BC	0.00	0.04	0.05	0.00
COEF-4	8	BC	0.00	0.02	0.05	0.00
COEF-4	9	BC	0.00	0.03	0.05	0.00
COEF-4	10	BC	0.00	0.03	0.05	0.00
COEF-4	11	BC	0.00	0.03	0.05	0.00
COEF-4	12	BC	0.00	0.03	0.05	0.00
COEF-4	13	BC	0.00	0.03	0.05	0.00
COEF-4	14	BC	0.00	0.03	0.05	0.00
COEF-4	15	BC	0.00	0.04	0.05	0.00
COEF-4	16	BC	0.00	0.04	0.05	0.00
COEF-4	17	BC	0.00	0.04	0.05	0.00
COEF-4	18	BC	0.00	0.04	0.05	0.00

COEF-4	19	BC	0.00	0.02	0.05	0.00
COEF-4	20	BC	0.00	0.02	0.05	0.00
COEF-4	21	BC	0.00	0.02	0.05	0.00
COEF-4	22	BC	0.00	0.03	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	IN/DIST	OUT/DIST
INCR-1	1	BC	0.00000	0.00000	26.81	0.00	33.90	12.40	0.00000	0.00000
INCR-1	2	BC	-0.02720	0.00000	26.81	0.00	33.90	12.40	0.00000	-0.00618
INCR-1	3	BC	-0.02040	0.00000	26.02	0.00	33.60	11.00	0.00000	-0.00182
INCR-1	4	BC	0.00000	0.00570	26.34	0.00	30.20	7.90	0.00163	0.00000
INCR-1	5	BC	0.00000	0.00570	26.34	0.00	30.20	7.90	0.00211	0.00000
INCR-1	6	BC	-0.00960	0.00000	26.42	0.00	23.60	6.00	0.00000	-0.00196
INCR-1	7	BC	-0.00960	0.00000	26.42	0.00	23.60	6.00	0.00000	-0.00480
INCR-1	8	BC	0.00000	0.00000	26.88	0.00	8.80	3.20	0.00000	0.00000
INCR-1	9	BC	0.00000	0.00000	25.74	0.00	6.90	2.70	0.00000	0.00000
INCR-1	10	BC	0.00000	0.00710	25.74	0.00	6.90	2.70	0.00338	0.00000
INCR-1	11	BC	0.00000	0.00330	25.61	0.00	9.20	3.40	0.00143	0.00000
INCR-1	12	BC	0.00000	0.00330	25.61	0.00	9.20	3.40	0.00194	0.00000
INCR-1	13	BC	0.00000	0.00330	25.61	0.00	9.20	3.40	0.00174	0.00000
INCR-1	14	BC	0.00000	0.00330	25.61	0.00	9.20	3.40	0.00330	0.00000
INCR-1	15	BC	0.00000	0.00790	27.15	0.00	13.60	4.10	0.00122	0.00000
INCR-1	16	BC	0.00000	0.00790	27.15	0.00	13.60	4.10	0.07900	0.00000
INCR-1	17	BC	0.00000	0.00790	27.15	0.00	13.60	4.10	0.00494	0.00000
INCR-1	18	BC	0.00000	0.00790	27.15	0.00	13.60	4.10	0.00193	0.00000
INCR-1	19	BC	0.00000	0.00000	27.22	0.00	20.90	5.00	0.00000	0.00000
INCR-1	20	BC	0.00000	0.00000	27.22	0.00	20.90	5.00	0.00000	0.00000
INCR-1	21	BC	0.00000	0.00000	27.22	0.00	20.90	5.00	0.00000	0.00000
INCR-1	22	BC	0.00000	0.00000	27.03	0.00	9.30	2.70	0.00000	0.00000

ENDATA16

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

CARD TYPE	REACH	ID	DO	BOD	ORG-N	NH3	NO3+2
INCR-2	1	BC	4.30	2.65	1.30	0.00	0.56
INCR-2	2	BC	4.30	2.65	1.30	0.00	0.56
INCR-2	3	BC	4.46	2.49	0.70	0.00	0.37
INCR-2	4	BC	4.23	3.53	0.41	0.00	0.09
INCR-2	5	BC	4.23	3.53	0.41	0.00	0.09
INCR-2	6	BC	3.01	3.50	0.70	0.00	0.10
INCR-2	7	BC	3.01	3.50	0.70	0.00	0.10
INCR-2	8	BC	3.72	5.54	0.88	0.00	0.07
INCR-2	9	BC	2.68	4.38	0.77	0.00	0.09
INCR-2	10	BC	2.68	4.38	0.77	0.00	0.09
INCR-2	11	BC	2.44	3.41	0.78	0.00	0.08
INCR-2	12	BC	2.44	3.41	0.78	0.00	0.08
INCR-2	13	BC	2.44	3.41	0.78	0.00	0.08
INCR-2	14	BC	2.44	3.41	0.78	0.00	0.08
INCR-2	15	BC	2.58	4.08	0.57	0.00	0.08
INCR-2	16	BC	2.58	4.08	0.57	0.00	0.08

INCR-2	17	BC	2.58	4.08	0.57	0.00	0.08
INCR-2	18	BC	2.58	4.08	0.57	0.00	0.08
INCR-2	19	BC	3.20	4.32	0.79	0.00	0.10
INCR-2	20	BC	3.20	4.32	0.79	0.00	0.10
INCR-2	21	BC	3.20	4.32	0.79	0.00	0.10
INCR-2	22	BC	1.34	5.12	0.78	0.00	0.06

ENDATA17

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

CARD TYPE	REACH	ID	PHOS	CHL A	COLI	NCM
INCR-3	1	BC	0.00	4.30	0.00	3.40
INCR-3	2	BC	0.00	4.30	0.00	3.40
INCR-3	3	BC	0.00	4.46	0.00	3.45
INCR-3	4	BC	0.00	4.23	0.00	3.48
INCR-3	5	BC	0.00	4.23	0.00	3.48
INCR-3	6	BC	0.00	3.01	0.00	5.05
INCR-3	7	BC	0.00	3.01	0.00	5.05
INCR-3	8	BC	0.00	3.72	0.00	4.03
INCR-3	9	BC	0.00	2.68	0.00	4.52
INCR-3	10	BC	0.00	2.68	0.00	4.52
INCR-3	11	BC	0.00	2.44	0.00	5.18
INCR-3	12	BC	0.00	2.44	0.00	5.18
INCR-3	13	BC	0.00	2.44	0.00	5.18
INCR-3	14	BC	0.00	2.44	0.00	5.18
INCR-3	15	BC	0.00	2.58	0.00	1.96
INCR-3	16	BC	0.00	2.58	0.00	1.96
INCR-3	17	BC	0.00	2.58	0.00	1.96
INCR-3	18	BC	0.00	2.58	0.00	1.96
INCR-3	19	BC	0.00	3.20	0.00	3.07
INCR-3	20	BC	0.00	3.20	0.00	3.07
INCR-3	21	BC	0.00	3.20	0.00	3.07
INCR-3	22	BC	0.00	1.34	0.00	2.73

ENDATA18

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

CARD TYPE	REACH	ID	BOD	ORG-N	COLI	NCM	DO
NONPOINT	1	BC	3.00	3.00	0.00	10.00	0.00
NONPOINT	2	BC	0.00	0.00	0.00	3.00	0.00
NONPOINT	3	BC	16.00	0.00	0.00	10.00	0.00
NONPOINT	4	BC	3.00	1.00	0.00	5.00	0.00
NONPOINT	5	BC	0.00	1.00	0.00	7.50	0.00
NONPOINT	6	BC	20.00	2.00	0.00	4.00	0.00
NONPOINT	7	BC	14.00	0.60	0.00	2.00	0.00
NONPOINT	8	BC	6.00	0.50	0.00	3.00	0.00
NONPOINT	9	BC	2.00	0.50	0.00	9.00	0.00
NONPOINT	10	BC	2.00	0.50	0.00	3.00	0.00
NONPOINT	11	BC	5.00	0.50	0.00	0.00	0.00
NONPOINT	12	BC	3.00	0.00	0.00	0.00	0.00
NONPOINT	13	BC	5.00	0.00	0.00	0.00	0.00
NONPOINT	14	BC	4.00	0.00	0.00	0.00	0.00

NONPOINT	15	BC	5.00	0.50	0.00	0.00	0.00
NONPOINT	16	BC	0.00	0.50	0.00	0.00	0.00
NONPOINT	17	BC	3.00	0.50	0.00	2.00	0.00
NONPOINT	18	BC	5.00	0.85	0.00	2.00	0.00
NONPOINT	19	BC	15.00	0.85	0.00	1.00	0.00
NONPOINT	20	BC	5.00	0.50	0.00	0.00	0.00
NONPOINT	21	BC	3.00	0.50	0.00	0.00	0.00
NONPOINT	22	BC	330.00	27.00	0.00	85.00	0.00

ENDATA19

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

CARD TYPE	ELEMENT	NAME	UNIT	FLOW m ³ /s	FLOW cfs	TEMP deg C	SALIN ppt	CM-I MG/L	CM-II MG/L
HDWTR-1	1	HEADWATER	0	0.03511	1.240	26.83	0.00	33.900	12.400

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	HEADWATER	4.30	2.65	1.30	0.00	0.56

ENDATA21

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

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
HDWTR-3	1	HEADWATER	0.00	2.60	0.00	3.40

ENDATA22

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

CARD TYPE	JUNCTION ELEMENT	UPSTRM ELEMENT	RIVER KILOM	NAME
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ENDATA23

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

CARD TYPE	ELEMENT	RKILO	NAME	FLOW m ³ /s	FLOW cfs	FLOW MGD	TEMP deg C	SALIN ppt	CM-I MG/L	CM-II MG/L
WSTLD-1	2	80.20	CITY OF DERIDDER	0.06460	2.28107	1.475	28.17	0.00	32.100	14.100
WSTLD-1	179	62.50	LITTLE BARNES CR	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	214	59.00	REDHEAD BRANCH	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	290	51.40	LITTLE CANEY CR	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	339	46.50	CANEY CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	419	38.50	HURRICANE CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	463	34.10	MAGNOLIA CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	480	32.40	BRUSHY CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	499	30.50	RIGHTHAND CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	574	23.00	BOGGY CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000

WSTLD-1	575	22.90	WOLF CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	591	21.30	UNNAMED CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	703	10.10	CLEAR CREEK	0.00880	0.31073	0.201	25.56	0.00	5.500	1.300
WSTLD-1	727	7.70	BEAR CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000

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
WSTLD-2	2	CITY OF DERIDDER	4.67	2.04	0.00	0.87	0.00	0.00	0.46
WSTLD-2	179	LITTLE BARNES CR	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	214	REDHEAD BRANCH	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	290	LITTLE CANEY CR	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	339	CANEY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	419	HURRICANE CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	463	MAGNOLIA CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	480	BRUSHY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	499	RIGHTHAND CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	574	BOGGY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	575	WOLF CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	591	UNNAMED CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	703	CLEAR CREEK	4.38	5.55	0.00	0.75	0.00	0.00	0.06
WSTLD-2	727	BEAR CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ENDATA25

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

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
WSTLD-3	2	CITY OF DERIDDER	0.00	0.90	0.00	1.80
WSTLD-3	179	LITTLE BARNES CR	0.00	0.00	0.00	0.00
WSTLD-3	214	REDHEAD BRANCH	0.00	0.00	0.00	0.00
WSTLD-3	290	LITTLE CANEY CR	0.00	0.00	0.00	0.00
WSTLD-3	339	CANEY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	419	HURRICANE CREEK	0.00	0.00	0.00	0.00
WSTLD-3	463	MAGNOLIA CREEK	0.00	0.00	0.00	0.00
WSTLD-3	480	BRUSHY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	499	RIGHTHAND CREEK	0.00	0.00	0.00	0.00
WSTLD-3	574	BOGGY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	575	WOLF CREEK	0.00	0.00	0.00	0.00
WSTLD-3	591	UNNAMED CREEK	0.00	0.00	0.00	0.00
WSTLD-3	703	CLEAR CREEK	0.00	4.30	0.00	3.76
WSTLD-3	727	BEAR CREEK	0.00	0.00	0.00	0.00

ENDATA26

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

CARD TYPE	CONSTITUENT	CONCENTRATION
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ENDATA27

\$\$\$ DATA TYPE 28 (DAM DATA) \$\$\$

CARD TYPE	ELEMENT	NAME	EQN	"A"	"B"	"H"
DAM DATA	310	DAM AT SITE 7	1	1.000	0.800	4.740
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
SENSITIV	BASEFLOW	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
SENSITIV	CHLOR A	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
SENSITIV	VELOCITY	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
SENSITIV	TEMPERAT	2.0	-2.0	0.0	0.0	0.0	0.0	0.0	0.0
SENSITIV	BOD DECA	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
SENSITIV	BOD SETT	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
SENSITIV	NCM DECA	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
SENSITIV	NCM SETT	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
SENSITIV	BENTHAL	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
SENSITIV	DISPERSI	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
SENSITIV	REAERATI	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
SENSITIV	HDW FLOW	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
SENSITIV	HDW NCM	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
SENSITIV	HDW DO	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
SENSITIV	HDW BOD	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
SENSITIV	DEPTH	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
	INC INFL	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
	INC OUTF	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
	INC TEMP	2.0	-2.0	0.0	0.0	0.0	0.0	0.0	0.0
	INC DO	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
	INC BOD	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
	INC NCM	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
	INC ORGN	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
	ORGN DEC	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
	ORGN SET	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
	HDW ORGN	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
	WSL FLOW	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
	WSL TEMP	2.0	-2.0	0.0	0.0	0.0	0.0	0.0	0.0
	WSL DO	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
	WSL BOD	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
	WSL NCM	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
	WSL ORGN	30.0	-30.0	0.0	0.0	0.0	0.0	0.0	0.0
ENDATA29									

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

NUMBER OF PLOTS = 1
NUMBER OF REACHES IN PLOT 1 = 22
PLOT RCH 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
ENDATA30

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

OVERLAY 1 barnsovl.txt
 ENDATA31

:MAINSTEM

.....NO ERRORS DETECTED IN INPUT DATA
HYDRAULIC CALCULATIONS COMPLETED
TRIDIAGONAL MATRIX TERMS INITIALIZED
OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
CONSTITUENT CALCULATIONS COMPLETED
GRAPHICS DATA FOR PLOT 1 WRITTEN TO UNIT 21

FINAL REPORT HEADWATER
 REACH NO. 1 HEADWATER - SITE 2

BARNES CREEK WATERSHED MODEL
 BARNES CREEK SENSITIVITY RUN

***** REACH INPUTS

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
1 3.40	HDWTR	0.03511	26.83	0.00	33.90	12.40	4.30	2.26	2.65	1.30	0.00	0.56	0.00	2.60	0.00
2 1.80	WSTLD	0.06460	28.17	0.00	32.10	14.10	4.67	2.04	2.04	0.87	0.00	0.46	0.00	0.90	0.00

***** HYDRAULIC PARAMETER VALUES

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
1 0.099	80.30	80.20	0.03511	0.00	0.09879	0.01	0.12	2.92	35.54	291.90	0.36	0.00	0.000	0.009
2 0.198	80.20	80.10	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022
3 0.198	80.10	80.00	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022
4 0.198	80.00	79.90	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022
5 0.198	79.90	79.80	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022
6 0.198	79.80	79.70	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022
7	79.70	79.60	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022

0.198																		
8	79.60	79.50	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022				
0.198																		
9	79.50	79.40	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022				
0.198																		
10	79.40	79.30	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022				
0.198																		
11	79.30	79.20	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022				
0.198																		
12	79.20	79.10	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022				
0.198																		
13	79.10	79.00	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022				
0.198																		
14	79.00	78.90	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022				
0.198																		
15	78.90	78.80	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022				
0.198																		
16	78.80	78.70	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022				
0.198																		
17	78.70	78.60	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022				
0.198																		
18	78.60	78.50	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022				
0.198																		
19	78.50	78.40	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022				
0.198																		
20	78.40	78.30	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022				
0.198																		
21	78.30	78.20	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022				
0.198																		
22	78.20	78.10	0.09971	64.79	0.19788	0.01	0.16	3.11	50.39	311.40	0.50	0.00	0.000	0.022				
0.198																		
TOT																		
AVG					0.18925		0.13			1093.77	6831.37							
CUM							0.13		0.16	3.11				0.50				

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI
NCM	NCM																	
NO.	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY
DECAY	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	80.200	8.00	6.54	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00
0.18	0.06																	
2	80.100	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00
0.18	0.06																	
3	80.000	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00
0.18	0.06																	
4	79.900	8.00	4.92	0.25	0.12	0.00	3.38	3.38	3.38	0.21	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00

1	80.200	26.81	0.00	33.90	12.40	4.25	2.29	2.68	1.34	0.00	0.56	1.90	0.00	2.60	0.00	0.00
3.54																
2	80.100	26.81	0.00	32.73	13.50	4.49	2.14	2.53	1.05	0.00	0.50	1.55	0.00	2.60	0.00	0.00
2.46																
3	80.000	26.81	0.00	32.73	13.50	4.47	2.15	2.54	1.06	0.00	0.50	1.56	0.00	2.60	0.00	0.00
2.51																
4	79.900	26.81	0.00	32.73	13.50	4.44	2.16	2.55	1.07	0.00	0.50	1.57	0.00	2.60	0.00	0.00
2.56																
5	79.800	26.81	0.00	32.73	13.50	4.42	2.17	2.56	1.09	0.01	0.50	1.59	0.00	2.60	0.00	0.00
2.61																
6	79.700	26.81	0.00	32.73	13.50	4.39	2.19	2.58	1.10	0.01	0.50	1.60	0.00	2.60	0.00	0.00
2.66																
7	79.600	26.81	0.00	32.73	13.50	4.37	2.20	2.59	1.11	0.01	0.50	1.62	0.00	2.60	0.00	0.00
2.71																
8	79.500	26.81	0.00	32.73	13.50	4.34	2.21	2.60	1.13	0.01	0.49	1.63	0.00	2.60	0.00	0.00
2.76																
9	79.400	26.81	0.00	32.73	13.50	4.32	2.22	2.61	1.14	0.01	0.49	1.65	0.00	2.60	0.00	0.00
2.81																
10	79.300	26.81	0.00	32.73	13.50	4.30	2.23	2.62	1.15	0.01	0.49	1.66	0.00	2.60	0.00	0.00
2.85																
11	79.200	26.81	0.00	32.73	13.50	4.28	2.24	2.63	1.16	0.01	0.49	1.67	0.00	2.60	0.00	0.00
2.90																
12	79.100	26.81	0.00	32.73	13.50	4.26	2.25	2.64	1.18	0.02	0.49	1.69	0.00	2.60	0.00	0.00
2.95																
13	79.000	26.81	0.00	32.73	13.50	4.24	2.26	2.65	1.19	0.02	0.49	1.70	0.00	2.60	0.00	0.00
3.00																
14	78.900	26.81	0.00	32.73	13.50	4.22	2.27	2.66	1.20	0.02	0.49	1.72	0.00	2.60	0.00	0.00
3.05																
15	78.800	26.81	0.00	32.73	13.50	4.20	2.29	2.68	1.22	0.02	0.49	1.73	0.00	2.60	0.00	0.00
3.10																
16	78.700	26.81	0.00	32.73	13.50	4.18	2.30	2.69	1.23	0.02	0.49	1.74	0.00	2.60	0.00	0.00
3.15																
17	78.600	26.81	0.00	32.73	13.50	4.16	2.31	2.70	1.24	0.02	0.49	1.76	0.00	2.60	0.00	0.00
3.19																
18	78.500	26.81	0.00	32.73	13.50	4.14	2.32	2.71	1.25	0.02	0.49	1.77	0.00	2.60	0.00	0.00
3.24																
19	78.400	26.81	0.00	32.73	13.50	4.12	2.33	2.72	1.27	0.03	0.49	1.79	0.00	2.60	0.00	0.00
3.29																
20	78.300	26.81	0.00	32.73	13.50	4.10	2.34	2.73	1.28	0.03	0.49	1.80	0.00	2.60	0.00	0.00
3.34																
21	78.200	26.81	0.00	32.73	13.50	4.09	2.35	2.74	1.29	0.03	0.49	1.81	0.00	2.60	0.00	0.00
3.39																
22	78.100	26.81	0.00	32.73	13.50	4.07	2.36	2.75	1.30	0.03	0.49	1.83	0.00	2.60	0.00	0.00
3.43																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 2 SITE 2 - SITE 3

BARNES CREEK WATERSHED MODEL
BARNES CREEK SENSITIVITY RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
23	UPR RCH	0.09971	26.81	0.00	32.73	13.50	4.07	2.36	2.75	1.30	0.03	0.49	0.00	2.60	0.00
3.43 EACH	INCR	-0.0006													

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
23	78.10	78.00	0.09909	64.79	0.19723	0.01	0.16	3.11	50.24	311.22	0.50	0.00	0.000	0.022
0.197														
24	78.00	77.90	0.09848	64.79	0.19658	0.01	0.16	3.11	50.09	311.04	0.50	0.00	0.000	0.021
0.197														
25	77.90	77.80	0.09786	64.79	0.19593	0.01	0.16	3.11	49.95	310.86	0.50	0.00	0.000	0.021
0.196														
26	77.80	77.70	0.09724	64.79	0.19527	0.01	0.16	3.11	49.80	310.68	0.50	0.00	0.000	0.021
0.195														
27	77.70	77.60	0.09662	64.79	0.19461	0.01	0.16	3.10	49.65	310.50	0.50	0.00	0.000	0.021
0.195														
28	77.60	77.50	0.09600	64.79	0.19394	0.01	0.16	3.10	49.50	310.32	0.50	0.00	0.000	0.021
0.194														
29	77.50	77.40	0.09539	64.79	0.19327	0.01	0.16	3.10	49.35	310.13	0.49	0.00	0.000	0.021
0.193														
30	77.40	77.30	0.09477	64.79	0.19259	0.01	0.16	3.10	49.21	309.95	0.49	0.00	0.000	0.021
0.193														
31	77.30	77.20	0.09415	64.79	0.19191	0.01	0.16	3.10	49.06	309.77	0.49	0.00	0.000	0.021
0.192														
32	77.20	77.10	0.09353	64.79	0.19122	0.01	0.16	3.10	48.91	309.59	0.49	0.00	0.000	0.021
0.191														
33	77.10	77.00	0.09291	64.79	0.19053	0.01	0.16	3.09	48.76	309.41	0.49	0.00	0.000	0.020
0.191														
34	77.00	76.90	0.09229	64.79	0.18984	0.01	0.16	3.09	48.62	309.22	0.49	0.00	0.000	0.020
0.190														
35	76.90	76.80	0.09168	64.79	0.18914	0.01	0.16	3.09	48.47	309.04	0.48	0.00	0.000	0.020
0.189														
36	76.80	76.70	0.09106	64.79	0.18844	0.01	0.16	3.09	48.32	308.86	0.48	0.00	0.000	0.020
0.188														
37	76.70	76.60	0.09044	64.79	0.18773	0.01	0.16	3.09	48.18	308.68	0.48	0.00	0.000	0.020
0.188														
38	76.60	76.50	0.08982	64.79	0.18701	0.01	0.16	3.08	48.03	308.50	0.48	0.00	0.000	0.020

0.187														
39	76.50	76.40	0.08920	64.79	0.18630	0.01	0.16	3.08	47.88	308.31	0.48	0.00	0.000	0.020
0.186														
40	76.40	76.30	0.08859	64.79	0.18557	0.01	0.15	3.08	47.74	308.13	0.48	0.00	0.000	0.020
0.186														
41	76.30	76.20	0.08797	64.79	0.18484	0.01	0.15	3.08	47.59	307.95	0.48	0.00	0.000	0.020
0.185														
42	76.20	76.10	0.08735	64.79	0.18411	0.01	0.15	3.08	47.44	307.77	0.47	0.00	0.000	0.019
0.184														
43	76.10	76.00	0.08673	64.79	0.18337	0.01	0.15	3.08	47.30	307.58	0.47	0.00	0.000	0.019
0.183														
44	76.00	75.90	0.08611	64.79	0.18263	0.01	0.15	3.07	47.15	307.40	0.47	0.00	0.000	0.019
0.183														
45	75.90	75.80	0.08549	64.79	0.18188	0.01	0.15	3.07	47.01	307.22	0.47	0.00	0.000	0.019
0.182														
46	75.80	75.70	0.08488	64.79	0.18113	0.01	0.15	3.07	46.86	307.03	0.47	0.00	0.000	0.019
0.181														
47	75.70	75.60	0.08426	64.79	0.18037	0.01	0.15	3.07	46.72	306.85	0.47	0.00	0.000	0.019
0.180														
48	75.60	75.50	0.08364	64.79	0.17960	0.01	0.15	3.07	46.57	306.67	0.47	0.00	0.000	0.019
0.180														
49	75.50	75.40	0.08302	64.79	0.17883	0.01	0.15	3.06	46.42	306.48	0.46	0.00	0.000	0.019
0.179														
50	75.40	75.30	0.08240	64.79	0.17806	0.01	0.15	3.06	46.28	306.30	0.46	0.00	0.000	0.018
0.178														
51	75.30	75.20	0.08179	64.79	0.17728	0.01	0.15	3.06	46.13	306.12	0.46	0.00	0.000	0.018
0.177														
52	75.20	75.10	0.08117	64.79	0.17649	0.01	0.15	3.06	45.99	305.93	0.46	0.00	0.000	0.018
0.176														
53	75.10	75.00	0.08055	64.79	0.17570	0.01	0.15	3.06	45.84	305.75	0.46	0.00	0.000	0.018
0.176														
54	75.00	74.90	0.07993	64.79	0.17491	0.01	0.15	3.06	45.70	305.57	0.46	0.00	0.000	0.018
0.175														
55	74.90	74.80	0.07931	64.79	0.17410	0.01	0.15	3.05	45.56	305.38	0.46	0.00	0.000	0.018
0.174														
56	74.80	74.70	0.07869	64.79	0.17330	0.01	0.15	3.05	45.41	305.20	0.45	0.00	0.000	0.018
0.173														
57	74.70	74.60	0.07808	64.79	0.17248	0.01	0.15	3.05	45.27	305.01	0.45	0.00	0.000	0.018
0.172														
58	74.60	74.50	0.07746	64.79	0.17166	0.01	0.15	3.05	45.12	304.83	0.45	0.00	0.000	0.017
0.172														
59	74.50	74.40	0.07684	64.79	0.17084	0.01	0.15	3.05	44.98	304.65	0.45	0.00	0.000	0.017
0.171														
60	74.40	74.30	0.07622	64.79	0.17001	0.01	0.15	3.04	44.83	304.46	0.45	0.00	0.000	0.017
0.170														
61	74.30	74.20	0.07560	64.79	0.16917	0.01	0.15	3.04	44.69	304.28	0.45	0.00	0.000	0.017
0.169														
62	74.20	74.10	0.07499	64.79	0.16833	0.01	0.15	3.04	44.55	304.09	0.45	0.00	0.000	0.017
0.168														
63	74.10	74.00	0.07437	64.79	0.16748	0.01	0.15	3.04	44.40	303.91	0.44	0.00	0.000	0.017
0.167														
64	74.00	73.90	0.07375	64.79	0.16663	0.01	0.15	3.04	44.26	303.72	0.44	0.00	0.000	0.017
0.167														
65	73.90	73.80	0.07313	64.79	0.16577	0.01	0.15	3.04	44.12	303.54	0.44	0.00	0.000	0.017

0.166																			
66	73.80	73.70	0.07251	64.79	0.16490	0.01	0.14	3.03	43.97	303.35	0.44	0.00	0.000	0.017					
0.165																			
TOT																			
AVG					0.18134		0.28			2071.93		13521.24							
CUM							0.42		0.15	3.07				0.47					

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
23	78.000	8.00	4.93	0.25	0.12	0.00	2.76	2.76	2.76	0.21	0.23	0.00	0.00	0.00	0.00	0.18	0.00	0.00
0.18	0.06																	
24	77.900	8.00	4.94	0.25	0.12	0.00	2.76	2.76	2.76	0.21	0.23	0.00	0.00	0.00	0.00	0.18	0.00	0.00
0.18	0.06																	
25	77.800	8.00	4.95	0.25	0.12	0.00	2.75	2.75	2.75	0.21	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00
0.18	0.06																	
26	77.700	8.01	4.96	0.25	0.12	0.00	2.75	2.75	2.75	0.21	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00
0.18	0.06																	
27	77.600	8.01	4.97	0.25	0.12	0.00	2.75	2.75	2.75	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00
0.18	0.06																	
28	77.500	8.01	4.98	0.24	0.12	0.00	2.75	2.75	2.75	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00
0.18	0.06																	
29	77.400	8.01	4.99	0.24	0.12	0.00	2.74	2.74	2.74	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00
0.18	0.06																	
30	77.300	8.02	5.00	0.24	0.12	0.00	2.74	2.74	2.74	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00
0.18	0.06																	
31	77.200	8.02	5.01	0.24	0.12	0.00	2.74	2.74	2.74	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00
0.18	0.06																	
32	77.100	8.02	5.02	0.24	0.12	0.00	2.73	2.73	2.73	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00
0.18	0.06																	
33	77.000	8.02	5.03	0.24	0.12	0.00	2.73	2.73	2.73	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00
0.18	0.06																	
34	76.900	8.03	5.04	0.24	0.12	0.00	2.73	2.73	2.73	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00
0.18	0.06																	
35	76.800	8.03	5.05	0.24	0.12	0.00	2.72	2.72	2.72	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00
0.18	0.06																	
36	76.700	8.03	5.06	0.24	0.12	0.00	2.72	2.72	2.72	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00
0.18	0.06																	
37	76.600	8.03	5.08	0.24	0.12	0.00	2.72	2.72	2.72	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00
0.18	0.06																	
38	76.500	8.04	5.09	0.24	0.12	0.00	2.71	2.71	2.71	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00
0.18	0.06																	
39	76.400	8.04	5.10	0.24	0.12	0.00	2.71	2.71	2.71	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00
0.18	0.06																	
40	76.300	8.04	5.11	0.24	0.12	0.00	2.71	2.71	2.71	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00

42	76.100	26.45	0.00	32.73	13.50	4.19	2.26	2.61	1.24	0.06	0.49	1.79	0.00	2.33	0.00	0.00
3.51																
43	76.000	26.43	0.00	32.73	13.50	4.20	2.26	2.60	1.23	0.06	0.49	1.79	0.00	2.31	0.00	0.00
3.51																
44	75.900	26.42	0.00	32.73	13.50	4.20	2.25	2.60	1.23	0.06	0.49	1.79	0.00	2.30	0.00	0.00
3.51																
45	75.800	26.40	0.00	32.73	13.50	4.21	2.25	2.59	1.23	0.07	0.49	1.79	0.00	2.29	0.00	0.00
3.52																
46	75.700	26.38	0.00	32.73	13.50	4.21	2.24	2.58	1.22	0.07	0.49	1.78	0.00	2.27	0.00	0.00
3.52																
47	75.600	26.36	0.00	32.73	13.50	4.22	2.24	2.57	1.22	0.07	0.49	1.78	0.00	2.26	0.00	0.00
3.53																
48	75.500	26.34	0.00	32.73	13.50	4.23	2.23	2.57	1.22	0.07	0.49	1.78	0.00	2.25	0.00	0.00
3.53																
49	75.400	26.33	0.00	32.73	13.50	4.23	2.23	2.56	1.21	0.07	0.49	1.78	0.00	2.23	0.00	0.00
3.53																
50	75.300	26.31	0.00	32.73	13.50	4.24	2.22	2.55	1.21	0.07	0.49	1.78	0.00	2.22	0.00	0.00
3.54																
51	75.200	26.29	0.00	32.73	13.50	4.25	2.22	2.55	1.21	0.07	0.49	1.77	0.00	2.20	0.00	0.00
3.54																
52	75.100	26.27	0.00	32.73	13.50	4.25	2.21	2.54	1.20	0.08	0.49	1.77	0.00	2.19	0.00	0.00
3.55																
53	75.000	26.25	0.00	32.73	13.50	4.26	2.21	2.53	1.20	0.08	0.49	1.77	0.00	2.18	0.00	0.00
3.55																
54	74.900	26.24	0.00	32.73	13.50	4.27	2.20	2.52	1.20	0.08	0.49	1.77	0.00	2.16	0.00	0.00
3.56																
55	74.800	26.22	0.00	32.73	13.50	4.27	2.19	2.52	1.19	0.08	0.49	1.77	0.00	2.15	0.00	0.00
3.56																
56	74.700	26.20	0.00	32.73	13.50	4.28	2.19	2.51	1.19	0.08	0.49	1.77	0.00	2.14	0.00	0.00
3.56																
57	74.600	26.18	0.00	32.73	13.50	4.29	2.18	2.50	1.19	0.08	0.49	1.76	0.00	2.12	0.00	0.00
3.57																
58	74.500	26.16	0.00	32.73	13.50	4.29	2.18	2.50	1.18	0.09	0.49	1.76	0.00	2.11	0.00	0.00
3.57																
59	74.400	26.15	0.00	32.73	13.50	4.30	2.17	2.49	1.18	0.09	0.49	1.76	0.00	2.10	0.00	0.00
3.58																
60	74.300	26.13	0.00	32.73	13.50	4.31	2.17	2.48	1.18	0.09	0.49	1.76	0.00	2.08	0.00	0.00
3.58																
61	74.200	26.11	0.00	32.73	13.50	4.31	2.16	2.47	1.17	0.09	0.49	1.76	0.00	2.07	0.00	0.00
3.59																
62	74.100	26.09	0.00	32.73	13.50	4.32	2.16	2.47	1.17	0.09	0.49	1.75	0.00	2.05	0.00	0.00
3.59																
63	74.000	26.07	0.00	32.73	13.50	4.33	2.15	2.46	1.17	0.09	0.49	1.75	0.00	2.04	0.00	0.00
3.60																
64	73.900	26.06	0.00	32.73	13.50	4.34	2.15	2.45	1.16	0.10	0.49	1.75	0.00	2.03	0.00	0.00
3.60																
65	73.800	26.04	0.00	32.73	13.50	4.34	2.14	2.44	1.16	0.10	0.49	1.75	0.00	2.01	0.00	0.00
3.61																
66	73.700	26.02	0.00	32.73	13.50	4.35	2.14	2.44	1.16	0.10	0.49	1.75	0.00	2.00	0.00	0.00
3.61																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
 REACH NO. 3 SITE 3 - LITTLE BARNES CR

BARNES CREEK WATERSHED MODEL
 BARNES CREEK SENSITIVITY RUN

***** REACH INPUTS

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
67	UPR RCH	0.07251	26.02	0.00	32.73	13.50	4.35	2.14	2.44	1.16	0.10	0.49	0.00	2.00	0.00
3.61	EACH INCR	-0.0002													

***** HYDRAULIC PARAMETER VALUES

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
67	73.70	73.60	0.07233	64.79	0.06116	0.02	0.35	3.33	118.27	333.30	1.18	0.00	0.000	0.013
0.061														
68	73.60	73.50	0.07215	64.79	0.06103	0.02	0.35	3.33	118.21	333.24	1.18	0.00	0.000	0.013
0.061														
69	73.50	73.40	0.07197	64.79	0.06091	0.02	0.35	3.33	118.15	333.19	1.18	0.00	0.000	0.013
0.061														
70	73.40	73.30	0.07178	64.79	0.06078	0.02	0.35	3.33	118.10	333.13	1.18	0.00	0.000	0.013
0.061														
71	73.30	73.20	0.07160	64.79	0.06066	0.02	0.35	3.33	118.04	333.08	1.18	0.00	0.000	0.013
0.061														
72	73.20	73.10	0.07142	64.79	0.06053	0.02	0.35	3.33	117.98	333.02	1.18	0.00	0.000	0.013
0.061														
73	73.10	73.00	0.07124	64.79	0.06041	0.02	0.35	3.33	117.93	332.97	1.18	0.00	0.000	0.013
0.060														
74	73.00	72.90	0.07106	64.79	0.06028	0.02	0.35	3.33	117.87	332.92	1.18	0.00	0.000	0.013
0.060														
75	72.90	72.80	0.07087	64.79	0.06016	0.02	0.35	3.33	117.81	332.86	1.18	0.00	0.000	0.013
0.060														
76	72.80	72.70	0.07069	64.79	0.06003	0.02	0.35	3.33	117.76	332.81	1.18	0.00	0.000	0.013
0.060														
77	72.70	72.60	0.07051	64.79	0.05991	0.02	0.35	3.33	117.70	332.75	1.18	0.00	0.000	0.013
0.060														
78	72.60	72.50	0.07033	64.79	0.05978	0.02	0.35	3.33	117.64	332.70	1.18	0.00	0.000	0.013
0.060														
79	72.50	72.40	0.07015	64.79	0.05965	0.02	0.35	3.33	117.59	332.64	1.18	0.00	0.000	0.013

0.060														
80	72.40	72.30	0.06996	64.79	0.05953	0.02	0.35	3.33	117.53	332.59	1.18	0.00	0.000	0.013
0.060														
81	72.30	72.20	0.06978	64.79	0.05940	0.02	0.35	3.33	117.47	332.53	1.17	0.00	0.000	0.012
0.059														
82	72.20	72.10	0.06960	64.79	0.05928	0.02	0.35	3.32	117.41	332.48	1.17	0.00	0.000	0.012
0.059														
83	72.10	72.00	0.06942	64.79	0.05915	0.02	0.35	3.32	117.36	332.42	1.17	0.00	0.000	0.012
0.059														
84	72.00	71.90	0.06923	64.79	0.05902	0.02	0.35	3.32	117.30	332.37	1.17	0.00	0.000	0.012
0.059														
85	71.90	71.80	0.06905	64.79	0.05890	0.02	0.35	3.32	117.24	332.31	1.17	0.00	0.000	0.012
0.059														
86	71.80	71.70	0.06887	64.79	0.05877	0.02	0.35	3.32	117.19	332.26	1.17	0.00	0.000	0.012
0.059														
87	71.70	71.60	0.06869	64.79	0.05864	0.02	0.35	3.32	117.13	332.20	1.17	0.00	0.000	0.012
0.059														
88	71.60	71.50	0.06851	64.79	0.05852	0.02	0.35	3.32	117.07	332.15	1.17	0.00	0.000	0.012
0.059														
89	71.50	71.40	0.06832	64.79	0.05839	0.02	0.35	3.32	117.02	332.09	1.17	0.00	0.000	0.012
0.058														
90	71.40	71.30	0.06814	64.79	0.05826	0.02	0.35	3.32	116.96	332.04	1.17	0.00	0.000	0.012
0.058														
91	71.30	71.20	0.06796	64.79	0.05813	0.02	0.35	3.32	116.90	331.98	1.17	0.00	0.000	0.012
0.058														
92	71.20	71.10	0.06778	64.79	0.05801	0.02	0.35	3.32	116.85	331.93	1.17	0.00	0.000	0.012
0.058														
93	71.10	71.00	0.06760	64.79	0.05788	0.02	0.35	3.32	116.79	331.88	1.17	0.00	0.000	0.012
0.058														
94	71.00	70.90	0.06741	64.79	0.05775	0.02	0.35	3.32	116.73	331.82	1.17	0.00	0.000	0.012
0.058														
95	70.90	70.80	0.06723	64.79	0.05762	0.02	0.35	3.32	116.68	331.77	1.17	0.00	0.000	0.012
0.058														
96	70.80	70.70	0.06705	64.79	0.05749	0.02	0.35	3.32	116.62	331.71	1.17	0.00	0.000	0.012
0.057														
97	70.70	70.60	0.06687	64.79	0.05737	0.02	0.35	3.32	116.56	331.66	1.17	0.00	0.000	0.012
0.057														
98	70.60	70.50	0.06668	64.79	0.05724	0.02	0.35	3.32	116.51	331.60	1.17	0.00	0.000	0.012
0.057														
99	70.50	70.40	0.06650	64.79	0.05711	0.02	0.35	3.32	116.45	331.55	1.16	0.00	0.000	0.012
0.057														
100	70.40	70.30	0.06632	64.79	0.05698	0.02	0.35	3.31	116.39	331.49	1.16	0.00	0.000	0.012
0.057														
101	70.30	70.20	0.06614	64.79	0.05685	0.02	0.35	3.31	116.34	331.44	1.16	0.00	0.000	0.012
0.057														
102	70.20	70.10	0.06596	64.79	0.05672	0.02	0.35	3.31	116.28	331.38	1.16	0.00	0.000	0.012
0.057														
103	70.10	70.00	0.06577	64.79	0.05659	0.02	0.35	3.31	116.22	331.33	1.16	0.00	0.000	0.012
0.057														
104	70.00	69.90	0.06559	64.79	0.05646	0.02	0.35	3.31	116.17	331.27	1.16	0.00	0.000	0.012
0.056														
105	69.90	69.80	0.06541	64.79	0.05633	0.02	0.35	3.31	116.11	331.22	1.16	0.00	0.000	0.012
0.056														
106	69.80	69.70	0.06523	64.79	0.05620	0.02	0.35	3.31	116.05	331.16	1.16	0.00	0.000	0.012

0.056														
107	69.70	69.60	0.06505	64.79	0.05608	0.02	0.35	3.31	116.00	331.11	1.16	0.00	0.000	0.012
0.056														
108	69.60	69.50	0.06486	64.79	0.05595	0.02	0.35	3.31	115.94	331.05	1.16	0.00	0.000	0.012
0.056														
109	69.50	69.40	0.06468	64.79	0.05582	0.02	0.35	3.31	115.88	331.00	1.16	0.00	0.000	0.012
0.056														
110	69.40	69.30	0.06450	64.79	0.05569	0.02	0.35	3.31	115.83	330.94	1.16	0.00	0.000	0.012
0.056														
111	69.30	69.20	0.06432	64.79	0.05556	0.02	0.35	3.31	115.77	330.89	1.16	0.00	0.000	0.012
0.056														
112	69.20	69.10	0.06413	64.79	0.05543	0.02	0.35	3.31	115.71	330.83	1.16	0.00	0.000	0.012
0.055														
113	69.10	69.00	0.06395	64.79	0.05530	0.02	0.35	3.31	115.66	330.78	1.16	0.00	0.000	0.012
0.055														
114	69.00	68.90	0.06377	64.79	0.05516	0.02	0.35	3.31	115.60	330.72	1.16	0.00	0.000	0.011
0.055														
115	68.90	68.80	0.06359	64.79	0.05503	0.02	0.35	3.31	115.54	330.67	1.16	0.00	0.000	0.011
0.055														
116	68.80	68.70	0.06341	64.79	0.05490	0.02	0.35	3.31	115.49	330.61	1.15	0.00	0.000	0.011
0.055														
117	68.70	68.60	0.06322	64.79	0.05477	0.02	0.35	3.31	115.43	330.56	1.15	0.00	0.000	0.011
0.055														
118	68.60	68.50	0.06304	64.79	0.05464	0.02	0.35	3.31	115.37	330.50	1.15	0.00	0.000	0.011
0.055														
119	68.50	68.40	0.06286	64.79	0.05451	0.02	0.35	3.30	115.32	330.45	1.15	0.00	0.000	0.011
0.055														
120	68.40	68.30	0.06268	64.79	0.05438	0.02	0.35	3.30	115.26	330.39	1.15	0.00	0.000	0.011
0.054														
121	68.30	68.20	0.06250	64.79	0.05425	0.02	0.35	3.30	115.20	330.34	1.15	0.00	0.000	0.011
0.054														
122	68.20	68.10	0.06231	64.79	0.05412	0.02	0.35	3.30	115.15	330.28	1.15	0.00	0.000	0.011
0.054														
123	68.10	68.00	0.06213	64.79	0.05398	0.02	0.35	3.30	115.09	330.23	1.15	0.00	0.000	0.011
0.054														
124	68.00	67.90	0.06195	64.79	0.05385	0.02	0.35	3.30	115.03	330.17	1.15	0.00	0.000	0.011
0.054														
125	67.90	67.80	0.06177	64.79	0.05372	0.02	0.35	3.30	114.98	330.12	1.15	0.00	0.000	0.011
0.054														
126	67.80	67.70	0.06158	64.79	0.05359	0.02	0.35	3.30	114.92	330.06	1.15	0.00	0.000	0.011
0.054														
127	67.70	67.60	0.06140	64.79	0.05346	0.02	0.35	3.30	114.86	330.01	1.15	0.00	0.000	0.011
0.053														
128	67.60	67.50	0.06122	64.79	0.05332	0.02	0.35	3.30	114.81	329.95	1.15	0.00	0.000	0.011
0.053														
129	67.50	67.40	0.06104	64.79	0.05319	0.02	0.35	3.30	114.75	329.89	1.15	0.00	0.000	0.011
0.053														
130	67.40	67.30	0.06086	64.79	0.05306	0.02	0.35	3.30	114.70	329.84	1.15	0.00	0.000	0.011
0.053														
131	67.30	67.20	0.06067	64.79	0.05293	0.02	0.35	3.30	114.64	329.78	1.15	0.00	0.000	0.011
0.053														
132	67.20	67.10	0.06049	64.79	0.05279	0.02	0.35	3.30	114.58	329.73	1.15	0.00	0.000	0.011
0.053														
133	67.10	67.00	0.06031	64.79	0.05266	0.02	0.35	3.30	114.53	329.67	1.15	0.00	0.000	0.011

0.053														
134	67.00	66.90	0.06013	64.79	0.05253	0.02	0.35	3.30	114.47	329.62	1.14	0.00	0.000	0.011
0.053														
135	66.90	66.80	0.05995	64.79	0.05239	0.02	0.35	3.30	114.41	329.56	1.14	0.00	0.000	0.011
0.052														
136	66.80	66.70	0.05976	64.79	0.05226	0.02	0.35	3.30	114.36	329.51	1.14	0.00	0.000	0.011
0.052														
137	66.70	66.60	0.05958	64.79	0.05213	0.02	0.35	3.29	114.30	329.45	1.14	0.00	0.000	0.011
0.052														
138	66.60	66.50	0.05940	64.79	0.05199	0.02	0.35	3.29	114.24	329.40	1.14	0.00	0.000	0.011
0.052														
139	66.50	66.40	0.05922	64.79	0.05186	0.02	0.35	3.29	114.19	329.34	1.14	0.00	0.000	0.011
0.052														
140	66.40	66.30	0.05903	64.79	0.05172	0.02	0.35	3.29	114.13	329.29	1.14	0.00	0.000	0.011
0.052														
141	66.30	66.20	0.05885	64.79	0.05159	0.02	0.35	3.29	114.07	329.23	1.14	0.00	0.000	0.011
0.052														
142	66.20	66.10	0.05867	64.79	0.05146	0.02	0.35	3.29	114.02	329.18	1.14	0.00	0.000	0.011
0.051														
143	66.10	66.00	0.05849	64.79	0.05132	0.02	0.35	3.29	113.96	329.12	1.14	0.00	0.000	0.011
0.051														
144	66.00	65.90	0.05831	64.79	0.05119	0.02	0.35	3.29	113.91	329.07	1.14	0.00	0.000	0.011
0.051														
145	65.90	65.80	0.05812	64.79	0.05105	0.02	0.35	3.29	113.85	329.01	1.14	0.00	0.000	0.011
0.051														
146	65.80	65.70	0.05794	64.79	0.05092	0.02	0.35	3.29	113.79	328.95	1.14	0.00	0.000	0.011
0.051														
147	65.70	65.60	0.05776	64.79	0.05078	0.02	0.35	3.29	113.74	328.90	1.14	0.00	0.000	0.010
0.051														
148	65.60	65.50	0.05758	64.79	0.05065	0.02	0.35	3.29	113.68	328.84	1.14	0.00	0.000	0.010
0.051														
149	65.50	65.40	0.05740	64.79	0.05051	0.02	0.35	3.29	113.62	328.79	1.14	0.00	0.000	0.010
0.051														
150	65.40	65.30	0.05721	64.79	0.05038	0.02	0.35	3.29	113.57	328.73	1.14	0.00	0.000	0.010
0.050														
151	65.30	65.20	0.05703	64.79	0.05024	0.02	0.35	3.29	113.51	328.68	1.14	0.00	0.000	0.010
0.050														
152	65.20	65.10	0.05685	64.79	0.05011	0.02	0.35	3.29	113.46	328.62	1.13	0.00	0.000	0.010
0.050														
153	65.10	65.00	0.05667	64.79	0.04997	0.02	0.35	3.29	113.40	328.57	1.13	0.00	0.000	0.010
0.050														
154	65.00	64.90	0.05648	64.79	0.04983	0.02	0.35	3.29	113.34	328.51	1.13	0.00	0.000	0.010
0.050														
155	64.90	64.80	0.05630	64.79	0.04970	0.02	0.34	3.28	113.29	328.46	1.13	0.00	0.000	0.010
0.050														
156	64.80	64.70	0.05612	64.79	0.04956	0.02	0.34	3.28	113.23	328.40	1.13	0.00	0.000	0.010
0.050														
157	64.70	64.60	0.05594	64.79	0.04943	0.02	0.34	3.28	113.17	328.34	1.13	0.00	0.000	0.010
0.049														
158	64.60	64.50	0.05576	64.79	0.04929	0.02	0.34	3.28	113.12	328.29	1.13	0.00	0.000	0.010
0.049														
159	64.50	64.40	0.05557	64.79	0.04915	0.02	0.34	3.28	113.06	328.23	1.13	0.00	0.000	0.010
0.049														
160	64.40	64.30	0.05539	64.79	0.04902	0.02	0.34	3.28	113.01	328.18	1.13	0.00	0.000	0.010

0.049																		
161	64.30	64.20	0.05521	64.79	0.04888	0.02	0.34	3.28	112.95	328.12	1.13	0.00	0.000	0.010				
0.049																		
162	64.20	64.10	0.05503	64.79	0.04874	0.02	0.34	3.28	112.89	328.07	1.13	0.00	0.000	0.010				
0.049																		
163	64.10	64.00	0.05484	64.79	0.04861	0.02	0.34	3.28	112.84	328.01	1.13	0.00	0.000	0.010				
0.049																		
164	64.00	63.90	0.05466	64.79	0.04847	0.02	0.34	3.28	112.78	327.96	1.13	0.00	0.000	0.010				
0.048																		
165	63.90	63.80	0.05448	64.79	0.04833	0.02	0.34	3.28	112.72	327.90	1.13	0.00	0.000	0.010				
0.048																		
166	63.80	63.70	0.05430	64.79	0.04819	0.02	0.34	3.28	112.67	327.84	1.13	0.00	0.000	0.010				
0.048																		
167	63.70	63.60	0.05412	64.79	0.04806	0.02	0.34	3.28	112.61	327.79	1.13	0.00	0.000	0.010				
0.048																		
168	63.60	63.50	0.05393	64.79	0.04792	0.02	0.34	3.28	112.56	327.73	1.13	0.00	0.000	0.010				
0.048																		
169	63.50	63.40	0.05375	64.79	0.04778	0.02	0.34	3.28	112.50	327.68	1.13	0.00	0.000	0.010				
0.048																		
170	63.40	63.30	0.05357	64.79	0.04764	0.02	0.34	3.28	112.44	327.62	1.12	0.00	0.000	0.010				
0.048																		
171	63.30	63.20	0.05339	64.79	0.04750	0.02	0.34	3.28	112.39	327.57	1.12	0.00	0.000	0.010				
0.048																		
172	63.20	63.10	0.05321	64.79	0.04736	0.02	0.34	3.28	112.33	327.51	1.12	0.00	0.000	0.010				
0.047																		
173	63.10	63.00	0.05302	64.79	0.04723	0.02	0.34	3.27	112.28	327.45	1.12	0.00	0.000	0.010				
0.047																		
174	63.00	62.90	0.05284	64.79	0.04709	0.02	0.34	3.27	112.22	327.40	1.12	0.00	0.000	0.010				
0.047																		
175	62.90	62.80	0.05266	64.79	0.04695	0.02	0.34	3.27	112.16	327.34	1.12	0.00	0.000	0.010				
0.047																		
176	62.80	62.70	0.05248	64.79	0.04681	0.02	0.34	3.27	112.11	327.29	1.12	0.00	0.000	0.010				
0.047																		
177	62.70	62.60	0.05229	64.79	0.04667	0.02	0.34	3.27	112.05	327.23	1.12	0.00	0.000	0.010				
0.047																		
178	62.60	62.50	0.05211	64.79	0.04653	0.02	0.34	3.27	112.00	327.17	1.12	0.00	0.000	0.010				
0.047																		
TOT						2.42				12893.83	36987.73							
AVG			0.05364				0.35	3.30						1.15				
CUM						2.83												

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI
NCM	NCM																	
NO.	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY
DECAY	SETT	mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da
67	73.600	8.11	2.21	0.17	0.12	0.00	2.63	2.63	2.63	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00

211	59.200	8.06	2.58	0.13	0.12	0.00	3.73	3.73	3.73	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00
0.07	0.06																	
212	59.100	8.06	2.58	0.13	0.12	0.00	3.73	3.73	3.73	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00
0.07	0.06																	
213	59.000	8.06	2.58	0.13	0.12	0.00	3.73	3.73	3.73	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00
0.07	0.06																	
20 DEG C RATE				0.10		0.00	2.50			0.05		0.00	0.00	0.00	0.00			0.00
0.05																		
AVG 20 DEG C RATE			2.30		0.10						0.05							
0.05																		

* g/m²/d ** mg/L/day

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

ELEM NCM 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
179	62.400	26.34	0.00	32.73	13.48	4.13	3.23	3.51	0.42	0.43	0.48	1.33	0.00	1.90	0.00	0.00
3.53																
180	62.300	26.34	0.00	32.72	13.47	4.08	3.23	3.52	0.42	0.43	0.48	1.34	0.00	1.90	0.00	0.00
3.55																
181	62.200	26.34	0.00	32.71	13.45	4.02	3.23	3.52	0.43	0.43	0.48	1.34	0.00	1.90	0.00	0.00
3.57																
182	62.100	26.34	0.00	32.70	13.43	3.98	3.23	3.52	0.43	0.43	0.48	1.34	0.00	1.90	0.00	0.00
3.60																
183	62.000	26.34	0.00	32.69	13.42	3.93	3.24	3.52	0.44	0.43	0.48	1.35	0.00	1.90	0.00	0.00
3.62																
184	61.900	26.34	0.00	32.69	13.40	3.89	3.24	3.52	0.44	0.43	0.48	1.35	0.00	1.90	0.00	0.00
3.64																
185	61.800	26.34	0.00	32.68	13.38	3.84	3.24	3.52	0.45	0.43	0.47	1.35	0.00	1.90	0.00	0.00
3.66																
186	61.700	26.34	0.00	32.67	13.36	3.81	3.24	3.53	0.45	0.43	0.47	1.35	0.00	1.90	0.00	0.00
3.68																
187	61.600	26.34	0.00	32.66	13.35	3.77	3.24	3.53	0.46	0.43	0.47	1.36	0.00	1.90	0.00	0.00
3.70																
188	61.500	26.34	0.00	32.66	13.33	3.74	3.24	3.53	0.46	0.43	0.47	1.36	0.00	1.90	0.00	0.00
3.72																
189	61.400	26.34	0.00	32.65	13.32	3.70	3.24	3.53	0.47	0.43	0.47	1.36	0.00	1.90	0.00	0.00
3.74																
190	61.300	26.34	0.00	32.64	13.30	3.67	3.25	3.53	0.47	0.43	0.47	1.37	0.00	1.90	0.00	0.00
3.76																
191	61.200	26.34	0.00	32.63	13.28	3.64	3.25	3.53	0.47	0.43	0.47	1.37	0.00	1.90	0.00	0.00
3.78																
192	61.100	26.34	0.00	32.63	13.27	3.62	3.25	3.53	0.48	0.43	0.47	1.37	0.00	1.90	0.00	0.00
3.80																
193	61.000	26.34	0.00	32.62	13.25	3.59	3.25	3.54	0.48	0.42	0.47	1.37	0.00	1.90	0.00	0.00
3.81																
194	60.900	26.34	0.00	32.61	13.23	3.57	3.25	3.54	0.49	0.42	0.46	1.38	0.00	1.90	0.00	0.00

NO. *		m ³ / *	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	#/100mL
214	UPR RCH	0.05781	26.34	0.00	32.48	12.95	3.30	3.27	3.56	0.56	0.42	0.44	0.00	1.90	0.00
4.16															
EACH	INCR	0.0002	26.34	0.00	30.20	7.90	4.23	3.53	3.53	0.41	0.00	0.09	0.00		0.00
3.48															

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / m/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
214 0.056	59.00	58.90	0.05802	58.19	0.05594	0.02	0.31	3.39	103.72	338.98	1.04	0.00	0.000	0.010
215 0.056	58.90	58.80	0.05824	57.98	0.05611	0.02	0.31	3.39	103.78	339.04	1.04	0.00	0.000	0.010
216 0.056	58.80	58.70	0.05845	57.77	0.05628	0.02	0.31	3.39	103.85	339.11	1.04	0.00	0.000	0.011
217 0.056	58.70	58.60	0.05866	57.56	0.05645	0.02	0.31	3.39	103.91	339.17	1.04	0.00	0.000	0.011
218 0.057	58.60	58.50	0.05887	57.35	0.05662	0.02	0.31	3.39	103.98	339.24	1.04	0.00	0.000	0.011
219 0.057	58.50	58.40	0.05908	57.15	0.05679	0.02	0.31	3.39	104.04	339.30	1.04	0.00	0.000	0.011
220 0.057	58.40	58.30	0.05929	56.94	0.05695	0.02	0.31	3.39	104.10	339.36	1.04	0.00	0.000	0.011
221 0.057	58.30	58.20	0.05950	56.74	0.05712	0.02	0.31	3.39	104.17	339.43	1.04	0.00	0.000	0.011
222 0.057	58.20	58.10	0.05971	56.54	0.05729	0.02	0.31	3.39	104.23	339.49	1.04	0.00	0.000	0.011
223 0.057	58.10	58.00	0.05992	56.34	0.05746	0.02	0.31	3.40	104.30	339.56	1.04	0.00	0.000	0.011
224 0.058	58.00	57.90	0.06014	56.14	0.05762	0.02	0.31	3.40	104.36	339.62	1.04	0.00	0.000	0.011
225 0.058	57.90	57.80	0.06035	55.95	0.05779	0.02	0.31	3.40	104.42	339.69	1.04	0.00	0.000	0.011
226 0.058	57.80	57.70	0.06056	55.75	0.05796	0.02	0.31	3.40	104.49	339.75	1.04	0.00	0.000	0.011
227 0.058	57.70	57.60	0.06077	55.56	0.05812	0.02	0.31	3.40	104.55	339.81	1.05	0.00	0.000	0.011
228 0.058	57.60	57.50	0.06098	55.37	0.05829	0.02	0.31	3.40	104.62	339.88	1.05	0.00	0.000	0.011
229 0.058	57.50	57.40	0.06119	55.18	0.05845	0.02	0.31	3.40	104.68	339.94	1.05	0.00	0.000	0.011
230 0.059	57.40	57.30	0.06140	54.99	0.05862	0.02	0.31	3.40	104.75	340.01	1.05	0.00	0.000	0.011
231	57.30	57.20	0.06161	54.80	0.05879	0.02	0.31	3.40	104.81	340.07	1.05	0.00	0.000	0.011

0.059																		
232	57.20	57.10	0.06182	54.61	0.05895	0.02	0.31	3.40	104.87	340.13	1.05	0.00	0.000	0.011				
0.059																		
233	57.10	57.00	0.06204	54.42	0.05912	0.02	0.31	3.40	104.94	340.20	1.05	0.00	0.000	0.011				
0.059																		
234	57.00	56.90	0.06225	54.24	0.05928	0.02	0.31	3.40	105.00	340.26	1.05	0.00	0.000	0.011				
0.059																		
235	56.90	56.80	0.06246	54.06	0.05945	0.02	0.31	3.40	105.07	340.32	1.05	0.00	0.000	0.011				
0.059																		
236	56.80	56.70	0.06267	53.87	0.05961	0.02	0.31	3.40	105.13	340.39	1.05	0.00	0.000	0.011				
0.060																		
237	56.70	56.60	0.06288	53.69	0.05977	0.02	0.31	3.40	105.19	340.45	1.05	0.00	0.000	0.011				
0.060																		
238	56.60	56.50	0.06309	53.51	0.05994	0.02	0.31	3.41	105.26	340.52	1.05	0.00	0.000	0.011				
0.060																		
239	56.50	56.40	0.06330	53.33	0.06010	0.02	0.31	3.41	105.32	340.58	1.05	0.00	0.000	0.011				
0.060																		
240	56.40	56.30	0.06351	53.16	0.06027	0.02	0.31	3.41	105.39	340.64	1.05	0.00	0.000	0.011				
0.060																		
TOT																		
AVG						0.05809		0.54		2822.93	9174.95							
CUM								4.13	0.31	3.40				1.05				

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
214	58.900	8.06	2.58	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.14	0.00	0.00
0.07	0.06																	
215	58.800	8.06	2.58	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.15	0.00	0.00
0.07	0.06																	
216	58.700	8.06	2.58	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.16	0.00	0.00
0.07	0.06																	
217	58.600	8.06	2.58	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.17	0.00	0.00
0.07	0.06																	
218	58.500	8.06	2.58	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.18	0.00	0.00
0.07	0.06																	
219	58.400	8.06	2.57	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.19	0.00	0.00
0.07	0.06																	
220	58.300	8.06	2.57	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.20	0.00	0.00
0.07	0.06																	
221	58.200	8.06	2.57	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.21	0.00	0.00
0.07	0.06																	
222	58.100	8.06	2.57	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.22	0.00	0.00
0.07	0.06																	
223	58.000	8.06	2.57	0.13	0.12	0.00	4.03	4.03	4.03	0.08	0.06	0.00	0.00	0.00	0.00	0.23	0.00	0.00

215	58.800	26.35	0.00	32.47	12.91	3.25	3.24	3.57	0.57	0.42	0.44	1.43	0.00	2.21	0.00	0.00
4.24																
216	58.700	26.35	0.00	32.46	12.89	3.23	3.22	3.58	0.58	0.41	0.44	1.43	0.00	2.37	0.00	0.00
4.29																
217	58.600	26.35	0.00	32.45	12.88	3.20	3.21	3.59	0.59	0.41	0.44	1.44	0.00	2.52	0.00	0.00
4.33																
218	58.500	26.35	0.00	32.44	12.86	3.18	3.19	3.60	0.59	0.41	0.44	1.44	0.00	2.68	0.00	0.00
4.37																
219	58.400	26.36	0.00	32.44	12.84	3.16	3.18	3.60	0.60	0.41	0.43	1.44	0.00	2.83	0.00	0.00
4.41																
220	58.300	26.36	0.00	32.43	12.82	3.15	3.16	3.61	0.60	0.41	0.43	1.44	0.00	2.99	0.00	0.00
4.45																
221	58.200	26.36	0.00	32.42	12.81	3.13	3.15	3.62	0.60	0.41	0.43	1.45	0.00	3.14	0.00	0.00
4.49																
222	58.100	26.37	0.00	32.41	12.79	3.11	3.14	3.63	0.61	0.41	0.43	1.45	0.00	3.30	0.00	0.00
4.52																
223	58.000	26.37	0.00	32.40	12.77	3.10	3.12	3.64	0.61	0.41	0.43	1.45	0.00	3.46	0.00	0.00
4.56																
224	57.900	26.37	0.00	32.40	12.75	3.09	3.11	3.65	0.62	0.41	0.43	1.46	0.00	3.61	0.00	0.00
4.60																
225	57.800	26.38	0.00	32.39	12.74	3.07	3.09	3.66	0.62	0.41	0.43	1.46	0.00	3.77	0.00	0.00
4.64																
226	57.700	26.38	0.00	32.38	12.72	3.06	3.08	3.67	0.63	0.41	0.42	1.46	0.00	3.92	0.00	0.00
4.68																
227	57.600	26.38	0.00	32.37	12.70	3.05	3.07	3.68	0.63	0.41	0.42	1.46	0.00	4.08	0.00	0.00
4.71																
228	57.500	26.38	0.00	32.37	12.69	3.04	3.05	3.69	0.64	0.41	0.42	1.47	0.00	4.23	0.00	0.00
4.75																
229	57.400	26.39	0.00	32.36	12.67	3.03	3.04	3.70	0.64	0.41	0.42	1.47	0.00	4.39	0.00	0.00
4.79																
230	57.300	26.39	0.00	32.35	12.65	3.02	3.02	3.71	0.65	0.41	0.42	1.47	0.00	4.54	0.00	0.00
4.82																
231	57.200	26.39	0.00	32.34	12.64	3.01	3.01	3.72	0.65	0.41	0.42	1.48	0.00	4.70	0.00	0.00
4.86																
232	57.100	26.40	0.00	32.34	12.62	3.00	3.00	3.73	0.66	0.41	0.42	1.48	0.00	4.86	0.00	0.00
4.89																
233	57.000	26.40	0.00	32.33	12.61	3.00	2.99	3.74	0.66	0.40	0.42	1.48	0.00	5.01	0.00	0.00
4.93																
234	56.900	26.40	0.00	32.32	12.59	2.99	2.97	3.75	0.66	0.40	0.41	1.48	0.00	5.17	0.00	0.00
4.96																
235	56.800	26.41	0.00	32.31	12.57	2.98	2.96	3.76	0.67	0.40	0.41	1.48	0.00	5.32	0.00	0.00
5.00																
236	56.700	26.41	0.00	32.31	12.56	2.98	2.95	3.77	0.67	0.40	0.41	1.49	0.00	5.48	0.00	0.00
5.03																
237	56.600	26.41	0.00	32.30	12.54	2.97	2.94	3.78	0.68	0.40	0.41	1.49	0.00	5.63	0.00	0.00
5.06																
238	56.500	26.41	0.00	32.29	12.53	2.97	2.92	3.79	0.68	0.40	0.41	1.49	0.00	5.79	0.00	0.00
5.10																
239	56.400	26.42	0.00	32.29	12.51	2.96	2.91	3.80	0.68	0.40	0.41	1.49	0.00	5.94	0.00	0.00
5.13																
240	56.300	26.42	0.00	32.28	12.50	2.96	2.90	3.81	0.69	0.40	0.41	1.50	0.00	6.10	0.00	0.00
5.16																

* CM-I = CHLORIDES

CM-II = SULFATES

NCM = CBOD2

** g/m³ MG/L

MG/L

mg/L

FINAL REPORT HEADWATER
REACH NO. 6 SITE 6 - LITTLE CANEY CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SENSITIVITY RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
241	UPR RCH	0.06351	26.42	0.00	32.28	12.50	2.96	2.90	3.81	0.69	0.40	0.41	0.00	6.10	0.00
5.16	EACH INCR	-0.0002													

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / m/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
241	56.30	56.20	0.06332	53.16	0.02155	0.05	0.49	6.01	293.84	600.58	2.94	0.00	0.000	0.006
0.022														
242	56.20	56.10	0.06312	53.16	0.02149	0.05	0.49	6.01	293.74	600.53	2.94	0.00	0.000	0.006
0.021														
243	56.10	56.00	0.06293	53.16	0.02143	0.05	0.49	6.00	293.64	600.47	2.94	0.00	0.000	0.006
0.021														
244	56.00	55.90	0.06273	53.16	0.02137	0.05	0.49	6.00	293.53	600.41	2.94	0.00	0.000	0.006
0.021														
245	55.90	55.80	0.06253	53.16	0.02131	0.05	0.49	6.00	293.43	600.35	2.93	0.00	0.000	0.006
0.021														
246	55.80	55.70	0.06234	53.16	0.02125	0.05	0.49	6.00	293.33	600.29	2.93	0.00	0.000	0.006
0.021														
247	55.70	55.60	0.06214	53.16	0.02119	0.05	0.49	6.00	293.23	600.23	2.93	0.00	0.000	0.006
0.021														
248	55.60	55.50	0.06195	53.16	0.02113	0.05	0.49	6.00	293.13	600.17	2.93	0.00	0.000	0.006
0.021														
249	55.50	55.40	0.06175	53.16	0.02107	0.05	0.49	6.00	293.02	600.11	2.93	0.00	0.000	0.006
0.021														
250	55.40	55.30	0.06155	53.16	0.02101	0.06	0.49	6.00	292.92	600.05	2.93	0.00	0.000	0.006
0.021														
251	55.30	55.20	0.06136	53.16	0.02095	0.06	0.49	6.00	292.82	599.99	2.93	0.00	0.000	0.006
0.021														
252	55.20	55.10	0.06116	53.16	0.02089	0.06	0.49	6.00	292.72	599.93	2.93	0.00	0.000	0.006

0.021														
253	55.10	55.00	0.06097	53.16	0.02083	0.06	0.49	6.00	292.62	599.87	2.93	0.00	0.000	0.006
0.021														
254	55.00	54.90	0.06077	53.16	0.02077	0.06	0.49	6.00	292.52	599.81	2.93	0.00	0.000	0.006
0.021														
255	54.90	54.80	0.06057	53.16	0.02072	0.06	0.49	6.00	292.41	599.75	2.92	0.00	0.000	0.006
0.021														
256	54.80	54.70	0.06038	53.16	0.02066	0.06	0.49	6.00	292.31	599.69	2.92	0.00	0.000	0.006
0.021														
257	54.70	54.60	0.06018	53.16	0.02060	0.06	0.49	6.00	292.21	599.64	2.92	0.00	0.000	0.006
0.021														
258	54.60	54.50	0.05999	53.16	0.02054	0.06	0.49	6.00	292.11	599.58	2.92	0.00	0.000	0.006
0.021														
259	54.50	54.40	0.05979	53.16	0.02048	0.06	0.49	6.00	292.01	599.52	2.92	0.00	0.000	0.006
0.020														
260	54.40	54.30	0.05959	53.16	0.02042	0.06	0.49	5.99	291.90	599.46	2.92	0.00	0.000	0.006
0.020														
261	54.30	54.20	0.05940	53.16	0.02036	0.06	0.49	5.99	291.80	599.40	2.92	0.00	0.000	0.006
0.020														
262	54.20	54.10	0.05920	53.16	0.02030	0.06	0.49	5.99	291.70	599.34	2.92	0.00	0.000	0.006
0.020														
263	54.10	54.00	0.05901	53.16	0.02024	0.06	0.49	5.99	291.60	599.28	2.92	0.00	0.000	0.006
0.020														
264	54.00	53.90	0.05881	53.16	0.02018	0.06	0.49	5.99	291.50	599.22	2.91	0.00	0.000	0.006
0.020														
265	53.90	53.80	0.05861	53.16	0.02012	0.06	0.49	5.99	291.40	599.16	2.91	0.00	0.000	0.006
0.020														
266	53.80	53.70	0.05842	53.16	0.02005	0.06	0.49	5.99	291.29	599.10	2.91	0.00	0.000	0.006
0.020														
267	53.70	53.60	0.05822	53.16	0.01999	0.06	0.49	5.99	291.19	599.04	2.91	0.00	0.000	0.005
0.020														
268	53.60	53.50	0.05803	53.16	0.01993	0.06	0.49	5.99	291.09	598.98	2.91	0.00	0.000	0.005
0.020														
269	53.50	53.40	0.05783	53.16	0.01987	0.06	0.49	5.99	290.99	598.92	2.91	0.00	0.000	0.005
0.020														
270	53.40	53.30	0.05764	53.16	0.01981	0.06	0.49	5.99	290.89	598.86	2.91	0.00	0.000	0.005
0.020														
271	53.30	53.20	0.05744	53.16	0.01975	0.06	0.49	5.99	290.79	598.80	2.91	0.00	0.000	0.005
0.020														
272	53.20	53.10	0.05724	53.16	0.01969	0.06	0.49	5.99	290.68	598.74	2.91	0.00	0.000	0.005
0.020														
273	53.10	53.00	0.05705	53.16	0.01963	0.06	0.49	5.99	290.58	598.68	2.91	0.00	0.000	0.005
0.020														
274	53.00	52.90	0.05685	53.16	0.01957	0.06	0.49	5.99	290.48	598.62	2.90	0.00	0.000	0.005
0.020														
275	52.90	52.80	0.05666	53.16	0.01951	0.06	0.49	5.99	290.38	598.56	2.90	0.00	0.000	0.005
0.020														
276	52.80	52.70	0.05646	53.16	0.01945	0.06	0.49	5.99	290.28	598.50	2.90	0.00	0.000	0.005
0.019														
277	52.70	52.60	0.05626	53.16	0.01939	0.06	0.48	5.98	290.18	598.44	2.90	0.00	0.000	0.005
0.019														
278	52.60	52.50	0.05607	53.16	0.01933	0.06	0.48	5.98	290.07	598.38	2.90	0.00	0.000	0.005
0.019														
279	52.50	52.40	0.05587	53.16	0.01927	0.06	0.48	5.98	289.97	598.32	2.90	0.00	0.000	0.005

0.019																		
280	52.40	52.30	0.05568	53.16	0.01921	0.06	0.48	5.98	289.87	598.26	2.90	0.00	0.000	0.005				
0.019																		
281	52.30	52.20	0.05548	53.16	0.01915	0.06	0.48	5.98	289.77	598.20	2.90	0.00	0.000	0.005				
0.019																		
282	52.20	52.10	0.05528	53.16	0.01909	0.06	0.48	5.98	289.67	598.14	2.90	0.00	0.000	0.005				
0.019																		
283	52.10	52.00	0.05509	53.16	0.01902	0.06	0.48	5.98	289.57	598.09	2.90	0.00	0.000	0.005				
0.019																		
284	52.00	51.90	0.05489	53.16	0.01896	0.06	0.48	5.98	289.46	598.03	2.89	0.00	0.000	0.005				
0.019																		
285	51.90	51.80	0.05470	53.16	0.01890	0.06	0.48	5.98	289.36	597.97	2.89	0.00	0.000	0.005				
0.019																		
286	51.80	51.70	0.05450	53.16	0.01884	0.06	0.48	5.98	289.26	597.91	2.89	0.00	0.000	0.005				
0.019																		
287	51.70	51.60	0.05430	53.16	0.01878	0.06	0.48	5.98	289.16	597.85	2.89	0.00	0.000	0.005				
0.019																		
288	51.60	51.50	0.05411	53.16	0.01872	0.06	0.48	5.98	289.06	597.79	2.89	0.00	0.000	0.005				
0.019																		
289	51.50	51.40	0.05391	53.16	0.01866	0.06	0.48	5.98	288.96	597.73	2.89	0.00	0.000	0.005				
0.019																		
TOT																		
AVG					0.02007		2.83			14278.44	29358.74							
CUM							6.95	0.49	5.99				2.91					

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
241	56.200	8.05	1.62	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00
0.05	0.06																	
242	56.100	8.05	1.62	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00
0.05	0.06																	
243	56.000	8.05	1.62	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00
0.05	0.06																	
244	55.900	8.05	1.62	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00
0.05	0.06																	
245	55.800	8.05	1.62	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00
0.05	0.06																	
246	55.700	8.05	1.62	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00
0.05	0.06																	
247	55.600	8.05	1.62	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00
0.05	0.06																	
248	55.500	8.05	1.62	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00
0.05	0.06																	
249	55.400	8.05	1.62	0.17	0.12	0.00	3.00	3.00	3.00	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00

EACH INCR -0.0005

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
290 0.019	51.40	51.30	0.05343	53.16	0.01851	0.06	0.48	5.98	288.71	597.58	2.89	0.00	0.000	0.005
291 0.018	51.30	51.20	0.05295	53.16	0.01836	0.06	0.48	5.97	288.46	597.43	2.88	0.00	0.000	0.005
292 0.018	51.20	51.10	0.05247	53.16	0.01821	0.06	0.48	5.97	288.21	597.29	2.88	0.00	0.000	0.005
293 0.018	51.10	51.00	0.05199	53.16	0.01806	0.06	0.48	5.97	287.96	597.14	2.88	0.00	0.000	0.005
294 0.018	51.00	50.90	0.05151	53.16	0.01790	0.06	0.48	5.97	287.71	596.99	2.88	0.00	0.000	0.005
295 0.018	50.90	50.80	0.05103	53.16	0.01775	0.07	0.48	5.97	287.46	596.84	2.87	0.00	0.000	0.005
296 0.018	50.80	50.70	0.05055	53.16	0.01760	0.07	0.48	5.97	287.22	596.70	2.87	0.00	0.000	0.005
297 0.017	50.70	50.60	0.05007	53.16	0.01745	0.07	0.48	5.97	286.97	596.55	2.87	0.00	0.000	0.005
298 0.017	50.60	50.50	0.04959	53.16	0.01730	0.07	0.48	5.96	286.72	596.40	2.87	0.00	0.000	0.005
299 0.017	50.50	50.40	0.04911	53.16	0.01714	0.07	0.48	5.96	286.47	596.25	2.86	0.00	0.000	0.005
300 0.017	50.40	50.30	0.04863	53.16	0.01699	0.07	0.48	5.96	286.22	596.11	2.86	0.00	0.000	0.005
301 0.017	50.30	50.20	0.04815	53.16	0.01684	0.07	0.48	5.96	285.97	595.96	2.86	0.00	0.000	0.005
302 0.017	50.20	50.10	0.04767	53.16	0.01668	0.07	0.48	5.96	285.72	595.81	2.86	0.00	0.000	0.005
303 0.017	50.10	50.00	0.04719	53.16	0.01653	0.07	0.48	5.96	285.48	595.66	2.85	0.00	0.000	0.004
304 0.016	50.00	49.90	0.04671	53.16	0.01638	0.07	0.48	5.96	285.23	595.51	2.85	0.00	0.000	0.004
305 0.016	49.90	49.80	0.04623	53.16	0.01622	0.07	0.48	5.95	284.98	595.37	2.85	0.00	0.000	0.004
306 0.016	49.80	49.70	0.04575	53.16	0.01607	0.07	0.48	5.95	284.73	595.22	2.85	0.00	0.000	0.004
307 0.016	49.70	49.60	0.04527	53.16	0.01591	0.07	0.48	5.95	284.48	595.07	2.84	0.00	0.000	0.004
308 0.016	49.60	49.50	0.04479	53.16	0.01576	0.07	0.48	5.95	284.24	594.92	2.84	0.00	0.000	0.004
309 0.016	49.50	49.40	0.04431	53.16	0.01560	0.07	0.48	5.95	283.99	594.77	2.84	0.00	0.000	0.004

TOT				1.36			5726.93	11923.56										
AVG		0.01702				0.48	5.96											2.86
CUM				8.31														

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
290	51.300	8.06	1.64	0.17	0.12	0.00	2.84	2.84	2.84	0.06	0.06	0.00	0.00	0.00	0.00	0.39	0.00	0.00
0.05	0.06																	
291	51.200	8.06	1.64	0.17	0.12	0.00	2.84	2.84	2.84	0.06	0.06	0.00	0.00	0.00	0.00	0.37	0.00	0.00
0.05	0.06																	
292	51.100	8.06	1.64	0.17	0.12	0.00	2.83	2.83	2.83	0.06	0.06	0.00	0.00	0.00	0.00	0.36	0.00	0.00
0.05	0.06																	
293	51.000	8.07	1.64	0.17	0.12	0.00	2.83	2.83	2.83	0.06	0.06	0.00	0.00	0.00	0.00	0.34	0.00	0.00
0.05	0.06																	
294	50.900	8.07	1.64	0.17	0.12	0.00	2.82	2.82	2.82	0.06	0.06	0.00	0.00	0.00	0.00	0.32	0.00	0.00
0.05	0.06																	
295	50.800	8.08	1.64	0.17	0.12	0.00	2.82	2.82	2.82	0.06	0.06	0.00	0.00	0.00	0.00	0.30	0.00	0.00
0.05	0.06																	
296	50.700	8.08	1.64	0.17	0.12	0.00	2.81	2.81	2.81	0.06	0.06	0.00	0.00	0.00	0.00	0.29	0.00	0.00
0.05	0.06																	
297	50.600	8.08	1.64	0.17	0.12	0.00	2.81	2.81	2.81	0.06	0.06	0.00	0.00	0.00	0.00	0.27	0.00	0.00
0.05	0.06																	
298	50.500	8.09	1.64	0.17	0.12	0.00	2.80	2.80	2.80	0.06	0.06	0.00	0.00	0.00	0.00	0.25	0.00	0.00
0.05	0.06																	
299	50.400	8.09	1.64	0.17	0.12	0.00	2.80	2.80	2.80	0.06	0.06	0.00	0.00	0.00	0.00	0.24	0.00	0.00
0.05	0.06																	
300	50.300	8.10	1.64	0.17	0.12	0.00	2.79	2.79	2.79	0.06	0.06	0.00	0.00	0.00	0.00	0.22	0.00	0.00
0.05	0.06																	
301	50.200	8.10	1.64	0.17	0.12	0.00	2.79	2.79	2.79	0.06	0.06	0.00	0.00	0.00	0.00	0.20	0.00	0.00
0.05	0.06																	
302	50.100	8.10	1.64	0.17	0.12	0.00	2.78	2.78	2.78	0.06	0.06	0.00	0.00	0.00	0.00	0.18	0.00	0.00
0.05	0.06																	
303	50.000	8.11	1.64	0.17	0.12	0.00	2.78	2.78	2.78	0.06	0.06	0.00	0.00	0.00	0.00	0.17	0.00	0.00
0.05	0.06																	
304	49.900	8.11	1.64	0.17	0.12	0.00	2.77	2.77	2.77	0.06	0.06	0.00	0.00	0.00	0.00	0.15	0.00	0.00
0.05	0.06																	
305	49.800	8.12	1.64	0.17	0.12	0.00	2.77	2.77	2.77	0.06	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00
0.05	0.06																	
306	49.700	8.12	1.64	0.17	0.12	0.00	2.77	2.77	2.77	0.06	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.05	0.06																	
307	49.600	8.12	1.64	0.17	0.12	0.00	2.76	2.76	2.76	0.06	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00
0.05	0.06																	
308	49.500	8.13	1.64	0.17	0.12	0.00	2.76	2.76	2.76	0.06	0.06	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.05	0.06																	
309	49.400	8.13	1.64	0.17	0.11	0.00	2.75	2.75	2.75	0.06	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00

308	49.500	25.91	0.00	32.28	12.50	3.97	5.35	5.54	0.83	0.57	0.36	1.77	0.00	1.25	0.00	0.00
4.28																
309	49.400	25.88	0.00	32.28	12.50	3.97	5.41	5.56	0.83	0.57	0.36	1.77	0.00	1.00	0.00	0.00
4.27																

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* CM-I = CHLORIDES          CM-II = SULFATES          NCM = CBOD2
  MG/L                      MG/L                    mg/L
** g/m³

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FINAL REPORT      HEADWATER                BARNES CREEK WATERSHED MODEL
REACH NO. 8       DAM - CANEY CREEK                       BARNES CREEK SENSITIVITY RUN

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***** REACH INPUTS
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ELEM NO.	TYPE	FLOW	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	PHOS	CHL A	COLI
*		m³/	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	#/100mL
310	UPR RCH	0.04431	25.88	0.00	32.28	12.50	3.97	5.41	5.56	0.83	0.57	0.36	0.00	1.00	0.00
4.27															
310	DAM AT SITE 7 ADDS 2.50 MG/L DISSOLVED OXYGEN GIVING 6.47 MG/L D.O. FOR THE UPR RCH INPUT														

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***** HYDRAULIC PARAMETER VALUES
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ELEM MEAN NO.	BEGIN DIST	ENDING DIST	FLOW	PCT EFF	ADVCTV VELO	TRAVEL TIME	DEPTH	WIDTH	VOLUME	SURFACE AREA	X-SECT AREA	TIDAL PRISM	TIDAL VELO	DISPRSN
VELO	km	km	m³/		m/s	days	m	m	m³	m²	m²	m³	m/s	m²/s
310	49.40	49.30	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003
0.012														
311	49.30	49.20	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003
0.012														
312	49.20	49.10	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003
0.012														
313	49.10	49.00	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003
0.012														
314	49.00	48.90	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003
0.012														
315	48.90	48.80	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003
0.012														
316	48.80	48.70	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003
0.012														
317	48.70	48.60	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003
0.012														
318	48.60	48.50	0.04431	53.16	0.01245	0.09	0.43	8.24	356.06	824.27	3.56	0.00	0.000	0.003

325	47.800	25.80	0.00	32.28	12.50	3.56	4.90	5.02	0.80	0.61	0.36	1.77	0.00	0.78	0.00	0.00
4.18																
326	47.700	25.80	0.00	32.28	12.50	3.53	4.88	4.99	0.80	0.61	0.36	1.77	0.00	0.77	0.00	0.00
4.17																
327	47.600	25.79	0.00	32.28	12.50	3.50	4.85	4.96	0.80	0.61	0.36	1.77	0.00	0.75	0.00	0.00
4.16																
328	47.500	25.79	0.00	32.28	12.50	3.47	4.82	4.93	0.80	0.61	0.36	1.77	0.00	0.74	0.00	0.00
4.16																
329	47.400	25.78	0.00	32.28	12.50	3.45	4.80	4.90	0.79	0.62	0.36	1.77	0.00	0.72	0.00	0.00
4.15																
330	47.300	25.78	0.00	32.28	12.50	3.43	4.77	4.88	0.79	0.62	0.36	1.77	0.00	0.71	0.00	0.00
4.15																
331	47.200	25.77	0.00	32.28	12.50	3.42	4.74	4.85	0.79	0.62	0.36	1.77	0.00	0.70	0.00	0.00
4.14																
332	47.100	25.77	0.00	32.28	12.50	3.40	4.72	4.82	0.79	0.62	0.36	1.77	0.00	0.68	0.00	0.00
4.14																
333	47.000	25.76	0.00	32.28	12.50	3.39	4.69	4.80	0.79	0.62	0.36	1.77	0.00	0.67	0.00	0.00
4.13																
334	46.900	25.76	0.00	32.28	12.50	3.38	4.67	4.77	0.78	0.63	0.36	1.77	0.00	0.66	0.00	0.00
4.13																
335	46.800	25.75	0.00	32.28	12.50	3.38	4.65	4.74	0.78	0.63	0.36	1.77	0.00	0.64	0.00	0.00
4.12																
336	46.700	25.75	0.00	32.28	12.50	3.37	4.62	4.72	0.78	0.63	0.36	1.77	0.00	0.63	0.00	0.00
4.12																
337	46.600	25.74	0.00	32.28	12.50	3.37	4.60	4.69	0.78	0.63	0.36	1.77	0.00	0.61	0.00	0.00
4.11																
338	46.500	25.74	0.00	32.28	12.50	3.36	4.58	4.67	0.78	0.63	0.36	1.77	0.00	0.60	0.00	0.00
4.11																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 9 CANEY CR - HURRICANE CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SENSITIVITY RUN

***** REACH INPUTS

ELEM	TYPE	FLOW	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	PHOS	CHL A	COLI
NCM		m ³ /	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	#/100mL
NO.															
339	UPR RCH	0.04431	25.74	0.00	32.28	12.50	3.36	4.58	4.67	0.78	0.63	0.36	0.00	0.60	0.00
4.11															

***** HYDRAULIC PARAMETER VALUES

ELEM	BEGIN	ENDING	FLOW	PCT	ADVCTV	TRAVEL	DEPTH	WIDTH	VOLUME	SURFACE	X-SECT	TIDAL	TIDAL	DISPRSN
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410	39.300	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	
0.04	0.06																		
411	39.200	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	
0.04	0.06																		
412	39.100	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	
0.04	0.06																		
413	39.000	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	
0.04	0.06																		
414	38.900	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	
0.04	0.06																		
415	38.800	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	
0.04	0.06																		
416	38.700	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	
0.04	0.06																		
417	38.600	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	
0.04	0.06																		
418	38.500	8.15	2.04	0.07	0.11	0.00	4.31	4.31	4.31	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	
0.04	0.06																		
20 DEG C RATE						0.05		0.00	3.00			0.03		0.00	0.00	0.00	0.00		0.00
0.03																			
AVG 20 DEG C RATE			1.83		0.10						0.05								
0.05																			

* g/m²/d

** mg/L/day

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

ELEM NCM 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
339	46.400	25.74	0.00	32.28	12.50	3.29	4.55	4.64	0.78	0.64	0.36	1.77	0.00	0.60	0.00	0.00
4.12																
340	46.300	25.74	0.00	32.28	12.50	3.22	4.53	4.62	0.77	0.64	0.36	1.77	0.00	0.60	0.00	0.00
4.14																
341	46.200	25.74	0.00	32.28	12.50	3.16	4.50	4.59	0.77	0.64	0.36	1.77	0.00	0.60	0.00	0.00
4.15																
342	46.100	25.74	0.00	32.28	12.50	3.11	4.47	4.56	0.77	0.64	0.36	1.77	0.00	0.60	0.00	0.00
4.16																
343	46.000	25.74	0.00	32.28	12.50	3.05	4.45	4.54	0.77	0.64	0.36	1.77	0.00	0.60	0.00	0.00
4.18																
344	45.900	25.74	0.00	32.28	12.50	3.00	4.42	4.51	0.77	0.64	0.36	1.77	0.00	0.60	0.00	0.00
4.19																
345	45.800	25.74	0.00	32.28	12.50	2.96	4.40	4.49	0.77	0.64	0.36	1.77	0.00	0.60	0.00	0.00
4.20																
346	45.700	25.74	0.00	32.28	12.50	2.92	4.37	4.46	0.76	0.64	0.36	1.77	0.00	0.60	0.00	0.00
4.21																
347	45.600	25.74	0.00	32.28	12.50	2.88	4.35	4.44	0.76	0.65	0.36	1.77	0.00	0.60	0.00	0.00
4.23																
348	45.500	25.74	0.00	32.28	12.50	2.85	4.32	4.41	0.76	0.65	0.36	1.77	0.00	0.60	0.00	0.00

4.24																	
349	45.400	25.74	0.00	32.28	12.50	2.81	4.30	4.39	0.76	0.65	0.36	1.77	0.00	0.60	0.00	0.00	0.00
4.25																	
350	45.300	25.74	0.00	32.28	12.50	2.78	4.27	4.36	0.76	0.65	0.36	1.77	0.00	0.60	0.00	0.00	0.00
4.27																	
351	45.200	25.74	0.00	32.28	12.50	2.76	4.25	4.34	0.76	0.65	0.36	1.77	0.00	0.60	0.00	0.00	0.00
4.28																	
352	45.100	25.74	0.00	32.28	12.50	2.73	4.22	4.31	0.76	0.65	0.36	1.77	0.00	0.60	0.00	0.00	0.00
4.29																	
353	45.000	25.74	0.00	32.28	12.50	2.71	4.20	4.29	0.75	0.65	0.36	1.77	0.00	0.60	0.00	0.00	0.00
4.30																	
354	44.900	25.74	0.00	32.28	12.50	2.69	4.18	4.27	0.75	0.66	0.36	1.77	0.00	0.60	0.00	0.00	0.00
4.32																	
355	44.800	25.74	0.00	32.28	12.50	2.67	4.15	4.24	0.75	0.66	0.36	1.77	0.00	0.60	0.00	0.00	0.00
4.33																	
356	44.700	25.74	0.00	32.28	12.50	2.65	4.13	4.22	0.75	0.66	0.36	1.77	0.00	0.60	0.00	0.00	0.00
4.34																	
357	44.600	25.74	0.00	32.28	12.50	2.63	4.11	4.20	0.75	0.66	0.36	1.77	0.00	0.60	0.00	0.00	0.00
4.35																	
358	44.500	25.74	0.00	32.28	12.50	2.61	4.08	4.17	0.75	0.66	0.36	1.77	0.00	0.60	0.00	0.00	0.00
4.37																	
359	44.400	25.74	0.00	32.28	12.50	2.60	4.06	4.15	0.75	0.66	0.36	1.77	0.00	0.60	0.00	0.00	0.00
4.38																	
360	44.300	25.74	0.00	32.28	12.50	2.59	4.04	4.13	0.74	0.66	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.39																	
361	44.200	25.74	0.00	32.28	12.50	2.57	4.02	4.11	0.74	0.66	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.40																	
362	44.100	25.74	0.00	32.28	12.50	2.56	3.99	4.08	0.74	0.67	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.42																	
363	44.000	25.74	0.00	32.28	12.50	2.55	3.97	4.06	0.74	0.67	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.43																	
364	43.900	25.74	0.00	32.28	12.50	2.54	3.95	4.04	0.74	0.67	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.44																	
365	43.800	25.74	0.00	32.28	12.50	2.54	3.93	4.02	0.74	0.67	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.45																	
366	43.700	25.74	0.00	32.28	12.50	2.53	3.91	4.00	0.74	0.67	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.46																	
367	43.600	25.74	0.00	32.28	12.50	2.52	3.88	3.97	0.73	0.67	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.48																	
368	43.500	25.74	0.00	32.28	12.50	2.51	3.86	3.95	0.73	0.67	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.49																	
369	43.400	25.74	0.00	32.28	12.50	2.51	3.84	3.93	0.73	0.67	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.50																	
370	43.300	25.74	0.00	32.28	12.50	2.50	3.82	3.91	0.73	0.68	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.51																	
371	43.200	25.74	0.00	32.28	12.50	2.50	3.80	3.89	0.73	0.68	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.52																	
372	43.100	25.74	0.00	32.28	12.50	2.49	3.78	3.87	0.73	0.68	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.54																	
373	43.000	25.74	0.00	32.28	12.50	2.49	3.76	3.85	0.73	0.68	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.55																	
374	42.900	25.74	0.00	32.28	12.50	2.48	3.74	3.83	0.73	0.68	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.56																	
375	42.800	25.74	0.00	32.28	12.50	2.48	3.72	3.81	0.72	0.68	0.36	1.76	0.00	0.60	0.00	0.00	0.00

4.57																	
376	42.700	25.74	0.00	32.28	12.50	2.48	3.70	3.79	0.72	0.68	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.58																	
377	42.600	25.74	0.00	32.28	12.50	2.47	3.68	3.77	0.72	0.68	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.59																	
378	42.500	25.74	0.00	32.28	12.50	2.47	3.66	3.75	0.72	0.69	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.61																	
379	42.400	25.74	0.00	32.28	12.50	2.47	3.64	3.73	0.72	0.69	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.62																	
380	42.300	25.74	0.00	32.28	12.50	2.46	3.62	3.71	0.72	0.69	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.63																	
381	42.200	25.74	0.00	32.28	12.50	2.46	3.60	3.69	0.72	0.69	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.64																	
382	42.100	25.74	0.00	32.28	12.50	2.46	3.58	3.67	0.71	0.69	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.65																	
383	42.000	25.74	0.00	32.28	12.50	2.46	3.56	3.65	0.71	0.69	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.66																	
384	41.900	25.74	0.00	32.28	12.50	2.46	3.54	3.63	0.71	0.69	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.67																	
385	41.800	25.74	0.00	32.28	12.50	2.46	3.52	3.61	0.71	0.69	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.68																	
386	41.700	25.74	0.00	32.28	12.50	2.45	3.50	3.59	0.71	0.70	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.70																	
387	41.600	25.74	0.00	32.28	12.50	2.45	3.48	3.57	0.71	0.70	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.71																	
388	41.500	25.74	0.00	32.28	12.50	2.45	3.46	3.55	0.71	0.70	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.72																	
389	41.400	25.74	0.00	32.28	12.50	2.45	3.45	3.54	0.71	0.70	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.73																	
390	41.300	25.74	0.00	32.28	12.50	2.45	3.43	3.52	0.70	0.70	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.74																	
391	41.200	25.74	0.00	32.28	12.50	2.45	3.41	3.50	0.70	0.70	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.75																	
392	41.100	25.74	0.00	32.28	12.50	2.45	3.39	3.48	0.70	0.70	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.76																	
393	41.000	25.74	0.00	32.28	12.50	2.45	3.37	3.46	0.70	0.70	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.77																	
394	40.900	25.74	0.00	32.28	12.50	2.45	3.36	3.45	0.70	0.71	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.78																	
395	40.800	25.74	0.00	32.28	12.50	2.45	3.34	3.43	0.70	0.71	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.79																	
396	40.700	25.74	0.00	32.28	12.50	2.45	3.32	3.41	0.70	0.71	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.80																	
397	40.600	25.74	0.00	32.28	12.50	2.45	3.30	3.39	0.70	0.71	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.82																	
398	40.500	25.74	0.00	32.28	12.50	2.45	3.29	3.38	0.69	0.71	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.83																	
399	40.400	25.74	0.00	32.28	12.50	2.45	3.27	3.36	0.69	0.71	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.84																	
400	40.300	25.74	0.00	32.28	12.50	2.45	3.25	3.34	0.69	0.71	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.85																	
401	40.200	25.74	0.00	32.28	12.50	2.45	3.23	3.32	0.69	0.71	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.86																	
402	40.100	25.74	0.00	32.28	12.50	2.45	3.22	3.31	0.69	0.72	0.36	1.76	0.00	0.60	0.00	0.00	0.00

4.87																	
403	40.000	25.74	0.00	32.28	12.50	2.45	3.20	3.29	0.69	0.72	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.88																	
404	39.900	25.74	0.00	32.28	12.50	2.45	3.18	3.27	0.69	0.72	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.89																	
405	39.800	25.74	0.00	32.28	12.50	2.45	3.17	3.26	0.69	0.72	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.90																	
406	39.700	25.74	0.00	32.28	12.50	2.45	3.15	3.24	0.69	0.72	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.91																	
407	39.600	25.74	0.00	32.28	12.50	2.45	3.14	3.23	0.68	0.72	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.92																	
408	39.500	25.74	0.00	32.28	12.50	2.45	3.12	3.21	0.68	0.72	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.93																	
409	39.400	25.74	0.00	32.28	12.50	2.45	3.10	3.19	0.68	0.72	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.94																	
410	39.300	25.74	0.00	32.28	12.50	2.45	3.09	3.18	0.68	0.72	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.95																	
411	39.200	25.74	0.00	32.28	12.50	2.45	3.07	3.16	0.68	0.73	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.96																	
412	39.100	25.74	0.00	32.28	12.50	2.45	3.06	3.15	0.68	0.73	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.97																	
413	39.000	25.74	0.00	32.28	12.50	2.45	3.04	3.13	0.68	0.73	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.98																	
414	38.900	25.74	0.00	32.28	12.50	2.45	3.03	3.12	0.68	0.73	0.36	1.76	0.00	0.60	0.00	0.00	0.00
4.99																	
415	38.800	25.74	0.00	32.28	12.50	2.45	3.01	3.10	0.67	0.73	0.36	1.76	0.00	0.60	0.00	0.00	0.00
5.00																	
416	38.700	25.74	0.00	32.28	12.50	2.45	2.99	3.08	0.67	0.73	0.36	1.76	0.00	0.60	0.00	0.00	0.00
5.01																	
417	38.600	25.74	0.00	32.28	12.50	2.45	2.98	3.07	0.67	0.73	0.35	1.76	0.00	0.60	0.00	0.00	0.00
5.02																	
418	38.500	25.74	0.00	32.28	12.50	2.45	2.97	3.06	0.67	0.73	0.35	1.76	0.00	0.60	0.00	0.00	0.00
5.03																	

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 10 HURRICANE CR - SITE 10

BARNES CREEK WATERSHED MODEL
BARNES CREEK SENSITIVITY RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
419	UPR RCH	0.04431	25.74	0.00	32.28	12.50	2.45	2.97	3.06	0.67	0.73	0.35	0.00	0.60	0.00
5.03	EACH INCR	0.0003	25.74	0.00	6.90	2.70	2.68	4.38	4.38	0.77	0.00	0.09	0.00		0.00

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
419	38.50	38.40	0.04465	52.76	0.02891	0.04	0.38	4.04	154.46	404.29	1.54	0.00	0.000	0.006
0.029														
420	38.40	38.30	0.04499	52.36	0.02912	0.04	0.38	4.04	154.50	404.31	1.55	0.00	0.000	0.007
0.029														
421	38.30	38.20	0.04533	51.97	0.02933	0.04	0.38	4.04	154.54	404.33	1.55	0.00	0.000	0.007
0.029														
422	38.20	38.10	0.04567	51.58	0.02954	0.04	0.38	4.04	154.58	404.34	1.55	0.00	0.000	0.007
0.030														
423	38.10	38.00	0.04600	51.20	0.02975	0.04	0.38	4.04	154.62	404.36	1.55	0.00	0.000	0.007
0.030														
424	38.00	37.90	0.04634	50.83	0.02996	0.04	0.38	4.04	154.66	404.38	1.55	0.00	0.000	0.007
0.030														
425	37.90	37.80	0.04668	50.46	0.03017	0.04	0.38	4.04	154.70	404.40	1.55	0.00	0.000	0.007
0.030														
426	37.80	37.70	0.04702	50.10	0.03039	0.04	0.38	4.04	154.74	404.41	1.55	0.00	0.000	0.007
0.030														
427	37.70	37.60	0.04736	49.74	0.03060	0.04	0.38	4.04	154.78	404.43	1.55	0.00	0.000	0.007
0.031														
428	37.60	37.50	0.04769	49.39	0.03081	0.04	0.38	4.04	154.81	404.45	1.55	0.00	0.000	0.007
0.031														
429	37.50	37.40	0.04803	49.04	0.03102	0.04	0.38	4.04	154.85	404.46	1.55	0.00	0.000	0.007
0.031														
430	37.40	37.30	0.04837	48.70	0.03123	0.04	0.38	4.04	154.89	404.48	1.55	0.00	0.000	0.007
0.031														
431	37.30	37.20	0.04871	48.36	0.03144	0.04	0.38	4.04	154.93	404.50	1.55	0.00	0.000	0.007
0.031														
432	37.20	37.10	0.04905	48.03	0.03165	0.04	0.38	4.05	154.97	404.51	1.55	0.00	0.000	0.007
0.032														
433	37.10	37.00	0.04938	47.70	0.03186	0.04	0.38	4.05	155.00	404.53	1.55	0.00	0.000	0.007
0.032														
434	37.00	36.90	0.04972	47.37	0.03207	0.04	0.38	4.05	155.04	404.55	1.55	0.00	0.000	0.007
0.032														
435	36.90	36.80	0.05006	47.05	0.03228	0.04	0.38	4.05	155.08	404.57	1.55	0.00	0.000	0.007
0.032														
436	36.80	36.70	0.05040	46.74	0.03249	0.04	0.38	4.05	155.12	404.58	1.55	0.00	0.000	0.007
0.032														
437	36.70	36.60	0.05074	46.43	0.03270	0.04	0.38	4.05	155.15	404.60	1.55	0.00	0.000	0.007
0.033														
438	36.60	36.50	0.05107	46.12	0.03291	0.04	0.38	4.05	155.19	404.61	1.55	0.00	0.000	0.007
0.033														
439	36.50	36.40	0.05141	45.82	0.03312	0.03	0.38	4.05	155.22	404.63	1.55	0.00	0.000	0.007

0.033

TOT		0.78			3251.84	8493.73	
AVG	0.03096		0.38	4.04			1.55
CUM		15.02					

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
419	38.400	8.15	2.04	0.07	0.11	0.00	4.30	4.30	4.30	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.04	0.06																	
420	38.300	8.15	2.04	0.07	0.11	0.00	4.30	4.30	4.30	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.04	0.06																	
421	38.200	8.15	2.04	0.07	0.11	0.00	4.30	4.30	4.30	0.04	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.04	0.06																	
422	38.100	8.16	2.04	0.07	0.11	0.00	4.30	4.30	4.30	0.04	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.04	0.06																	
423	38.000	8.16	2.04	0.06	0.11	0.00	4.30	4.30	4.30	0.04	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.04	0.06																	
424	37.900	8.16	2.04	0.06	0.11	0.00	4.30	4.30	4.30	0.04	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.04	0.06																	
425	37.800	8.16	2.04	0.06	0.11	0.00	4.29	4.29	4.29	0.04	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.04	0.06																	
426	37.700	8.16	2.04	0.06	0.11	0.00	4.29	4.29	4.29	0.04	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.04	0.06																	
427	37.600	8.16	2.04	0.06	0.11	0.00	4.29	4.29	4.29	0.04	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.04	0.06																	
428	37.500	8.16	2.04	0.06	0.11	0.00	4.29	4.29	4.29	0.04	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.04	0.06																	
429	37.400	8.16	2.04	0.06	0.11	0.00	4.29	4.29	4.29	0.04	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.04	0.06																	
430	37.300	8.16	2.04	0.06	0.11	0.00	4.29	4.29	4.29	0.04	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.04	0.06																	
431	37.200	8.16	2.04	0.06	0.11	0.00	4.28	4.28	4.28	0.04	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.04	0.06																	
432	37.100	8.16	2.03	0.06	0.11	0.00	4.28	4.28	4.28	0.04	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.04	0.06																	
433	37.000	8.17	2.03	0.06	0.11	0.00	4.28	4.28	4.28	0.04	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.04	0.06																	
434	36.900	8.17	2.03	0.06	0.11	0.00	4.28	4.28	4.28	0.04	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.04	0.06																	
435	36.800	8.17	2.03	0.06	0.11	0.00	4.28	4.28	4.28	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
436	36.700	8.17	2.03	0.06	0.11	0.00	4.28	4.28	4.28	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
437	36.600	8.17	2.03	0.06	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00

441	36.200	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
442	36.100	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
443	36.000	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
444	35.900	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
445	35.800	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
446	35.700	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
447	35.600	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
448	35.500	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
449	35.400	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
450	35.300	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
451	35.200	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
452	35.100	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
453	35.000	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
454	34.900	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
455	34.800	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
456	34.700	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
457	34.600	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
458	34.500	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
459	34.400	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
460	34.300	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
461	34.200	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
462	34.100	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	

20 DEG C RATE				0.09		0.00	3.00			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG 20 DEG C RATE			1.73		0.10						0.05							
0.05																		

* g/m²/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES

* CM-I = CHLORIDES
 MG/L
 ** g/m³

CM-II = SULFATES
 MG/L

NCM = CBOD2
 mg/L

FINAL REPORT HEADWATER
 REACH NO. 12 MAGNOLIA CR - BRUSHY CR

BARNES CREEK WATERSHED MODEL
 BARNES CREEK SENSITIVITY RUN

***** REACH INPUTS

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
463	UPR RCH	0.05471	25.61	0.00	27.59	10.68	2.42	3.40	3.56	0.76	0.65	0.30	0.00	1.10	0.00
4.72	EACH	0.0002	25.61	0.00	9.20	3.40	2.44	3.41	3.41	0.78	0.00	0.08	0.00		0.00
5.18	INCR														

***** HYDRAULIC PARAMETER VALUES

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
463	34.10	34.00	0.05491	42.90	0.02322	0.05	0.40	5.85	236.47	584.80	2.36	0.00	0.000	0.005
0.023														
464	34.00	33.90	0.05510	42.75	0.02330	0.05	0.40	5.85	236.50	584.81	2.36	0.00	0.000	0.005
0.023														
465	33.90	33.80	0.05530	42.60	0.02338	0.05	0.40	5.85	236.53	584.82	2.37	0.00	0.000	0.006
0.023														
466	33.80	33.70	0.05549	42.45	0.02346	0.05	0.40	5.85	236.55	584.83	2.37	0.00	0.000	0.006
0.023														
467	33.70	33.60	0.05568	42.30	0.02354	0.05	0.40	5.85	236.58	584.84	2.37	0.00	0.000	0.006
0.024														
468	33.60	33.50	0.05588	42.16	0.02362	0.05	0.40	5.85	236.61	584.84	2.37	0.00	0.000	0.006
0.024														
469	33.50	33.40	0.05607	42.01	0.02370	0.05	0.40	5.85	236.63	584.85	2.37	0.00	0.000	0.006
0.024														
470	33.40	33.30	0.05627	41.86	0.02377	0.05	0.40	5.85	236.66	584.86	2.37	0.00	0.000	0.006
0.024														
471	33.30	33.20	0.05646	41.72	0.02385	0.05	0.40	5.85	236.69	584.87	2.37	0.00	0.000	0.006
0.024														
472	33.20	33.10	0.05665	41.58	0.02393	0.05	0.40	5.85	236.72	584.88	2.37	0.00	0.000	0.006
0.024														
473	33.10	33.00	0.05685	41.44	0.02401	0.05	0.40	5.85	236.74	584.89	2.37	0.00	0.000	0.006

0.024																		
474	33.00	32.90	0.05704	41.30	0.02409	0.05	0.40	5.85	236.77	584.90	2.37	0.00	0.000	0.006				
0.024																		
475	32.90	32.80	0.05724	41.16	0.02417	0.05	0.40	5.85	236.80	584.91	2.37	0.00	0.000	0.006				
0.024																		
476	32.80	32.70	0.05743	41.02	0.02425	0.05	0.40	5.85	236.82	584.92	2.37	0.00	0.000	0.006				
0.024																		
477	32.70	32.60	0.05762	40.88	0.02433	0.05	0.40	5.85	236.85	584.93	2.37	0.00	0.000	0.006				
0.024																		
478	32.60	32.50	0.05782	40.74	0.02441	0.05	0.40	5.85	236.87	584.93	2.37	0.00	0.000	0.006				
0.024																		
479	32.50	32.40	0.05801	40.60	0.02449	0.05	0.40	5.85	236.90	584.94	2.37	0.00	0.000	0.006				
0.024																		
TOT						0.83			4023.69	9942.81								
AVG					0.02385		0.40	5.85			2.37							
CUM						17.03												

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
463	34.000	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
464	33.900	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
465	33.800	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
466	33.700	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
467	33.600	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
468	33.500	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
469	33.400	8.17	1.93	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
470	33.300	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
471	33.200	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
472	33.100	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
473	33.000	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
474	32.900	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
475	32.800	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00

487	31.600	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
488	31.500	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
489	31.400	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
490	31.300	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
491	31.200	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
492	31.100	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
493	31.000	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
494	30.900	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
495	30.800	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
496	30.700	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
497	30.600	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
498	30.500	8.17	1.92	0.12	0.11	0.00	4.27	4.27	4.27	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.04	0.06																	
20 DEG C RATE				0.09		0.00	3.00			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG 20 DEG C RATE			1.73		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
480	32.300	25.61	0.00	26.50	10.24	2.41	3.39	3.55	0.70	0.64	0.29	1.63	0.00	1.10	0.00	0.00
4.38																
481	32.200	25.61	0.00	26.44	10.22	2.41	3.40	3.57	0.70	0.64	0.28	1.62	0.00	1.10	0.00	0.00
4.36																
482	32.100	25.61	0.00	26.39	10.20	2.41	3.42	3.58	0.70	0.64	0.28	1.62	0.00	1.10	0.00	0.00
4.34																
483	32.000	25.61	0.00	26.34	10.18	2.41	3.43	3.60	0.69	0.64	0.28	1.61	0.00	1.10	0.00	0.00
4.33																
484	31.900	25.61	0.00	26.29	10.16	2.41	3.45	3.61	0.69	0.64	0.28	1.61	0.00	1.10	0.00	0.00
4.31																
485	31.800	25.61	0.00	26.24	10.14	2.41	3.46	3.62	0.69	0.64	0.28	1.61	0.00	1.10	0.00	0.00
4.29																
486	31.700	25.61	0.00	26.19	10.12	2.41	3.47	3.64	0.69	0.64	0.28	1.60	0.00	1.10	0.00	0.00

4.28																	
487	31.600	25.61	0.00	26.14	10.10	2.41	3.49	3.65	0.68	0.64	0.28	1.60	0.00	1.10	0.00	0.00	
4.26																	
488	31.500	25.61	0.00	26.09	10.08	2.41	3.50	3.67	0.68	0.63	0.28	1.59	0.00	1.10	0.00	0.00	
4.24																	
489	31.400	25.61	0.00	26.04	10.06	2.41	3.51	3.68	0.68	0.63	0.28	1.59	0.00	1.10	0.00	0.00	
4.23																	
490	31.300	25.61	0.00	25.99	10.04	2.41	3.53	3.69	0.67	0.63	0.28	1.59	0.00	1.10	0.00	0.00	
4.21																	
491	31.200	25.61	0.00	25.95	10.02	2.41	3.54	3.71	0.67	0.63	0.28	1.58	0.00	1.10	0.00	0.00	
4.20																	
492	31.100	25.61	0.00	25.90	10.01	2.41	3.55	3.72	0.67	0.63	0.28	1.58	0.00	1.10	0.00	0.00	
4.18																	
493	31.000	25.61	0.00	25.85	9.99	2.41	3.57	3.73	0.67	0.63	0.28	1.57	0.00	1.10	0.00	0.00	
4.17																	
494	30.900	25.61	0.00	25.80	9.97	2.41	3.58	3.74	0.66	0.63	0.28	1.57	0.00	1.10	0.00	0.00	
4.15																	
495	30.800	25.61	0.00	25.75	9.95	2.41	3.59	3.76	0.66	0.63	0.28	1.57	0.00	1.10	0.00	0.00	
4.14																	
496	30.700	25.61	0.00	25.71	9.93	2.41	3.60	3.77	0.66	0.63	0.27	1.56	0.00	1.10	0.00	0.00	
4.12																	
497	30.600	25.61	0.00	25.66	9.91	2.41	3.61	3.78	0.65	0.63	0.27	1.56	0.00	1.10	0.00	0.00	
4.11																	
498	30.500	25.61	0.00	25.61	9.89	2.41	3.63	3.79	0.65	0.63	0.27	1.55	0.00	1.10	0.00	0.00	
4.09																	

* CM-I = CHLORIDES
 MG/L
 ** g/m³

CM-II = SULFATES
 MG/L

NCM = CBOD2
 mg/L

FINAL REPORT HEADWATER
 REACH NO. 14 RIGHTHAND CR - SITE 11

BARNES CREEK WATERSHED MODEL
 BARNES CREEK SENSITIVITY RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
499	UPR RCH	0.06131	25.61	0.00	25.61	9.89	2.41	3.63	3.79	0.65	0.63	0.27	0.00	1.10	0.00
4.09	EACH	0.0003	25.61	0.00	9.20	3.40	2.44	3.41	3.41	0.78	0.00	0.08	0.00		0.00
5.18															

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

ELEM MEAN	BEGIN	ENDING	FLOW	PCT	ADVCTV	TRAVEL	DEPTH	WIDTH	VOLUME	SURFACE	X-SECT	TIDAL	TIDAL	DISPRSN
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NO. VELO m/s	DIST km	DIST km	EFF m ³ /	VELO m/s	TIME days	m	m	m ³	AREA m ²	AREA m ²	PRISM m ³	VELO m/s	m ² /s	
499	30.50	30.40	0.06164	38.21	0.02597	0.04	0.41	5.85	237.38	585.11	2.37	0.00	0.000	0.006
0.026														
500	30.40	30.30	0.06197	38.01	0.02610	0.04	0.41	5.85	237.42	585.12	2.37	0.00	0.000	0.006
0.026														
501	30.30	30.20	0.06230	37.81	0.02624	0.04	0.41	5.85	237.46	585.14	2.37	0.00	0.000	0.006
0.026														
502	30.20	30.10	0.06263	37.61	0.02637	0.04	0.41	5.85	237.51	585.15	2.38	0.00	0.000	0.006
0.026														
503	30.10	30.00	0.06296	37.41	0.02651	0.04	0.41	5.85	237.55	585.17	2.38	0.00	0.000	0.006
0.027														
504	30.00	29.90	0.06329	37.22	0.02664	0.04	0.41	5.85	237.59	585.18	2.38	0.00	0.000	0.006
0.027														
505	29.90	29.80	0.06362	37.02	0.02677	0.04	0.41	5.85	237.63	585.20	2.38	0.00	0.000	0.006
0.027														
506	29.80	29.70	0.06395	36.83	0.02691	0.04	0.41	5.85	237.67	585.21	2.38	0.00	0.000	0.006
0.027														
507	29.70	29.60	0.06428	36.64	0.02704	0.04	0.41	5.85	237.72	585.23	2.38	0.00	0.000	0.006
0.027														
508	29.60	29.50	0.06461	36.46	0.02718	0.04	0.41	5.85	237.76	585.24	2.38	0.00	0.000	0.006
0.027														
TOT						0.44			2375.69	5851.74				
AVG					0.02657		0.41	5.85			2.38			
CUM						18.34								

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

ELEM NCM NO. DECAY 1/da	ENDING NCM DIST SETT 1/da	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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	
499	30.400	8.15	1.93	0.12	0.11	0.00	3.74	3.74	3.74	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	
0.04	0.06																		
500	30.300	8.13	1.93	0.12	0.12	0.00	3.77	3.77	3.77	0.04	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	
0.04	0.06																		
501	30.200	8.10	1.94	0.12	0.12	0.00	3.81	3.81	3.81	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	
0.04	0.06																		
502	30.100	8.08	1.94	0.12	0.12	0.00	3.85	3.85	3.85	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	
0.04	0.06																		
503	30.000	8.06	1.95	0.12	0.12	0.00	3.89	3.89	3.89	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	
0.04	0.06																		
504	29.900	8.04	1.95	0.12	0.12	0.00	3.92	3.92	3.92	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	
0.04	0.06																		
505	29.800	8.01	1.96	0.12	0.12	0.00	3.96	3.96	3.96	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	

0.04	0.06																	
506	29.700	7.99	1.96	0.12	0.12	0.00	4.00	4.00	4.00	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.04	0.06																	
507	29.600	7.97	1.97	0.12	0.12	0.00	4.04	4.04	4.04	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.04	0.06																	
508	29.500	7.95	1.97	0.12	0.12	0.00	4.08	4.08	4.08	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.04	0.06																	
20 DEG C RATE				0.09		0.00	2.60			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG 20 DEG C RATE			1.72		0.10						0.05							
0.05																		

* g/m²/d ** mg/L/day

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

ELEM NCM 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
499	30.400	25.76	0.00	25.53	9.86	2.46	3.66	3.82	0.65	0.63	0.27	1.55	0.00	1.08	0.00	0.00
4.08																
500	30.300	25.92	0.00	25.44	9.82	2.51	3.70	3.86	0.65	0.62	0.27	1.54	0.00	1.06	0.00	0.00
4.07																
501	30.200	26.07	0.00	25.35	9.79	2.54	3.73	3.89	0.65	0.62	0.27	1.54	0.00	1.04	0.00	0.00
4.06																
502	30.100	26.23	0.00	25.27	9.76	2.57	3.77	3.92	0.64	0.62	0.27	1.53	0.00	1.02	0.00	0.00
4.05																
503	30.000	26.38	0.00	25.18	9.72	2.59	3.80	3.95	0.64	0.62	0.27	1.53	0.00	1.00	0.00	0.00
4.03																
504	29.900	26.53	0.00	25.10	9.69	2.60	3.83	3.98	0.64	0.62	0.27	1.52	0.00	0.98	0.00	0.00
4.02																
505	29.800	26.69	0.00	25.02	9.66	2.61	3.86	4.00	0.64	0.61	0.27	1.52	0.00	0.96	0.00	0.00
4.01																
506	29.700	26.84	0.00	24.94	9.62	2.62	3.89	4.03	0.63	0.61	0.26	1.51	0.00	0.94	0.00	0.00
4.00																
507	29.600	27.00	0.00	24.86	9.59	2.61	3.92	4.06	0.63	0.61	0.26	1.51	0.00	0.92	0.00	0.00
3.99																
508	29.500	27.15	0.00	24.78	9.56	2.61	3.95	4.08	0.63	0.61	0.26	1.50	0.00	0.90	0.00	0.00
3.98																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 15 SITE 11 - BOGGY CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SENSITIVITY RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ /	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
509	UPR RCH	0.06461	27.15	0.00	24.78	9.56	2.61	3.95	4.08	0.63	0.61	0.26	0.00	0.90	0.00
3.98	EACH INCR	0.0001	27.15	0.00	13.60	4.10	2.58	4.08	4.08	0.57	0.00	0.08	0.00		0.00
1.96															

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
509 0.062	29.50	29.40	0.06473	36.39	0.06233	0.02	0.26	4.05	103.86	405.24	1.04	0.00	0.000	0.010
510 0.062	29.40	29.30	0.06486	36.32	0.06244	0.02	0.26	4.05	103.87	405.25	1.04	0.00	0.000	0.010
511 0.063	29.30	29.20	0.06498	36.25	0.06255	0.02	0.26	4.05	103.88	405.26	1.04	0.00	0.000	0.010
512 0.063	29.20	29.10	0.06510	36.18	0.06266	0.02	0.26	4.05	103.89	405.26	1.04	0.00	0.000	0.010
513 0.063	29.10	29.00	0.06522	36.12	0.06277	0.02	0.26	4.05	103.90	405.27	1.04	0.00	0.000	0.010
514 0.063	29.00	28.90	0.06534	36.05	0.06289	0.02	0.26	4.05	103.91	405.27	1.04	0.00	0.000	0.010
515 0.063	28.90	28.80	0.06546	35.98	0.06300	0.02	0.26	4.05	103.92	405.28	1.04	0.00	0.000	0.010
516 0.063	28.80	28.70	0.06559	35.92	0.06311	0.02	0.26	4.05	103.93	405.28	1.04	0.00	0.000	0.010
517 0.063	28.70	28.60	0.06571	35.85	0.06322	0.02	0.26	4.05	103.94	405.29	1.04	0.00	0.000	0.010
518 0.063	28.60	28.50	0.06583	35.78	0.06333	0.02	0.26	4.05	103.95	405.29	1.04	0.00	0.000	0.010
519 0.063	28.50	28.40	0.06595	35.72	0.06344	0.02	0.26	4.05	103.96	405.30	1.04	0.00	0.000	0.010
520 0.064	28.40	28.30	0.06607	35.65	0.06355	0.02	0.26	4.05	103.97	405.30	1.04	0.00	0.000	0.010
521 0.064	28.30	28.20	0.06619	35.59	0.06366	0.02	0.26	4.05	103.98	405.31	1.04	0.00	0.000	0.010
522 0.064	28.20	28.10	0.06631	35.52	0.06377	0.02	0.26	4.05	103.99	405.31	1.04	0.00	0.000	0.010
523 0.064	28.10	28.00	0.06644	35.46	0.06388	0.02	0.26	4.05	104.00	405.32	1.04	0.00	0.000	0.010

551	25.30	25.20	0.06984	33.73	0.06697	0.02	0.26	4.05	104.28	405.46	1.04	0.00	0.000	0.011
0.067														
552	25.20	25.10	0.06996	33.67	0.06708	0.02	0.26	4.05	104.29	405.47	1.04	0.00	0.000	0.011
0.067														
553	25.10	25.00	0.07008	33.61	0.06719	0.02	0.26	4.05	104.30	405.47	1.04	0.00	0.000	0.011
0.067														
554	25.00	24.90	0.07020	33.55	0.06730	0.02	0.26	4.05	104.31	405.48	1.04	0.00	0.000	0.011
0.067														
555	24.90	24.80	0.07033	33.50	0.06741	0.02	0.26	4.05	104.32	405.48	1.04	0.00	0.000	0.011
0.067														
556	24.80	24.70	0.07045	33.44	0.06753	0.02	0.26	4.05	104.33	405.49	1.04	0.00	0.000	0.011
0.068														
557	24.70	24.60	0.07057	33.38	0.06764	0.02	0.26	4.05	104.34	405.50	1.04	0.00	0.000	0.011
0.068														
558	24.60	24.50	0.07069	33.32	0.06775	0.02	0.26	4.06	104.35	405.50	1.04	0.00	0.000	0.011
0.068														
559	24.50	24.40	0.07081	33.27	0.06786	0.02	0.26	4.06	104.36	405.51	1.04	0.00	0.000	0.011
0.068														
560	24.40	24.30	0.07093	33.21	0.06797	0.02	0.26	4.06	104.37	405.51	1.04	0.00	0.000	0.011
0.068														
561	24.30	24.20	0.07105	33.15	0.06808	0.02	0.26	4.06	104.38	405.52	1.04	0.00	0.000	0.011
0.068														
562	24.20	24.10	0.07118	33.09	0.06819	0.02	0.26	4.06	104.39	405.52	1.04	0.00	0.000	0.011
0.068														
563	24.10	24.00	0.07130	33.04	0.06830	0.02	0.26	4.06	104.39	405.53	1.04	0.00	0.000	0.011
0.068														
564	24.00	23.90	0.07142	32.98	0.06841	0.02	0.26	4.06	104.40	405.53	1.04	0.00	0.000	0.011
0.068														
565	23.90	23.80	0.07154	32.93	0.06852	0.02	0.26	4.06	104.41	405.54	1.04	0.00	0.000	0.011
0.069														
566	23.80	23.70	0.07166	32.87	0.06863	0.02	0.26	4.06	104.42	405.54	1.04	0.00	0.000	0.011
0.069														
567	23.70	23.60	0.07178	32.81	0.06874	0.02	0.26	4.06	104.43	405.55	1.04	0.00	0.000	0.011
0.069														
568	23.60	23.50	0.07191	32.76	0.06885	0.02	0.26	4.06	104.44	405.55	1.04	0.00	0.000	0.011
0.069														
569	23.50	23.40	0.07203	32.70	0.06896	0.02	0.26	4.06	104.45	405.56	1.04	0.00	0.000	0.011
0.069														
570	23.40	23.30	0.07215	32.65	0.06907	0.02	0.26	4.06	104.46	405.56	1.04	0.00	0.000	0.011
0.069														
571	23.30	23.20	0.07227	32.59	0.06918	0.02	0.26	4.06	104.47	405.57	1.04	0.00	0.000	0.011
0.069														
572	23.20	23.10	0.07239	32.54	0.06929	0.02	0.26	4.06	104.48	405.57	1.04	0.00	0.000	0.011
0.069														
573	23.10	23.00	0.07251	32.48	0.06940	0.02	0.26	4.06	104.49	405.58	1.04	0.00	0.000	0.011
0.069														
TOT						1.14			6771.53	26351.79				
AVG			0.06580				0.26	4.05			1.04			
CUM						19.48								

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

559	24.400	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
560	24.300	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
561	24.200	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
562	24.100	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
563	24.000	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
564	23.900	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
565	23.800	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
566	23.700	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
567	23.600	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
568	23.500	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
569	23.400	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
570	23.300	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
571	23.200	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
572	23.100	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
573	23.000	7.95	3.11	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	

20 DEG C RATE 0.06 0.00 2.50 0.04 0.00 0.00 0.00 0.00 0.00
0.04
AVG 20 DEG C RATE 2.72 0.10 0.05
0.05

* g/m²/d ** mg/L/day

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

ELEM NCM 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
509	29.400	27.15	0.00	24.75	9.55	2.62	3.95	4.08	0.63	0.61	0.26	1.50	0.00	0.90	0.00	0.00
3.97																
510	29.300	27.15	0.00	24.73	9.54	2.64	3.94	4.08	0.63	0.61	0.26	1.50	0.00	0.90	0.00	0.00
3.95																
511	29.200	27.15	0.00	24.71	9.53	2.65	3.94	4.08	0.63	0.61	0.26	1.50	0.00	0.90	0.00	0.00
3.94																
512	29.100	27.15	0.00	24.69	9.52	2.66	3.94	4.08	0.63	0.61	0.26	1.50	0.00	0.90	0.00	0.00

3.93																	
513	29.000	27.15	0.00	24.67	9.51	2.67	3.94	4.08	0.63	0.61	0.26	1.50	0.00	0.90	0.00	0.00	0.00
3.92																	
514	28.900	27.15	0.00	24.65	9.50	2.68	3.94	4.08	0.63	0.61	0.26	1.50	0.00	0.90	0.00	0.00	0.00
3.91																	
515	28.800	27.15	0.00	24.63	9.49	2.69	3.94	4.08	0.63	0.61	0.26	1.49	0.00	0.90	0.00	0.00	0.00
3.89																	
516	28.700	27.15	0.00	24.61	9.48	2.70	3.94	4.08	0.63	0.61	0.26	1.49	0.00	0.90	0.00	0.00	0.00
3.88																	
517	28.600	27.15	0.00	24.59	9.47	2.71	3.94	4.07	0.63	0.61	0.26	1.49	0.00	0.90	0.00	0.00	0.00
3.87																	
518	28.500	27.15	0.00	24.57	9.46	2.72	3.94	4.07	0.63	0.60	0.26	1.49	0.00	0.90	0.00	0.00	0.00
3.86																	
519	28.400	27.15	0.00	24.55	9.45	2.73	3.94	4.07	0.63	0.60	0.26	1.49	0.00	0.90	0.00	0.00	0.00
3.85																	
520	28.300	27.15	0.00	24.53	9.44	2.74	3.94	4.07	0.63	0.60	0.26	1.49	0.00	0.90	0.00	0.00	0.00
3.84																	
521	28.200	27.15	0.00	24.51	9.43	2.75	3.94	4.07	0.63	0.60	0.26	1.49	0.00	0.90	0.00	0.00	0.00
3.82																	
522	28.100	27.15	0.00	24.49	9.42	2.75	3.94	4.07	0.63	0.60	0.26	1.49	0.00	0.90	0.00	0.00	0.00
3.81																	
523	28.000	27.15	0.00	24.47	9.41	2.76	3.94	4.07	0.63	0.60	0.26	1.49	0.00	0.90	0.00	0.00	0.00
3.80																	
524	27.900	27.15	0.00	24.45	9.40	2.77	3.93	4.07	0.63	0.60	0.26	1.49	0.00	0.90	0.00	0.00	0.00
3.79																	
525	27.800	27.15	0.00	24.43	9.39	2.77	3.93	4.07	0.63	0.60	0.26	1.49	0.00	0.90	0.00	0.00	0.00
3.78																	
526	27.700	27.15	0.00	24.41	9.38	2.78	3.93	4.07	0.63	0.60	0.26	1.48	0.00	0.90	0.00	0.00	0.00
3.77																	
527	27.600	27.15	0.00	24.39	9.37	2.78	3.93	4.07	0.63	0.60	0.26	1.48	0.00	0.90	0.00	0.00	0.00
3.76																	
528	27.500	27.15	0.00	24.37	9.36	2.79	3.93	4.07	0.63	0.60	0.26	1.48	0.00	0.90	0.00	0.00	0.00
3.75																	
529	27.400	27.15	0.00	24.35	9.35	2.79	3.93	4.07	0.63	0.60	0.25	1.48	0.00	0.90	0.00	0.00	0.00
3.74																	
530	27.300	27.15	0.00	24.33	9.34	2.80	3.93	4.07	0.63	0.60	0.25	1.48	0.00	0.90	0.00	0.00	0.00
3.72																	
531	27.200	27.15	0.00	24.31	9.33	2.80	3.93	4.06	0.63	0.60	0.25	1.48	0.00	0.90	0.00	0.00	0.00
3.71																	
532	27.100	27.15	0.00	24.29	9.33	2.81	3.93	4.06	0.63	0.60	0.25	1.48	0.00	0.90	0.00	0.00	0.00
3.70																	
533	27.000	27.15	0.00	24.27	9.32	2.81	3.93	4.06	0.63	0.60	0.25	1.48	0.00	0.90	0.00	0.00	0.00
3.69																	
534	26.900	27.15	0.00	24.25	9.31	2.81	3.93	4.06	0.63	0.60	0.25	1.48	0.00	0.90	0.00	0.00	0.00
3.68																	
535	26.800	27.15	0.00	24.24	9.30	2.82	3.93	4.06	0.63	0.60	0.25	1.48	0.00	0.90	0.00	0.00	0.00
3.67																	
536	26.700	27.15	0.00	24.22	9.29	2.82	3.93	4.06	0.63	0.60	0.25	1.48	0.00	0.90	0.00	0.00	0.00
3.66																	
537	26.600	27.15	0.00	24.20	9.28	2.82	3.93	4.06	0.63	0.60	0.25	1.47	0.00	0.90	0.00	0.00	0.00
3.65																	
538	26.500	27.15	0.00	24.18	9.27	2.83	3.92	4.06	0.62	0.60	0.25	1.47	0.00	0.90	0.00	0.00	0.00
3.64																	
539	26.400	27.15	0.00	24.16	9.26	2.83	3.92	4.06	0.62	0.60	0.25	1.47	0.00	0.90	0.00	0.00	0.00

3.63																	
540	26.300	27.15	0.00	24.14	9.25	2.83	3.92	4.06	0.62	0.60	0.25	1.47	0.00	0.90	0.00	0.00	0.00
3.62																	
541	26.200	27.15	0.00	24.12	9.24	2.83	3.92	4.06	0.62	0.60	0.25	1.47	0.00	0.90	0.00	0.00	0.00
3.61																	
542	26.100	27.15	0.00	24.10	9.23	2.84	3.92	4.06	0.62	0.60	0.25	1.47	0.00	0.90	0.00	0.00	0.00
3.60																	
543	26.000	27.15	0.00	24.08	9.22	2.84	3.92	4.06	0.62	0.60	0.25	1.47	0.00	0.90	0.00	0.00	0.00
3.59																	
544	25.900	27.15	0.00	24.07	9.21	2.84	3.92	4.06	0.62	0.60	0.25	1.47	0.00	0.90	0.00	0.00	0.00
3.58																	
545	25.800	27.15	0.00	24.05	9.21	2.84	3.92	4.06	0.62	0.59	0.25	1.47	0.00	0.90	0.00	0.00	0.00
3.57																	
546	25.700	27.15	0.00	24.03	9.20	2.84	3.92	4.05	0.62	0.59	0.25	1.47	0.00	0.90	0.00	0.00	0.00
3.56																	
547	25.600	27.15	0.00	24.01	9.19	2.85	3.92	4.05	0.62	0.59	0.25	1.47	0.00	0.90	0.00	0.00	0.00
3.55																	
548	25.500	27.15	0.00	23.99	9.18	2.85	3.92	4.05	0.62	0.59	0.25	1.47	0.00	0.90	0.00	0.00	0.00
3.54																	
549	25.400	27.15	0.00	23.98	9.17	2.85	3.92	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	0.00
3.53																	
550	25.300	27.15	0.00	23.96	9.16	2.85	3.92	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	0.00
3.52																	
551	25.200	27.15	0.00	23.94	9.15	2.85	3.92	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	0.00
3.51																	
552	25.100	27.15	0.00	23.92	9.14	2.85	3.92	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	0.00
3.50																	
553	25.000	27.15	0.00	23.90	9.14	2.86	3.92	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	0.00
3.49																	
554	24.900	27.15	0.00	23.89	9.13	2.86	3.91	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	0.00
3.48																	
555	24.800	27.15	0.00	23.87	9.12	2.86	3.91	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	0.00
3.47																	
556	24.700	27.15	0.00	23.85	9.11	2.86	3.91	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	0.00
3.46																	
557	24.600	27.15	0.00	23.83	9.10	2.86	3.91	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	0.00
3.45																	
558	24.500	27.15	0.00	23.81	9.09	2.86	3.91	4.05	0.62	0.59	0.25	1.46	0.00	0.90	0.00	0.00	0.00
3.44																	
559	24.400	27.15	0.00	23.80	9.08	2.86	3.91	4.05	0.62	0.59	0.24	1.46	0.00	0.90	0.00	0.00	0.00
3.43																	
560	24.300	27.15	0.00	23.78	9.07	2.86	3.91	4.05	0.62	0.59	0.24	1.46	0.00	0.90	0.00	0.00	0.00
3.42																	
561	24.200	27.15	0.00	23.76	9.07	2.86	3.91	4.05	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	0.00
3.42																	
562	24.100	27.15	0.00	23.74	9.06	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	0.00
3.41																	
563	24.000	27.15	0.00	23.73	9.05	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	0.00
3.40																	
564	23.900	27.15	0.00	23.71	9.04	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	0.00
3.39																	
565	23.800	27.15	0.00	23.69	9.03	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	0.00
3.38																	
566	23.700	27.15	0.00	23.68	9.02	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	0.00

3.37																	
567	23.600	27.15	0.00	23.66	9.02	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	
3.36																	
568	23.500	27.15	0.00	23.64	9.01	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	
3.35																	
569	23.400	27.15	0.00	23.62	9.00	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	
3.34																	
570	23.300	27.15	0.00	23.61	8.99	2.87	3.91	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	
3.34																	
571	23.200	27.15	0.00	23.59	8.98	2.87	3.90	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	
3.33																	
572	23.100	27.15	0.00	23.57	8.97	2.87	3.90	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	
3.32																	
573	23.000	27.15	0.00	23.56	8.97	2.87	3.90	4.04	0.62	0.59	0.24	1.45	0.00	0.90	0.00	0.00	
3.31																	

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 16 BOGGY CR - WOLF CREEK

BARNES CREEK WATERSHED MODEL
BARNES CREEK SENSITIVITY RUN

***** REACH INPUTS

ELEM NCM NO.	TYPE	FLOW m ³ /	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
574	UPR RCH	0.07251	27.15	0.00	23.56	8.97	2.87	3.90	4.04	0.62	0.59	0.24	0.00	0.90	0.00
3.31	EACH	1.96	27.15	0.00	13.60	4.10	2.58	4.08	4.08	0.57	0.00	0.08	0.00		0.00

***** HYDRAULIC PARAMETER VALUES

ELEM MEAN NO. VELO	BEGIN DIST	ENDING DIST	FLOW m ³ /	PCT EFF	ADVCTV VELO	TRAVEL TIME	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA	X-SECT AREA	TIDAL PRISM	TIDAL VELO	DISPRSN m ² /s
574	23.00	22.90	0.08041	29.29	0.07652	0.02	0.26	4.06	105.09	405.90	1.05	0.00	0.000	0.012
0.077														
TOT AVG					0.07652	0.02	0.26	4.06	105.09	405.90	1.05			

CUM

19.50

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

ELEM NCM NO.	ENDING NCM DIST	SAT D.O.	REAER RATE	CBOD DECA	CBOD SETT	ANBOD DECA	BKGD SOD	FULL SOD	CORR SOD	ORGN DECA	ORGN SETT	NH3 DECA	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECA
574	22.900	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
20	DEG C	RATE		0.06		0.00	2.50			0.04		0.00	0.00	0.00	0.00			0.00
AVG 20	DEG C	RATE	2.70		0.10						0.05							

* g/m²/d ** mg/L/day

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

ELEM NCM NO.	ENDING NCM 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
574	22.900	27.15	0.00	22.58	8.49	2.85	3.91	4.04	0.69	0.53	0.22	1.44	0.00	0.90	0.00	0.00

* CM-I = CHLORIDES MG/L CM-II = SULFATES MG/L NCM = CBOD2 mg/L
** g/m³

FINAL REPORT HEADWATER
REACH NO. 17 WOLF CR - UNNAMED CREEK

BARNES CREEK WATERSHED MODEL
BARNES CREEK SENSITIVITY RUN

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

ELEM NCM NO.	TYPE	FLOW m ³ /	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
575	UPR RCH	0.08041	27.15	0.00	22.58	8.49	2.85	3.91	4.04	0.69	0.53	0.22	0.00	0.90	0.00

EACH INCR 0.0005 27.15 0.00 13.60 4.10 2.58 4.08 4.08 0.57 0.00 0.08 0.00 0.00
 1.96

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
575	22.90	22.80	0.08091	29.11	0.07696	0.02	0.26	4.06	105.12	405.92	1.05	0.00	0.000	0.012
0.077														
576	22.80	22.70	0.08140	28.94	0.07741	0.01	0.26	4.06	105.16	405.94	1.05	0.00	0.000	0.013
0.077														
577	22.70	22.60	0.08189	28.76	0.07785	0.01	0.26	4.06	105.19	405.96	1.05	0.00	0.000	0.013
0.078														
578	22.60	22.50	0.08239	28.59	0.07829	0.01	0.26	4.06	105.23	405.97	1.05	0.00	0.000	0.013
0.078														
579	22.50	22.40	0.08288	28.42	0.07874	0.01	0.26	4.06	105.26	405.99	1.05	0.00	0.000	0.013
0.079														
580	22.40	22.30	0.08338	28.25	0.07918	0.01	0.26	4.06	105.30	406.01	1.05	0.00	0.000	0.013
0.079														
581	22.30	22.20	0.08387	28.09	0.07962	0.01	0.26	4.06	105.33	406.03	1.05	0.00	0.000	0.013
0.080														
582	22.20	22.10	0.08436	27.92	0.08006	0.01	0.26	4.06	105.37	406.05	1.05	0.00	0.000	0.013
0.080														
583	22.10	22.00	0.08486	27.76	0.08051	0.01	0.26	4.06	105.40	406.07	1.05	0.00	0.000	0.013
0.081														
584	22.00	21.90	0.08535	27.60	0.08095	0.01	0.26	4.06	105.44	406.09	1.05	0.00	0.000	0.013
0.081														
585	21.90	21.80	0.08584	27.44	0.08139	0.01	0.26	4.06	105.47	406.11	1.05	0.00	0.000	0.013
0.081														
586	21.80	21.70	0.08634	27.28	0.08183	0.01	0.26	4.06	105.51	406.13	1.06	0.00	0.000	0.013
0.082														
587	21.70	21.60	0.08683	27.13	0.08227	0.01	0.26	4.06	105.54	406.15	1.06	0.00	0.000	0.013
0.082														
588	21.60	21.50	0.08733	26.97	0.08271	0.01	0.26	4.06	105.57	406.17	1.06	0.00	0.000	0.013
0.083														
589	21.50	21.40	0.08782	26.82	0.08316	0.01	0.26	4.06	105.61	406.18	1.06	0.00	0.000	0.014
0.083														
590	21.40	21.30	0.08831	26.67	0.08360	0.01	0.26	4.06	105.64	406.20	1.06	0.00	0.000	0.014
0.084														
TOT						0.23			1686.16	6496.97				
AVG					0.08023		0.26	4.06			1.05			
CUM						19.73								

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
575	22.800	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
576	22.700	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
577	22.600	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
578	22.500	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
579	22.400	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
580	22.300	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
581	22.200	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
582	22.100	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
583	22.000	7.95	3.09	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
584	21.900	7.95	3.08	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
585	21.800	7.95	3.08	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
586	21.700	7.95	3.08	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
587	21.600	7.95	3.08	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
588	21.500	7.95	3.08	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
589	21.400	7.95	3.08	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
590	21.300	7.95	3.08	0.08	0.12	0.00	3.92	3.92	3.92	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
20	DEG C RATE			0.06		0.00	2.50			0.04		0.00	0.00	0.00	0.00			0.00
0.04																		
AVG	20 DEG C RATE		2.70		0.10						0.05							
0.05																		

* g/m²/d ** mg/L/day

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

ELEM NCM	ENDING	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	TOTN	PHOS	CHL A	MACRO	COLI
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NO. *	DIST	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	**	#/100mL
575	22.800	27.15	0.00	22.52	8.46	2.85	3.92	4.06	0.69	0.53	0.22	1.44	0.00	0.90	0.00	0.00
3.18																
576	22.700	27.15	0.00	22.47	8.43	2.85	3.94	4.08	0.69	0.52	0.22	1.44	0.00	0.90	0.00	0.00
3.18																
577	22.600	27.15	0.00	22.42	8.41	2.85	3.96	4.09	0.69	0.52	0.22	1.44	0.00	0.90	0.00	0.00
3.19																
578	22.500	27.15	0.00	22.36	8.38	2.85	3.97	4.11	0.70	0.52	0.22	1.43	0.00	0.90	0.00	0.00
3.19																
579	22.400	27.15	0.00	22.31	8.36	2.85	3.99	4.12	0.70	0.52	0.22	1.43	0.00	0.90	0.00	0.00
3.20																
580	22.300	27.15	0.00	22.26	8.33	2.85	4.00	4.14	0.70	0.51	0.22	1.43	0.00	0.90	0.00	0.00
3.20																
581	22.200	27.15	0.00	22.21	8.31	2.85	4.02	4.15	0.70	0.51	0.22	1.43	0.00	0.90	0.00	0.00
3.20																
582	22.100	27.15	0.00	22.16	8.28	2.85	4.03	4.16	0.70	0.51	0.22	1.43	0.00	0.90	0.00	0.00
3.21																
583	22.000	27.15	0.00	22.11	8.26	2.85	4.04	4.18	0.71	0.51	0.22	1.43	0.00	0.90	0.00	0.00
3.21																
584	21.900	27.15	0.00	22.06	8.23	2.85	4.06	4.19	0.71	0.50	0.22	1.43	0.00	0.90	0.00	0.00
3.22																
585	21.800	27.15	0.00	22.01	8.21	2.85	4.07	4.21	0.71	0.50	0.22	1.43	0.00	0.90	0.00	0.00
3.22																
586	21.700	27.15	0.00	21.96	8.19	2.85	4.09	4.22	0.71	0.50	0.21	1.43	0.00	0.90	0.00	0.00
3.23																
587	21.600	27.15	0.00	21.92	8.16	2.85	4.10	4.23	0.72	0.50	0.21	1.43	0.00	0.90	0.00	0.00
3.23																
588	21.500	27.15	0.00	21.87	8.14	2.85	4.11	4.25	0.72	0.50	0.21	1.43	0.00	0.90	0.00	0.00
3.24																
589	21.400	27.15	0.00	21.82	8.12	2.85	4.12	4.26	0.72	0.49	0.21	1.42	0.00	0.90	0.00	0.00
3.24																
590	21.300	27.15	0.00	21.78	8.10	2.85	4.14	4.27	0.72	0.49	0.21	1.42	0.00	0.90	0.00	0.00
3.24																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 18 UNNAMED CR - SITE 12

BARNES CREEK WATERSHED MODEL
BARNES CREEK SENSITIVITY RUN

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

ELEM NCM NO. *	TYPE	FLOW m³/	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
591	UPR RCH	0.08831	27.15	0.00	21.78	8.10	2.85	4.14	4.27	0.72	0.49	0.21	0.00	0.90	0.00

3.24
 EACH INCR 0.0002 27.15 0.00 13.60 4.10 2.58 4.08 4.08 0.57 0.00 0.08 0.00 0.00
 1.96

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
591	21.30	21.20	0.08851	26.61	0.08377	0.01	0.26	4.06	105.65	406.21	1.06	0.00	0.000	0.014
0.084														
592	21.20	21.10	0.08870	26.56	0.08394	0.01	0.26	4.06	105.67	406.22	1.06	0.00	0.000	0.014
0.084														
593	21.10	21.00	0.08889	26.50	0.08411	0.01	0.26	4.06	105.68	406.22	1.06	0.00	0.000	0.014
0.084														
594	21.00	20.90	0.08908	26.44	0.08428	0.01	0.26	4.06	105.69	406.23	1.06	0.00	0.000	0.014
0.084														
595	20.90	20.80	0.08928	26.39	0.08446	0.01	0.26	4.06	105.71	406.24	1.06	0.00	0.000	0.014
0.084														
596	20.80	20.70	0.08947	26.33	0.08463	0.01	0.26	4.06	105.72	406.25	1.06	0.00	0.000	0.014
0.085														
597	20.70	20.60	0.08966	26.27	0.08480	0.01	0.26	4.06	105.73	406.25	1.06	0.00	0.000	0.014
0.085														
598	20.60	20.50	0.08985	26.22	0.08497	0.01	0.26	4.06	105.75	406.26	1.06	0.00	0.000	0.014
0.085														
599	20.50	20.40	0.09005	26.16	0.08514	0.01	0.26	4.06	105.76	406.27	1.06	0.00	0.000	0.014
0.085														
600	20.40	20.30	0.09024	26.10	0.08532	0.01	0.26	4.06	105.77	406.28	1.06	0.00	0.000	0.014
0.085														
601	20.30	20.20	0.09043	26.05	0.08549	0.01	0.26	4.06	105.78	406.28	1.06	0.00	0.000	0.014
0.085														
602	20.20	20.10	0.09063	25.99	0.08566	0.01	0.26	4.06	105.80	406.29	1.06	0.00	0.000	0.014
0.086														
603	20.10	20.00	0.09082	25.94	0.08583	0.01	0.26	4.06	105.81	406.30	1.06	0.00	0.000	0.014
0.086														
604	20.00	19.90	0.09101	25.88	0.08600	0.01	0.26	4.06	105.82	406.30	1.06	0.00	0.000	0.014
0.086														
605	19.90	19.80	0.09120	25.83	0.08617	0.01	0.26	4.06	105.84	406.31	1.06	0.00	0.000	0.014
0.086														
606	19.80	19.70	0.09140	25.77	0.08635	0.01	0.26	4.06	105.85	406.32	1.06	0.00	0.000	0.014
0.086														
607	19.70	19.60	0.09159	25.72	0.08652	0.01	0.26	4.06	105.86	406.33	1.06	0.00	0.000	0.014
0.087														
608	19.60	19.50	0.09178	25.67	0.08669	0.01	0.26	4.06	105.87	406.33	1.06	0.00	0.000	0.014
0.087														
609	19.50	19.40	0.09197	25.61	0.08686	0.01	0.26	4.06	105.89	406.34	1.06	0.00	0.000	0.014
0.087														
610	19.40	19.30	0.09217	25.56	0.08703	0.01	0.26	4.06	105.90	406.35	1.06	0.00	0.000	0.014

NO. DECAY	DIST SETT	D.O. mg/L	RATE 1/da	DECAY 1/da	SETT 1/da	DECAY 1/da	SOD *	SOD *	SOD *	DECAY 1/da	SETT 1/da	DECAY 1/da	SRCE *	RATE 1/da	SRCE *	PROD **	PROD **	DECAY 1/da
591	21.200	7.95	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
592	21.100	7.95	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
593	21.000	7.95	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
594	20.900	7.95	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
595	20.800	7.95	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
596	20.700	7.95	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
597	20.600	7.95	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
598	20.500	7.94	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
599	20.400	7.94	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
600	20.300	7.94	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
601	20.200	7.94	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
602	20.100	7.94	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
603	20.000	7.94	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
604	19.900	7.94	3.08	0.08	0.12	0.00	3.53	3.53	3.53	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
605	19.800	7.94	3.08	0.08	0.12	0.00	3.54	3.54	3.54	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
606	19.700	7.94	3.08	0.08	0.12	0.00	3.54	3.54	3.54	0.07	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
607	19.600	7.94	3.08	0.08	0.12	0.00	3.54	3.54	3.54	0.07	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
608	19.500	7.94	3.08	0.08	0.12	0.00	3.54	3.54	3.54	0.07	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
609	19.400	7.94	3.08	0.08	0.12	0.00	3.54	3.54	3.54	0.07	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
610	19.300	7.94	3.07	0.08	0.12	0.00	3.54	3.54	3.54	0.07	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
611	19.200	7.94	3.07	0.08	0.12	0.00	3.54	3.54	3.54	0.07	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
612	19.100	7.94	3.07	0.08	0.12	0.00	3.54	3.54	3.54	0.07	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
613	19.000	7.94	3.07	0.08	0.12	0.00	3.54	3.54	3.54	0.07	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
614	18.900	7.94	3.07	0.08	0.12	0.00	3.54	3.54	3.54	0.07	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.06	0.06																	
615	18.800	7.94	3.07	0.08	0.12	0.00	3.54	3.54	3.54	0.07	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00

620	18.300	27.20	0.00	21.27	7.85	3.19	4.25	4.39	0.75	0.48	0.20	1.43	0.00	0.90	0.00	0.00
3.20																
621	18.200	27.20	0.00	21.26	7.84	3.20	4.26	4.39	0.75	0.48	0.20	1.43	0.00	0.90	0.00	0.00
3.20																
622	18.100	27.20	0.00	21.24	7.83	3.20	4.26	4.39	0.75	0.48	0.20	1.43	0.00	0.90	0.00	0.00
3.20																
623	18.000	27.21	0.00	21.23	7.83	3.21	4.26	4.40	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00
3.20																
624	17.900	27.21	0.00	21.21	7.82	3.21	4.27	4.40	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00
3.19																
625	17.800	27.21	0.00	21.20	7.81	3.21	4.27	4.40	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00
3.19																
626	17.700	27.21	0.00	21.18	7.80	3.22	4.27	4.41	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00
3.19																
627	17.600	27.21	0.00	21.17	7.80	3.22	4.28	4.41	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00
3.19																
628	17.500	27.21	0.00	21.15	7.79	3.22	4.28	4.41	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00
3.19																
629	17.400	27.22	0.00	21.14	7.78	3.23	4.28	4.42	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00
3.19																
630	17.300	27.22	0.00	21.12	7.77	3.23	4.29	4.42	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00
3.19																
631	17.200	27.22	0.00	21.10	7.77	3.23	4.29	4.42	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00
3.19																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 19 SITE 12 - CLEAR CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SENSITIVITY RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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
632	UPR RCH	0.09621	27.22	0.00	21.10	7.77	3.23	4.29	4.42	0.76	0.48	0.20	0.00	0.90	0.00
3.19															

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

ELEM MEAN NO.	BEGIN DIST	ENDING DIST	FLOW m ³ /	PCT EFF	ADVCTV VELO	TRAVEL TIME	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
	km	km	m ³ /		m/s	days	m	m	m ³	m ²	m ²	m ³	m/s	m ² /s

687	11.600	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
688	11.500	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
689	11.400	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
690	11.300	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
691	11.200	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
692	11.100	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
693	11.000	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
694	10.900	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
695	10.800	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
696	10.700	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
697	10.600	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
698	10.500	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
699	10.400	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
700	10.300	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
701	10.200	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
702	10.100	7.94	2.96	0.10	0.12	0.00	4.57	4.57	4.57	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
20 DEG C RATE				0.07		0.00	2.90			0.02		0.00	0.00	0.00	0.00			0.00
0.02																		
AVG 20 DEG C RATE			2.58		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
632	17.100	27.22	0.00	21.10	7.77	3.17	4.30	4.43	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00
3.18																
633	17.000	27.22	0.00	21.10	7.77	3.11	4.30	4.44	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00
3.18																
634	16.900	27.22	0.00	21.10	7.77	3.05	4.31	4.44	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00

3.17																	
635	16.800	27.22	0.00	21.10	7.77	3.00	4.32	4.45	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	0.00
3.17																	
636	16.700	27.22	0.00	21.10	7.77	2.94	4.32	4.46	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	0.00
3.17																	
637	16.600	27.22	0.00	21.10	7.77	2.90	4.33	4.46	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	0.00
3.16																	
638	16.500	27.22	0.00	21.10	7.77	2.85	4.34	4.47	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	0.00
3.16																	
639	16.400	27.22	0.00	21.10	7.77	2.81	4.34	4.48	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	0.00
3.16																	
640	16.300	27.22	0.00	21.10	7.77	2.77	4.35	4.48	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	0.00
3.15																	
641	16.200	27.22	0.00	21.10	7.77	2.73	4.35	4.49	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	0.00
3.15																	
642	16.100	27.22	0.00	21.10	7.77	2.69	4.36	4.50	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	0.00
3.14																	
643	16.000	27.22	0.00	21.10	7.77	2.66	4.37	4.50	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	0.00
3.14																	
644	15.900	27.22	0.00	21.10	7.77	2.62	4.37	4.51	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	0.00
3.14																	
645	15.800	27.22	0.00	21.10	7.77	2.59	4.38	4.52	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	0.00
3.13																	
646	15.700	27.22	0.00	21.10	7.77	2.56	4.39	4.52	0.76	0.48	0.20	1.44	0.00	0.90	0.00	0.00	0.00
3.13																	
647	15.600	27.22	0.00	21.10	7.77	2.54	4.39	4.53	0.76	0.48	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.12																	
648	15.500	27.22	0.00	21.10	7.77	2.51	4.40	4.53	0.76	0.48	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.12																	
649	15.400	27.22	0.00	21.10	7.77	2.49	4.41	4.54	0.76	0.48	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.12																	
650	15.300	27.22	0.00	21.10	7.77	2.46	4.41	4.55	0.76	0.48	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.11																	
651	15.200	27.22	0.00	21.10	7.77	2.44	4.42	4.55	0.76	0.48	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.11																	
652	15.100	27.22	0.00	21.10	7.77	2.42	4.42	4.56	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.11																	
653	15.000	27.22	0.00	21.10	7.77	2.40	4.43	4.57	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.10																	
654	14.900	27.22	0.00	21.10	7.77	2.38	4.44	4.57	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.10																	
655	14.800	27.22	0.00	21.10	7.77	2.37	4.44	4.58	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.09																	
656	14.700	27.22	0.00	21.10	7.77	2.35	4.45	4.58	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.09																	
657	14.600	27.22	0.00	21.10	7.77	2.33	4.45	4.59	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.09																	
658	14.500	27.22	0.00	21.10	7.77	2.32	4.46	4.60	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.08																	
659	14.400	27.22	0.00	21.10	7.77	2.31	4.47	4.60	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.08																	
660	14.300	27.22	0.00	21.10	7.77	2.29	4.47	4.61	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.08																	
661	14.200	27.22	0.00	21.10	7.77	2.28	4.48	4.61	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00

3.07																	
662	14.100	27.22	0.00	21.10	7.77	2.27	4.48	4.62	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.07																	
663	14.000	27.22	0.00	21.10	7.77	2.26	4.49	4.63	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.06																	
664	13.900	27.22	0.00	21.10	7.77	2.25	4.50	4.63	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.06																	
665	13.800	27.22	0.00	21.10	7.77	2.24	4.50	4.64	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.06																	
666	13.700	27.22	0.00	21.10	7.77	2.23	4.51	4.64	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.05																	
667	13.600	27.22	0.00	21.10	7.77	2.22	4.51	4.65	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.05																	
668	13.500	27.22	0.00	21.10	7.77	2.21	4.52	4.65	0.76	0.49	0.20	1.45	0.00	0.90	0.00	0.00	0.00
3.05																	
669	13.400	27.22	0.00	21.10	7.77	2.20	4.53	4.66	0.76	0.49	0.20	1.46	0.00	0.90	0.00	0.00	0.00
3.04																	
670	13.300	27.22	0.00	21.10	7.77	2.20	4.53	4.67	0.76	0.49	0.20	1.46	0.00	0.90	0.00	0.00	0.00
3.04																	
671	13.200	27.22	0.00	21.10	7.77	2.19	4.54	4.67	0.76	0.49	0.20	1.46	0.00	0.90	0.00	0.00	0.00
3.04																	
672	13.100	27.22	0.00	21.10	7.77	2.18	4.54	4.68	0.76	0.49	0.20	1.46	0.00	0.90	0.00	0.00	0.00
3.03																	
673	13.000	27.22	0.00	21.10	7.77	2.18	4.55	4.68	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	0.00
3.03																	
674	12.900	27.22	0.00	21.10	7.77	2.17	4.55	4.69	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	0.00
3.02																	
675	12.800	27.22	0.00	21.10	7.77	2.17	4.56	4.69	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	0.00
3.02																	
676	12.700	27.22	0.00	21.10	7.77	2.16	4.56	4.70	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	0.00
3.02																	
677	12.600	27.22	0.00	21.10	7.77	2.16	4.57	4.71	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	0.00
3.01																	
678	12.500	27.22	0.00	21.10	7.77	2.15	4.58	4.71	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	0.00
3.01																	
679	12.400	27.22	0.00	21.10	7.77	2.15	4.58	4.72	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	0.00
3.01																	
680	12.300	27.22	0.00	21.10	7.77	2.14	4.59	4.72	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	0.00
3.00																	
681	12.200	27.22	0.00	21.10	7.77	2.14	4.59	4.73	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	0.00
3.00																	
682	12.100	27.22	0.00	21.10	7.77	2.13	4.60	4.73	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	0.00
3.00																	
683	12.000	27.22	0.00	21.10	7.77	2.13	4.60	4.74	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	0.00
2.99																	
684	11.900	27.22	0.00	21.10	7.77	2.13	4.61	4.74	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	0.00
2.99																	
685	11.800	27.22	0.00	21.10	7.77	2.12	4.61	4.75	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	0.00
2.99																	
686	11.700	27.22	0.00	21.10	7.77	2.12	4.62	4.75	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	0.00
2.98																	
687	11.600	27.22	0.00	21.10	7.77	2.12	4.62	4.76	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	0.00
2.98																	
688	11.500	27.22	0.00	21.10	7.77	2.12	4.63	4.76	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00	0.00

2.97	689	11.400	27.22	0.00	21.10	7.77	2.11	4.64	4.77	0.76	0.50	0.20	1.46	0.00	0.90	0.00	0.00
2.97	690	11.300	27.22	0.00	21.10	7.77	2.11	4.64	4.78	0.76	0.50	0.20	1.47	0.00	0.90	0.00	0.00
2.97	691	11.200	27.22	0.00	21.10	7.77	2.11	4.65	4.78	0.76	0.50	0.20	1.47	0.00	0.90	0.00	0.00
2.96	692	11.100	27.22	0.00	21.10	7.77	2.11	4.65	4.79	0.76	0.50	0.20	1.47	0.00	0.90	0.00	0.00
2.96	693	11.000	27.22	0.00	21.10	7.77	2.10	4.66	4.79	0.76	0.50	0.20	1.47	0.00	0.90	0.00	0.00
2.96	694	10.900	27.22	0.00	21.10	7.77	2.10	4.66	4.80	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00
2.95	695	10.800	27.22	0.00	21.10	7.77	2.10	4.67	4.80	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00
2.95	696	10.700	27.22	0.00	21.10	7.77	2.10	4.67	4.81	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00
2.95	697	10.600	27.22	0.00	21.10	7.77	2.10	4.68	4.81	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00
2.94	698	10.500	27.22	0.00	21.10	7.77	2.10	4.68	4.82	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00
2.94	699	10.400	27.22	0.00	21.10	7.77	2.09	4.69	4.82	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00
2.94	700	10.300	27.22	0.00	21.10	7.77	2.09	4.69	4.83	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00
2.93	701	10.200	27.22	0.00	21.10	7.77	2.09	4.70	4.83	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00
2.93	702	10.100	27.22	0.00	21.10	7.77	2.09	4.70	4.84	0.76	0.51	0.20	1.47	0.00	0.90	0.00	0.00
2.93																	

* CM-I = CHLORIDES
MG/L
** g/m³

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

FINAL REPORT HEADWATER
REACH NO. 20 CLEAR CR - BEAR CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SENSITIVITY RUN

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

ELEM	TYPE	FLOW	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	PHOS	CHL A	COLI
NCM		m ³ /	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	#/100mL
703	UPR RCH	0.09621	27.22	0.00	21.10	7.77	2.09	4.70	4.84	0.76	0.51	0.20	0.00	0.90	0.00
2.93															
703	WSTLD	0.00880	25.56	0.00	5.50	1.30	4.38	5.55	5.55	0.75	0.00	0.06	0.00	4.30	0.00
3.76															

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / EFF	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
703	10.10	10.00	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
704	10.00	9.90	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
705	9.90	9.80	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
706	9.80	9.70	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
707	9.70	9.60	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
708	9.60	9.50	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
709	9.50	9.40	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
710	9.40	9.30	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
711	9.30	9.20	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
712	9.20	9.10	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
713	9.10	9.00	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
714	9.00	8.90	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
715	8.90	8.80	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
716	8.80	8.70	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
717	8.70	8.60	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
718	8.60	8.50	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
719	8.50	8.40	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
720	8.40	8.30	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
721	8.30	8.20	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
722	8.20	8.10	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
723	8.10	8.00	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
724	8.00	7.90	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
725	7.90	7.80	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011

0.063	7.80	7.70	0.10501	30.81	0.06252	0.02	0.27	6.17	167.96	616.81	1.68	0.00	0.000	0.011
0.063														
TOT						0.44			4030.92	14803.46				
AVG					0.06252		0.27	6.17			1.68			
CUM						22.14								

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
703	10.000	7.94	2.94	0.10	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
704	9.900	7.94	2.94	0.10	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
705	9.800	7.94	2.94	0.10	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
706	9.700	7.94	2.94	0.10	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
707	9.600	7.94	2.94	0.10	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
708	9.500	7.94	2.94	0.10	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
709	9.400	7.94	2.94	0.10	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
710	9.300	7.94	2.94	0.09	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
711	9.200	7.94	2.94	0.09	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
712	9.100	7.94	2.94	0.09	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
713	9.000	7.94	2.94	0.09	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
714	8.900	7.94	2.94	0.09	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
715	8.800	7.94	2.94	0.09	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.06																	
716	8.700	7.94	2.94	0.09	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.02	0.06																	
717	8.600	7.94	2.94	0.09	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.02	0.06																	
718	8.500	7.94	2.94	0.09	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.02	0.06																	
719	8.400	7.94	2.94	0.08	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.02	0.06																	
720	8.300	7.94	2.94	0.08	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00

727	7.600	7.94	2.94	0.08	0.12	0.00	5.20	5.20	5.20	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.02	0.06																	
728	7.500	7.94	2.94	0.08	0.12	0.00	5.19	5.19	5.19	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.02	0.06																	
729	7.400	7.94	2.94	0.08	0.12	0.00	5.19	5.19	5.19	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.02	0.06																	
730	7.300	7.94	2.94	0.08	0.12	0.00	5.19	5.19	5.19	0.03	0.06	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.02	0.06																	
731	7.200	7.94	2.94	0.08	0.12	0.00	5.18	5.18	5.18	0.03	0.06	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.02	0.06																	
732	7.100	7.95	2.94	0.08	0.12	0.00	5.18	5.18	5.18	0.03	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.02	0.06																	
733	7.000	7.95	2.94	0.08	0.12	0.00	5.18	5.18	5.18	0.03	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.02	0.06																	
734	6.900	7.95	2.94	0.08	0.12	0.00	5.17	5.17	5.17	0.03	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.02	0.06																	
735	6.800	7.95	2.94	0.07	0.12	0.00	5.17	5.17	5.17	0.03	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00
0.02	0.06																	
736	6.700	7.95	2.94	0.07	0.12	0.00	5.17	5.17	5.17	0.03	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00
0.02	0.06																	
737	6.600	7.95	2.94	0.07	0.12	0.00	5.16	5.16	5.16	0.03	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00
0.02	0.06																	
738	6.500	7.95	2.94	0.07	0.12	0.00	5.16	5.16	5.16	0.03	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00
0.02	0.06																	
739	6.400	7.96	2.94	0.07	0.12	0.00	5.15	5.15	5.15	0.03	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00
0.02	0.06																	
740	6.300	7.96	2.94	0.07	0.12	0.00	5.15	5.15	5.15	0.03	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.02	0.06																	
741	6.200	7.96	2.94	0.07	0.12	0.00	5.15	5.15	5.15	0.03	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.02	0.06																	
742	6.100	7.96	2.94	0.07	0.12	0.00	5.14	5.14	5.14	0.03	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.02	0.06																	
743	6.000	7.96	2.94	0.07	0.12	0.00	5.14	5.14	5.14	0.03	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00
0.02	0.06																	
744	5.900	7.96	2.93	0.07	0.12	0.00	5.14	5.14	5.14	0.03	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00
0.02	0.06																	

20 DEG C RATE				0.07		0.00	3.30			0.02		0.00	0.00	0.00	0.00			0.00
0.02																		
AVG 20 DEG C RATE			2.57		0.10						0.05							
0.05																		

* g/m²/d ** mg/L/day

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

ELEM	ENDING	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	TOTN	PHOS	CHL A	MACRO	COLI
NCM	DIST	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	**	#/100mL
*																
727	7.600	27.21	0.00	19.80	7.23	1.56	4.88	5.02	0.79	0.48	0.18	1.45	0.00	0.96	0.00	0.00

2.88																	
728	7.500	27.20	0.00	19.80	7.23	1.55	4.88	5.03	0.79	0.48	0.18	1.45	0.00	1.01	0.00	0.00	
2.88																	
729	7.400	27.19	0.00	19.80	7.23	1.54	4.88	5.04	0.79	0.48	0.18	1.46	0.00	1.07	0.00	0.00	
2.87																	
730	7.300	27.18	0.00	19.80	7.23	1.53	4.88	5.05	0.79	0.48	0.18	1.46	0.00	1.12	0.00	0.00	
2.87																	
731	7.200	27.17	0.00	19.80	7.23	1.52	4.88	5.06	0.80	0.48	0.18	1.46	0.00	1.18	0.00	0.00	
2.86																	
732	7.100	27.16	0.00	19.80	7.23	1.51	4.88	5.07	0.80	0.48	0.18	1.46	0.00	1.23	0.00	0.00	
2.86																	
733	7.000	27.15	0.00	19.80	7.23	1.50	4.88	5.08	0.80	0.48	0.18	1.46	0.00	1.29	0.00	0.00	
2.86																	
734	6.900	27.14	0.00	19.80	7.23	1.49	4.88	5.08	0.80	0.48	0.18	1.47	0.00	1.34	0.00	0.00	
2.85																	
735	6.800	27.12	0.00	19.80	7.23	1.49	4.88	5.09	0.80	0.48	0.18	1.47	0.00	1.40	0.00	0.00	
2.85																	
736	6.700	27.11	0.00	19.80	7.23	1.48	4.88	5.10	0.80	0.48	0.18	1.47	0.00	1.46	0.00	0.00	
2.84																	
737	6.600	27.10	0.00	19.80	7.23	1.48	4.89	5.11	0.81	0.48	0.18	1.47	0.00	1.51	0.00	0.00	
2.84																	
738	6.500	27.09	0.00	19.80	7.23	1.47	4.89	5.12	0.81	0.48	0.18	1.47	0.00	1.57	0.00	0.00	
2.83																	
739	6.400	27.08	0.00	19.80	7.23	1.47	4.89	5.13	0.81	0.48	0.18	1.48	0.00	1.62	0.00	0.00	
2.83																	
740	6.300	27.07	0.00	19.80	7.23	1.46	4.89	5.14	0.81	0.48	0.18	1.48	0.00	1.68	0.00	0.00	
2.83																	
741	6.200	27.06	0.00	19.80	7.23	1.46	4.89	5.15	0.81	0.48	0.18	1.48	0.00	1.73	0.00	0.00	
2.82																	
742	6.100	27.05	0.00	19.80	7.23	1.46	4.89	5.16	0.81	0.48	0.18	1.48	0.00	1.79	0.00	0.00	
2.82																	
743	6.000	27.04	0.00	19.80	7.23	1.46	4.89	5.17	0.82	0.48	0.18	1.48	0.00	1.84	0.00	0.00	
2.81																	
744	5.900	27.03	0.00	19.80	7.23	1.46	4.89	5.18	0.82	0.49	0.18	1.49	0.00	1.90	0.00	0.00	
2.81																	

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 22 SITE 13 - CALCASIEU RIVER

BARNES CREEK WATERSHED MODEL
BARNES CREEK SENSITIVITY RUN

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

ELEM	TYPE	FLOW	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	PHOS	CHL A	COLI
NCM		m ³ /	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	#/100mL
NO.															
*															
745	UPR RCH	0.10501	27.03	0.00	19.80	7.23	1.46	4.89	5.18	0.82	0.49	0.18	0.00	1.90	0.00

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
745	5.90	5.80	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
746	5.80	5.70	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
747	5.70	5.60	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
748	5.60	5.50	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
749	5.50	5.40	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
750	5.40	5.30	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
751	5.30	5.20	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
752	5.20	5.10	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
753	5.10	5.00	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
754	5.00	4.90	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
755	4.90	4.80	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
756	4.80	4.70	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
757	4.70	4.60	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
758	4.60	4.50	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
759	4.50	4.40	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
760	4.40	4.30	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
761	4.30	4.20	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
762	4.20	4.10	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
763	4.10	4.00	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
764	4.00	3.90	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002
0.002														
765	3.90	3.80	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002

0.002																		
793	1.10	1.00	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002				
0.002																		
794	1.00	0.90	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002				
0.002																		
795	0.90	0.80	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002				
0.002																		
796	0.80	0.70	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002				
0.002																		
797	0.70	0.60	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002				
0.002																		
798	0.60	0.50	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002				
0.002																		
799	0.50	0.40	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002				
0.002																		
800	0.40	0.30	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002				
0.002																		
801	0.30	0.20	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002				
0.002																		
802	0.20	0.10	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002				
0.002																		
803	0.10	0.00	0.10501	30.81	0.00187	0.62	2.35	23.87	5614.49	2386.81	56.14	0.00	0.000	0.002				
0.002																		
TOT						36.51			331254.78	140821.91								
AVG					0.00187			2.35	23.87									
CUM						58.99								56.14				

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
745	5.800	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00
0.03	0.06																	
746	5.700	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00
0.03	0.06																	
747	5.600	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00
0.03	0.06																	
748	5.500	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00
0.03	0.06																	
749	5.400	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00
0.03	0.06																	
750	5.300	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00
0.03	0.06																	
751	5.200	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00
0.03	0.06																	
752	5.100	7.96	0.34	0.06	0.12	0.00	4.52	4.52	4.52	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00

* g/m²/d

** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES

ELEM NCM 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
745 2.81	5.800	27.03	0.00	19.80	7.23	1.46	4.96	5.25	0.81	0.51	0.18	1.50	0.00	1.90	0.00	0.00
746 2.82	5.700	27.03	0.00	19.80	7.23	1.46	5.03	5.31	0.81	0.53	0.18	1.52	0.00	1.90	0.00	0.00
747 2.82	5.600	27.03	0.00	19.80	7.23	1.46	5.08	5.37	0.81	0.55	0.18	1.54	0.00	1.90	0.00	0.00
748 2.82	5.500	27.03	0.00	19.80	7.23	1.45	5.14	5.42	0.80	0.58	0.17	1.55	0.00	1.90	0.00	0.00
749 2.83	5.400	27.03	0.00	19.80	7.23	1.45	5.18	5.47	0.80	0.60	0.17	1.57	0.00	1.90	0.00	0.00
750 2.83	5.300	27.03	0.00	19.80	7.23	1.44	5.22	5.51	0.80	0.62	0.17	1.59	0.00	1.90	0.00	0.00
751 2.83	5.200	27.03	0.00	19.80	7.23	1.44	5.26	5.55	0.80	0.64	0.17	1.61	0.00	1.90	0.00	0.00
752 2.84	5.100	27.03	0.00	19.80	7.23	1.43	5.30	5.58	0.79	0.66	0.16	1.62	0.00	1.90	0.00	0.00
753 2.84	5.000	27.03	0.00	19.80	7.23	1.43	5.33	5.61	0.79	0.69	0.16	1.64	0.00	1.90	0.00	0.00
754 2.84	4.900	27.03	0.00	19.80	7.23	1.43	5.36	5.64	0.79	0.71	0.16	1.66	0.00	1.90	0.00	0.00
755 2.85	4.800	27.03	0.00	19.80	7.23	1.42	5.38	5.67	0.79	0.73	0.16	1.67	0.00	1.90	0.00	0.00
756 2.85	4.700	27.03	0.00	19.80	7.23	1.42	5.41	5.69	0.79	0.75	0.15	1.69	0.00	1.90	0.00	0.00
757 2.85	4.600	27.03	0.00	19.80	7.23	1.42	5.43	5.72	0.78	0.77	0.15	1.71	0.00	1.90	0.00	0.00
758 2.85	4.500	27.03	0.00	19.80	7.23	1.42	5.45	5.74	0.78	0.80	0.15	1.73	0.00	1.90	0.00	0.00
759 2.86	4.400	27.03	0.00	19.80	7.23	1.41	5.47	5.75	0.78	0.82	0.15	1.75	0.00	1.90	0.00	0.00
760 2.86	4.300	27.03	0.00	19.80	7.23	1.41	5.49	5.77	0.78	0.84	0.14	1.76	0.00	1.90	0.00	0.00
761 2.86	4.200	27.03	0.00	19.80	7.23	1.41	5.50	5.79	0.78	0.86	0.14	1.78	0.00	1.90	0.00	0.00
762 2.86	4.100	27.03	0.00	19.80	7.23	1.41	5.52	5.80	0.78	0.88	0.14	1.80	0.00	1.90	0.00	0.00
763 2.87	4.000	27.03	0.00	19.80	7.23	1.41	5.53	5.81	0.78	0.90	0.14	1.82	0.00	1.90	0.00	0.00
764 2.87	3.900	27.03	0.00	19.80	7.23	1.40	5.54	5.83	0.78	0.93	0.13	1.84	0.00	1.90	0.00	0.00
765 2.87	3.800	27.03	0.00	19.80	7.23	1.40	5.55	5.84	0.77	0.95	0.13	1.85	0.00	1.90	0.00	0.00

793	1.000	27.03	0.00	19.80	7.23	1.39	5.66	5.95	0.76	1.54	0.06	2.37	0.00	1.90	0.00	0.00
2.91																
794	0.900	27.03	0.00	19.80	7.23	1.39	5.67	5.95	0.76	1.56	0.06	2.39	0.00	1.90	0.00	0.00
2.91																
795	0.800	27.03	0.00	19.80	7.23	1.39	5.67	5.95	0.76	1.58	0.06	2.41	0.00	1.90	0.00	0.00
2.91																
796	0.700	27.03	0.00	19.80	7.23	1.39	5.67	5.95	0.76	1.61	0.06	2.42	0.00	1.90	0.00	0.00
2.91																
797	0.600	27.03	0.00	19.80	7.23	1.39	5.67	5.95	0.76	1.63	0.05	2.44	0.00	1.90	0.00	0.00
2.91																
798	0.500	27.03	0.00	19.80	7.23	1.39	5.67	5.95	0.76	1.65	0.05	2.46	0.00	1.90	0.00	0.00
2.91																
799	0.400	27.03	0.00	19.80	7.23	1.39	5.67	5.95	0.76	1.67	0.05	2.48	0.00	1.90	0.00	0.00
2.91																
800	0.300	27.03	0.00	19.80	7.23	1.39	5.67	5.95	0.76	1.69	0.05	2.50	0.00	1.90	0.00	0.00
2.91																
801	0.200	27.03	0.00	19.80	7.23	1.39	5.67	5.95	0.76	1.71	0.04	2.52	0.00	1.90	0.00	0.00
2.91																
802	0.100	27.03	0.00	19.80	7.23	1.39	5.67	5.96	0.76	1.73	0.04	2.54	0.00	1.90	0.00	0.00
2.91																
803	0.000	27.03	0.00	19.80	7.23	1.39	5.67	5.96	0.76	1.75	0.04	2.55	0.00	1.90	0.00	0.00
2.91																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

STREAM SUMMARY
HEADWATER

BARNES CREEK WATERSHED MODEL
BARNES CREEK SENSITIVITY RUN

TRAVEL TIME	=		58.99	DAYS
MAXIMUM EFFLUENT	=		64.79	PERCENT
FLOW	=	0.03511	TO	0.10501 m ³ /s
DISPERSION	=	0.0019	TO	0.0217 m ² /s
VELOCITY	=	0.00187	TO	0.19788 m/s
DEPTH	=	0.12	TO	2.35 m
WIDTH	=	2.92	TO	23.87 m
BOD DECAY	=	0.06	TO	0.25 per day
NH3 DECAY	=	0.00	TO	0.00 per day
SDMNT OXYGEN DMND	=	2.63	TO	5.20 g/m ² /d
NH3 SOURCE	=	0.00	TO	0.00 g/m ² /d
REAERATION	=	0.34	TO	6.54 per day
BOD SETTLING	=	0.11	TO	0.12 per day
ORGN DECAY	=	0.03	TO	0.21 per day
ORGN SETTLING	=	0.06	TO	0.24 per day
TEMPERATURE	=	25.61	TO	27.22 deg C
DISSOLVED OXYGEN	=	1.39	TO	6.01 mg/L

.....BEGIN SENSITIVITY RUN 1 ON PARAMETER SET 1 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 2 ON PARAMETER SET 1 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

***** WARNING: NEGATIVE CONCENTRATIONS SET TO ZERO FOR Nitrate+Nitrite Nitrogen

.....BEGIN SENSITIVITY RUN 3 ON PARAMETER SET 2 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

***** WARNING: NEGATIVE CONCENTRATIONS SET TO ZERO FOR Nitrate+Nitrite Nitrogen

.....BEGIN SENSITIVITY RUN 4 ON PARAMETER SET 2 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 5 ON PARAMETER SET 3 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 6 ON PARAMETER SET 3 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

***** WARNING: NEGATIVE CONCENTRATIONS SET TO ZERO FOR Nitrate+Nitrite Nitrogen

.....BEGIN SENSITIVITY RUN 7 ON PARAMETER SET 4 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 9 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 8 ON PARAMETER SET 4 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 9 ON PARAMETER SET 5 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 10 ON PARAMETER SET 5 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 4 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 11 ON PARAMETER SET 6 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 12 ON PARAMETER SET 6 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS

.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 13 ON PARAMETER SET 7 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 14 ON PARAMETER SET 7 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 15 ON PARAMETER SET 8 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 16 ON PARAMETER SET 8 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 17 ON PARAMETER SET 9 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 10 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

***** WARNING: NEGATIVE CONCENTRATIONS SET TO ZERO FOR Dissolved Oxygen

.....BEGIN SENSITIVITY RUN 18 ON PARAMETER SET 9 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED

.....OXYGEN DEPENDENT RATES CONVERGENT IN 7 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 19 ON PARAMETER SET 10 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 20 ON PARAMETER SET 10 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 21 ON PARAMETER SET 11 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 7 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 22 ON PARAMETER SET 11 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 10 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

***** WARNING: NEGATIVE CONCENTRATIONS SET TO ZERO FOR Dissolved Oxygen

.....BEGIN SENSITIVITY RUN 23 ON PARAMETER SET 12 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 24 ON PARAMETER SET 12 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED

.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED
***** WARNING: NEGATIVE CONCENTRATIONS SET TO ZERO FOR Nitrate+Nitrite Nitrogen

.....BEGIN SENSITIVITY RUN 25 ON PARAMETER SET 13 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 26 ON PARAMETER SET 13 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 27 ON PARAMETER SET 14 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 28 ON PARAMETER SET 14 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 29 ON PARAMETER SET 15 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 30 ON PARAMETER SET 15 AND COLUMN 2

.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 31 ON PARAMETER SET 16 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED
***** WARNING: NEGATIVE CONCENTRATIONS SET TO ZERO FOR Nitrate+Nitrite Nitrogen

.....BEGIN SENSITIVITY RUN 32 ON PARAMETER SET 16 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 33 ON PARAMETER SET 17 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 34 ON PARAMETER SET 17 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 35 ON PARAMETER SET 18 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED
***** WARNING: NEGATIVE CONCENTRATIONS SET TO ZERO FOR Nitrate+Nitrite Nitrogen

.....BEGIN SENSITIVITY RUN 36 ON PARAMETER SET 18 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 37 ON PARAMETER SET 19 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 38 ON PARAMETER SET 19 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 39 ON PARAMETER SET 20 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 40 ON PARAMETER SET 20 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 41 ON PARAMETER SET 21 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 42 ON PARAMETER SET 21 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 43 ON PARAMETER SET 22 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 44 ON PARAMETER SET 22 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 45 ON PARAMETER SET 23 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 46 ON PARAMETER SET 23 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 47 ON PARAMETER SET 24 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 48 ON PARAMETER SET 24 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 49 ON PARAMETER SET 25 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 50 ON PARAMETER SET 25 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 51 ON PARAMETER SET 26 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 52 ON PARAMETER SET 26 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 53 ON PARAMETER SET 27 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 54 ON PARAMETER SET 27 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED
***** WARNING: NEGATIVE CONCENTRATIONS SET TO ZERO FOR Nitrate+Nitrite Nitrogen

.....BEGIN SENSITIVITY RUN 55 ON PARAMETER SET 28 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 56 ON PARAMETER SET 28 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 57 ON PARAMETER SET 29 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 58 ON PARAMETER SET 29 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 59 ON PARAMETER SET 30 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 60 ON PARAMETER SET 30 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 61 ON PARAMETER SET 31 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 62 ON PARAMETER SET 31 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

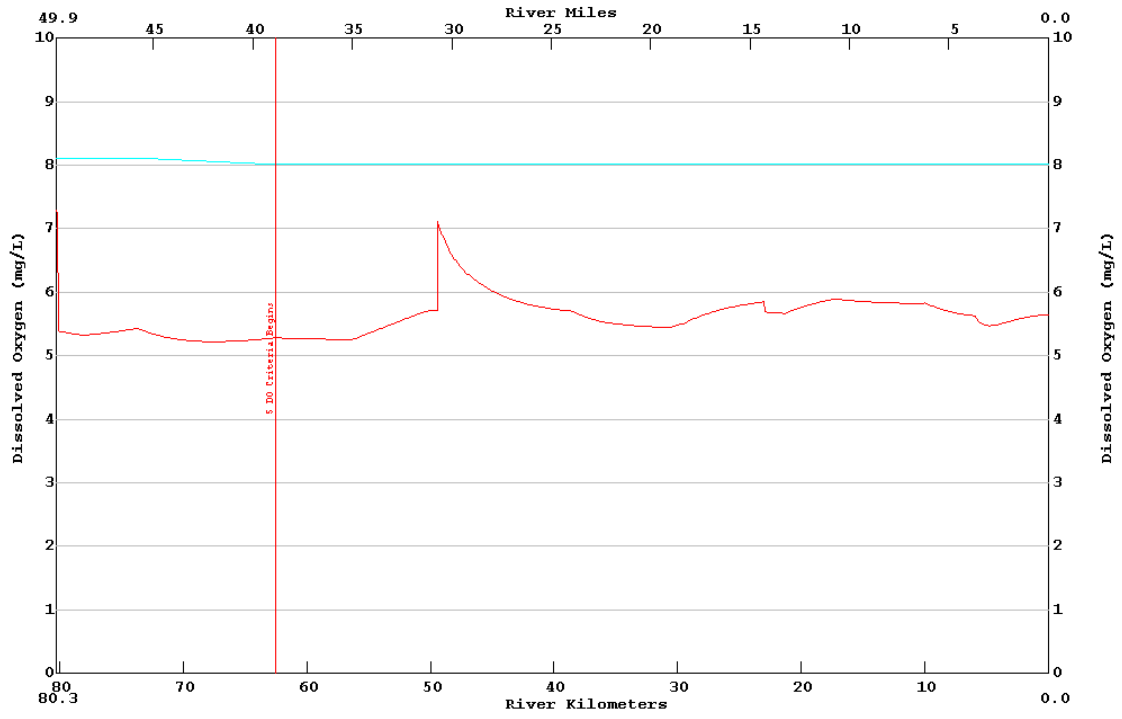
.....BEGIN SENSITIVITY RUN 63 ON PARAMETER SET 32 AND COLUMN 1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....BEGIN SENSITIVITY RUN 64 ON PARAMETER SET 32 AND COLUMN 2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 6 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED

.....EXECUTION COMPLETED

APPENDIX B - Projection Model Development

APPENDIX B1 - Current summer projection model input/output and graphs



LA-QUAL Version 5.02
Louisiana Department of Environmental Quality

Input file is D:\Barnes Creek\Input Files\barnssum.txt
Output produced at 11:08 on 02/19/2002

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

CARD TYPE		CONTROL TITLES
TITLE01		BARNES CREEK WATERSHED MODEL
TITLE02		BARNES CREEK SUMMER RUN
CNTROL04	YES	METRIC UNITS
CNTROL05	YES	OXYGEN DEPENDENT RATES
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	YES	CONSERVATIVE MATERIAL II = SULFATES	IN MG/L
MODOPT05	YES	DISSOLVED OXYGEN	
MODOPT06	YES	BIOCHEMICAL OXYGEN DEMAND	
MODOPT07	YES	NITROGEN	
MODOPT08	NO	PHOSPHORUS	
MODOPT09	NO	CHLOROPHYLL A	
MODOPT10	NO	MACROPHYTES	
MODOPT11	NO	COLIFORM	
MODOPT12	YES	NONCONSERVATIVE MATERIAL = CBOD2	IN mg/L
ENDATA02			

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
PROGRAM	MAXIMUM ITERATION LIMIT	= 1000.00000
PROGRAM	PLOT TYPE	= 3.00000
PROGRAM	FINAL REPORT TYPE	= 1.00000
PROGRAM	SPECIAL REPORT TYPE	= 3.00000
PROGRAM	KL MINIMUM	= 0.70000 meters/day
PROGRAM	NCM OXYGEN UPTAKE RATE	= 1.00000 mg O/mg NCM
PROGRAM	INHIBITION CONTROL VALUE	= 3.00000
PROGRAM	NH3 OXYGEN UPTAKE RATE	= 0.00000 mg O/mg N
PROGRAM	K2 MAXIMUM	= 25.00000 per day
PROGRAM	HYDRAULIC CALCULATION METHOD	= 2.00000 (widths and depths)
PROGRAM	SETTLING RATE UNITS	= 2.00000 (per day)
PROGRAM	OCEAN EXCHANGE RATIO	= 0.00000

```

PROGRAM      EFFECTIVE BOD DUE TO ALGAE      =      0.15000 mg/L BOD per ug/L chl a
PROGRAM      ORGN OXYGEN UPTAKE RATE          =      1.00000 mg O/mg N
PROGRAM      ALGAE OXYGEN PROD                =      0.05000 mg O/ug chl a/day
PROGRAM      N MACROPHYTE UPTAKE              =      0.00300 mg N/mg macrophyte/day
PROGRAM      MACROPHYTE OXYGEN PROD           =      0.00000 mg O/mg macrophyte/day
PROGRAM      N PREFERENCE                     =      0.60000 (0.0=NH3 1.0=NO3)
ENDATA03

```

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

```

CARD TYPE    RATE CODE    THETA VALUE
THETA        NCM DECA     1.04700
THETA        ORGN DEC     1.07000
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	BC	HEADWATER - SITE 2	80.30	TO 78.10	0.1000	2.20	22	1	22
REACH ID	2	BC	SITE 2 - SITE 3	78.10	TO 73.70	0.1000	4.40	44	23	66
REACH ID	3	BC	SITE 3 - LITTLE BARNES CR	73.70	TO 62.50	0.1000	11.20	112	67	178
REACH ID	4	BC	LITTLE BARNES - REDHEAD CR	62.50	TO 59.00	0.1000	3.50	35	179	213
REACH ID	5	BC	REDHEAD CR - SITE 6	59.00	TO 56.30	0.1000	2.70	27	214	240
REACH ID	6	BC	SITE 6 - LITTLE CANEY CR	56.30	TO 51.40	0.1000	4.90	49	241	289
REACH ID	7	BC	LITTLE CANEY CR - DAM	51.40	TO 49.40	0.1000	2.00	20	290	309
REACH ID	8	BC	DAM - CANEY CREEK	49.40	TO 46.50	0.1000	2.90	29	310	338
REACH ID	9	BC	CANEY CR - HURRICANE CR	46.50	TO 38.50	0.1000	8.00	80	339	418
REACH ID	10	BC	HURRICANE CR - SITE 10	38.50	TO 36.40	0.1000	2.10	21	419	439
REACH ID	11	BC	SITE 10 - MAGNOLIA CR	36.40	TO 34.10	0.1000	2.30	23	440	462

REACH ID	12	BC	MAGNOLIA CR - BRUSHY CR	34.10	TO	32.40	0.1000	1.70	17	463	479
REACH ID	13	BC	BRUSHY CR - RIGHTHAND CR	32.40	TO	30.50	0.1000	1.90	19	480	498
REACH ID	14	BC	RIGHTHAND CR - SITE 11	30.50	TO	29.50	0.1000	1.00	10	499	508
REACH ID	15	BC	SITE 11 - BOGGY CR	29.50	TO	23.00	0.1000	6.50	65	509	573
REACH ID	16	BC	BOGGY CR - WOLF CREEK	23.00	TO	22.90	0.1000	0.10	1	574	574
REACH ID	17	BC	WOLF CR - UNNAMED CREEK	22.90	TO	21.30	0.1000	1.60	16	575	590
REACH ID	18	BC	UNNAMED CR - SITE 12	21.30	TO	17.20	0.1000	4.10	41	591	631
REACH ID	19	BC	SITE 12 - CLEAR CR	17.20	TO	10.10	0.1000	7.10	71	632	702
REACH ID	20	BC	CLEAR CR - BEAR CR	10.10	TO	7.70	0.1000	2.40	24	703	726
REACH ID	21	BC	BEAR CR - SITE 13	7.70	TO	5.90	0.1000	1.80	18	727	744
REACH ID	22	BC	SITE 13 - CALCASIEU RIVER	5.90	TO	0.00	0.1000	5.90	59	745	803

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"
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 1										
HYDR-1	1	BC	2.680	0.930	2.800	0.620	1.000	0.100	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 2										
HYDR-1	2	BC	2.680	0.930	2.800	0.620	1.000	0.100	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 3										
HYDR-1	3	BC	2.680	0.930	3.100	0.620	1.000	0.310	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 4										
HYDR-1	4	BC	2.680	0.930	3.200	0.620	1.000	0.270	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 5										
HYDR-1	5	BC	2.680	0.930	3.200	0.620	1.000	0.270	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 6										
HYDR-1	6	BC	2.680	0.930	5.800	0.620	1.000	0.450	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 7										
HYDR-1	7	BC	2.680	0.930	5.800	0.620	1.000	0.450	0.00000	0.027
HYDR-1	8	BC	0.230	0.540	8.200	0.100	0.210	0.380	0.00000	0.027
HYDR-1	9	BC	0.230	0.540	4.000	0.100	0.210	0.330	0.00000	0.027
HYDR-1	10	BC	0.230	0.540	4.000	0.100	0.210	0.330	0.00000	0.027
HYDR-1	11	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	12	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	13	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	14	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	15	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	16	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	17	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	18	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	19	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	20	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	21	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	22	BC	0.230	0.540	23.800	0.100	0.210	2.290	0.00000	0.027

ENDATA09

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

CARD TYPE	REACH	ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"
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ENDATA10

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

CARD TYPE	REACH	ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
INITIAL	1	BC	26.00	0.00	7.30	0.00	0.56	0.00	2.60	0.00
INITIAL	2	BC	26.00	0.00	7.30	0.00	0.56	0.00	2.60	0.00
INITIAL	3	BC	26.00	0.00	7.30	0.00	0.37	0.00	2.00	0.00
INITIAL	4	BC	26.70	0.00	7.20	0.00	0.09	0.00	1.90	0.00
INITIAL	5	BC	26.70	0.00	7.20	0.00	0.09	0.00	1.90	0.00
INITIAL	6	BC	26.70	0.00	7.20	0.00	0.10	0.00	6.10	0.00
INITIAL	7	BC	26.70	0.00	7.20	0.00	0.10	0.00	6.10	0.00
INITIAL	8	BC	26.70	0.00	7.20	0.00	0.07	0.00	1.00	0.00
INITIAL	9	BC	26.70	0.00	7.20	0.00	0.09	0.00	0.60	0.00
INITIAL	10	BC	26.70	0.00	7.20	0.00	0.09	0.00	0.60	0.00
INITIAL	11	BC	26.70	0.00	7.20	0.00	0.08	0.00	1.10	0.00
INITIAL	12	BC	26.70	0.00	7.20	0.00	0.08	0.00	1.10	0.00
INITIAL	13	BC	26.70	0.00	7.20	0.00	0.08	0.00	1.10	0.00
INITIAL	14	BC	26.70	0.00	7.20	0.00	0.08	0.00	1.10	0.00
INITIAL	15	BC	26.70	0.00	7.20	0.00	0.08	0.00	0.90	0.00
INITIAL	16	BC	26.70	0.00	7.20	0.00	0.08	0.00	0.90	0.00
INITIAL	17	BC	26.70	0.00	7.20	0.00	0.08	0.00	0.90	0.00
INITIAL	18	BC	26.70	0.00	7.20	0.00	0.08	0.00	0.90	0.00
INITIAL	19	BC	26.70	0.00	7.20	0.00	0.10	0.00	0.90	0.00
INITIAL	20	BC	26.70	0.00	7.20	0.00	0.10	0.00	0.90	0.00
INITIAL	21	BC	26.70	0.00	7.20	0.00	0.10	0.00	0.90	0.00
INITIAL	22	BC	26.70	0.00	7.20	0.00	0.06	0.00	1.90	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 g/m ² /d	AEROB BOD DECAY per day	BOD SETT m/d	BOD CONV TO SOD	ANAER BOD DECAY
COEF-1	1	BC	20 K2=a/D	0.700	0.000	0.000	0.830	0.180	0.100	0.000	0.000
COEF-1	2	BC	20 K2=a/D	0.700	0.000	0.000	0.680	0.180	0.100	0.000	0.000
COEF-1	3	BC	20 K2=a/D	0.700	0.000	0.000	0.680	0.130	0.100	0.000	0.000
COEF-1	4	BC	20 K2=a/D	0.700	0.000	0.000	0.940	0.100	0.100	0.000	0.000
COEF-1	5	BC	20 K2=a/D	0.700	0.000	0.000	1.010	0.100	0.100	0.000	0.000
COEF-1	6	BC	20 K2=a/D	0.700	0.000	0.000	0.750	0.130	0.100	0.000	0.000
COEF-1	7	BC	20 K2=a/D	0.700	0.000	0.000	0.710	0.130	0.100	0.000	0.000
COEF-1	8	BC	20 K2=a/D	0.700	0.000	0.000	0.940	0.050	0.100	0.000	0.000
COEF-1	9	BC	20 K2=a/D	0.700	0.000	0.000	1.130	0.050	0.100	0.000	0.000
COEF-1	10	BC	20 K2=a/D	0.700	0.000	0.000	1.130	0.050	0.100	0.000	0.000

COEF-1	11	BC	20	K2=a/D	0.700	0.000	0.000	1.130	0.090	0.100	0.000	0.000
COEF-1	12	BC	20	K2=a/D	0.700	0.000	0.000	1.130	0.090	0.100	0.000	0.000
COEF-1	13	BC	20	K2=a/D	0.700	0.000	0.000	1.130	0.090	0.100	0.000	0.000
COEF-1	14	BC	20	K2=a/D	0.700	0.000	0.000	0.980	0.090	0.100	0.000	0.000
COEF-1	15	BC	20	K2=a/D	0.700	0.000	0.000	0.940	0.060	0.100	0.000	0.000
COEF-1	16	BC	20	K2=a/D	0.700	0.000	0.000	0.940	0.060	0.100	0.000	0.000
COEF-1	17	BC	20	K2=a/D	0.700	0.000	0.000	0.940	0.060	0.100	0.000	0.000
COEF-1	18	BC	20	K2=a/D	0.700	0.000	0.000	0.840	0.060	0.100	0.000	0.000
COEF-1	19	BC	20	K2=a/D	0.700	0.000	0.000	1.090	0.070	0.100	0.000	0.000
COEF-1	20	BC	20	K2=a/D	0.700	0.000	0.000	1.240	0.070	0.100	0.000	0.000
COEF-1	21	BC	20	K2=a/D	0.700	0.000	0.000	1.240	0.070	0.100	0.000	0.000
COEF-1	22	BC	20	K2=a/D	0.700	0.000	0.000	1.090	0.060	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
COEF-2	1	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	2	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	3	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	4	BC	0.050	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	5	BC	0.050	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	6	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	7	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	8	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	9	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	10	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	11	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	12	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	13	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	14	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	15	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	16	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	17	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	18	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	19	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	20	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	21	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	22	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000

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	BC	0.00	0.13	0.05	0.00
COEF-4	2	BC	0.00	0.13	0.05	0.00
COEF-4	3	BC	0.00	0.13	0.05	0.00
COEF-4	4	BC	0.00	0.05	0.05	0.00
COEF-4	5	BC	0.00	0.05	0.05	0.00
COEF-4	6	BC	0.00	0.04	0.05	0.00
COEF-4	7	BC	0.00	0.04	0.05	0.00
COEF-4	8	BC	0.00	0.02	0.05	0.00
COEF-4	9	BC	0.00	0.03	0.05	0.00
COEF-4	10	BC	0.00	0.03	0.05	0.00
COEF-4	11	BC	0.00	0.03	0.05	0.00
COEF-4	12	BC	0.00	0.03	0.05	0.00
COEF-4	13	BC	0.00	0.03	0.05	0.00
COEF-4	14	BC	0.00	0.03	0.05	0.00
COEF-4	15	BC	0.00	0.04	0.05	0.00
COEF-4	16	BC	0.00	0.04	0.05	0.00
COEF-4	17	BC	0.00	0.04	0.05	0.00
COEF-4	18	BC	0.00	0.04	0.05	0.00
COEF-4	19	BC	0.00	0.02	0.05	0.00
COEF-4	20	BC	0.00	0.02	0.05	0.00
COEF-4	21	BC	0.00	0.02	0.05	0.00
COEF-4	22	BC	0.00	0.03	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	IN/DIST	OUT/DIST
INCR-1	1	BC	0.00000	0.00000	26.00	0.00	33.90	12.40	0.00000	0.00000
INCR-1	2	BC	-0.02720	0.00000	26.00	0.00	33.90	12.40	0.00000	-0.00618
INCR-1	3	BC	-0.02040	0.00000	26.00	0.00	33.60	11.00	0.00000	-0.00182
INCR-1	4	BC	0.00000	0.00570	26.70	0.00	30.20	7.90	0.00163	0.00000
INCR-1	5	BC	0.00000	0.00570	26.70	0.00	30.20	7.90	0.00211	0.00000
INCR-1	6	BC	-0.00960	0.00000	26.70	0.00	23.60	6.00	0.00000	-0.00196
INCR-1	7	BC	-0.00960	0.00000	26.70	0.00	23.60	6.00	0.00000	-0.00480
INCR-1	8	BC	0.00000	0.00000	26.70	0.00	8.80	3.20	0.00000	0.00000
INCR-1	9	BC	0.00000	0.00000	26.70	0.00	6.90	2.70	0.00000	0.00000
INCR-1	10	BC	0.00000	0.00710	26.70	0.00	6.90	2.70	0.00338	0.00000
INCR-1	11	BC	0.00000	0.00330	26.70	0.00	9.20	3.40	0.00143	0.00000
INCR-1	12	BC	0.00000	0.00330	26.70	0.00	9.20	3.40	0.00194	0.00000
INCR-1	13	BC	0.00000	0.00330	26.70	0.00	9.20	3.40	0.00174	0.00000
INCR-1	14	BC	0.00000	0.00330	26.70	0.00	9.20	3.40	0.00330	0.00000
INCR-1	15	BC	0.00000	0.00790	26.70	0.00	13.60	4.10	0.00122	0.00000
INCR-1	16	BC	0.00000	0.00790	26.70	0.00	13.60	4.10	0.07900	0.00000
INCR-1	17	BC	0.00000	0.00790	26.70	0.00	13.60	4.10	0.00494	0.00000

INCR-1	18	BC	0.00000	0.00790	26.70	0.00	13.60	4.10	0.00193	0.00000
INCR-1	19	BC	0.00000	0.00000	26.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	20	BC	0.00000	0.00000	26.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	21	BC	0.00000	0.00000	26.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	22	BC	0.00000	0.00000	26.70	0.00	9.30	2.70	0.00000	0.00000

ENDATA16

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

CARD TYPE	REACH	ID	DO	BOD	ORG-N	NH3	NO3+2
INCR-2	1	BC	2.00	2.65	0.56	0.00	0.56
INCR-2	2	BC	2.00	2.27	0.49	0.00	0.56
INCR-2	3	BC	2.00	2.23	0.26	0.00	0.37
INCR-2	4	BC	2.00	2.63	0.15	0.00	0.09
INCR-2	5	BC	2.00	2.63	0.15	0.00	0.09
INCR-2	6	BC	2.00	3.21	0.26	0.00	0.10
INCR-2	7	BC	2.00	3.21	0.26	0.00	0.10
INCR-2	8	BC	2.00	5.54	0.07	0.00	0.07
INCR-2	9	BC	2.00	4.38	0.09	0.00	0.09
INCR-2	10	BC	2.00	2.70	0.29	0.00	0.09
INCR-2	11	BC	2.00	2.86	0.29	0.00	0.08
INCR-2	12	BC	2.00	2.86	0.29	0.00	0.08
INCR-2	13	BC	2.00	2.86	0.29	0.00	0.08
INCR-2	14	BC	2.00	2.86	0.29	0.00	0.08
INCR-2	15	BC	2.00	1.94	0.21	0.00	0.08
INCR-2	16	BC	2.00	1.94	0.21	0.00	0.08
INCR-2	17	BC	2.00	1.94	0.21	0.00	0.08
INCR-2	18	BC	2.00	1.94	0.21	0.00	0.08
INCR-2	19	BC	2.00	4.32	0.10	0.00	0.10
INCR-2	20	BC	2.00	4.32	0.10	0.00	0.10
INCR-2	21	BC	2.00	4.32	0.10	0.00	0.10
INCR-2	22	BC	2.00	5.12	0.06	0.00	0.06

ENDATA17

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

CARD TYPE	REACH	ID	PHOS	CHL A	COLI	NCM
INCR-3	1	BC	0.00	4.30	0.00	3.40
INCR-3	2	BC	0.00	4.30	0.00	3.40
INCR-3	3	BC	0.00	4.46	0.00	3.45
INCR-3	4	BC	0.00	4.23	0.00	3.48
INCR-3	5	BC	0.00	4.23	0.00	3.48
INCR-3	6	BC	0.00	3.01	0.00	5.05
INCR-3	7	BC	0.00	3.01	0.00	5.05
INCR-3	8	BC	0.00	3.72	0.00	4.03
INCR-3	9	BC	0.00	2.68	0.00	4.52
INCR-3	10	BC	0.00	2.68	0.00	4.52
INCR-3	11	BC	0.00	2.44	0.00	5.18

INCR-3	12	BC	0.00	2.44	0.00	5.18
INCR-3	13	BC	0.00	2.44	0.00	5.18
INCR-3	14	BC	0.00	2.44	0.00	5.18
INCR-3	15	BC	0.00	2.58	0.00	1.96
INCR-3	16	BC	0.00	2.58	0.00	1.96
INCR-3	17	BC	0.00	2.58	0.00	1.96
INCR-3	18	BC	0.00	2.58	0.00	1.96
INCR-3	19	BC	0.00	3.20	0.00	3.07
INCR-3	20	BC	0.00	3.20	0.00	3.07
INCR-3	21	BC	0.00	3.20	0.00	3.07
INCR-3	22	BC	0.00	1.34	0.00	2.73

ENDATA18

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

CARD TYPE	REACH	ID	BOD	ORG-N	COLI	NCM	DO
NONPOINT	1	BC	1.10	1.13	0.00	3.75	0.00
NONPOINT	2	BC	0.00	0.00	0.00	1.12	0.00
NONPOINT	3	BC	6.00	0.00	0.00	3.75	0.00
NONPOINT	4	BC	1.10	0.38	0.00	1.88	0.00
NONPOINT	5	BC	0.00	0.38	0.00	2.81	0.00
NONPOINT	6	BC	7.50	0.75	0.00	1.50	0.00
NONPOINT	7	BC	5.30	0.23	0.00	0.75	0.00
NONPOINT	8	BC	2.30	0.19	0.00	1.12	0.00
NONPOINT	9	BC	0.80	0.19	0.00	3.38	0.00
NONPOINT	10	BC	0.80	0.19	0.00	1.12	0.00
NONPOINT	11	BC	1.90	0.19	0.00	0.00	0.00
NONPOINT	12	BC	1.10	0.00	0.00	0.00	0.00
NONPOINT	13	BC	1.90	0.00	0.00	0.00	0.00
NONPOINT	14	BC	1.50	0.00	0.00	0.00	0.00
NONPOINT	15	BC	1.90	0.19	0.00	0.00	0.00
NONPOINT	16	BC	0.00	0.19	0.00	0.00	0.00
NONPOINT	17	BC	1.10	0.19	0.00	0.75	0.00
NONPOINT	18	BC	1.90	0.32	0.00	0.75	0.00
NONPOINT	19	BC	5.60	0.32	0.00	0.38	0.00
NONPOINT	20	BC	1.90	0.19	0.00	0.00	0.00
NONPOINT	21	BC	1.10	0.19	0.00	0.00	0.00
NONPOINT	22	BC	123.80	10.13	0.00	31.88	0.00

ENDATA19

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

CARD TYPE	ELEMENT	NAME	UNIT	FLOW m ³ /s	FLOW cfs	TEMP deg C	SALIN ppt	CM-I MG/L	CM-II MG/L
HDWTR-1	1	HEADWATER	0	0.03511	1.240	26.00	0.00	33.900	12.400

ENDATA20

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

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

NUMBER OF PLOTS = 1
NUMBER OF REACHES IN PLOT 1 = 22
PLOT RCH 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
ENDATA30

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

OVERLAY 1 bcprojov1.txt :MAINSTEM
ENDATA31

.....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

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
REACH NO. 1 HEADWATER - SITE 2 BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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	0.03511	26.00	0.00	33.90	12.40	7.30	1.86	2.25	0.63	0.00	0.56	0.00	2.60	0.00	3.40
2	WSTLD	0.16594	26.00	0.00	32.10	14.10	5.00	23.00	3.27	0.00	0.52	0.00	0.90	0.00	0.00	0.00

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
1	80.30	80.20	0.03511	0.00	0.09878	0.01	0.12	2.92	35.54	291.90	0.36	0.00	0.000	0.009	0.099
2	80.20	80.10	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
3	80.10	80.00	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
4	80.00	79.90	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
5	79.90	79.80	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
6	79.80	79.70	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
7	79.70	79.60	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263

11	79.200	8.11	3.49	0.24	0.12	0.00	1.21	1.21	1.21	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
12	79.100	8.11	3.49	0.24	0.12	0.00	1.21	1.21	1.21	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
13	79.000	8.11	3.49	0.24	0.12	0.00	1.21	1.21	1.21	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
14	78.900	8.11	3.49	0.24	0.12	0.00	1.21	1.21	1.21	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
15	78.800	8.11	3.49	0.24	0.12	0.00	1.21	1.21	1.21	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
16	78.700	8.11	3.49	0.24	0.12	0.00	1.21	1.21	1.21	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
17	78.600	8.11	3.49	0.24	0.12	0.00	1.21	1.21	1.21	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
18	78.500	8.11	3.49	0.24	0.12	0.00	1.21	1.21	1.21	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
19	78.400	8.11	3.49	0.24	0.12	0.00	1.21	1.21	1.21	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
20	78.300	8.11	3.49	0.24	0.12	0.00	1.21	1.21	1.21	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
21	78.200	8.11	3.49	0.24	0.12	0.00	1.21	1.21	1.21	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
22	78.100	8.11	3.49	0.24	0.12	0.00	1.21	1.21	1.21	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
20 DEG C RATE				0.18		0.00	0.83			0.13		0.00	0.00	0.00	0.00			0.00	0.13
AVG 20 DEG C RATE			3.24		0.10						0.20								
0.05																			

* g/m²/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	80.200	26.00	0.00	33.89	12.41	7.23	1.95	2.34	0.65	0.00	0.56	1.21	0.00	2.60	0.00	0.00	3.43
2	80.100	26.00	0.00	32.41	13.80	5.39	19.28	19.67	2.81	0.00	0.52	3.34	0.00	2.60	0.00	0.00	0.61
3	80.000	26.00	0.00	32.41	13.80	5.38	19.26	19.65	2.81	0.01	0.52	3.34	0.00	2.60	0.00	0.00	0.62
4	79.900	26.00	0.00	32.41	13.80	5.38	19.23	19.62	2.81	0.01	0.52	3.34	0.00	2.60	0.00	0.00	0.63
5	79.800	26.00	0.00	32.41	13.80	5.38	19.20	19.59	2.81	0.01	0.52	3.34	0.00	2.60	0.00	0.00	0.64
6	79.700	26.00	0.00	32.41	13.80	5.37	19.17	19.56	2.80	0.01	0.52	3.34	0.00	2.60	0.00	0.00	0.65
7	79.600	26.00	0.00	32.41	13.80	5.37	19.15	19.54	2.80	0.01	0.52	3.34	0.00	2.60	0.00	0.00	0.66
8	79.500	26.00	0.00	32.41	13.80	5.36	19.12	19.51	2.80	0.02	0.52	3.34	0.00	2.60	0.00	0.00	0.67
9	79.400	26.00	0.00	32.41	13.80	5.36	19.09	19.48	2.80	0.02	0.52	3.34	0.00	2.60	0.00	0.00	0.68
10	79.300	26.00	0.00	32.41	13.80	5.36	19.07	19.46	2.79	0.02	0.52	3.34	0.00	2.60	0.00	0.00	0.68
11	79.200	26.00	0.00	32.41	13.80	5.35	19.04	19.43	2.79	0.02	0.52	3.34	0.00	2.60	0.00	0.00	0.69
12	79.100	26.00	0.00	32.41	13.80	5.35	19.01	19.40	2.79	0.03	0.52	3.34	0.00	2.60	0.00	0.00	0.70
13	79.000	26.00	0.00	32.41	13.80	5.35	18.99	19.38	2.79	0.03	0.52	3.34	0.00	2.60	0.00	0.00	0.71

14	78.900	26.00	0.00	32.41	13.80	5.34	18.96	19.35	2.79	0.03	0.52	3.34	0.00	2.60	0.00	0.00	0.72
15	78.800	26.00	0.00	32.41	13.80	5.34	18.94	19.33	2.78	0.03	0.52	3.34	0.00	2.60	0.00	0.00	0.73
16	78.700	26.00	0.00	32.41	13.80	5.34	18.91	19.30	2.78	0.04	0.52	3.34	0.00	2.60	0.00	0.00	0.74
17	78.600	26.00	0.00	32.41	13.80	5.34	18.88	19.27	2.78	0.04	0.52	3.34	0.00	2.60	0.00	0.00	0.75
18	78.500	26.00	0.00	32.41	13.80	5.33	18.86	19.25	2.78	0.04	0.52	3.34	0.00	2.60	0.00	0.00	0.76
19	78.400	26.00	0.00	32.41	13.80	5.33	18.83	19.22	2.77	0.04	0.52	3.34	0.00	2.60	0.00	0.00	0.77
20	78.300	26.00	0.00	32.41	13.80	5.33	18.80	19.19	2.77	0.05	0.52	3.34	0.00	2.60	0.00	0.00	0.78
21	78.200	26.00	0.00	32.41	13.80	5.32	18.78	19.17	2.77	0.05	0.52	3.34	0.00	2.60	0.00	0.00	0.78
22	78.100	26.00	0.00	32.41	13.80	5.32	18.75	19.14	2.77	0.05	0.52	3.34	0.00	2.60	0.00	0.00	0.79

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 2 SITE 2 - SITE 3

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
23	UPR RCH	0.20105	26.00	0.00	32.41	13.80	5.32	18.75	19.14	2.77	0.05	0.52	0.00	2.60	0.00	0.79
EACH	INCR	-0.0006														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
23	78.10	78.00	0.20043	82.54	0.26277	0.00	0.22	3.40	76.28	340.11	0.76	0.00	0.000	0.038	0.263
24	78.00	77.90	0.19981	82.54	0.26254	0.00	0.22	3.40	76.11	339.94	0.76	0.00	0.000	0.038	0.263
25	77.90	77.80	0.19920	82.54	0.26231	0.00	0.22	3.40	75.94	339.77	0.76	0.00	0.000	0.038	0.262
26	77.80	77.70	0.19858	82.54	0.26208	0.00	0.22	3.40	75.77	339.59	0.76	0.00	0.000	0.038	0.262
27	77.70	77.60	0.19796	82.54	0.26185	0.00	0.22	3.39	75.60	339.42	0.76	0.00	0.000	0.037	0.262
28	77.60	77.50	0.19734	82.54	0.26161	0.00	0.22	3.39	75.43	339.25	0.75	0.00	0.000	0.037	0.262
29	77.50	77.40	0.19672	82.54	0.26138	0.00	0.22	3.39	75.26	339.08	0.75	0.00	0.000	0.037	0.261
30	77.40	77.30	0.19610	82.54	0.26114	0.00	0.22	3.39	75.10	338.90	0.75	0.00	0.000	0.037	0.261
31	77.30	77.20	0.19549	82.54	0.26090	0.00	0.22	3.39	74.93	338.73	0.75	0.00	0.000	0.037	0.261
32	77.20	77.10	0.19487	82.54	0.26066	0.00	0.22	3.39	74.76	338.56	0.75	0.00	0.000	0.037	0.261
33	77.10	77.00	0.19425	82.54	0.26042	0.00	0.22	3.38	74.59	338.39	0.75	0.00	0.000	0.037	0.260
34	77.00	76.90	0.19363	82.54	0.26017	0.00	0.22	3.38	74.42	338.21	0.74	0.00	0.000	0.037	0.260
35	76.90	76.80	0.19301	82.54	0.25993	0.00	0.22	3.38	74.26	338.04	0.74	0.00	0.000	0.037	0.260
36	76.80	76.70	0.19240	82.54	0.25968	0.00	0.22	3.38	74.09	337.87	0.74	0.00	0.000	0.037	0.260
37	76.70	76.60	0.19178	82.54	0.25943	0.00	0.22	3.38	73.92	337.69	0.74	0.00	0.000	0.037	0.259
38	76.60	76.50	0.19116	82.54	0.25918	0.00	0.22	3.38	73.75	337.52	0.74	0.00	0.000	0.037	0.259

39	76.50	76.40	0.19054	82.54	0.25893	0.00	0.22	3.37	73.59	337.35	0.74	0.00	0.000	0.036	0.259
40	76.40	76.30	0.18992	82.54	0.25868	0.00	0.22	3.37	73.42	337.18	0.73	0.00	0.000	0.036	0.259
41	76.30	76.20	0.18930	82.54	0.25842	0.00	0.22	3.37	73.25	337.00	0.73	0.00	0.000	0.036	0.258
42	76.20	76.10	0.18869	82.54	0.25817	0.00	0.22	3.37	73.09	336.83	0.73	0.00	0.000	0.036	0.258
43	76.10	76.00	0.18807	82.54	0.25791	0.00	0.22	3.37	72.92	336.66	0.73	0.00	0.000	0.036	0.258
44	76.00	75.90	0.18745	82.54	0.25765	0.00	0.22	3.36	72.75	336.48	0.73	0.00	0.000	0.036	0.258
45	75.90	75.80	0.18683	82.54	0.25739	0.00	0.22	3.36	72.59	336.31	0.73	0.00	0.000	0.036	0.257
46	75.80	75.70	0.18621	82.54	0.25713	0.00	0.22	3.36	72.42	336.14	0.72	0.00	0.000	0.036	0.257
47	75.70	75.60	0.18560	82.54	0.25686	0.00	0.22	3.36	72.26	335.96	0.72	0.00	0.000	0.036	0.257
48	75.60	75.50	0.18498	82.54	0.25659	0.00	0.21	3.36	72.09	335.79	0.72	0.00	0.000	0.036	0.257
49	75.50	75.40	0.18436	82.54	0.25633	0.00	0.21	3.36	71.92	335.62	0.72	0.00	0.000	0.036	0.256
50	75.40	75.30	0.18374	82.54	0.25606	0.00	0.21	3.35	71.76	335.44	0.72	0.00	0.000	0.035	0.256
51	75.30	75.20	0.18312	82.54	0.25579	0.00	0.21	3.35	71.59	335.27	0.72	0.00	0.000	0.035	0.256
52	75.20	75.10	0.18250	82.54	0.25551	0.00	0.21	3.35	71.43	335.10	0.71	0.00	0.000	0.035	0.256
53	75.10	75.00	0.18189	82.54	0.25524	0.00	0.21	3.35	71.26	334.92	0.71	0.00	0.000	0.035	0.255
54	75.00	74.90	0.18127	82.54	0.25496	0.00	0.21	3.35	71.10	334.75	0.71	0.00	0.000	0.035	0.255
55	74.90	74.80	0.18065	82.54	0.25468	0.00	0.21	3.35	70.93	334.58	0.71	0.00	0.000	0.035	0.255
56	74.80	74.70	0.18003	82.54	0.25440	0.00	0.21	3.34	70.77	334.40	0.71	0.00	0.000	0.035	0.254
57	74.70	74.60	0.17941	82.54	0.25412	0.00	0.21	3.34	70.60	334.23	0.71	0.00	0.000	0.035	0.254
58	74.60	74.50	0.17880	82.54	0.25384	0.00	0.21	3.34	70.44	334.05	0.70	0.00	0.000	0.035	0.254
59	74.50	74.40	0.17818	82.54	0.25355	0.00	0.21	3.34	70.27	333.88	0.70	0.00	0.000	0.035	0.254
60	74.40	74.30	0.17756	82.54	0.25327	0.00	0.21	3.34	70.11	333.71	0.70	0.00	0.000	0.035	0.253
61	74.30	74.20	0.17694	82.54	0.25298	0.00	0.21	3.34	69.94	333.53	0.70	0.00	0.000	0.034	0.253
62	74.20	74.10	0.17632	82.54	0.25269	0.00	0.21	3.33	69.78	333.36	0.70	0.00	0.000	0.034	0.253
63	74.10	74.00	0.17570	82.54	0.25240	0.00	0.21	3.33	69.61	333.18	0.70	0.00	0.000	0.034	0.252
64	74.00	73.90	0.17509	82.54	0.25210	0.00	0.21	3.33	69.45	333.01	0.69	0.00	0.000	0.034	0.252
65	73.90	73.80	0.17447	82.54	0.25181	0.00	0.21	3.33	69.29	332.84	0.69	0.00	0.000	0.034	0.252
66	73.80	73.70	0.17385	82.54	0.25151	0.00	0.21	3.33	69.12	332.66	0.69	0.00	0.000	0.034	0.252

TOT
AVG
CUM

0.25734
0.30

0.20
0.22 3.36

3197.96 14801.30
0.73

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI	NCM
NO.	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY	DECAY
SETT		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
23	78.000	8.11	3.50	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
24	77.900	8.11	3.50	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
25	77.800	8.11	3.51	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
26	77.700	8.11	3.52	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17

0.06																			
52	75.100	8.11	3.68	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
53	75.000	8.11	3.69	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
54	74.900	8.11	3.69	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
55	74.800	8.11	3.70	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
56	74.700	8.11	3.71	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
57	74.600	8.11	3.71	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
58	74.500	8.11	3.72	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
59	74.400	8.11	3.73	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
60	74.300	8.11	3.73	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
61	74.200	8.11	3.74	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
62	74.100	8.11	3.75	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
63	74.000	8.11	3.75	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
64	73.900	8.11	3.76	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
65	73.800	8.11	3.77	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
66	73.700	8.11	3.78	0.24	0.12	0.00	0.99	0.99	0.99	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
	20 DEG C RATE			0.18		0.00	0.68			0.13		0.00	0.00	0.00	0.00			0.00	0.13
	AVG 20 DEG C RATE		3.24		0.10						0.20								
0.05																			

* g/m²/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 *
23	78.000	26.00	0.00	32.41	13.80	5.32	18.72	19.11	2.76	0.05	0.52	3.34	0.00	2.59	0.00	0.00	0.79
24	77.900	26.00	0.00	32.41	13.80	5.32	18.69	19.08	2.76	0.05	0.52	3.33	0.00	2.57	0.00	0.00	0.79
25	77.800	26.00	0.00	32.41	13.80	5.33	18.66	19.05	2.75	0.06	0.52	3.33	0.00	2.56	0.00	0.00	0.80
26	77.700	26.00	0.00	32.41	13.80	5.33	18.64	19.02	2.75	0.06	0.52	3.33	0.00	2.55	0.00	0.00	0.80
27	77.600	26.00	0.00	32.41	13.80	5.33	18.61	18.99	2.74	0.06	0.52	3.33	0.00	2.53	0.00	0.00	0.80
28	77.500	26.00	0.00	32.41	13.80	5.33	18.58	18.95	2.74	0.06	0.52	3.32	0.00	2.52	0.00	0.00	0.80

29	77.400	26.00	0.00	32.41	13.80	5.33	18.55	18.92	2.73	0.07	0.52	3.32	0.00	2.50	0.00	0.00	0.80
30	77.300	26.00	0.00	32.41	13.80	5.34	18.52	18.89	2.73	0.07	0.52	3.32	0.00	2.49	0.00	0.00	0.80
31	77.200	26.00	0.00	32.41	13.80	5.34	18.49	18.86	2.72	0.07	0.52	3.32	0.00	2.48	0.00	0.00	0.80
32	77.100	26.00	0.00	32.41	13.80	5.34	18.46	18.83	2.72	0.07	0.52	3.31	0.00	2.46	0.00	0.00	0.80
33	77.000	26.00	0.00	32.41	13.80	5.34	18.43	18.80	2.71	0.08	0.52	3.31	0.00	2.45	0.00	0.00	0.80
34	76.900	26.00	0.00	32.41	13.80	5.34	18.40	18.77	2.71	0.08	0.52	3.31	0.00	2.44	0.00	0.00	0.80
35	76.800	26.00	0.00	32.41	13.80	5.35	18.38	18.74	2.70	0.08	0.52	3.30	0.00	2.42	0.00	0.00	0.80
36	76.700	26.00	0.00	32.41	13.80	5.35	18.35	18.71	2.70	0.08	0.52	3.30	0.00	2.41	0.00	0.00	0.80
37	76.600	26.00	0.00	32.41	13.80	5.35	18.32	18.68	2.69	0.09	0.52	3.30	0.00	2.40	0.00	0.00	0.80
38	76.500	26.00	0.00	32.41	13.80	5.35	18.29	18.65	2.69	0.09	0.52	3.30	0.00	2.38	0.00	0.00	0.80
39	76.400	26.00	0.00	32.41	13.80	5.36	18.26	18.62	2.68	0.09	0.52	3.29	0.00	2.37	0.00	0.00	0.81
40	76.300	26.00	0.00	32.41	13.80	5.36	18.23	18.59	2.68	0.09	0.52	3.29	0.00	2.35	0.00	0.00	0.81
41	76.200	26.00	0.00	32.41	13.80	5.36	18.20	18.55	2.67	0.09	0.52	3.29	0.00	2.34	0.00	0.00	0.81
42	76.100	26.00	0.00	32.41	13.80	5.36	18.17	18.52	2.67	0.10	0.52	3.28	0.00	2.33	0.00	0.00	0.81
43	76.000	26.00	0.00	32.41	13.80	5.37	18.15	18.49	2.66	0.10	0.52	3.28	0.00	2.31	0.00	0.00	0.81
44	75.900	26.00	0.00	32.41	13.80	5.37	18.12	18.46	2.65	0.10	0.52	3.28	0.00	2.30	0.00	0.00	0.81
45	75.800	26.00	0.00	32.41	13.80	5.37	18.09	18.43	2.65	0.10	0.52	3.28	0.00	2.29	0.00	0.00	0.81
46	75.700	26.00	0.00	32.41	13.80	5.37	18.06	18.40	2.64	0.11	0.52	3.27	0.00	2.27	0.00	0.00	0.81
47	75.600	26.00	0.00	32.41	13.80	5.38	18.03	18.37	2.64	0.11	0.52	3.27	0.00	2.26	0.00	0.00	0.81
48	75.500	26.00	0.00	32.41	13.80	5.38	18.00	18.34	2.63	0.11	0.52	3.27	0.00	2.25	0.00	0.00	0.81
49	75.400	26.00	0.00	32.41	13.80	5.38	17.98	18.31	2.63	0.11	0.52	3.26	0.00	2.23	0.00	0.00	0.81
50	75.300	26.00	0.00	32.41	13.80	5.38	17.95	18.28	2.62	0.12	0.52	3.26	0.00	2.22	0.00	0.00	0.81
51	75.200	26.00	0.00	32.41	13.80	5.39	17.92	18.25	2.62	0.12	0.52	3.26	0.00	2.20	0.00	0.00	0.81
52	75.100	26.00	0.00	32.41	13.80	5.39	17.89	18.22	2.61	0.12	0.52	3.26	0.00	2.19	0.00	0.00	0.81
53	75.000	26.00	0.00	32.41	13.80	5.39	17.86	18.19	2.61	0.12	0.52	3.25	0.00	2.18	0.00	0.00	0.82
54	74.900	26.00	0.00	32.41	13.80	5.40	17.83	18.16	2.60	0.12	0.52	3.25	0.00	2.16	0.00	0.00	0.82
55	74.800	26.00	0.00	32.41	13.80	5.40	17.80	18.13	2.60	0.13	0.52	3.25	0.00	2.15	0.00	0.00	0.82
56	74.700	26.00	0.00	32.41	13.80	5.40	17.78	18.10	2.59	0.13	0.52	3.25	0.00	2.14	0.00	0.00	0.82
57	74.600	26.00	0.00	32.41	13.80	5.40	17.75	18.07	2.59	0.13	0.52	3.24	0.00	2.12	0.00	0.00	0.82
58	74.500	26.00	0.00	32.41	13.80	5.41	17.72	18.04	2.58	0.13	0.52	3.24	0.00	2.11	0.00	0.00	0.82
59	74.400	26.00	0.00	32.41	13.80	5.41	17.69	18.01	2.58	0.14	0.52	3.24	0.00	2.10	0.00	0.00	0.82
60	74.300	26.00	0.00	32.41	13.80	5.41	17.66	17.97	2.57	0.14	0.52	3.23	0.00	2.08	0.00	0.00	0.82
61	74.200	26.00	0.00	32.41	13.80	5.42	17.63	17.94	2.57	0.14	0.52	3.23	0.00	2.07	0.00	0.00	0.82
62	74.100	26.00	0.00	32.41	13.80	5.42	17.61	17.91	2.56	0.14	0.52	3.23	0.00	2.05	0.00	0.00	0.82
63	74.000	26.00	0.00	32.41	13.80	5.42	17.58	17.88	2.56	0.14	0.52	3.23	0.00	2.04	0.00	0.00	0.82
64	73.900	26.00	0.00	32.41	13.80	5.43	17.55	17.85	2.55	0.15	0.52	3.22	0.00	2.03	0.00	0.00	0.82
65	73.800	26.00	0.00	32.41	13.80	5.43	17.52	17.82	2.55	0.15	0.52	3.22	0.00	2.01	0.00	0.00	0.83
66	73.700	26.00	0.00	32.41	13.80	5.43	17.49	17.79	2.54	0.15	0.52	3.22	0.00	2.00	0.00	0.00	0.83

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 3 SITE 3 - LITTLE BARNES CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
67	UPR RCH	0.17385	26.00	0.00	32.41	13.80	5.43	17.49	17.79	2.54	0.15	0.52	0.00	2.00	0.00	0.83
EACH	INCR	-0.0002														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
67	73.70	73.60	0.17367	82.54	0.11467	0.01	0.42	3.63	151.45	362.61	1.51	0.00	0.000	0.028	0.115
68	73.60	73.50	0.17349	82.54	0.11459	0.01	0.42	3.63	151.39	362.56	1.51	0.00	0.000	0.028	0.115
69	73.50	73.40	0.17330	82.54	0.11452	0.01	0.42	3.63	151.33	362.51	1.51	0.00	0.000	0.028	0.115
70	73.40	73.30	0.17312	82.54	0.11445	0.01	0.42	3.62	151.27	362.46	1.51	0.00	0.000	0.028	0.114
71	73.30	73.20	0.17294	82.54	0.11438	0.01	0.42	3.62	151.20	362.41	1.51	0.00	0.000	0.028	0.114
72	73.20	73.10	0.17276	82.54	0.11430	0.01	0.42	3.62	151.14	362.35	1.51	0.00	0.000	0.028	0.114
73	73.10	73.00	0.17258	82.54	0.11423	0.01	0.42	3.62	151.08	362.30	1.51	0.00	0.000	0.028	0.114
74	73.00	72.90	0.17239	82.54	0.11416	0.01	0.42	3.62	151.02	362.25	1.51	0.00	0.000	0.028	0.114
75	72.90	72.80	0.17221	82.54	0.11408	0.01	0.42	3.62	150.95	362.20	1.51	0.00	0.000	0.028	0.114
76	72.80	72.70	0.17203	82.54	0.11401	0.01	0.42	3.62	150.89	362.15	1.51	0.00	0.000	0.028	0.114
77	72.70	72.60	0.17185	82.54	0.11393	0.01	0.42	3.62	150.83	362.10	1.51	0.00	0.000	0.027	0.114
78	72.60	72.50	0.17166	82.54	0.11386	0.01	0.42	3.62	150.77	362.05	1.51	0.00	0.000	0.027	0.114
79	72.50	72.40	0.17148	82.54	0.11379	0.01	0.42	3.62	150.71	361.99	1.51	0.00	0.000	0.027	0.114
80	72.40	72.30	0.17130	82.54	0.11371	0.01	0.42	3.62	150.64	361.94	1.51	0.00	0.000	0.027	0.114
81	72.30	72.20	0.17112	82.54	0.11364	0.01	0.42	3.62	150.58	361.89	1.51	0.00	0.000	0.027	0.114
82	72.20	72.10	0.17094	82.54	0.11356	0.01	0.42	3.62	150.52	361.84	1.51	0.00	0.000	0.027	0.114
83	72.10	72.00	0.17075	82.54	0.11349	0.01	0.42	3.62	150.46	361.79	1.50	0.00	0.000	0.027	0.113
84	72.00	71.90	0.17057	82.54	0.11342	0.01	0.42	3.62	150.39	361.74	1.50	0.00	0.000	0.027	0.113
85	71.90	71.80	0.17039	82.54	0.11334	0.01	0.42	3.62	150.33	361.69	1.50	0.00	0.000	0.027	0.113
86	71.80	71.70	0.17021	82.54	0.11327	0.01	0.42	3.62	150.27	361.64	1.50	0.00	0.000	0.027	0.113
87	71.70	71.60	0.17003	82.54	0.11319	0.01	0.42	3.62	150.21	361.58	1.50	0.00	0.000	0.027	0.113
88	71.60	71.50	0.16984	82.54	0.11312	0.01	0.42	3.62	150.15	361.53	1.50	0.00	0.000	0.027	0.113
89	71.50	71.40	0.16966	82.54	0.11304	0.01	0.42	3.61	150.08	361.48	1.50	0.00	0.000	0.027	0.113
90	71.40	71.30	0.16948	82.54	0.11297	0.01	0.42	3.61	150.02	361.43	1.50	0.00	0.000	0.027	0.113
91	71.30	71.20	0.16930	82.54	0.11290	0.01	0.41	3.61	149.96	361.38	1.50	0.00	0.000	0.027	0.113
92	71.20	71.10	0.16911	82.54	0.11282	0.01	0.41	3.61	149.90	361.33	1.50	0.00	0.000	0.027	0.113
93	71.10	71.00	0.16893	82.54	0.11275	0.01	0.41	3.61	149.83	361.28	1.50	0.00	0.000	0.027	0.113
94	71.00	70.90	0.16875	82.54	0.11267	0.01	0.41	3.61	149.77	361.22	1.50	0.00	0.000	0.027	0.113
95	70.90	70.80	0.16857	82.54	0.11260	0.01	0.41	3.61	149.71	361.17	1.50	0.00	0.000	0.027	0.113
96	70.80	70.70	0.16839	82.54	0.11252	0.01	0.41	3.61	149.65	361.12	1.50	0.00	0.000	0.027	0.113
97	70.70	70.60	0.16820	82.54	0.11245	0.01	0.41	3.61	149.59	361.07	1.50	0.00	0.000	0.027	0.112
98	70.60	70.50	0.16802	82.54	0.11237	0.01	0.41	3.61	149.52	361.02	1.50	0.00	0.000	0.027	0.112
99	70.50	70.40	0.16784	82.54	0.11230	0.01	0.41	3.61	149.46	360.97	1.49	0.00	0.000	0.027	0.112
100	70.40	70.30	0.16766	82.54	0.11222	0.01	0.41	3.61	149.40	360.92	1.49	0.00	0.000	0.027	0.112
101	70.30	70.20	0.16748	82.54	0.11215	0.01	0.41	3.61	149.34	360.86	1.49	0.00	0.000	0.027	0.112
102	70.20	70.10	0.16729	82.54	0.11207	0.01	0.41	3.61	149.28	360.81	1.49	0.00	0.000	0.027	0.112
103	70.10	70.00	0.16711	82.54	0.11199	0.01	0.41	3.61	149.21	360.76	1.49	0.00	0.000	0.027	0.112

104	70.00	69.90	0.16693	82.54	0.11192	0.01	0.41	3.61	149.15	360.71	1.49	0.00	0.000	0.027	0.112
105	69.90	69.80	0.16675	82.54	0.11184	0.01	0.41	3.61	149.09	360.66	1.49	0.00	0.000	0.027	0.112
106	69.80	69.70	0.16656	82.54	0.11177	0.01	0.41	3.61	149.03	360.61	1.49	0.00	0.000	0.027	0.112
107	69.70	69.60	0.16638	82.54	0.11169	0.01	0.41	3.61	148.97	360.56	1.49	0.00	0.000	0.027	0.112
108	69.60	69.50	0.16620	82.54	0.11162	0.01	0.41	3.61	148.90	360.50	1.49	0.00	0.000	0.027	0.112
109	69.50	69.40	0.16602	82.54	0.11154	0.01	0.41	3.60	148.84	360.45	1.49	0.00	0.000	0.027	0.112
110	69.40	69.30	0.16584	82.54	0.11146	0.01	0.41	3.60	148.78	360.40	1.49	0.00	0.000	0.027	0.111
111	69.30	69.20	0.16565	82.54	0.11139	0.01	0.41	3.60	148.72	360.35	1.49	0.00	0.000	0.027	0.111
112	69.20	69.10	0.16547	82.54	0.11131	0.01	0.41	3.60	148.66	360.30	1.49	0.00	0.000	0.027	0.111
113	69.10	69.00	0.16529	82.54	0.11124	0.01	0.41	3.60	148.59	360.25	1.49	0.00	0.000	0.027	0.111
114	69.00	68.90	0.16511	82.54	0.11116	0.01	0.41	3.60	148.53	360.19	1.49	0.00	0.000	0.027	0.111
115	68.90	68.80	0.16493	82.54	0.11108	0.01	0.41	3.60	148.47	360.14	1.48	0.00	0.000	0.027	0.111
116	68.80	68.70	0.16474	82.54	0.11101	0.01	0.41	3.60	148.41	360.09	1.48	0.00	0.000	0.027	0.111
117	68.70	68.60	0.16456	82.54	0.11093	0.01	0.41	3.60	148.35	360.04	1.48	0.00	0.000	0.027	0.111
118	68.60	68.50	0.16438	82.54	0.11085	0.01	0.41	3.60	148.28	359.99	1.48	0.00	0.000	0.026	0.111
119	68.50	68.40	0.16420	82.54	0.11078	0.01	0.41	3.60	148.22	359.94	1.48	0.00	0.000	0.026	0.111
120	68.40	68.30	0.16401	82.54	0.11070	0.01	0.41	3.60	148.16	359.89	1.48	0.00	0.000	0.026	0.111
121	68.30	68.20	0.16383	82.54	0.11062	0.01	0.41	3.60	148.10	359.83	1.48	0.00	0.000	0.026	0.111
122	68.20	68.10	0.16365	82.54	0.11055	0.01	0.41	3.60	148.04	359.78	1.48	0.00	0.000	0.026	0.111
123	68.10	68.00	0.16347	82.54	0.11047	0.01	0.41	3.60	147.98	359.73	1.48	0.00	0.000	0.026	0.110
124	68.00	67.90	0.16329	82.54	0.11039	0.01	0.41	3.60	147.91	359.68	1.48	0.00	0.000	0.026	0.110
125	67.90	67.80	0.16310	82.54	0.11032	0.01	0.41	3.60	147.85	359.63	1.48	0.00	0.000	0.026	0.110
126	67.80	67.70	0.16292	82.54	0.11024	0.01	0.41	3.60	147.79	359.58	1.48	0.00	0.000	0.026	0.110
127	67.70	67.60	0.16274	82.54	0.11016	0.01	0.41	3.60	147.73	359.52	1.48	0.00	0.000	0.026	0.110
128	67.60	67.50	0.16256	82.54	0.11008	0.01	0.41	3.59	147.67	359.47	1.48	0.00	0.000	0.026	0.110
129	67.50	67.40	0.16238	82.54	0.11001	0.01	0.41	3.59	147.60	359.42	1.48	0.00	0.000	0.026	0.110
130	67.40	67.30	0.16219	82.54	0.10993	0.01	0.41	3.59	147.54	359.37	1.48	0.00	0.000	0.026	0.110
131	67.30	67.20	0.16201	82.54	0.10985	0.01	0.41	3.59	147.48	359.32	1.47	0.00	0.000	0.026	0.110
132	67.20	67.10	0.16183	82.54	0.10977	0.01	0.41	3.59	147.42	359.27	1.47	0.00	0.000	0.026	0.110
133	67.10	67.00	0.16165	82.54	0.10970	0.01	0.41	3.59	147.36	359.22	1.47	0.00	0.000	0.026	0.110
134	67.00	66.90	0.16147	82.54	0.10962	0.01	0.41	3.59	147.30	359.16	1.47	0.00	0.000	0.026	0.110
135	66.90	66.80	0.16128	82.54	0.10954	0.01	0.41	3.59	147.23	359.11	1.47	0.00	0.000	0.026	0.110
136	66.80	66.70	0.16110	82.54	0.10946	0.01	0.41	3.59	147.17	359.06	1.47	0.00	0.000	0.026	0.109
137	66.70	66.60	0.16092	82.54	0.10939	0.01	0.41	3.59	147.11	359.01	1.47	0.00	0.000	0.026	0.109
138	66.60	66.50	0.16074	82.54	0.10931	0.01	0.41	3.59	147.05	358.96	1.47	0.00	0.000	0.026	0.109
139	66.50	66.40	0.16055	82.54	0.10923	0.01	0.41	3.59	146.99	358.91	1.47	0.00	0.000	0.026	0.109
140	66.40	66.30	0.16037	82.54	0.10915	0.01	0.41	3.59	146.93	358.85	1.47	0.00	0.000	0.026	0.109
141	66.30	66.20	0.16019	82.54	0.10907	0.01	0.41	3.59	146.86	358.80	1.47	0.00	0.000	0.026	0.109
142	66.20	66.10	0.16001	82.54	0.10900	0.01	0.41	3.59	146.80	358.75	1.47	0.00	0.000	0.026	0.109
143	66.10	66.00	0.15983	82.54	0.10892	0.01	0.41	3.59	146.74	358.70	1.47	0.00	0.000	0.026	0.109
144	66.00	65.90	0.15964	82.54	0.10884	0.01	0.41	3.59	146.68	358.65	1.47	0.00	0.000	0.026	0.109
145	65.90	65.80	0.15946	82.54	0.10876	0.01	0.41	3.59	146.62	358.60	1.47	0.00	0.000	0.026	0.109
146	65.80	65.70	0.15928	82.54	0.10868	0.01	0.41	3.59	146.56	358.54	1.47	0.00	0.000	0.026	0.109
147	65.70	65.60	0.15910	82.54	0.10860	0.01	0.41	3.58	146.49	358.49	1.46	0.00	0.000	0.026	0.109
148	65.60	65.50	0.15892	82.54	0.10852	0.01	0.41	3.58	146.43	358.44	1.46	0.00	0.000	0.026	0.109
149	65.50	65.40	0.15873	82.54	0.10845	0.01	0.41	3.58	146.37	358.39	1.46	0.00	0.000	0.026	0.108
150	65.40	65.30	0.15855	82.54	0.10837	0.01	0.41	3.58	146.31	358.34	1.46	0.00	0.000	0.026	0.108
151	65.30	65.20	0.15837	82.54	0.10829	0.01	0.41	3.58	146.25	358.29	1.46	0.00	0.000	0.026	0.108
152	65.20	65.10	0.15819	82.54	0.10821	0.01	0.41	3.58	146.19	358.24	1.46	0.00	0.000	0.026	0.108
153	65.10	65.00	0.15800	82.54	0.10813	0.01	0.41	3.58	146.13	358.18	1.46	0.00	0.000	0.026	0.108

172	63.100	8.02	1.96	0.18	0.12	0.00	1.03	1.03	1.03	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
173	63.000	8.02	1.96	0.18	0.12	0.00	1.03	1.03	1.03	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
174	62.900	8.01	1.96	0.18	0.12	0.00	1.04	1.04	1.04	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
175	62.800	8.01	1.96	0.18	0.12	0.00	1.04	1.04	1.04	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
176	62.700	8.01	1.96	0.18	0.12	0.00	1.04	1.04	1.04	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
177	62.600	8.01	1.96	0.18	0.12	0.00	1.04	1.04	1.04	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
178	62.500	8.01	1.96	0.18	0.12	0.00	1.04	1.04	1.04	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			

20 DEG C RATE 0.13 0.00 0.68 0.13 0.00 0.00 0.00 0.00
 AVG 20 DEG C RATE 1.70 0.10 0.20
 0.05

* g/m²/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 *
67	73.600	26.01	0.00	32.41	13.80	5.42	17.45	17.75	2.53	0.16	0.52	3.21	0.00	2.00	0.00	0.00	0.83
68	73.500	26.01	0.00	32.41	13.80	5.42	17.40	17.70	2.52	0.16	0.52	3.21	0.00	2.00	0.00	0.00	0.83
69	73.400	26.02	0.00	32.41	13.80	5.41	17.35	17.65	2.51	0.17	0.52	3.20	0.00	2.00	0.00	0.00	0.83
70	73.300	26.02	0.00	32.41	13.80	5.40	17.31	17.61	2.50	0.17	0.52	3.19	0.00	2.00	0.00	0.00	0.83
71	73.200	26.03	0.00	32.41	13.80	5.39	17.26	17.56	2.49	0.18	0.52	3.19	0.00	2.00	0.00	0.00	0.83
72	73.100	26.04	0.00	32.41	13.80	5.39	17.21	17.51	2.48	0.18	0.52	3.18	0.00	1.99	0.00	0.00	0.83
73	73.000	26.04	0.00	32.41	13.80	5.38	17.17	17.47	2.47	0.19	0.52	3.18	0.00	1.99	0.00	0.00	0.83
74	72.900	26.05	0.00	32.41	13.80	5.37	17.12	17.42	2.46	0.19	0.52	3.17	0.00	1.99	0.00	0.00	0.83
75	72.800	26.06	0.00	32.41	13.80	5.37	17.07	17.37	2.45	0.20	0.52	3.17	0.00	1.99	0.00	0.00	0.83
76	72.700	26.06	0.00	32.41	13.80	5.36	17.03	17.33	2.44	0.20	0.52	3.16	0.00	1.99	0.00	0.00	0.83
77	72.600	26.07	0.00	32.41	13.80	5.35	16.98	17.28	2.43	0.21	0.52	3.15	0.00	1.99	0.00	0.00	0.83
78	72.500	26.08	0.00	32.41	13.80	5.35	16.94	17.24	2.42	0.21	0.52	3.15	0.00	1.99	0.00	0.00	0.83
79	72.400	26.08	0.00	32.41	13.80	5.34	16.89	17.19	2.41	0.21	0.52	3.14	0.00	1.99	0.00	0.00	0.83
80	72.300	26.09	0.00	32.41	13.80	5.34	16.85	17.14	2.40	0.22	0.52	3.14	0.00	1.99	0.00	0.00	0.83
81	72.200	26.09	0.00	32.41	13.80	5.33	16.80	17.10	2.39	0.22	0.52	3.13	0.00	1.99	0.00	0.00	0.83
82	72.100	26.10	0.00	32.41	13.80	5.32	16.75	17.05	2.37	0.23	0.52	3.13	0.00	1.99	0.00	0.00	0.83
83	72.000	26.11	0.00	32.41	13.80	5.32	16.71	17.01	2.36	0.23	0.52	3.12	0.00	1.98	0.00	0.00	0.83
84	71.900	26.11	0.00	32.41	13.80	5.31	16.66	16.96	2.35	0.24	0.52	3.11	0.00	1.98	0.00	0.00	0.83
85	71.800	26.12	0.00	32.41	13.80	5.31	16.62	16.92	2.34	0.24	0.52	3.11	0.00	1.98	0.00	0.00	0.83
86	71.700	26.12	0.00	32.41	13.80	5.31	16.57	16.87	2.33	0.25	0.52	3.10	0.00	1.98	0.00	0.00	0.83
87	71.600	26.13	0.00	32.41	13.80	5.30	16.53	16.83	2.32	0.25	0.52	3.10	0.00	1.98	0.00	0.00	0.83
88	71.500	26.14	0.00	32.41	13.80	5.30	16.48	16.78	2.31	0.26	0.52	3.09	0.00	1.98	0.00	0.00	0.83
89	71.400	26.14	0.00	32.41	13.80	5.29	16.44	16.74	2.30	0.26	0.52	3.09	0.00	1.98	0.00	0.00	0.83

90	71.300	26.15	0.00	32.41	13.80	5.29	16.39	16.69	2.29	0.27	0.52	3.08	0.00	1.98	0.00	0.00	0.83
91	71.200	26.16	0.00	32.41	13.80	5.28	16.35	16.65	2.28	0.27	0.52	3.08	0.00	1.98	0.00	0.00	0.83
92	71.100	26.16	0.00	32.41	13.80	5.28	16.31	16.60	2.27	0.28	0.52	3.07	0.00	1.98	0.00	0.00	0.83
93	71.000	26.17	0.00	32.41	13.80	5.28	16.26	16.56	2.26	0.28	0.52	3.06	0.00	1.98	0.00	0.00	0.83
94	70.900	26.17	0.00	32.41	13.80	5.27	16.22	16.51	2.25	0.28	0.52	3.06	0.00	1.98	0.00	0.00	0.84
95	70.800	26.18	0.00	32.41	13.80	5.27	16.17	16.47	2.24	0.29	0.52	3.05	0.00	1.97	0.00	0.00	0.84
96	70.700	26.19	0.00	32.41	13.80	5.27	16.13	16.42	2.23	0.29	0.52	3.05	0.00	1.97	0.00	0.00	0.84
97	70.600	26.19	0.00	32.41	13.80	5.26	16.08	16.38	2.22	0.30	0.52	3.04	0.00	1.97	0.00	0.00	0.84
98	70.500	26.20	0.00	32.41	13.80	5.26	16.04	16.34	2.21	0.30	0.52	3.04	0.00	1.97	0.00	0.00	0.84
99	70.400	26.21	0.00	32.41	13.80	5.26	16.00	16.29	2.20	0.31	0.52	3.03	0.00	1.97	0.00	0.00	0.84
100	70.300	26.21	0.00	32.41	13.80	5.26	15.95	16.25	2.19	0.31	0.52	3.03	0.00	1.97	0.00	0.00	0.84
101	70.200	26.22	0.00	32.41	13.80	5.25	15.91	16.20	2.19	0.32	0.52	3.02	0.00	1.97	0.00	0.00	0.84
102	70.100	26.23	0.00	32.41	13.80	5.25	15.87	16.16	2.18	0.32	0.52	3.02	0.00	1.97	0.00	0.00	0.84
103	70.000	26.23	0.00	32.41	13.80	5.25	15.82	16.12	2.17	0.32	0.52	3.01	0.00	1.97	0.00	0.00	0.84
104	69.900	26.24	0.00	32.41	13.80	5.25	15.78	16.07	2.16	0.33	0.52	3.01	0.00	1.97	0.00	0.00	0.84
105	69.800	26.24	0.00	32.41	13.80	5.24	15.74	16.03	2.15	0.33	0.52	3.00	0.00	1.97	0.00	0.00	0.84
106	69.700	26.25	0.00	32.41	13.80	5.24	15.69	15.99	2.14	0.34	0.52	3.00	0.00	1.96	0.00	0.00	0.84
107	69.600	26.26	0.00	32.41	13.80	5.24	15.65	15.94	2.13	0.34	0.52	2.99	0.00	1.96	0.00	0.00	0.84
108	69.500	26.26	0.00	32.41	13.80	5.24	15.61	15.90	2.12	0.35	0.52	2.99	0.00	1.96	0.00	0.00	0.84
109	69.400	26.27	0.00	32.41	13.80	5.24	15.56	15.86	2.11	0.35	0.52	2.98	0.00	1.96	0.00	0.00	0.84
110	69.300	26.27	0.00	32.41	13.80	5.24	15.52	15.81	2.10	0.36	0.52	2.97	0.00	1.96	0.00	0.00	0.84
111	69.200	26.28	0.00	32.41	13.80	5.23	15.48	15.77	2.09	0.36	0.52	2.97	0.00	1.96	0.00	0.00	0.84
112	69.100	26.29	0.00	32.41	13.80	5.23	15.43	15.73	2.08	0.36	0.52	2.96	0.00	1.96	0.00	0.00	0.84
113	69.000	26.29	0.00	32.41	13.80	5.23	15.39	15.69	2.07	0.37	0.52	2.96	0.00	1.96	0.00	0.00	0.84
114	68.900	26.30	0.00	32.41	13.80	5.23	15.35	15.64	2.06	0.37	0.52	2.95	0.00	1.96	0.00	0.00	0.84
115	68.800	26.31	0.00	32.41	13.80	5.23	15.31	15.60	2.05	0.38	0.52	2.95	0.00	1.96	0.00	0.00	0.84
116	68.700	26.31	0.00	32.41	13.80	5.23	15.26	15.56	2.04	0.38	0.52	2.94	0.00	1.96	0.00	0.00	0.84
117	68.600	26.32	0.00	32.41	13.80	5.23	15.22	15.52	2.03	0.38	0.52	2.94	0.00	1.95	0.00	0.00	0.84
118	68.500	26.33	0.00	32.41	13.80	5.23	15.18	15.47	2.03	0.39	0.52	2.93	0.00	1.95	0.00	0.00	0.84
119	68.400	26.33	0.00	32.41	13.80	5.23	15.14	15.43	2.02	0.39	0.52	2.93	0.00	1.95	0.00	0.00	0.84
120	68.300	26.34	0.00	32.41	13.80	5.22	15.10	15.39	2.01	0.40	0.52	2.92	0.00	1.95	0.00	0.00	0.84
121	68.200	26.34	0.00	32.41	13.80	5.22	15.05	15.35	2.00	0.40	0.52	2.92	0.00	1.95	0.00	0.00	0.84
122	68.100	26.35	0.00	32.41	13.80	5.22	15.01	15.30	1.99	0.41	0.52	2.91	0.00	1.95	0.00	0.00	0.84
123	68.000	26.36	0.00	32.41	13.80	5.22	14.97	15.26	1.98	0.41	0.52	2.91	0.00	1.95	0.00	0.00	0.84
124	67.900	26.36	0.00	32.41	13.80	5.22	14.93	15.22	1.97	0.41	0.52	2.91	0.00	1.95	0.00	0.00	0.84
125	67.800	26.37	0.00	32.41	13.80	5.22	14.89	15.18	1.96	0.42	0.52	2.90	0.00	1.95	0.00	0.00	0.84
126	67.700	26.38	0.00	32.41	13.80	5.22	14.85	15.14	1.95	0.42	0.52	2.90	0.00	1.95	0.00	0.00	0.85
127	67.600	26.38	0.00	32.41	13.80	5.22	14.80	15.10	1.94	0.43	0.52	2.89	0.00	1.95	0.00	0.00	0.85
128	67.500	26.39	0.00	32.41	13.80	5.22	14.76	15.06	1.94	0.43	0.52	2.89	0.00	1.94	0.00	0.00	0.85
129	67.400	26.39	0.00	32.41	13.80	5.22	14.72	15.01	1.93	0.43	0.52	2.88	0.00	1.94	0.00	0.00	0.85
130	67.300	26.40	0.00	32.41	13.80	5.22	14.68	14.97	1.92	0.44	0.52	2.88	0.00	1.94	0.00	0.00	0.85
131	67.200	26.41	0.00	32.41	13.80	5.22	14.64	14.93	1.91	0.44	0.52	2.87	0.00	1.94	0.00	0.00	0.85
132	67.100	26.41	0.00	32.41	13.80	5.22	14.60	14.89	1.90	0.45	0.52	2.87	0.00	1.94	0.00	0.00	0.85
133	67.000	26.42	0.00	32.41	13.80	5.22	14.56	14.85	1.89	0.45	0.52	2.86	0.00	1.94	0.00	0.00	0.85
134	66.900	26.43	0.00	32.41	13.80	5.22	14.52	14.81	1.88	0.45	0.52	2.86	0.00	1.94	0.00	0.00	0.85
135	66.800	26.43	0.00	32.41	13.80	5.22	14.48	14.77	1.88	0.46	0.52	2.85	0.00	1.94	0.00	0.00	0.85
136	66.700	26.44	0.00	32.41	13.80	5.22	14.44	14.73	1.87	0.46	0.52	2.85	0.00	1.94	0.00	0.00	0.85
137	66.600	26.44	0.00	32.41	13.80	5.23	14.40	14.69	1.86	0.47	0.52	2.84	0.00	1.94	0.00	0.00	0.85
138	66.500	26.45	0.00	32.41	13.80	5.23	14.36	14.65	1.85	0.47	0.52	2.84	0.00	1.94	0.00	0.00	0.85
139	66.400	26.46	0.00	32.41	13.80	5.23	14.32	14.61	1.84	0.47	0.52	2.83	0.00	1.93	0.00	0.00	0.85

140	66.300	26.46	0.00	32.41	13.80	5.23	14.28	14.57	1.83	0.48	0.52	2.83	0.00	1.93	0.00	0.00	0.85
141	66.200	26.47	0.00	32.41	13.80	5.23	14.24	14.53	1.82	0.48	0.52	2.82	0.00	1.93	0.00	0.00	0.85
142	66.100	26.48	0.00	32.41	13.80	5.23	14.20	14.48	1.82	0.49	0.52	2.82	0.00	1.93	0.00	0.00	0.85
143	66.000	26.48	0.00	32.41	13.80	5.23	14.16	14.44	1.81	0.49	0.52	2.82	0.00	1.93	0.00	0.00	0.85
144	65.900	26.49	0.00	32.41	13.80	5.23	14.12	14.40	1.80	0.49	0.52	2.81	0.00	1.93	0.00	0.00	0.85
145	65.800	26.49	0.00	32.41	13.80	5.23	14.08	14.36	1.79	0.50	0.52	2.81	0.00	1.93	0.00	0.00	0.85
146	65.700	26.50	0.00	32.41	13.80	5.23	14.04	14.33	1.78	0.50	0.52	2.80	0.00	1.93	0.00	0.00	0.85
147	65.600	26.51	0.00	32.41	13.80	5.23	14.00	14.29	1.77	0.50	0.52	2.80	0.00	1.93	0.00	0.00	0.85
148	65.500	26.51	0.00	32.41	13.80	5.23	13.96	14.25	1.77	0.51	0.52	2.79	0.00	1.93	0.00	0.00	0.85
149	65.400	26.52	0.00	32.41	13.80	5.24	13.92	14.21	1.76	0.51	0.52	2.79	0.00	1.93	0.00	0.00	0.85
150	65.300	26.52	0.00	32.41	13.80	5.24	13.88	14.17	1.75	0.52	0.52	2.78	0.00	1.92	0.00	0.00	0.85
151	65.200	26.53	0.00	32.41	13.80	5.24	13.84	14.13	1.74	0.52	0.52	2.78	0.00	1.92	0.00	0.00	0.85
152	65.100	26.54	0.00	32.41	13.80	5.24	13.80	14.09	1.73	0.52	0.52	2.78	0.00	1.92	0.00	0.00	0.85
153	65.000	26.54	0.00	32.41	13.80	5.24	13.76	14.05	1.73	0.53	0.52	2.77	0.00	1.92	0.00	0.00	0.85
154	64.900	26.55	0.00	32.41	13.80	5.24	13.72	14.01	1.72	0.53	0.52	2.77	0.00	1.92	0.00	0.00	0.85
155	64.800	26.56	0.00	32.41	13.80	5.24	13.68	13.97	1.71	0.53	0.52	2.76	0.00	1.92	0.00	0.00	0.85
156	64.700	26.56	0.00	32.41	13.80	5.24	13.64	13.93	1.70	0.54	0.52	2.76	0.00	1.92	0.00	0.00	0.85
157	64.600	26.57	0.00	32.41	13.80	5.25	13.60	13.89	1.69	0.54	0.52	2.75	0.00	1.92	0.00	0.00	0.85
158	64.500	26.58	0.00	32.41	13.80	5.25	13.57	13.85	1.69	0.55	0.52	2.75	0.00	1.92	0.00	0.00	0.86
159	64.400	26.58	0.00	32.41	13.80	5.25	13.53	13.82	1.68	0.55	0.52	2.75	0.00	1.92	0.00	0.00	0.86
160	64.300	26.59	0.00	32.41	13.80	5.25	13.49	13.78	1.67	0.55	0.52	2.74	0.00	1.92	0.00	0.00	0.86
161	64.200	26.59	0.00	32.41	13.80	5.25	13.45	13.74	1.66	0.56	0.52	2.74	0.00	1.92	0.00	0.00	0.86
162	64.100	26.60	0.00	32.41	13.80	5.25	13.41	13.70	1.65	0.56	0.52	2.73	0.00	1.91	0.00	0.00	0.86
163	64.000	26.61	0.00	32.41	13.80	5.26	13.37	13.66	1.65	0.56	0.52	2.73	0.00	1.91	0.00	0.00	0.86
164	63.900	26.61	0.00	32.41	13.80	5.26	13.34	13.62	1.64	0.57	0.52	2.72	0.00	1.91	0.00	0.00	0.86
165	63.800	26.62	0.00	32.41	13.80	5.26	13.30	13.58	1.63	0.57	0.52	2.72	0.00	1.91	0.00	0.00	0.86
166	63.700	26.62	0.00	32.41	13.80	5.26	13.26	13.55	1.62	0.57	0.52	2.72	0.00	1.91	0.00	0.00	0.86
167	63.600	26.63	0.00	32.41	13.80	5.26	13.22	13.51	1.62	0.58	0.52	2.71	0.00	1.91	0.00	0.00	0.86
168	63.500	26.64	0.00	32.41	13.80	5.26	13.18	13.47	1.61	0.58	0.52	2.71	0.00	1.91	0.00	0.00	0.86
169	63.400	26.64	0.00	32.41	13.80	5.27	13.15	13.43	1.60	0.58	0.52	2.70	0.00	1.91	0.00	0.00	0.86
170	63.300	26.65	0.00	32.41	13.80	5.27	13.11	13.39	1.59	0.59	0.52	2.70	0.00	1.91	0.00	0.00	0.86
171	63.200	26.66	0.00	32.41	13.80	5.27	13.07	13.36	1.59	0.59	0.52	2.70	0.00	1.91	0.00	0.00	0.86
172	63.100	26.66	0.00	32.41	13.80	5.27	13.03	13.32	1.58	0.59	0.52	2.69	0.00	1.91	0.00	0.00	0.86
173	63.000	26.67	0.00	32.41	13.80	5.27	13.00	13.28	1.57	0.60	0.52	2.69	0.00	1.90	0.00	0.00	0.86
174	62.900	26.68	0.00	32.41	13.80	5.28	12.96	13.24	1.56	0.60	0.52	2.68	0.00	1.90	0.00	0.00	0.86
175	62.800	26.68	0.00	32.41	13.80	5.28	12.92	13.21	1.56	0.61	0.52	2.68	0.00	1.90	0.00	0.00	0.86
176	62.700	26.69	0.00	32.41	13.80	5.28	12.88	13.17	1.55	0.61	0.52	2.67	0.00	1.90	0.00	0.00	0.86
177	62.600	26.69	0.00	32.41	13.80	5.28	12.85	13.13	1.54	0.61	0.52	2.67	0.00	1.90	0.00	0.00	0.86
178	62.500	26.70	0.00	32.41	13.80	5.28	12.81	13.10	1.53	0.62	0.52	2.67	0.00	1.90	0.00	0.00	0.86

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 4 LITTLE BARNES - REDHEAD CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
179	UPR RCH	0.15345	26.70	0.00	32.41	13.80	5.28	12.81	13.10	1.53	0.62	0.52	0.00	1.90	0.00	0.86
EACH	INCR	0.0002	26.70	0.00	30.20	7.90	2.00	2.63	2.63	0.15	0.00	0.09	0.00		0.00	3.48

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
179	62.50	62.40	0.15361	82.45	0.11462	0.01	0.37	3.67	134.02	366.94	1.34	0.00	0.000	0.025	0.115
180	62.40	62.30	0.15378	82.36	0.11470	0.01	0.37	3.67	134.07	366.98	1.34	0.00	0.000	0.025	0.115
181	62.30	62.20	0.15394	82.27	0.11477	0.01	0.37	3.67	134.13	367.03	1.34	0.00	0.000	0.025	0.115
182	62.20	62.10	0.15410	82.19	0.11485	0.01	0.37	3.67	134.18	367.08	1.34	0.00	0.000	0.025	0.115
183	62.10	62.00	0.15427	82.10	0.11492	0.01	0.37	3.67	134.24	367.12	1.34	0.00	0.000	0.025	0.115
184	62.00	61.90	0.15443	82.01	0.11500	0.01	0.37	3.67	134.29	367.17	1.34	0.00	0.000	0.025	0.115
185	61.90	61.80	0.15459	81.93	0.11507	0.01	0.37	3.67	134.34	367.21	1.34	0.00	0.000	0.025	0.115
186	61.80	61.70	0.15475	81.84	0.11515	0.01	0.37	3.67	134.40	367.26	1.34	0.00	0.000	0.025	0.115
187	61.70	61.60	0.15492	81.75	0.11522	0.01	0.37	3.67	134.45	367.31	1.34	0.00	0.000	0.025	0.115
188	61.60	61.50	0.15508	81.67	0.11530	0.01	0.37	3.67	134.51	367.35	1.35	0.00	0.000	0.025	0.115
189	61.50	61.40	0.15524	81.58	0.11537	0.01	0.37	3.67	134.56	367.40	1.35	0.00	0.000	0.025	0.115
190	61.40	61.30	0.15541	81.50	0.11544	0.01	0.37	3.67	134.61	367.45	1.35	0.00	0.000	0.025	0.115
191	61.30	61.20	0.15557	81.41	0.11552	0.01	0.37	3.67	134.67	367.49	1.35	0.00	0.000	0.025	0.116
192	61.20	61.10	0.15573	81.33	0.11559	0.01	0.37	3.68	134.72	367.54	1.35	0.00	0.000	0.025	0.116
193	61.10	61.00	0.15589	81.24	0.11567	0.01	0.37	3.68	134.78	367.58	1.35	0.00	0.000	0.025	0.116
194	61.00	60.90	0.15606	81.16	0.11574	0.01	0.37	3.68	134.83	367.63	1.35	0.00	0.000	0.025	0.116
195	60.90	60.80	0.15622	81.07	0.11582	0.01	0.37	3.68	134.88	367.68	1.35	0.00	0.000	0.025	0.116
196	60.80	60.70	0.15638	80.99	0.11589	0.01	0.37	3.68	134.94	367.72	1.35	0.00	0.000	0.025	0.116
197	60.70	60.60	0.15655	80.90	0.11597	0.01	0.37	3.68	134.99	367.77	1.35	0.00	0.000	0.025	0.116
198	60.60	60.50	0.15671	80.82	0.11604	0.01	0.37	3.68	135.05	367.82	1.35	0.00	0.000	0.025	0.116
199	60.50	60.40	0.15687	80.74	0.11611	0.01	0.37	3.68	135.10	367.86	1.35	0.00	0.000	0.025	0.116
200	60.40	60.30	0.15703	80.65	0.11619	0.01	0.37	3.68	135.16	367.91	1.35	0.00	0.000	0.025	0.116
201	60.30	60.20	0.15720	80.57	0.11626	0.01	0.37	3.68	135.21	367.95	1.35	0.00	0.000	0.025	0.116
202	60.20	60.10	0.15736	80.49	0.11634	0.01	0.37	3.68	135.26	368.00	1.35	0.00	0.000	0.025	0.116
203	60.10	60.00	0.15752	80.40	0.11641	0.01	0.37	3.68	135.32	368.05	1.35	0.00	0.000	0.025	0.116
204	60.00	59.90	0.15769	80.32	0.11648	0.01	0.37	3.68	135.37	368.09	1.35	0.00	0.000	0.025	0.116
205	59.90	59.80	0.15785	80.24	0.11656	0.01	0.37	3.68	135.43	368.14	1.35	0.00	0.000	0.025	0.117
206	59.80	59.70	0.15801	80.15	0.11663	0.01	0.37	3.68	135.48	368.19	1.35	0.00	0.000	0.025	0.117
207	59.70	59.60	0.15817	80.07	0.11670	0.01	0.37	3.68	135.53	368.23	1.36	0.00	0.000	0.025	0.117
208	59.60	59.50	0.15834	79.99	0.11678	0.01	0.37	3.68	135.59	368.28	1.36	0.00	0.000	0.025	0.117
209	59.50	59.40	0.15850	79.91	0.11685	0.01	0.37	3.68	135.64	368.32	1.36	0.00	0.000	0.025	0.117
210	59.40	59.30	0.15866	79.82	0.11692	0.01	0.37	3.68	135.70	368.37	1.36	0.00	0.000	0.025	0.117
211	59.30	59.20	0.15883	79.74	0.11700	0.01	0.37	3.68	135.75	368.42	1.36	0.00	0.000	0.025	0.117
212	59.20	59.10	0.15899	79.66	0.11707	0.01	0.37	3.68	135.81	368.46	1.36	0.00	0.000	0.026	0.117
213	59.10	59.00	0.15915	79.58	0.11714	0.01	0.37	3.69	135.86	368.51	1.36	0.00	0.000	0.026	0.117

197	60.600	8.01	2.16	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
198	60.500	8.01	2.16	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
199	60.400	8.01	2.16	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
200	60.300	8.01	2.16	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
201	60.200	8.01	2.16	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
202	60.100	8.01	2.16	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
203	60.000	8.01	2.16	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
204	59.900	8.01	2.16	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
205	59.800	8.01	2.16	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
206	59.700	8.01	2.16	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
207	59.600	8.01	2.16	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
208	59.500	8.01	2.16	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
209	59.400	8.01	2.16	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
210	59.300	8.01	2.16	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
211	59.200	8.01	2.16	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
212	59.100	8.01	2.16	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
213	59.000	8.01	2.15	0.14	0.12	0.00	1.43	1.43	1.43	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			

20 DEG C RATE 0.10 0.00 0.94 0.05 0.00 0.00 0.00 0.00 0.00 0.05
 AVG 20 DEG C RATE 1.91 0.10 0.10 0.05

* g/m²/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 *
179	62.400	26.70	0.00	32.41	13.80	5.28	12.77	13.05	1.53	0.62	0.52	2.66	0.00	1.90	0.00	0.00	0.87
180	62.300	26.70	0.00	32.41	13.79	5.28	12.73	13.01	1.53	0.62	0.52	2.66	0.00	1.90	0.00	0.00	0.87
181	62.200	26.70	0.00	32.41	13.78	5.28	12.69	12.97	1.53	0.62	0.52	2.66	0.00	1.90	0.00	0.00	0.88

182	62.100	26.70	0.00	32.40	13.78	5.28	12.65	12.93	1.52	0.62	0.52	2.66	0.00	1.90	0.00	0.00	0.88
183	62.000	26.70	0.00	32.40	13.77	5.28	12.61	12.89	1.52	0.62	0.51	2.65	0.00	1.90	0.00	0.00	0.89
184	61.900	26.70	0.00	32.40	13.77	5.28	12.57	12.85	1.52	0.62	0.51	2.65	0.00	1.90	0.00	0.00	0.90
185	61.800	26.70	0.00	32.40	13.76	5.28	12.53	12.81	1.51	0.62	0.51	2.65	0.00	1.90	0.00	0.00	0.90
186	61.700	26.70	0.00	32.40	13.75	5.28	12.49	12.77	1.51	0.62	0.51	2.65	0.00	1.90	0.00	0.00	0.91
187	61.600	26.70	0.00	32.39	13.75	5.28	12.45	12.73	1.51	0.62	0.51	2.64	0.00	1.90	0.00	0.00	0.91
188	61.500	26.70	0.00	32.39	13.74	5.27	12.41	12.69	1.51	0.62	0.51	2.64	0.00	1.90	0.00	0.00	0.92
189	61.400	26.70	0.00	32.39	13.73	5.27	12.37	12.65	1.50	0.62	0.51	2.64	0.00	1.90	0.00	0.00	0.92
190	61.300	26.70	0.00	32.39	13.73	5.27	12.33	12.61	1.50	0.62	0.51	2.63	0.00	1.90	0.00	0.00	0.93
191	61.200	26.70	0.00	32.38	13.72	5.27	12.29	12.58	1.50	0.62	0.51	2.63	0.00	1.90	0.00	0.00	0.93
192	61.100	26.70	0.00	32.38	13.72	5.27	12.25	12.54	1.50	0.62	0.51	2.63	0.00	1.90	0.00	0.00	0.94
193	61.000	26.70	0.00	32.38	13.71	5.27	12.21	12.50	1.49	0.62	0.51	2.63	0.00	1.90	0.00	0.00	0.95
194	60.900	26.70	0.00	32.38	13.70	5.27	12.17	12.46	1.49	0.62	0.51	2.62	0.00	1.90	0.00	0.00	0.95
195	60.800	26.70	0.00	32.38	13.70	5.27	12.14	12.42	1.49	0.62	0.51	2.62	0.00	1.90	0.00	0.00	0.96
196	60.700	26.70	0.00	32.37	13.69	5.27	12.10	12.38	1.49	0.62	0.51	2.62	0.00	1.90	0.00	0.00	0.96
197	60.600	26.70	0.00	32.37	13.69	5.27	12.06	12.34	1.48	0.63	0.51	2.62	0.00	1.90	0.00	0.00	0.97
198	60.500	26.70	0.00	32.37	13.68	5.27	12.02	12.31	1.48	0.63	0.51	2.61	0.00	1.90	0.00	0.00	0.97
199	60.400	26.70	0.00	32.37	13.67	5.27	11.98	12.27	1.48	0.63	0.51	2.61	0.00	1.90	0.00	0.00	0.98
200	60.300	26.70	0.00	32.36	13.67	5.27	11.95	12.23	1.48	0.63	0.51	2.61	0.00	1.90	0.00	0.00	0.98
201	60.200	26.70	0.00	32.36	13.66	5.27	11.91	12.19	1.47	0.63	0.51	2.61	0.00	1.90	0.00	0.00	0.99
202	60.100	26.70	0.00	32.36	13.66	5.27	11.87	12.16	1.47	0.63	0.51	2.60	0.00	1.90	0.00	0.00	0.99
203	60.000	26.70	0.00	32.36	13.65	5.27	11.83	12.12	1.47	0.63	0.51	2.60	0.00	1.90	0.00	0.00	1.00
204	59.900	26.70	0.00	32.35	13.64	5.27	11.80	12.08	1.46	0.63	0.50	2.60	0.00	1.90	0.00	0.00	1.00
205	59.800	26.70	0.00	32.35	13.64	5.27	11.76	12.05	1.46	0.63	0.50	2.60	0.00	1.90	0.00	0.00	1.01
206	59.700	26.70	0.00	32.35	13.63	5.27	11.72	12.01	1.46	0.63	0.50	2.59	0.00	1.90	0.00	0.00	1.01
207	59.600	26.70	0.00	32.35	13.63	5.27	11.69	11.97	1.46	0.63	0.50	2.59	0.00	1.90	0.00	0.00	1.02
208	59.500	26.70	0.00	32.35	13.62	5.27	11.65	11.94	1.45	0.63	0.50	2.59	0.00	1.90	0.00	0.00	1.02
209	59.400	26.70	0.00	32.34	13.62	5.27	11.62	11.90	1.45	0.63	0.50	2.59	0.00	1.90	0.00	0.00	1.03
210	59.300	26.70	0.00	32.34	13.61	5.27	11.58	11.86	1.45	0.63	0.50	2.58	0.00	1.90	0.00	0.00	1.03
211	59.200	26.70	0.00	32.34	13.60	5.27	11.54	11.83	1.45	0.63	0.50	2.58	0.00	1.90	0.00	0.00	1.04
212	59.100	26.70	0.00	32.34	13.60	5.28	11.51	11.79	1.44	0.63	0.50	2.58	0.00	1.90	0.00	0.00	1.04
213	59.000	26.70	0.00	32.34	13.59	5.28	11.47	11.76	1.44	0.63	0.50	2.58	0.00	1.90	0.00	0.00	1.05

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 5 REDHEAD CR - SITE 6

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
214	UPR RCH	0.15915	26.70	0.00	32.34	13.59	5.28	11.47	11.76	1.44	0.63	0.50	0.00	1.90	0.00	1.05
EACH	INCR	0.0002	26.70	0.00	30.20	7.90	2.00	2.63	2.63	0.15	0.00	0.09	0.00	0.00	0.00	3.48

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
214	59.00	58.90	0.15936	79.47	0.11724	0.01	0.37	3.69	135.93	368.57	1.36	0.00	0.000	0.026	0.117
215	58.90	58.80	0.15957	79.37	0.11733	0.01	0.37	3.69	136.00	368.63	1.36	0.00	0.000	0.026	0.117
216	58.80	58.70	0.15978	79.26	0.11743	0.01	0.37	3.69	136.07	368.69	1.36	0.00	0.000	0.026	0.117
217	58.70	58.60	0.16000	79.16	0.11752	0.01	0.37	3.69	136.14	368.75	1.36	0.00	0.000	0.026	0.118
218	58.60	58.50	0.16021	79.06	0.11762	0.01	0.37	3.69	136.21	368.81	1.36	0.00	0.000	0.026	0.118
219	58.50	58.40	0.16042	78.95	0.11771	0.01	0.37	3.69	136.28	368.87	1.36	0.00	0.000	0.026	0.118
220	58.40	58.30	0.16063	78.85	0.11780	0.01	0.37	3.69	136.35	368.93	1.36	0.00	0.000	0.026	0.118
221	58.30	58.20	0.16084	78.74	0.11790	0.01	0.37	3.69	136.42	368.99	1.36	0.00	0.000	0.026	0.118
222	58.20	58.10	0.16105	78.64	0.11799	0.01	0.37	3.69	136.49	369.05	1.36	0.00	0.000	0.026	0.118
223	58.10	58.00	0.16126	78.54	0.11809	0.01	0.37	3.69	136.56	369.11	1.37	0.00	0.000	0.026	0.118
224	58.00	57.90	0.16147	78.44	0.11818	0.01	0.37	3.69	136.63	369.17	1.37	0.00	0.000	0.026	0.118
225	57.90	57.80	0.16168	78.33	0.11827	0.01	0.37	3.69	136.70	369.23	1.37	0.00	0.000	0.026	0.118
226	57.80	57.70	0.16190	78.23	0.11837	0.01	0.37	3.69	136.77	369.29	1.37	0.00	0.000	0.026	0.118
227	57.70	57.60	0.16211	78.13	0.11846	0.01	0.37	3.69	136.84	369.35	1.37	0.00	0.000	0.026	0.118
228	57.60	57.50	0.16232	78.03	0.11855	0.01	0.37	3.69	136.92	369.41	1.37	0.00	0.000	0.026	0.119
229	57.50	57.40	0.16253	77.93	0.11865	0.01	0.37	3.69	136.99	369.47	1.37	0.00	0.000	0.026	0.119
230	57.40	57.30	0.16274	77.82	0.11874	0.01	0.37	3.70	137.06	369.52	1.37	0.00	0.000	0.026	0.119
231	57.30	57.20	0.16295	77.72	0.11883	0.01	0.37	3.70	137.13	369.58	1.37	0.00	0.000	0.026	0.119
232	57.20	57.10	0.16316	77.62	0.11892	0.01	0.37	3.70	137.20	369.64	1.37	0.00	0.000	0.026	0.119
233	57.10	57.00	0.16337	77.52	0.11902	0.01	0.37	3.70	137.27	369.70	1.37	0.00	0.000	0.026	0.119
234	57.00	56.90	0.16358	77.42	0.11911	0.01	0.37	3.70	137.34	369.76	1.37	0.00	0.000	0.026	0.119
235	56.90	56.80	0.16380	77.32	0.11920	0.01	0.37	3.70	137.41	369.82	1.37	0.00	0.000	0.026	0.119
236	56.80	56.70	0.16401	77.22	0.11929	0.01	0.37	3.70	137.48	369.88	1.37	0.00	0.000	0.026	0.119
237	56.70	56.60	0.16422	77.12	0.11939	0.01	0.37	3.70	137.55	369.94	1.38	0.00	0.000	0.026	0.119
238	56.60	56.50	0.16443	77.03	0.11948	0.01	0.37	3.70	137.62	370.00	1.38	0.00	0.000	0.026	0.119
239	56.50	56.40	0.16464	76.93	0.11957	0.01	0.37	3.70	137.69	370.06	1.38	0.00	0.000	0.026	0.120
240	56.40	56.30	0.16485	76.83	0.11966	0.01	0.37	3.70	137.76	370.12	1.38	0.00	0.000	0.026	0.120
TOT						0.26			3694.82	9972.33					
AVG					0.11845		0.37	3.69			1.37				
CUM						2.09									

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

ELEM NO. SETT	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAT	CBOD SETT	ANBOD DECAT	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAT	ORGN SETT	NH3 DECAT	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAT	NCM DECAT
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
214	58.900	8.01	2.15	0.14	0.12	0.00	1.54	1.54	1.54	0.08	0.06	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.07

0.06
 240 56.300 8.01 2.13 0.14 0.12 0.00 1.54 1.54 1.54 0.08 0.06 0.00 0.00 0.00 0.00 0.41 0.00 0.00 0.07
 0.06
 20 DEG C RATE 0.10 0.00 1.01 0.05 0.00 0.00 0.00 0.00
 AVG 20 DEG C RATE 1.89 0.10 0.05
 0.05

* g/m²/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 *
214	58.900	26.70	0.00	32.33	13.58	5.27	11.43	11.74	1.44	0.63	0.50	2.57	0.00	2.06	0.00	0.00	1.06
215	58.800	26.70	0.00	32.33	13.58	5.27	11.39	11.72	1.44	0.63	0.50	2.57	0.00	2.21	0.00	0.00	1.07
216	58.700	26.70	0.00	32.33	13.57	5.27	11.35	11.71	1.43	0.63	0.50	2.57	0.00	2.37	0.00	0.00	1.08
217	58.600	26.70	0.00	32.32	13.56	5.26	11.31	11.69	1.43	0.63	0.50	2.56	0.00	2.52	0.00	0.00	1.09
218	58.500	26.70	0.00	32.32	13.55	5.26	11.27	11.68	1.43	0.63	0.50	2.56	0.00	2.68	0.00	0.00	1.10
219	58.400	26.70	0.00	32.32	13.55	5.26	11.23	11.66	1.43	0.63	0.50	2.56	0.00	2.83	0.00	0.00	1.11
220	58.300	26.70	0.00	32.32	13.54	5.26	11.19	11.64	1.42	0.63	0.50	2.55	0.00	2.99	0.00	0.00	1.12
221	58.200	26.70	0.00	32.31	13.53	5.26	11.16	11.63	1.42	0.63	0.50	2.55	0.00	3.14	0.00	0.00	1.12
222	58.100	26.70	0.00	32.31	13.52	5.25	11.12	11.61	1.42	0.63	0.50	2.55	0.00	3.30	0.00	0.00	1.13
223	58.000	26.70	0.00	32.31	13.52	5.25	11.08	11.60	1.42	0.63	0.49	2.55	0.00	3.46	0.00	0.00	1.14
224	57.900	26.70	0.00	32.30	13.51	5.25	11.04	11.58	1.41	0.64	0.49	2.54	0.00	3.61	0.00	0.00	1.15
225	57.800	26.70	0.00	32.30	13.50	5.25	11.00	11.57	1.41	0.64	0.49	2.54	0.00	3.77	0.00	0.00	1.16
226	57.700	26.70	0.00	32.30	13.50	5.25	10.96	11.55	1.41	0.64	0.49	2.54	0.00	3.92	0.00	0.00	1.17
227	57.600	26.70	0.00	32.30	13.49	5.25	10.93	11.54	1.41	0.64	0.49	2.53	0.00	4.08	0.00	0.00	1.18
228	57.500	26.70	0.00	32.29	13.48	5.25	10.89	11.52	1.40	0.64	0.49	2.53	0.00	4.23	0.00	0.00	1.19
229	57.400	26.70	0.00	32.29	13.47	5.25	10.85	11.51	1.40	0.64	0.49	2.53	0.00	4.39	0.00	0.00	1.20
230	57.300	26.70	0.00	32.29	13.47	5.25	10.81	11.49	1.40	0.64	0.49	2.53	0.00	4.54	0.00	0.00	1.21
231	57.200	26.70	0.00	32.29	13.46	5.25	10.78	11.48	1.40	0.64	0.49	2.52	0.00	4.70	0.00	0.00	1.21
232	57.100	26.70	0.00	32.28	13.45	5.25	10.74	11.47	1.39	0.64	0.49	2.52	0.00	4.86	0.00	0.00	1.22
233	57.000	26.70	0.00	32.28	13.44	5.25	10.70	11.45	1.39	0.64	0.49	2.52	0.00	5.01	0.00	0.00	1.23
234	56.900	26.70	0.00	32.28	13.44	5.25	10.67	11.44	1.39	0.64	0.49	2.51	0.00	5.17	0.00	0.00	1.24
235	56.800	26.70	0.00	32.27	13.43	5.25	10.63	11.43	1.39	0.64	0.49	2.51	0.00	5.32	0.00	0.00	1.25
236	56.700	26.70	0.00	32.27	13.42	5.25	10.59	11.41	1.38	0.64	0.49	2.51	0.00	5.48	0.00	0.00	1.26
237	56.600	26.70	0.00	32.27	13.42	5.25	10.56	11.40	1.38	0.64	0.49	2.51	0.00	5.63	0.00	0.00	1.27
238	56.500	26.70	0.00	32.27	13.41	5.25	10.52	11.39	1.38	0.64	0.49	2.50	0.00	5.79	0.00	0.00	1.28
239	56.400	26.70	0.00	32.26	13.40	5.25	10.48	11.38	1.38	0.64	0.49	2.50	0.00	5.94	0.00	0.00	1.28
240	56.300	26.70	0.00	32.26	13.39	5.25	10.45	11.36	1.37	0.64	0.48	2.50	0.00	6.10	0.00	0.00	1.29

* CM-I = CHLORIDES
 MG/L
 ** g/m³

CM-II = SULFATES
 MG/L

NCM = CBOD2
 mg/L

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
241	UPR RCH	0.16485	26.70	0.00	32.26	13.39	5.25	10.45	11.36	1.37	0.64	0.48	0.00	6.10	0.00	1.29
EACH	INCR	-0.0002														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
241	56.30	56.20	0.16465	76.83	0.04733	0.02	0.55	6.30	347.85	630.07	3.48	0.00	0.000	0.014	0.047
242	56.20	56.10	0.16446	76.83	0.04729	0.02	0.55	6.30	347.74	630.01	3.48	0.00	0.000	0.014	0.047
243	56.10	56.00	0.16426	76.83	0.04725	0.02	0.55	6.30	347.64	629.96	3.48	0.00	0.000	0.014	0.047
244	56.00	55.90	0.16407	76.83	0.04721	0.02	0.55	6.30	347.53	629.90	3.48	0.00	0.000	0.014	0.047
245	55.90	55.80	0.16387	76.83	0.04717	0.02	0.55	6.30	347.42	629.85	3.47	0.00	0.000	0.014	0.047
246	55.80	55.70	0.16368	76.83	0.04713	0.02	0.55	6.30	347.32	629.79	3.47	0.00	0.000	0.014	0.047
247	55.70	55.60	0.16348	76.83	0.04708	0.02	0.55	6.30	347.21	629.73	3.47	0.00	0.000	0.014	0.047
248	55.60	55.50	0.16328	76.83	0.04704	0.02	0.55	6.30	347.10	629.68	3.47	0.00	0.000	0.014	0.047
249	55.50	55.40	0.16309	76.83	0.04700	0.02	0.55	6.30	346.99	629.62	3.47	0.00	0.000	0.014	0.047
250	55.40	55.30	0.16289	76.83	0.04696	0.02	0.55	6.30	346.89	629.57	3.47	0.00	0.000	0.014	0.047
251	55.30	55.20	0.16270	76.83	0.04692	0.02	0.55	6.30	346.78	629.51	3.47	0.00	0.000	0.014	0.047
252	55.20	55.10	0.16250	76.83	0.04687	0.02	0.55	6.29	346.67	629.46	3.47	0.00	0.000	0.014	0.047
253	55.10	55.00	0.16230	76.83	0.04683	0.02	0.55	6.29	346.57	629.40	3.47	0.00	0.000	0.014	0.047
254	55.00	54.90	0.16211	76.83	0.04679	0.02	0.55	6.29	346.46	629.35	3.46	0.00	0.000	0.014	0.047
255	54.90	54.80	0.16191	76.83	0.04675	0.02	0.55	6.29	346.35	629.29	3.46	0.00	0.000	0.014	0.047
256	54.80	54.70	0.16172	76.83	0.04671	0.02	0.55	6.29	346.25	629.24	3.46	0.00	0.000	0.014	0.047
257	54.70	54.60	0.16152	76.83	0.04666	0.02	0.55	6.29	346.14	629.18	3.46	0.00	0.000	0.014	0.047
258	54.60	54.50	0.16132	76.83	0.04662	0.02	0.55	6.29	346.03	629.12	3.46	0.00	0.000	0.014	0.047
259	54.50	54.40	0.16113	76.83	0.04658	0.02	0.55	6.29	345.92	629.07	3.46	0.00	0.000	0.014	0.047
260	54.40	54.30	0.16093	76.83	0.04654	0.02	0.55	6.29	345.82	629.01	3.46	0.00	0.000	0.014	0.047
261	54.30	54.20	0.16074	76.83	0.04649	0.02	0.55	6.29	345.71	628.96	3.46	0.00	0.000	0.014	0.046
262	54.20	54.10	0.16054	76.83	0.04645	0.02	0.55	6.29	345.60	628.90	3.46	0.00	0.000	0.014	0.046
263	54.10	54.00	0.16034	76.83	0.04641	0.02	0.55	6.29	345.50	628.85	3.45	0.00	0.000	0.014	0.046
264	54.00	53.90	0.16015	76.83	0.04637	0.02	0.55	6.29	345.39	628.79	3.45	0.00	0.000	0.014	0.046
265	53.90	53.80	0.15995	76.83	0.04633	0.02	0.55	6.29	345.28	628.74	3.45	0.00	0.000	0.014	0.046
266	53.80	53.70	0.15976	76.83	0.04628	0.03	0.55	6.29	345.18	628.68	3.45	0.00	0.000	0.014	0.046
267	53.70	53.60	0.15956	76.83	0.04624	0.03	0.55	6.29	345.07	628.62	3.45	0.00	0.000	0.014	0.046
268	53.60	53.50	0.15936	76.83	0.04620	0.03	0.55	6.29	344.96	628.57	3.45	0.00	0.000	0.014	0.046
269	53.50	53.40	0.15917	76.83	0.04616	0.03	0.55	6.29	344.86	628.51	3.45	0.00	0.000	0.014	0.046
270	53.40	53.30	0.15897	76.83	0.04611	0.03	0.55	6.28	344.75	628.46	3.45	0.00	0.000	0.014	0.046
271	53.30	53.20	0.15878	76.83	0.04607	0.03	0.55	6.28	344.64	628.40	3.45	0.00	0.000	0.014	0.046
272	53.20	53.10	0.15858	76.83	0.04603	0.03	0.55	6.28	344.54	628.35	3.45	0.00	0.000	0.014	0.046

275	52.800	8.01	1.45	0.18	0.12	0.00	1.14	1.14	1.14	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
276	52.700	8.01	1.45	0.18	0.12	0.00	1.14	1.14	1.14	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
277	52.600	8.01	1.45	0.18	0.12	0.00	1.14	1.14	1.14	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
278	52.500	8.01	1.45	0.18	0.12	0.00	1.14	1.14	1.14	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
279	52.400	8.01	1.45	0.18	0.12	0.00	1.14	1.14	1.14	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
280	52.300	8.01	1.45	0.18	0.12	0.00	1.14	1.14	1.14	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
281	52.200	8.01	1.45	0.18	0.12	0.00	1.14	1.14	1.14	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
282	52.100	8.01	1.45	0.18	0.12	0.00	1.14	1.14	1.14	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
283	52.000	8.01	1.45	0.18	0.12	0.00	1.14	1.14	1.14	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
284	51.900	8.01	1.45	0.18	0.12	0.00	1.14	1.14	1.14	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
285	51.800	8.01	1.45	0.18	0.12	0.00	1.14	1.14	1.14	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
286	51.700	8.01	1.45	0.18	0.12	0.00	1.14	1.14	1.14	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
287	51.600	8.01	1.45	0.18	0.12	0.00	1.14	1.14	1.14	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
288	51.500	8.01	1.45	0.18	0.12	0.00	1.14	1.14	1.14	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
289	51.400	8.01	1.45	0.18	0.12	0.00	1.14	1.14	1.14	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
20 DEG C RATE				0.13		0.00	0.75			0.04		0.00	0.00	0.00	0.00			0.00	0.04
AVG 20 DEG C RATE			1.27		0.10						0.05								
0.05																			

* g/m²/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 *
241	56.200	26.70	0.00	32.26	13.39	5.26	10.39	11.30	1.37	0.64	0.48	2.50	0.00	6.10	0.00	0.00	1.29
242	56.100	26.70	0.00	32.26	13.39	5.27	10.32	11.24	1.37	0.64	0.48	2.49	0.00	6.10	0.00	0.00	1.29
243	56.000	26.70	0.00	32.26	13.39	5.28	10.26	11.17	1.37	0.64	0.48	2.49	0.00	6.10	0.00	0.00	1.29
244	55.900	26.70	0.00	32.26	13.39	5.28	10.20	11.11	1.36	0.65	0.48	2.49	0.00	6.10	0.00	0.00	1.29
245	55.800	26.70	0.00	32.26	13.39	5.29	10.13	11.05	1.36	0.65	0.48	2.49	0.00	6.10	0.00	0.00	1.29
246	55.700	26.70	0.00	32.26	13.39	5.30	10.07	10.99	1.36	0.65	0.48	2.49	0.00	6.10	0.00	0.00	1.28
247	55.600	26.70	0.00	32.26	13.39	5.31	10.01	10.93	1.35	0.65	0.48	2.49	0.00	6.10	0.00	0.00	1.28

248	55.500	26.70	0.00	32.26	13.39	5.31	9.95	10.86	1.35	0.65	0.48	2.49	0.00	6.10	0.00	0.00	1.28
249	55.400	26.70	0.00	32.26	13.39	5.32	9.89	10.80	1.35	0.66	0.48	2.48	0.00	6.10	0.00	0.00	1.28
250	55.300	26.70	0.00	32.26	13.39	5.33	9.83	10.74	1.34	0.66	0.48	2.48	0.00	6.10	0.00	0.00	1.28
251	55.200	26.70	0.00	32.26	13.39	5.34	9.77	10.68	1.34	0.66	0.48	2.48	0.00	6.10	0.00	0.00	1.28
252	55.100	26.70	0.00	32.26	13.39	5.35	9.71	10.62	1.34	0.66	0.48	2.48	0.00	6.10	0.00	0.00	1.28
253	55.000	26.70	0.00	32.26	13.39	5.35	9.65	10.56	1.34	0.66	0.48	2.48	0.00	6.10	0.00	0.00	1.27
254	54.900	26.70	0.00	32.26	13.39	5.36	9.59	10.51	1.33	0.66	0.48	2.48	0.00	6.10	0.00	0.00	1.27
255	54.800	26.70	0.00	32.26	13.39	5.37	9.53	10.45	1.33	0.67	0.48	2.48	0.00	6.10	0.00	0.00	1.27
256	54.700	26.70	0.00	32.26	13.39	5.38	9.47	10.39	1.33	0.67	0.48	2.47	0.00	6.10	0.00	0.00	1.27
257	54.600	26.70	0.00	32.26	13.39	5.38	9.42	10.33	1.32	0.67	0.48	2.47	0.00	6.10	0.00	0.00	1.27
258	54.500	26.70	0.00	32.26	13.39	5.39	9.36	10.27	1.32	0.67	0.48	2.47	0.00	6.10	0.00	0.00	1.27
259	54.400	26.70	0.00	32.26	13.39	5.40	9.30	10.22	1.32	0.67	0.48	2.47	0.00	6.10	0.00	0.00	1.27
260	54.300	26.70	0.00	32.26	13.39	5.41	9.25	10.16	1.32	0.68	0.48	2.47	0.00	6.10	0.00	0.00	1.27
261	54.200	26.70	0.00	32.26	13.39	5.42	9.19	10.11	1.31	0.68	0.48	2.47	0.00	6.10	0.00	0.00	1.26
262	54.100	26.70	0.00	32.26	13.39	5.42	9.13	10.05	1.31	0.68	0.48	2.47	0.00	6.10	0.00	0.00	1.26
263	54.000	26.70	0.00	32.26	13.39	5.43	9.08	9.99	1.31	0.68	0.48	2.47	0.00	6.10	0.00	0.00	1.26
264	53.900	26.70	0.00	32.26	13.39	5.44	9.02	9.94	1.30	0.68	0.48	2.46	0.00	6.10	0.00	0.00	1.26
265	53.800	26.70	0.00	32.26	13.39	5.45	8.97	9.88	1.30	0.68	0.48	2.46	0.00	6.10	0.00	0.00	1.26
266	53.700	26.70	0.00	32.26	13.39	5.45	8.91	9.83	1.30	0.69	0.48	2.46	0.00	6.10	0.00	0.00	1.26
267	53.600	26.70	0.00	32.26	13.39	5.46	8.86	9.78	1.30	0.69	0.48	2.46	0.00	6.10	0.00	0.00	1.26
268	53.500	26.70	0.00	32.26	13.39	5.47	8.81	9.72	1.29	0.69	0.48	2.46	0.00	6.10	0.00	0.00	1.25
269	53.400	26.70	0.00	32.26	13.39	5.48	8.75	9.67	1.29	0.69	0.48	2.46	0.00	6.10	0.00	0.00	1.25
270	53.300	26.70	0.00	32.26	13.39	5.48	8.70	9.62	1.29	0.69	0.48	2.46	0.00	6.10	0.00	0.00	1.25
271	53.200	26.70	0.00	32.26	13.39	5.49	8.65	9.56	1.28	0.70	0.47	2.45	0.00	6.10	0.00	0.00	1.25
272	53.100	26.70	0.00	32.26	13.39	5.50	8.60	9.51	1.28	0.70	0.47	2.45	0.00	6.10	0.00	0.00	1.25
273	53.000	26.70	0.00	32.26	13.39	5.51	8.54	9.46	1.28	0.70	0.47	2.45	0.00	6.10	0.00	0.00	1.25
274	52.900	26.70	0.00	32.26	13.39	5.51	8.49	9.41	1.28	0.70	0.47	2.45	0.00	6.10	0.00	0.00	1.25
275	52.800	26.70	0.00	32.26	13.39	5.52	8.44	9.36	1.27	0.70	0.47	2.45	0.00	6.10	0.00	0.00	1.25
276	52.700	26.70	0.00	32.26	13.39	5.53	8.39	9.30	1.27	0.70	0.47	2.45	0.00	6.10	0.00	0.00	1.24
277	52.600	26.70	0.00	32.26	13.39	5.54	8.34	9.25	1.27	0.71	0.47	2.45	0.00	6.10	0.00	0.00	1.24
278	52.500	26.70	0.00	32.26	13.39	5.54	8.29	9.20	1.26	0.71	0.47	2.45	0.00	6.10	0.00	0.00	1.24
279	52.400	26.70	0.00	32.26	13.39	5.55	8.24	9.15	1.26	0.71	0.47	2.44	0.00	6.10	0.00	0.00	1.24
280	52.300	26.70	0.00	32.26	13.39	5.56	8.19	9.10	1.26	0.71	0.47	2.44	0.00	6.10	0.00	0.00	1.24
281	52.200	26.70	0.00	32.26	13.39	5.57	8.14	9.05	1.26	0.71	0.47	2.44	0.00	6.10	0.00	0.00	1.24
282	52.100	26.70	0.00	32.26	13.39	5.57	8.09	9.01	1.25	0.72	0.47	2.44	0.00	6.10	0.00	0.00	1.24
283	52.000	26.70	0.00	32.26	13.39	5.58	8.04	8.96	1.25	0.72	0.47	2.44	0.00	6.10	0.00	0.00	1.23
284	51.900	26.70	0.00	32.26	13.39	5.59	7.99	8.91	1.25	0.72	0.47	2.44	0.00	6.10	0.00	0.00	1.23
285	51.800	26.70	0.00	32.26	13.39	5.59	7.95	8.86	1.25	0.72	0.47	2.44	0.00	6.10	0.00	0.00	1.23
286	51.700	26.70	0.00	32.26	13.39	5.60	7.90	8.81	1.24	0.72	0.47	2.44	0.00	6.10	0.00	0.00	1.23
287	51.600	26.70	0.00	32.26	13.39	5.61	7.85	8.77	1.24	0.72	0.47	2.43	0.00	6.10	0.00	0.00	1.23
288	51.500	26.70	0.00	32.26	13.39	5.62	7.80	8.72	1.24	0.73	0.47	2.43	0.00	6.10	0.00	0.00	1.23
289	51.400	26.70	0.00	32.26	13.39	5.62	7.76	8.67	1.23	0.73	0.47	2.43	0.00	6.10	0.00	0.00	1.23

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 7 LITTLE CANEY CR - DAM

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
290	UPR RCH	0.15525	26.70	0.00	32.26	13.39	5.62	7.76	8.67	1.23	0.73	0.47	0.00	6.10	0.00	1.23
EACH	INCR	-0.0005														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
290	51.40	51.30	0.15477	76.83	0.04519	0.03	0.55	6.27	342.46	627.27	3.42	0.00	0.000	0.014	0.045
291	51.30	51.20	0.15429	76.83	0.04509	0.03	0.55	6.27	342.20	627.13	3.42	0.00	0.000	0.014	0.045
292	51.20	51.10	0.15381	76.83	0.04498	0.03	0.55	6.27	341.94	626.99	3.42	0.00	0.000	0.014	0.045
293	51.10	51.00	0.15333	76.83	0.04488	0.03	0.55	6.27	341.68	626.86	3.42	0.00	0.000	0.014	0.045
294	51.00	50.90	0.15285	76.83	0.04477	0.03	0.54	6.27	341.42	626.72	3.41	0.00	0.000	0.014	0.045
295	50.90	50.80	0.15237	76.83	0.04466	0.03	0.54	6.27	341.16	626.58	3.41	0.00	0.000	0.013	0.045
296	50.80	50.70	0.15189	76.83	0.04456	0.03	0.54	6.26	340.90	626.45	3.41	0.00	0.000	0.013	0.045
297	50.70	50.60	0.15141	76.83	0.04445	0.03	0.54	6.26	340.63	626.31	3.41	0.00	0.000	0.013	0.044
298	50.60	50.50	0.15093	76.83	0.04434	0.03	0.54	6.26	340.37	626.17	3.40	0.00	0.000	0.013	0.044
299	50.50	50.40	0.15045	76.83	0.04424	0.03	0.54	6.26	340.11	626.04	3.40	0.00	0.000	0.013	0.044
300	50.40	50.30	0.14997	76.83	0.04413	0.03	0.54	6.26	339.85	625.90	3.40	0.00	0.000	0.013	0.044
301	50.30	50.20	0.14949	76.83	0.04402	0.03	0.54	6.26	339.59	625.76	3.40	0.00	0.000	0.013	0.044
302	50.20	50.10	0.14901	76.83	0.04391	0.03	0.54	6.26	339.33	625.63	3.39	0.00	0.000	0.013	0.044
303	50.10	50.00	0.14853	76.83	0.04381	0.03	0.54	6.25	339.07	625.49	3.39	0.00	0.000	0.013	0.044
304	50.00	49.90	0.14805	76.83	0.04370	0.03	0.54	6.25	338.81	625.35	3.39	0.00	0.000	0.013	0.044
305	49.90	49.80	0.14757	76.83	0.04359	0.03	0.54	6.25	338.55	625.22	3.39	0.00	0.000	0.013	0.044
306	49.80	49.70	0.14709	76.83	0.04348	0.03	0.54	6.25	338.29	625.08	3.38	0.00	0.000	0.013	0.043
307	49.70	49.60	0.14661	76.83	0.04337	0.03	0.54	6.25	338.03	624.94	3.38	0.00	0.000	0.013	0.043
308	49.60	49.50	0.14613	76.83	0.04326	0.03	0.54	6.25	337.77	624.81	3.38	0.00	0.000	0.013	0.043
309	49.50	49.40	0.14565	76.83	0.04315	0.03	0.54	6.25	337.51	624.67	3.38	0.00	0.000	0.013	0.043
TOT						0.52			6799.68	12519.37					
AVG					0.04417		0.54	6.26			3.40				
CUM						3.84									

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

ELEM NCM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da

1/da

290	51.300	8.01	1.46	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.05
0.06																			
291	51.200	8.01	1.46	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.05
0.06																			
292	51.100	8.01	1.46	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.05
0.06																			
293	51.000	8.01	1.46	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.05
0.06																			
294	50.900	8.01	1.46	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.05
0.06																			
295	50.800	8.01	1.46	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.05
0.06																			
296	50.700	8.01	1.46	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.05
0.06																			
297	50.600	8.01	1.46	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.05
0.06																			
298	50.500	8.01	1.46	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.05
0.06																			
299	50.400	8.01	1.46	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.05
0.06																			
300	50.300	8.01	1.46	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.05
0.06																			
301	50.200	8.01	1.46	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.05
0.06																			
302	50.100	8.01	1.46	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.05
0.06																			
303	50.000	8.01	1.47	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.05
0.06																			
304	49.900	8.01	1.47	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.05
0.06																			
305	49.800	8.01	1.47	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.05
0.06																			
306	49.700	8.01	1.47	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.05
0.06																			
307	49.600	8.01	1.47	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.05
0.06																			
308	49.500	8.01	1.47	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.05
0.06																			
309	49.400	8.01	1.47	0.18	0.12	0.00	1.08	1.08	1.08	0.06	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.05
0.06																			

20 DEG C RATE 0.13 0.00 0.71 0.04 0.00 0.00 0.00 0.00 0.00 0.04

AVG 20 DEG C RATE 1.29 0.10 0.05

0.05

* g/m²/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 *
290	51.300	26.70	0.00	32.26	13.39	5.63	7.72	8.60	1.23	0.73	0.47	2.43	0.00	5.84	0.00	0.00	1.23
291	51.200	26.70	0.00	32.26	13.39	5.64	7.68	8.52	1.23	0.73	0.47	2.43	0.00	5.59	0.00	0.00	1.23
292	51.100	26.70	0.00	32.26	13.39	5.65	7.64	8.44	1.23	0.73	0.47	2.43	0.00	5.34	0.00	0.00	1.22
293	51.000	26.70	0.00	32.26	13.39	5.66	7.61	8.37	1.22	0.74	0.47	2.43	0.00	5.08	0.00	0.00	1.22
294	50.900	26.70	0.00	32.26	13.39	5.66	7.57	8.29	1.22	0.74	0.47	2.42	0.00	4.82	0.00	0.00	1.22
295	50.800	26.70	0.00	32.26	13.39	5.67	7.53	8.22	1.22	0.74	0.47	2.42	0.00	4.57	0.00	0.00	1.22
296	50.700	26.70	0.00	32.26	13.39	5.68	7.49	8.14	1.21	0.74	0.47	2.42	0.00	4.32	0.00	0.00	1.22
297	50.600	26.70	0.00	32.26	13.39	5.68	7.46	8.07	1.21	0.74	0.47	2.42	0.00	4.06	0.00	0.00	1.22
298	50.500	26.70	0.00	32.26	13.39	5.69	7.42	7.99	1.21	0.74	0.47	2.42	0.00	3.80	0.00	0.00	1.22
299	50.400	26.70	0.00	32.26	13.39	5.69	7.38	7.92	1.21	0.75	0.47	2.42	0.00	3.55	0.00	0.00	1.22
300	50.300	26.70	0.00	32.26	13.39	5.70	7.35	7.84	1.20	0.75	0.47	2.42	0.00	3.30	0.00	0.00	1.22
301	50.200	26.70	0.00	32.26	13.39	5.70	7.31	7.77	1.20	0.75	0.47	2.42	0.00	3.04	0.00	0.00	1.22
302	50.100	26.70	0.00	32.26	13.39	5.71	7.28	7.69	1.20	0.75	0.47	2.41	0.00	2.78	0.00	0.00	1.22
303	50.000	26.70	0.00	32.26	13.39	5.71	7.24	7.62	1.19	0.75	0.47	2.41	0.00	2.53	0.00	0.00	1.22
304	49.900	26.70	0.00	32.26	13.39	5.71	7.21	7.55	1.19	0.76	0.47	2.41	0.00	2.28	0.00	0.00	1.22
305	49.800	26.70	0.00	32.26	13.39	5.72	7.17	7.47	1.19	0.76	0.47	2.41	0.00	2.02	0.00	0.00	1.22
306	49.700	26.70	0.00	32.26	13.39	5.72	7.14	7.40	1.18	0.76	0.47	2.41	0.00	1.76	0.00	0.00	1.21
307	49.600	26.70	0.00	32.26	13.39	5.72	7.10	7.33	1.18	0.76	0.47	2.41	0.00	1.51	0.00	0.00	1.21
308	49.500	26.70	0.00	32.26	13.39	5.72	7.07	7.25	1.18	0.76	0.47	2.41	0.00	1.25	0.00	0.00	1.21
309	49.400	26.70	0.00	32.26	13.39	5.72	7.03	7.18	1.18	0.77	0.47	2.41	0.00	1.00	0.00	0.00	1.21

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 8 DAM - CANEY CREEK

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
310	UPR RCH	0.14565	26.70	0.00	32.26	13.39	5.72	7.03	7.18	1.18	0.77	0.47	0.00	1.00	0.00	1.21
310	DAM	DAM AT SITE 7 ADDS 1.39 MG/L DISSOLVED OXYGEN GIVING 7.11 MG/L D.O. FOR THE UPR RCH INPUT														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
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310	49.40	49.30	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
311	49.30	49.20	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
312	49.20	49.10	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
313	49.10	49.00	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
314	49.00	48.90	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
315	48.90	48.80	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
316	48.80	48.70	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
317	48.70	48.60	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
318	48.60	48.50	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
319	48.50	48.40	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
320	48.40	48.30	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
321	48.30	48.20	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
322	48.20	48.10	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
323	48.10	48.00	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
324	48.00	47.90	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
325	47.90	47.80	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
326	47.80	47.70	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
327	47.70	47.60	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
328	47.60	47.50	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
329	47.50	47.40	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
330	47.40	47.30	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
331	47.30	47.20	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
332	47.20	47.10	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
333	47.10	47.00	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
334	47.00	46.90	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
335	46.90	46.80	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
336	46.80	46.70	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
337	46.70	46.60	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
338	46.60	46.50	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039

TOT 0.85 10728.43 24015.68
AVG 0.45 8.28 3.70
CUM 4.69

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECA	CBOD SETT	ANBOD DECA	BKGD SOD	FULL SOD	CORR SOD	ORGN DECA	ORGN SETT	NH3 DECA	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECA	NCM DECA
1/da	mg/L	1/da	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
310	49.300	8.01	1.78	0.07	0.12	0.00	1.43	1.43	1.43	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.03
311	49.200	8.01	1.78	0.07	0.12	0.00	1.43	1.43	1.43	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.03
312	49.100	8.01	1.78	0.07	0.12	0.00	1.43	1.43	1.43	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.03

338 46.500 8.01 1.78 0.07 0.12 0.00 1.43 1.43 1.43 0.03 0.06 0.00 0.00 0.00 0.00 0.04 0.00 0.00 0.03
0.06

20 DEG C RATE 0.05 0.00 0.94 0.02 0.00 0.00 0.00 0.00
AVG 20 DEG C RATE 1.57 0.10 0.05
0.05

* g/m²/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 *
310	49.300	26.70	0.00	32.26	13.39	7.05	7.00	7.15	1.17	0.77	0.47	2.41	0.00	0.99	0.00	0.00	1.21
311	49.200	26.70	0.00	32.26	13.39	7.00	6.97	7.11	1.17	0.77	0.47	2.40	0.00	0.97	0.00	0.00	1.21
312	49.100	26.70	0.00	32.26	13.39	6.94	6.94	7.08	1.17	0.77	0.47	2.40	0.00	0.96	0.00	0.00	1.21
313	49.000	26.70	0.00	32.26	13.39	6.89	6.91	7.05	1.17	0.77	0.47	2.40	0.00	0.94	0.00	0.00	1.21
314	48.900	26.70	0.00	32.26	13.39	6.85	6.87	7.01	1.16	0.77	0.47	2.40	0.00	0.93	0.00	0.00	1.21
315	48.800	26.70	0.00	32.26	13.39	6.80	6.84	6.98	1.16	0.77	0.47	2.40	0.00	0.92	0.00	0.00	1.21
316	48.700	26.70	0.00	32.26	13.39	6.76	6.81	6.95	1.16	0.77	0.47	2.40	0.00	0.90	0.00	0.00	1.21
317	48.600	26.70	0.00	32.26	13.39	6.72	6.78	6.92	1.16	0.77	0.47	2.39	0.00	0.89	0.00	0.00	1.21
318	48.500	26.70	0.00	32.26	13.39	6.68	6.75	6.88	1.15	0.77	0.47	2.39	0.00	0.88	0.00	0.00	1.21
319	48.400	26.70	0.00	32.26	13.39	6.64	6.72	6.85	1.15	0.78	0.46	2.39	0.00	0.86	0.00	0.00	1.21
320	48.300	26.70	0.00	32.26	13.39	6.61	6.69	6.82	1.15	0.78	0.46	2.39	0.00	0.85	0.00	0.00	1.21
321	48.200	26.70	0.00	32.26	13.39	6.57	6.66	6.79	1.15	0.78	0.46	2.39	0.00	0.83	0.00	0.00	1.21
322	48.100	26.70	0.00	32.26	13.39	6.54	6.63	6.75	1.14	0.78	0.46	2.39	0.00	0.82	0.00	0.00	1.21
323	48.000	26.70	0.00	32.26	13.39	6.51	6.60	6.72	1.14	0.78	0.46	2.38	0.00	0.81	0.00	0.00	1.21
324	47.900	26.70	0.00	32.26	13.39	6.49	6.57	6.69	1.14	0.78	0.46	2.38	0.00	0.79	0.00	0.00	1.21
325	47.800	26.70	0.00	32.26	13.39	6.46	6.54	6.66	1.14	0.78	0.46	2.38	0.00	0.78	0.00	0.00	1.21
326	47.700	26.70	0.00	32.26	13.39	6.43	6.51	6.63	1.13	0.78	0.46	2.38	0.00	0.77	0.00	0.00	1.21
327	47.600	26.70	0.00	32.26	13.39	6.41	6.49	6.60	1.13	0.78	0.46	2.38	0.00	0.75	0.00	0.00	1.21
328	47.500	26.70	0.00	32.26	13.39	6.39	6.46	6.57	1.13	0.78	0.46	2.38	0.00	0.74	0.00	0.00	1.21
329	47.400	26.70	0.00	32.26	13.39	6.37	6.43	6.54	1.13	0.79	0.46	2.38	0.00	0.72	0.00	0.00	1.21
330	47.300	26.70	0.00	32.26	13.39	6.34	6.40	6.51	1.12	0.79	0.46	2.37	0.00	0.71	0.00	0.00	1.21
331	47.200	26.70	0.00	32.26	13.39	6.33	6.37	6.48	1.12	0.79	0.46	2.37	0.00	0.70	0.00	0.00	1.21
332	47.100	26.70	0.00	32.26	13.39	6.31	6.34	6.44	1.12	0.79	0.46	2.37	0.00	0.68	0.00	0.00	1.21
333	47.000	26.70	0.00	32.26	13.39	6.29	6.31	6.41	1.12	0.79	0.46	2.37	0.00	0.67	0.00	0.00	1.21
334	46.900	26.70	0.00	32.26	13.39	6.27	6.29	6.38	1.11	0.79	0.46	2.37	0.00	0.66	0.00	0.00	1.21
335	46.800	26.70	0.00	32.26	13.39	6.26	6.26	6.35	1.11	0.79	0.46	2.37	0.00	0.64	0.00	0.00	1.21
336	46.700	26.70	0.00	32.26	13.39	6.24	6.23	6.33	1.11	0.79	0.46	2.37	0.00	0.63	0.00	0.00	1.21
337	46.600	26.70	0.00	32.26	13.39	6.23	6.20	6.30	1.11	0.79	0.46	2.36	0.00	0.61	0.00	0.00	1.21
338	46.500	26.70	0.00	32.26	13.39	6.21	6.18	6.27	1.10	0.79	0.46	2.36	0.00	0.60	0.00	0.00	1.21

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
 REACH NO. 9 CANEY CR - HURRICANE CR

BARNES CREEK WATERSHED MODEL
 BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
339	UPR RCH	0.14565	26.70	0.00	32.26	13.39	6.21	6.18	6.27	1.10	0.79	0.46	0.00	0.60	0.00	1.21

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
339	46.50	46.40	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
340	46.40	46.30	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
341	46.30	46.20	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
342	46.20	46.10	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
343	46.10	46.00	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
344	46.00	45.90	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
345	45.90	45.80	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
346	45.80	45.70	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
347	45.70	45.60	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
348	45.60	45.50	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
349	45.50	45.40	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
350	45.40	45.30	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
351	45.30	45.20	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
352	45.20	45.10	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
353	45.10	45.00	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
354	45.00	44.90	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
355	44.90	44.80	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
356	44.80	44.70	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
357	44.70	44.60	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
358	44.60	44.50	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
359	44.50	44.40	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
360	44.40	44.30	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
361	44.30	44.20	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
362	44.20	44.10	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
363	44.10	44.00	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
364	44.00	43.90	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
365	43.90	43.80	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
366	43.80	43.70	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
367	43.70	43.60	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
368	43.60	43.50	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
369	43.50	43.40	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
370	43.40	43.30	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090

AVG
CUM

0.08996

5.72

0.40

4.08

1.62

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
339 0.06	46.400	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
340 0.06	46.300	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
341 0.06	46.200	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
342 0.06	46.100	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
343 0.06	46.000	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
344 0.06	45.900	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
345 0.06	45.800	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
346 0.06	45.700	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
347 0.06	45.600	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
348 0.06	45.500	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
349 0.06	45.400	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
350 0.06	45.300	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
351 0.06	45.200	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
352 0.06	45.100	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
353 0.06	45.000	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
354 0.06	44.900	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
355 0.06	44.800	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
356 0.06	44.700	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
357	44.600	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04

0.06																			
408	39.500	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
409	39.400	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
410	39.300	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
411	39.200	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
412	39.100	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
413	39.000	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
414	38.900	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
415	38.800	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
416	38.700	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
417	38.600	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
418	38.500	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
20 DEG C RATE				0.05		0.00	1.13			0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG 20 DEG C RATE			1.76		0.10						0.05								
0.05																			

* g/m²/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 *
339	46.400	26.70	0.00	32.26	13.39	6.20	6.16	6.25	1.10	0.80	0.46	2.36	0.00	0.60	0.00	0.00	1.22
340	46.300	26.70	0.00	32.26	13.39	6.18	6.15	6.24	1.10	0.80	0.46	2.36	0.00	0.60	0.00	0.00	1.22
341	46.200	26.70	0.00	32.26	13.39	6.17	6.13	6.22	1.10	0.80	0.46	2.36	0.00	0.60	0.00	0.00	1.22
342	46.100	26.70	0.00	32.26	13.39	6.15	6.12	6.21	1.10	0.80	0.46	2.36	0.00	0.60	0.00	0.00	1.22
343	46.000	26.70	0.00	32.26	13.39	6.14	6.11	6.20	1.10	0.80	0.46	2.36	0.00	0.60	0.00	0.00	1.22
344	45.900	26.70	0.00	32.26	13.39	6.13	6.09	6.18	1.10	0.80	0.46	2.36	0.00	0.60	0.00	0.00	1.22
345	45.800	26.70	0.00	32.26	13.39	6.11	6.08	6.17	1.09	0.80	0.46	2.36	0.00	0.60	0.00	0.00	1.23
346	45.700	26.70	0.00	32.26	13.39	6.10	6.07	6.16	1.09	0.80	0.46	2.36	0.00	0.60	0.00	0.00	1.23
347	45.600	26.70	0.00	32.26	13.39	6.09	6.05	6.14	1.09	0.80	0.46	2.36	0.00	0.60	0.00	0.00	1.23
348	45.500	26.70	0.00	32.26	13.39	6.08	6.04	6.13	1.09	0.80	0.46	2.36	0.00	0.60	0.00	0.00	1.23
349	45.400	26.70	0.00	32.26	13.39	6.07	6.03	6.12	1.09	0.80	0.46	2.36	0.00	0.60	0.00	0.00	1.23
350	45.300	26.70	0.00	32.26	13.39	6.05	6.01	6.10	1.09	0.80	0.46	2.35	0.00	0.60	0.00	0.00	1.23
351	45.200	26.70	0.00	32.26	13.39	6.04	6.00	6.09	1.09	0.80	0.46	2.35	0.00	0.60	0.00	0.00	1.24
352	45.100	26.70	0.00	32.26	13.39	6.03	5.98	6.07	1.09	0.80	0.46	2.35	0.00	0.60	0.00	0.00	1.24

403	40.000	26.70	0.00	32.26	13.39	5.73	5.34	5.43	1.02	0.84	0.46	2.32	0.00	0.60	0.00	0.00	1.33
404	39.900	26.70	0.00	32.26	13.39	5.73	5.33	5.42	1.02	0.84	0.46	2.32	0.00	0.60	0.00	0.00	1.33
405	39.800	26.70	0.00	32.26	13.39	5.73	5.31	5.40	1.02	0.84	0.46	2.32	0.00	0.60	0.00	0.00	1.33
406	39.700	26.70	0.00	32.26	13.39	5.73	5.30	5.39	1.02	0.84	0.46	2.32	0.00	0.60	0.00	0.00	1.33
407	39.600	26.70	0.00	32.26	13.39	5.72	5.29	5.38	1.02	0.84	0.46	2.32	0.00	0.60	0.00	0.00	1.33
408	39.500	26.70	0.00	32.26	13.39	5.72	5.28	5.37	1.02	0.84	0.46	2.32	0.00	0.60	0.00	0.00	1.33
409	39.400	26.70	0.00	32.26	13.39	5.72	5.27	5.36	1.01	0.84	0.46	2.32	0.00	0.60	0.00	0.00	1.34
410	39.300	26.70	0.00	32.26	13.39	5.72	5.26	5.35	1.01	0.84	0.46	2.32	0.00	0.60	0.00	0.00	1.34
411	39.200	26.70	0.00	32.26	13.39	5.72	5.24	5.33	1.01	0.84	0.46	2.32	0.00	0.60	0.00	0.00	1.34
412	39.100	26.70	0.00	32.26	13.39	5.71	5.23	5.32	1.01	0.84	0.46	2.32	0.00	0.60	0.00	0.00	1.34
413	39.000	26.70	0.00	32.26	13.39	5.71	5.22	5.31	1.01	0.84	0.46	2.32	0.00	0.60	0.00	0.00	1.34
414	38.900	26.70	0.00	32.26	13.39	5.71	5.21	5.30	1.01	0.84	0.46	2.31	0.00	0.60	0.00	0.00	1.34
415	38.800	26.70	0.00	32.26	13.39	5.71	5.20	5.29	1.01	0.84	0.46	2.31	0.00	0.60	0.00	0.00	1.35
416	38.700	26.70	0.00	32.26	13.39	5.71	5.19	5.28	1.01	0.84	0.46	2.31	0.00	0.60	0.00	0.00	1.35
417	38.600	26.70	0.00	32.26	13.39	5.70	5.17	5.26	1.01	0.84	0.46	2.31	0.00	0.60	0.00	0.00	1.35
418	38.500	26.70	0.00	32.26	13.39	5.70	5.16	5.25	1.00	0.85	0.46	2.31	0.00	0.60	0.00	0.00	1.35

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 10 HURRICANE CR - SITE 10

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
419	UPR RCH	0.14565	26.70	0.00	32.26	13.39	5.70	5.16	5.25	1.00	0.85	0.46	0.00	0.60	0.00	1.35
EACH	INCR	0.00003	26.70	0.00	6.90	2.70	2.00	2.70	2.70	0.29	0.00	0.09	0.00	0.00	0.00	4.52

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
419	38.50	38.40	0.14599	76.65	0.09015	0.01	0.40	4.08	161.93	408.14	1.62	0.00	0.000	0.021	0.090
420	38.40	38.30	0.14633	76.47	0.09035	0.01	0.40	4.08	161.95	408.15	1.62	0.00	0.000	0.021	0.090
421	38.30	38.20	0.14666	76.30	0.09055	0.01	0.40	4.08	161.97	408.16	1.62	0.00	0.000	0.021	0.091
422	38.20	38.10	0.14700	76.12	0.09075	0.01	0.40	4.08	161.98	408.17	1.62	0.00	0.000	0.021	0.091
423	38.10	38.00	0.14734	75.95	0.09095	0.01	0.40	4.08	162.00	408.18	1.62	0.00	0.000	0.021	0.091
424	38.00	37.90	0.14768	75.77	0.09115	0.01	0.40	4.08	162.02	408.19	1.62	0.00	0.000	0.021	0.091
425	37.90	37.80	0.14802	75.60	0.09135	0.01	0.40	4.08	162.04	408.20	1.62	0.00	0.000	0.021	0.091
426	37.80	37.70	0.14836	75.43	0.09155	0.01	0.40	4.08	162.05	408.21	1.62	0.00	0.000	0.021	0.092
427	37.70	37.60	0.14869	75.26	0.09175	0.01	0.40	4.08	162.07	408.22	1.62	0.00	0.000	0.021	0.092

428	37.60	37.50	0.14903	75.09	0.09195	0.01	0.40	4.08	162.09	408.23	1.62	0.00	0.000	0.021	0.092
429	37.50	37.40	0.14937	74.92	0.09214	0.01	0.40	4.08	162.10	408.24	1.62	0.00	0.000	0.021	0.092
430	37.40	37.30	0.14971	74.75	0.09234	0.01	0.40	4.08	162.12	408.25	1.62	0.00	0.000	0.021	0.092
431	37.30	37.20	0.15005	74.58	0.09254	0.01	0.40	4.08	162.14	408.26	1.62	0.00	0.000	0.021	0.093
432	37.20	37.10	0.15038	74.41	0.09274	0.01	0.40	4.08	162.15	408.27	1.62	0.00	0.000	0.022	0.093
433	37.10	37.00	0.15072	74.24	0.09294	0.01	0.40	4.08	162.17	408.28	1.62	0.00	0.000	0.022	0.093
434	37.00	36.90	0.15106	74.08	0.09314	0.01	0.40	4.08	162.19	408.29	1.62	0.00	0.000	0.022	0.093
435	36.90	36.80	0.15140	73.91	0.09334	0.01	0.40	4.08	162.20	408.30	1.62	0.00	0.000	0.022	0.093
436	36.80	36.70	0.15174	73.75	0.09354	0.01	0.40	4.08	162.22	408.31	1.62	0.00	0.000	0.022	0.094
437	36.70	36.60	0.15207	73.58	0.09374	0.01	0.40	4.08	162.24	408.32	1.62	0.00	0.000	0.022	0.094
438	36.60	36.50	0.15241	73.42	0.09393	0.01	0.40	4.08	162.26	408.33	1.62	0.00	0.000	0.022	0.094
439	36.50	36.40	0.15275	73.26	0.09413	0.01	0.40	4.08	162.27	408.34	1.62	0.00	0.000	0.022	0.094
TOT															
AVG						0.09213		0.26		3404.16	8573.00				
CUM								5.98						1.62	

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
419	38.400	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
420	38.300	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
421	38.200	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
422	38.100	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
423	38.000	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
424	37.900	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
425	37.800	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
426	37.700	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
427	37.600	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
428	37.500	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
429	37.400	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
430	37.300	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04

0.06																			
431	37.200	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
432	37.100	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
433	37.000	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
434	36.900	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
435	36.800	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
436	36.700	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
437	36.600	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
438	36.500	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
439	36.400	8.01	2.00	0.07	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04

20 DEG C RATE				0.05		0.00	1.13			0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG 20 DEG C RATE			1.76		0.10						0.05								
0.05																			

* g/m²/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 *
419	38.400	26.70	0.00	32.20	13.37	5.69	5.15	5.24	1.00	0.84	0.46	2.31	0.00	0.62	0.00	0.00	1.36
420	38.300	26.70	0.00	32.14	13.35	5.68	5.13	5.23	1.00	0.84	0.46	2.30	0.00	0.65	0.00	0.00	1.37
421	38.200	26.70	0.00	32.09	13.32	5.67	5.12	5.22	1.00	0.84	0.46	2.30	0.00	0.67	0.00	0.00	1.38
422	38.100	26.70	0.00	32.03	13.30	5.66	5.10	5.21	1.00	0.84	0.46	2.29	0.00	0.70	0.00	0.00	1.39
423	38.000	26.70	0.00	31.97	13.27	5.66	5.09	5.20	0.99	0.84	0.46	2.29	0.00	0.72	0.00	0.00	1.40
424	37.900	26.70	0.00	31.91	13.25	5.65	5.07	5.19	0.99	0.84	0.46	2.29	0.00	0.74	0.00	0.00	1.41
425	37.800	26.70	0.00	31.86	13.22	5.64	5.06	5.18	0.99	0.84	0.46	2.28	0.00	0.77	0.00	0.00	1.42
426	37.700	26.70	0.00	31.80	13.20	5.63	5.05	5.16	0.99	0.83	0.46	2.28	0.00	0.79	0.00	0.00	1.43
427	37.600	26.70	0.00	31.74	13.18	5.62	5.03	5.15	0.98	0.83	0.46	2.27	0.00	0.81	0.00	0.00	1.44
428	37.500	26.70	0.00	31.69	13.15	5.62	5.02	5.14	0.98	0.83	0.45	2.27	0.00	0.84	0.00	0.00	1.45
429	37.400	26.70	0.00	31.63	13.13	5.61	5.00	5.13	0.98	0.83	0.45	2.26	0.00	0.86	0.00	0.00	1.46
430	37.300	26.70	0.00	31.57	13.11	5.60	4.99	5.12	0.98	0.83	0.45	2.26	0.00	0.89	0.00	0.00	1.46
431	37.200	26.70	0.00	31.52	13.08	5.59	4.98	5.11	0.98	0.83	0.45	2.25	0.00	0.91	0.00	0.00	1.47
432	37.100	26.70	0.00	31.46	13.06	5.59	4.96	5.10	0.97	0.83	0.45	2.25	0.00	0.93	0.00	0.00	1.48
433	37.000	26.70	0.00	31.41	13.03	5.58	4.95	5.09	0.97	0.83	0.45	2.25	0.00	0.96	0.00	0.00	1.49
434	36.900	26.70	0.00	31.35	13.01	5.58	4.94	5.08	0.97	0.82	0.45	2.24	0.00	0.98	0.00	0.00	1.50
435	36.800	26.70	0.00	31.30	12.99	5.57	4.92	5.07	0.97	0.82	0.45	2.24	0.00	1.00	0.00	0.00	1.51
436	36.700	26.70	0.00	31.24	12.97	5.56	4.91	5.06	0.96	0.82	0.45	2.23	0.00	1.03	0.00	0.00	1.52

462	34.20	34.10	0.15605	71.71	0.06349	0.02	0.42	5.88	245.79	588.44	2.46	0.00	0.000	0.015	0.063
TOT						0.42			5650.75	13532.95					
AVG					0.06287		0.42	5.88			2.46				
CUM						6.41									

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
440	36.300	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
441	36.200	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
442	36.100	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
443	36.000	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
444	35.900	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
445	35.800	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
446	35.700	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
447	35.600	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
448	35.500	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
449	35.400	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
450	35.300	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
451	35.200	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
452	35.100	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
453	35.000	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
454	34.900	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
455	34.800	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
456	34.700	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04

457	34.600	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
458	34.500	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
459	34.400	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
460	34.300	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
461	34.200	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
462	34.100	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
20 DEG C RATE				0.09		0.00	1.13			0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG 20 DEG C RATE			1.68		0.10						0.05								
0.05																			

* g/m²/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 *
440	36.300	26.70	0.00	31.06	12.89	5.54	4.85	5.02	0.96	0.82	0.44	2.22	0.00	1.10	0.00	0.00	1.55
441	36.200	26.70	0.00	31.04	12.88	5.54	4.84	5.00	0.95	0.82	0.44	2.22	0.00	1.10	0.00	0.00	1.55
442	36.100	26.70	0.00	31.02	12.87	5.54	4.82	4.98	0.95	0.82	0.44	2.21	0.00	1.10	0.00	0.00	1.55
443	36.000	26.70	0.00	31.00	12.86	5.53	4.80	4.97	0.95	0.82	0.44	2.21	0.00	1.10	0.00	0.00	1.55
444	35.900	26.70	0.00	30.98	12.85	5.53	4.78	4.95	0.95	0.82	0.44	2.21	0.00	1.10	0.00	0.00	1.55
445	35.800	26.70	0.00	30.96	12.84	5.52	4.77	4.93	0.95	0.82	0.44	2.21	0.00	1.10	0.00	0.00	1.55
446	35.700	26.70	0.00	30.94	12.84	5.52	4.75	4.92	0.95	0.82	0.44	2.21	0.00	1.10	0.00	0.00	1.55
447	35.600	26.70	0.00	30.92	12.83	5.52	4.73	4.90	0.94	0.82	0.44	2.20	0.00	1.10	0.00	0.00	1.55
448	35.500	26.70	0.00	30.90	12.82	5.51	4.72	4.88	0.94	0.82	0.44	2.20	0.00	1.10	0.00	0.00	1.55
449	35.400	26.70	0.00	30.88	12.81	5.51	4.70	4.87	0.94	0.82	0.44	2.20	0.00	1.10	0.00	0.00	1.55
450	35.300	26.70	0.00	30.86	12.80	5.51	4.69	4.85	0.94	0.82	0.44	2.20	0.00	1.10	0.00	0.00	1.55
451	35.200	26.70	0.00	30.84	12.79	5.51	4.67	4.83	0.94	0.82	0.44	2.19	0.00	1.10	0.00	0.00	1.55
452	35.100	26.70	0.00	30.82	12.78	5.50	4.65	4.82	0.93	0.82	0.44	2.19	0.00	1.10	0.00	0.00	1.55
453	35.000	26.70	0.00	30.80	12.77	5.50	4.64	4.80	0.93	0.82	0.44	2.19	0.00	1.10	0.00	0.00	1.55
454	34.900	26.70	0.00	30.78	12.77	5.50	4.62	4.79	0.93	0.82	0.44	2.19	0.00	1.10	0.00	0.00	1.55
455	34.800	26.70	0.00	30.76	12.76	5.50	4.61	4.77	0.93	0.82	0.44	2.19	0.00	1.10	0.00	0.00	1.55
456	34.700	26.70	0.00	30.74	12.75	5.50	4.59	4.76	0.93	0.82	0.44	2.18	0.00	1.10	0.00	0.00	1.55
457	34.600	26.70	0.00	30.72	12.74	5.49	4.58	4.74	0.93	0.82	0.44	2.18	0.00	1.10	0.00	0.00	1.56
458	34.500	26.70	0.00	30.70	12.73	5.49	4.56	4.72	0.92	0.82	0.44	2.18	0.00	1.10	0.00	0.00	1.56
459	34.400	26.70	0.00	30.68	12.72	5.49	4.54	4.71	0.92	0.82	0.44	2.18	0.00	1.10	0.00	0.00	1.56
460	34.300	26.70	0.00	30.66	12.71	5.49	4.53	4.69	0.92	0.82	0.44	2.18	0.00	1.10	0.00	0.00	1.56
461	34.200	26.70	0.00	30.64	12.71	5.49	4.51	4.68	0.92	0.82	0.44	2.17	0.00	1.10	0.00	0.00	1.56
462	34.100	26.70	0.00	30.62	12.70	5.49	4.50	4.66	0.92	0.82	0.44	2.17	0.00	1.10	0.00	0.00	1.56

* CM-I = CHLORIDES

CM-II = SULFATES

NCM = CBOD2

** g/m³ MG/L

MG/L

mg/L

FINAL REPORT HEADWATER
REACH NO. 12 MAGNOLIA CR - BRUSHY CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
463	UPR RCH	0.15605	26.70	0.00	30.62	12.70	5.49	4.50	4.66	0.92	0.82	0.44	0.00	1.10	0.00	1.56
EACH	INCR	0.0002	26.70	0.00	9.20	3.40	2.00	2.86	2.86	0.29	0.00	0.08	0.00		0.00	5.18

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
463	34.10	34.00	0.15624	71.62	0.06357	0.02	0.42	5.88	245.80	588.44	2.46	0.00	0.000	0.015	0.064
464	34.00	33.90	0.15644	71.53	0.06364	0.02	0.42	5.88	245.81	588.45	2.46	0.00	0.000	0.015	0.064
465	33.90	33.80	0.15663	71.44	0.06372	0.02	0.42	5.88	245.83	588.45	2.46	0.00	0.000	0.015	0.064
466	33.80	33.70	0.15683	71.35	0.06379	0.02	0.42	5.88	245.84	588.46	2.46	0.00	0.000	0.015	0.064
467	33.70	33.60	0.15702	71.26	0.06387	0.02	0.42	5.88	245.85	588.46	2.46	0.00	0.000	0.015	0.064
468	33.60	33.50	0.15722	71.18	0.06394	0.02	0.42	5.88	245.87	588.47	2.46	0.00	0.000	0.015	0.064
469	33.50	33.40	0.15741	71.09	0.06402	0.02	0.42	5.88	245.88	588.47	2.46	0.00	0.000	0.015	0.064
470	33.40	33.30	0.15760	71.00	0.06409	0.02	0.42	5.88	245.89	588.48	2.46	0.00	0.000	0.016	0.064
471	33.30	33.20	0.15780	70.91	0.06417	0.02	0.42	5.88	245.90	588.49	2.46	0.00	0.000	0.016	0.064
472	33.20	33.10	0.15799	70.83	0.06425	0.02	0.42	5.88	245.92	588.49	2.46	0.00	0.000	0.016	0.064
473	33.10	33.00	0.15819	70.74	0.06432	0.02	0.42	5.88	245.93	588.50	2.46	0.00	0.000	0.016	0.064
474	33.00	32.90	0.15838	70.65	0.06440	0.02	0.42	5.89	245.94	588.50	2.46	0.00	0.000	0.016	0.064
475	32.90	32.80	0.15857	70.57	0.06447	0.02	0.42	5.89	245.95	588.51	2.46	0.00	0.000	0.016	0.064
476	32.80	32.70	0.15877	70.48	0.06455	0.02	0.42	5.89	245.97	588.51	2.46	0.00	0.000	0.016	0.065
477	32.70	32.60	0.15896	70.39	0.06462	0.02	0.42	5.89	245.98	588.52	2.46	0.00	0.000	0.016	0.065
478	32.60	32.50	0.15916	70.31	0.06470	0.02	0.42	5.89	245.99	588.53	2.46	0.00	0.000	0.016	0.065
479	32.50	32.40	0.15935	70.22	0.06478	0.02	0.42	5.89	246.00	588.53	2.46	0.00	0.000	0.016	0.065
TOT						0.31			4180.36	10004.26					
AVG					0.06417		0.42	5.88			2.46				
CUM						6.71									

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

ELEM NCM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI	NCM
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NO. SETT	DIST	D.O. mg/L	RATE 1/da	DECAY 1/da	SETT 1/da	DECAY 1/da	SOD *	SOD *	SOD *	DECAY 1/da	SETT 1/da	DECAY 1/da	SRCE *	RATE 1/da	SRCE *	PROD **	PROD **	DECAY 1/da	DECAY 1/da
463	34.000	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
464	33.900	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
465	33.800	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
466	33.700	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
467	33.600	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
468	33.500	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
469	33.400	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
470	33.300	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
471	33.200	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
472	33.100	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
473	33.000	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
474	32.900	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
475	32.800	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
476	32.700	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
477	32.600	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
478	32.500	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
479	32.400	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
20	DEG C RATE			0.09		0.00	1.13			0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG	20 DEG C RATE			1.68		0.10					0.05								
0.05																			

* g/m²/d ** mg/L/day

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

ELEM ENDING TEMP SALN CM-I CM-II DO BOD EBOD ORGN NH3 NO3+2 TOTN PHOS CHL A MACRO COLI NCM

NO.	DIST	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	**	#/100mL	*
463	34.000	26.70	0.00	30.59	12.69	5.48	4.48	4.65	0.91	0.82	0.44	2.17	0.00	1.10	0.00	0.00	1.56
464	33.900	26.70	0.00	30.57	12.67	5.48	4.47	4.63	0.91	0.82	0.44	2.17	0.00	1.10	0.00	0.00	1.56
465	33.800	26.70	0.00	30.54	12.66	5.48	4.45	4.61	0.91	0.82	0.44	2.16	0.00	1.10	0.00	0.00	1.56
466	33.700	26.70	0.00	30.51	12.65	5.48	4.43	4.60	0.91	0.82	0.43	2.16	0.00	1.10	0.00	0.00	1.56
467	33.600	26.70	0.00	30.49	12.64	5.47	4.42	4.58	0.90	0.82	0.43	2.16	0.00	1.10	0.00	0.00	1.57
468	33.500	26.70	0.00	30.46	12.63	5.47	4.40	4.56	0.90	0.82	0.43	2.15	0.00	1.10	0.00	0.00	1.57
469	33.400	26.70	0.00	30.43	12.62	5.47	4.38	4.55	0.90	0.82	0.43	2.15	0.00	1.10	0.00	0.00	1.57
470	33.300	26.70	0.00	30.41	12.61	5.47	4.37	4.53	0.90	0.82	0.43	2.15	0.00	1.10	0.00	0.00	1.57
471	33.200	26.70	0.00	30.38	12.59	5.47	4.35	4.52	0.89	0.82	0.43	2.14	0.00	1.10	0.00	0.00	1.57
472	33.100	26.70	0.00	30.36	12.58	5.47	4.34	4.50	0.89	0.82	0.43	2.14	0.00	1.10	0.00	0.00	1.57
473	33.000	26.70	0.00	30.33	12.57	5.46	4.32	4.49	0.89	0.82	0.43	2.14	0.00	1.10	0.00	0.00	1.58
474	32.900	26.70	0.00	30.30	12.56	5.46	4.30	4.47	0.89	0.81	0.43	2.13	0.00	1.10	0.00	0.00	1.58
475	32.800	26.70	0.00	30.28	12.55	5.46	4.29	4.45	0.88	0.81	0.43	2.13	0.00	1.10	0.00	0.00	1.58
476	32.700	26.70	0.00	30.25	12.54	5.46	4.27	4.44	0.88	0.81	0.43	2.13	0.00	1.10	0.00	0.00	1.58
477	32.600	26.70	0.00	30.23	12.53	5.46	4.26	4.42	0.88	0.81	0.43	2.12	0.00	1.10	0.00	0.00	1.58
478	32.500	26.70	0.00	30.20	12.52	5.46	4.24	4.41	0.88	0.81	0.43	2.12	0.00	1.10	0.00	0.00	1.58
479	32.400	26.70	0.00	30.18	12.50	5.46	4.23	4.39	0.88	0.81	0.43	2.12	0.00	1.10	0.00	0.00	1.59

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 13 BRUSHY CR - RIGHTHAND CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m³/	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 *
480	UPR RCH	0.15935	26.70	0.00	30.18	12.50	5.46	4.23	4.39	0.88	0.81	0.43	0.00	1.10	0.00	1.59
EACH	INCR	0.0002	26.70	0.00	9.20	3.40	2.00	2.86	2.86	0.29	0.00	0.08	0.00	0.00	0.00	5.18

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s	MEAN VELO m/s
480	32.40	32.30	0.15952	70.15	0.06484	0.02	0.42	5.89	246.02	588.54	2.46	0.00	0.000	0.016	0.065
481	32.30	32.20	0.15970	70.07	0.06491	0.02	0.42	5.89	246.03	588.54	2.46	0.00	0.000	0.016	0.065
482	32.20	32.10	0.15987	69.99	0.06498	0.02	0.42	5.89	246.04	588.55	2.46	0.00	0.000	0.016	0.065
483	32.10	32.00	0.16005	69.92	0.06505	0.02	0.42	5.89	246.05	588.55	2.46	0.00	0.000	0.016	0.065
484	32.00	31.90	0.16022	69.84	0.06511	0.02	0.42	5.89	246.06	588.56	2.46	0.00	0.000	0.016	0.065
485	31.90	31.80	0.16039	69.77	0.06518	0.02	0.42	5.89	246.07	588.56	2.46	0.00	0.000	0.016	0.065

491	31.200	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
492	31.100	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
493	31.000	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
494	30.900	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
495	30.800	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
496	30.700	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
497	30.600	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
498	30.500	8.01	1.90	0.12	0.12	0.00	1.72	1.72	1.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
20 DEG C RATE				0.09		0.00	1.13			0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG 20 DEG C RATE			1.67		0.10						0.05								
0.05																			

* g/m²/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 *
480	32.300	26.70	0.00	30.15	12.49	5.46	4.22	4.38	0.87	0.81	0.43	2.11	0.00	1.10	0.00	0.00	1.59
481	32.200	26.70	0.00	30.13	12.48	5.46	4.20	4.37	0.87	0.81	0.43	2.11	0.00	1.10	0.00	0.00	1.59
482	32.100	26.70	0.00	30.11	12.47	5.46	4.19	4.36	0.87	0.81	0.43	2.11	0.00	1.10	0.00	0.00	1.59
483	32.000	26.70	0.00	30.08	12.46	5.46	4.18	4.34	0.87	0.81	0.43	2.11	0.00	1.10	0.00	0.00	1.59
484	31.900	26.70	0.00	30.06	12.46	5.46	4.17	4.33	0.86	0.81	0.43	2.10	0.00	1.10	0.00	0.00	1.59
485	31.800	26.70	0.00	30.04	12.45	5.46	4.16	4.32	0.86	0.81	0.43	2.10	0.00	1.10	0.00	0.00	1.59
486	31.700	26.70	0.00	30.02	12.44	5.46	4.14	4.31	0.86	0.81	0.43	2.10	0.00	1.10	0.00	0.00	1.59
487	31.600	26.70	0.00	29.99	12.43	5.45	4.13	4.30	0.86	0.81	0.43	2.09	0.00	1.10	0.00	0.00	1.59
488	31.500	26.70	0.00	29.97	12.42	5.45	4.12	4.29	0.86	0.81	0.42	2.09	0.00	1.10	0.00	0.00	1.60
489	31.400	26.70	0.00	29.95	12.41	5.45	4.11	4.27	0.85	0.81	0.42	2.09	0.00	1.10	0.00	0.00	1.60
490	31.300	26.70	0.00	29.93	12.40	5.45	4.10	4.26	0.85	0.81	0.42	2.09	0.00	1.10	0.00	0.00	1.60
491	31.200	26.70	0.00	29.91	12.39	5.45	4.09	4.25	0.85	0.81	0.42	2.08	0.00	1.10	0.00	0.00	1.60
492	31.100	26.70	0.00	29.88	12.38	5.45	4.07	4.24	0.85	0.81	0.42	2.08	0.00	1.10	0.00	0.00	1.60
493	31.000	26.70	0.00	29.86	12.37	5.45	4.06	4.23	0.84	0.81	0.42	2.08	0.00	1.10	0.00	0.00	1.60
494	30.900	26.70	0.00	29.84	12.36	5.45	4.05	4.22	0.84	0.81	0.42	2.07	0.00	1.10	0.00	0.00	1.60
495	30.800	26.70	0.00	29.82	12.35	5.45	4.04	4.21	0.84	0.81	0.42	2.07	0.00	1.10	0.00	0.00	1.60
496	30.700	26.70	0.00	29.79	12.34	5.45	4.03	4.19	0.84	0.81	0.42	2.07	0.00	1.10	0.00	0.00	1.60
497	30.600	26.70	0.00	29.77	12.33	5.45	4.02	4.18	0.84	0.81	0.42	2.07	0.00	1.10	0.00	0.00	1.60
498	30.500	26.70	0.00	29.75	12.32	5.45	4.01	4.17	0.83	0.81	0.42	2.06	0.00	1.10	0.00	0.00	1.61

* CM-I = CHLORIDES

CM-II = SULFATES

NCM = CBOD2

500	30.300	8.01	1.90	0.12	0.12	0.00	1.49	1.49	1.49	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
501	30.200	8.01	1.90	0.12	0.12	0.00	1.49	1.49	1.49	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
502	30.100	8.01	1.90	0.12	0.12	0.00	1.49	1.49	1.49	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
503	30.000	8.01	1.90	0.12	0.12	0.00	1.49	1.49	1.49	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
504	29.900	8.01	1.90	0.12	0.12	0.00	1.49	1.49	1.49	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
505	29.800	8.01	1.90	0.12	0.12	0.00	1.49	1.49	1.49	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
506	29.700	8.01	1.90	0.12	0.12	0.00	1.49	1.49	1.49	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
507	29.600	8.01	1.90	0.12	0.12	0.00	1.49	1.49	1.49	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
508	29.500	8.01	1.90	0.12	0.12	0.00	1.49	1.49	1.49	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
20 DEG C RATE				0.09		0.00	0.98			0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG 20 DEG C RATE			1.67		0.10						0.05								
0.05																			

* g/m²/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 *
499	30.400	26.70	0.00	29.71	12.30	5.46	4.00	4.16	0.83	0.81	0.42	2.06	0.00	1.08	0.00	0.00	1.61
500	30.300	26.70	0.00	29.67	12.28	5.47	3.99	4.15	0.83	0.81	0.42	2.06	0.00	1.06	0.00	0.00	1.61
501	30.200	26.70	0.00	29.63	12.27	5.47	3.98	4.14	0.83	0.81	0.42	2.05	0.00	1.04	0.00	0.00	1.62
502	30.100	26.70	0.00	29.58	12.25	5.48	3.97	4.13	0.82	0.81	0.42	2.05	0.00	1.02	0.00	0.00	1.62
503	30.000	26.70	0.00	29.54	12.23	5.48	3.97	4.12	0.82	0.81	0.42	2.04	0.00	1.00	0.00	0.00	1.63
504	29.900	26.70	0.00	29.50	12.21	5.49	3.96	4.11	0.82	0.80	0.42	2.04	0.00	0.98	0.00	0.00	1.63
505	29.800	26.70	0.00	29.46	12.19	5.49	3.95	4.09	0.82	0.80	0.42	2.03	0.00	0.96	0.00	0.00	1.64
506	29.700	26.70	0.00	29.42	12.18	5.50	3.94	4.08	0.81	0.80	0.41	2.03	0.00	0.94	0.00	0.00	1.64
507	29.600	26.70	0.00	29.38	12.16	5.50	3.93	4.07	0.81	0.80	0.41	2.03	0.00	0.92	0.00	0.00	1.64
508	29.500	26.70	0.00	29.34	12.14	5.51	3.93	4.06	0.81	0.80	0.41	2.02	0.00	0.90	0.00	0.00	1.65

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 15 SITE 11 - BOGGY CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
509	UPR RCH	0.16595	26.70	0.00	29.34	12.14	5.51	3.93	4.06	0.81	0.80	0.41	0.00	0.90	0.00	1.65
EACH	INCR	0.0001	26.70	0.00	13.60	4.10	2.00	1.94	1.94	0.21	0.00	0.08	0.00		0.00	1.96

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
509	29.50	29.40	0.16607	67.38	0.15128	0.01	0.27	4.09	109.78	408.72	1.10	0.00	0.000	0.025	0.151
510	29.40	29.30	0.16619	67.33	0.15138	0.01	0.27	4.09	109.78	408.73	1.10	0.00	0.000	0.025	0.151
511	29.30	29.20	0.16632	67.28	0.15149	0.01	0.27	4.09	109.79	408.73	1.10	0.00	0.000	0.025	0.151
512	29.20	29.10	0.16644	67.23	0.15159	0.01	0.27	4.09	109.79	408.73	1.10	0.00	0.000	0.025	0.152
513	29.10	29.00	0.16656	67.18	0.15169	0.01	0.27	4.09	109.80	408.74	1.10	0.00	0.000	0.025	0.152
514	29.00	28.90	0.16668	67.14	0.15180	0.01	0.27	4.09	109.81	408.74	1.10	0.00	0.000	0.025	0.152
515	28.90	28.80	0.16680	67.09	0.15190	0.01	0.27	4.09	109.81	408.74	1.10	0.00	0.000	0.025	0.152
516	28.80	28.70	0.16692	67.04	0.15200	0.01	0.27	4.09	109.82	408.75	1.10	0.00	0.000	0.025	0.152
517	28.70	28.60	0.16704	66.99	0.15211	0.01	0.27	4.09	109.82	408.75	1.10	0.00	0.000	0.025	0.152
518	28.60	28.50	0.16717	66.94	0.15221	0.01	0.27	4.09	109.83	408.75	1.10	0.00	0.000	0.025	0.152
519	28.50	28.40	0.16729	66.89	0.15231	0.01	0.27	4.09	109.83	408.76	1.10	0.00	0.000	0.026	0.152
520	28.40	28.30	0.16741	66.84	0.15242	0.01	0.27	4.09	109.84	408.76	1.10	0.00	0.000	0.026	0.152
521	28.30	28.20	0.16753	66.79	0.15252	0.01	0.27	4.09	109.84	408.76	1.10	0.00	0.000	0.026	0.153
522	28.20	28.10	0.16765	66.75	0.15262	0.01	0.27	4.09	109.85	408.77	1.10	0.00	0.000	0.026	0.153
523	28.10	28.00	0.16777	66.70	0.15273	0.01	0.27	4.09	109.85	408.77	1.10	0.00	0.000	0.026	0.153
524	28.00	27.90	0.16790	66.65	0.15283	0.01	0.27	4.09	109.86	408.78	1.10	0.00	0.000	0.026	0.153
525	27.90	27.80	0.16802	66.60	0.15293	0.01	0.27	4.09	109.86	408.78	1.10	0.00	0.000	0.026	0.153
526	27.80	27.70	0.16814	66.55	0.15304	0.01	0.27	4.09	109.87	408.78	1.10	0.00	0.000	0.026	0.153
527	27.70	27.60	0.16826	66.50	0.15314	0.01	0.27	4.09	109.87	408.79	1.10	0.00	0.000	0.026	0.153
528	27.60	27.50	0.16838	66.46	0.15324	0.01	0.27	4.09	109.88	408.79	1.10	0.00	0.000	0.026	0.153
529	27.50	27.40	0.16850	66.41	0.15335	0.01	0.27	4.09	109.88	408.79	1.10	0.00	0.000	0.026	0.153
530	27.40	27.30	0.16862	66.36	0.15345	0.01	0.27	4.09	109.89	408.80	1.10	0.00	0.000	0.026	0.153
531	27.30	27.20	0.16875	66.31	0.15355	0.01	0.27	4.09	109.89	408.80	1.10	0.00	0.000	0.026	0.154
532	27.20	27.10	0.16887	66.27	0.15366	0.01	0.27	4.09	109.90	408.80	1.10	0.00	0.000	0.026	0.154
533	27.10	27.00	0.16899	66.22	0.15376	0.01	0.27	4.09	109.90	408.81	1.10	0.00	0.000	0.026	0.154
534	27.00	26.90	0.16911	66.17	0.15386	0.01	0.27	4.09	109.91	408.81	1.10	0.00	0.000	0.026	0.154
535	26.90	26.80	0.16923	66.12	0.15397	0.01	0.27	4.09	109.91	408.81	1.10	0.00	0.000	0.026	0.154
536	26.80	26.70	0.16935	66.08	0.15407	0.01	0.27	4.09	109.92	408.82	1.10	0.00	0.000	0.026	0.154
537	26.70	26.60	0.16948	66.03	0.15417	0.01	0.27	4.09	109.92	408.82	1.10	0.00	0.000	0.026	0.154
538	26.60	26.50	0.16960	65.98	0.15428	0.01	0.27	4.09	109.93	408.82	1.10	0.00	0.000	0.026	0.154
539	26.50	26.40	0.16972	65.93	0.15438	0.01	0.27	4.09	109.93	408.83	1.10	0.00	0.000	0.026	0.154
540	26.40	26.30	0.16984	65.89	0.15448	0.01	0.27	4.09	109.94	408.83	1.10	0.00	0.000	0.026	0.154
541	26.30	26.20	0.16996	65.84	0.15459	0.01	0.27	4.09	109.95	408.83	1.10	0.00	0.000	0.026	0.155
542	26.20	26.10	0.17008	65.79	0.15469	0.01	0.27	4.09	109.95	408.84	1.10	0.00	0.000	0.026	0.155

561	24.200	8.01	2.95	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
562	24.100	8.01	2.95	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
563	24.000	8.01	2.95	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
564	23.900	8.01	2.95	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
565	23.800	8.01	2.95	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
566	23.700	8.01	2.95	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
567	23.600	8.01	2.95	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
568	23.500	8.01	2.95	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
569	23.400	8.01	2.95	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
570	23.300	8.01	2.95	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
571	23.200	8.01	2.95	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
572	23.100	8.01	2.95	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
573	23.000	8.01	2.95	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
20 DEG C RATE				0.06		0.00	0.94			0.04		0.00	0.00	0.00	0.00			0.00	0.04
AVG 20 DEG C RATE			2.60		0.10						0.05								
0.05																			

* g/m²/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 *
509	29.400	26.70	0.00	29.33	12.14	5.52	3.92	4.06	0.81	0.80	0.41	2.02	0.00	0.90	0.00	0.00	1.65
510	29.300	26.70	0.00	29.32	12.13	5.53	3.92	4.05	0.81	0.80	0.41	2.02	0.00	0.90	0.00	0.00	1.65
511	29.200	26.70	0.00	29.31	12.12	5.54	3.91	4.05	0.80	0.80	0.41	2.02	0.00	0.90	0.00	0.00	1.65
512	29.100	26.70	0.00	29.30	12.12	5.55	3.91	4.04	0.80	0.80	0.41	2.02	0.00	0.90	0.00	0.00	1.64
513	29.000	26.70	0.00	29.28	12.11	5.55	3.90	4.03	0.80	0.80	0.41	2.01	0.00	0.90	0.00	0.00	1.64
514	28.900	26.70	0.00	29.27	12.11	5.56	3.89	4.03	0.80	0.80	0.41	2.01	0.00	0.90	0.00	0.00	1.64
515	28.800	26.70	0.00	29.26	12.10	5.57	3.89	4.02	0.80	0.80	0.41	2.01	0.00	0.90	0.00	0.00	1.64
516	28.700	26.70	0.00	29.25	12.10	5.58	3.88	4.02	0.80	0.80	0.41	2.01	0.00	0.90	0.00	0.00	1.64
517	28.600	26.70	0.00	29.24	12.09	5.59	3.88	4.01	0.80	0.80	0.41	2.01	0.00	0.90	0.00	0.00	1.64
518	28.500	26.70	0.00	29.23	12.08	5.60	3.87	4.01	0.80	0.80	0.41	2.01	0.00	0.90	0.00	0.00	1.64
519	28.400	26.70	0.00	29.22	12.08	5.60	3.87	4.00	0.80	0.80	0.41	2.01	0.00	0.90	0.00	0.00	1.64

520	28.300	26.70	0.00	29.20	12.07	5.61	3.86	4.00	0.80	0.80	0.41	2.00	0.00	0.90	0.00	0.00	1.63
521	28.200	26.70	0.00	29.19	12.07	5.62	3.86	3.99	0.80	0.80	0.41	2.00	0.00	0.90	0.00	0.00	1.63
522	28.100	26.70	0.00	29.18	12.06	5.63	3.85	3.99	0.79	0.80	0.41	2.00	0.00	0.90	0.00	0.00	1.63
523	28.000	26.70	0.00	29.17	12.05	5.63	3.85	3.98	0.79	0.80	0.41	2.00	0.00	0.90	0.00	0.00	1.63
524	27.900	26.70	0.00	29.16	12.05	5.64	3.84	3.98	0.79	0.80	0.41	2.00	0.00	0.90	0.00	0.00	1.63
525	27.800	26.70	0.00	29.15	12.04	5.65	3.84	3.97	0.79	0.80	0.41	2.00	0.00	0.90	0.00	0.00	1.63
526	27.700	26.70	0.00	29.14	12.04	5.66	3.83	3.97	0.79	0.80	0.41	2.00	0.00	0.90	0.00	0.00	1.63
527	27.600	26.70	0.00	29.13	12.03	5.66	3.83	3.96	0.79	0.80	0.41	1.99	0.00	0.90	0.00	0.00	1.63
528	27.500	26.70	0.00	29.11	12.03	5.67	3.82	3.96	0.79	0.80	0.41	1.99	0.00	0.90	0.00	0.00	1.63
529	27.400	26.70	0.00	29.10	12.02	5.67	3.82	3.95	0.79	0.80	0.41	1.99	0.00	0.90	0.00	0.00	1.62
530	27.300	26.70	0.00	29.09	12.01	5.68	3.81	3.95	0.79	0.80	0.41	1.99	0.00	0.90	0.00	0.00	1.62
531	27.200	26.70	0.00	29.08	12.01	5.69	3.81	3.94	0.79	0.80	0.41	1.99	0.00	0.90	0.00	0.00	1.62
532	27.100	26.70	0.00	29.07	12.00	5.69	3.80	3.94	0.78	0.80	0.41	1.99	0.00	0.90	0.00	0.00	1.62
533	27.000	26.70	0.00	29.06	12.00	5.70	3.80	3.93	0.78	0.79	0.41	1.99	0.00	0.90	0.00	0.00	1.62
534	26.900	26.70	0.00	29.05	11.99	5.70	3.79	3.93	0.78	0.79	0.41	1.98	0.00	0.90	0.00	0.00	1.62
535	26.800	26.70	0.00	29.04	11.99	5.71	3.79	3.92	0.78	0.79	0.41	1.98	0.00	0.90	0.00	0.00	1.62
536	26.700	26.70	0.00	29.03	11.98	5.71	3.78	3.92	0.78	0.79	0.41	1.98	0.00	0.90	0.00	0.00	1.62
537	26.600	26.70	0.00	29.01	11.98	5.72	3.78	3.91	0.78	0.79	0.41	1.98	0.00	0.90	0.00	0.00	1.62
538	26.500	26.70	0.00	29.00	11.97	5.73	3.77	3.91	0.78	0.79	0.41	1.98	0.00	0.90	0.00	0.00	1.61
539	26.400	26.70	0.00	28.99	11.96	5.73	3.77	3.90	0.78	0.79	0.41	1.98	0.00	0.90	0.00	0.00	1.61
540	26.300	26.70	0.00	28.98	11.96	5.74	3.76	3.90	0.78	0.79	0.41	1.98	0.00	0.90	0.00	0.00	1.61
541	26.200	26.70	0.00	28.97	11.95	5.74	3.76	3.89	0.78	0.79	0.41	1.97	0.00	0.90	0.00	0.00	1.61
542	26.100	26.70	0.00	28.96	11.95	5.74	3.75	3.89	0.78	0.79	0.40	1.97	0.00	0.90	0.00	0.00	1.61
543	26.000	26.70	0.00	28.95	11.94	5.75	3.75	3.88	0.77	0.79	0.40	1.97	0.00	0.90	0.00	0.00	1.61
544	25.900	26.70	0.00	28.94	11.94	5.75	3.74	3.88	0.77	0.79	0.40	1.97	0.00	0.90	0.00	0.00	1.61
545	25.800	26.70	0.00	28.93	11.93	5.76	3.74	3.87	0.77	0.79	0.40	1.97	0.00	0.90	0.00	0.00	1.61
546	25.700	26.70	0.00	28.92	11.92	5.76	3.73	3.87	0.77	0.79	0.40	1.97	0.00	0.90	0.00	0.00	1.61
547	25.600	26.70	0.00	28.90	11.92	5.77	3.73	3.86	0.77	0.79	0.40	1.97	0.00	0.90	0.00	0.00	1.60
548	25.500	26.70	0.00	28.89	11.91	5.77	3.72	3.86	0.77	0.79	0.40	1.97	0.00	0.90	0.00	0.00	1.60
549	25.400	26.70	0.00	28.88	11.91	5.77	3.72	3.85	0.77	0.79	0.40	1.96	0.00	0.90	0.00	0.00	1.60
550	25.300	26.70	0.00	28.87	11.90	5.78	3.71	3.85	0.77	0.79	0.40	1.96	0.00	0.90	0.00	0.00	1.60
551	25.200	26.70	0.00	28.86	11.90	5.78	3.71	3.84	0.77	0.79	0.40	1.96	0.00	0.90	0.00	0.00	1.60
552	25.100	26.70	0.00	28.85	11.89	5.79	3.70	3.84	0.77	0.79	0.40	1.96	0.00	0.90	0.00	0.00	1.60
553	25.000	26.70	0.00	28.84	11.89	5.79	3.70	3.83	0.77	0.79	0.40	1.96	0.00	0.90	0.00	0.00	1.60
554	24.900	26.70	0.00	28.83	11.88	5.79	3.69	3.83	0.76	0.79	0.40	1.96	0.00	0.90	0.00	0.00	1.60
555	24.800	26.70	0.00	28.82	11.87	5.80	3.69	3.82	0.76	0.79	0.40	1.96	0.00	0.90	0.00	0.00	1.60
556	24.700	26.70	0.00	28.81	11.87	5.80	3.69	3.82	0.76	0.79	0.40	1.95	0.00	0.90	0.00	0.00	1.59
557	24.600	26.70	0.00	28.80	11.86	5.80	3.68	3.82	0.76	0.79	0.40	1.95	0.00	0.90	0.00	0.00	1.59
558	24.500	26.70	0.00	28.79	11.86	5.81	3.68	3.81	0.76	0.79	0.40	1.95	0.00	0.90	0.00	0.00	1.59
559	24.400	26.70	0.00	28.78	11.85	5.81	3.67	3.81	0.76	0.79	0.40	1.95	0.00	0.90	0.00	0.00	1.59
560	24.300	26.70	0.00	28.76	11.85	5.81	3.67	3.80	0.76	0.79	0.40	1.95	0.00	0.90	0.00	0.00	1.59
561	24.200	26.70	0.00	28.75	11.84	5.82	3.66	3.80	0.76	0.79	0.40	1.95	0.00	0.90	0.00	0.00	1.59
562	24.100	26.70	0.00	28.74	11.84	5.82	3.66	3.79	0.76	0.79	0.40	1.95	0.00	0.90	0.00	0.00	1.59
563	24.000	26.70	0.00	28.73	11.83	5.82	3.65	3.79	0.76	0.79	0.40	1.95	0.00	0.90	0.00	0.00	1.59
564	23.900	26.70	0.00	28.72	11.83	5.83	3.65	3.78	0.76	0.79	0.40	1.94	0.00	0.90	0.00	0.00	1.59
565	23.800	26.70	0.00	28.71	11.82	5.83	3.64	3.78	0.76	0.79	0.40	1.94	0.00	0.90	0.00	0.00	1.58
566	23.700	26.70	0.00	28.70	11.81	5.83	3.64	3.77	0.75	0.79	0.40	1.94	0.00	0.90	0.00	0.00	1.58
567	23.600	26.70	0.00	28.69	11.81	5.83	3.63	3.77	0.75	0.79	0.40	1.94	0.00	0.90	0.00	0.00	1.58
568	23.500	26.70	0.00	28.68	11.80	5.84	3.63	3.76	0.75	0.79	0.40	1.94	0.00	0.90	0.00	0.00	1.58
569	23.400	26.70	0.00	28.67	11.80	5.84	3.63	3.76	0.75	0.79	0.40	1.94	0.00	0.90	0.00	0.00	1.58

0.05

* g/m²/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 *
574	22.900	26.70	0.00	27.97	11.44	5.69	3.53	3.66	0.74	0.75	0.38	1.87	0.00	0.90	0.00	0.00	1.59

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 17 WOLF CR - UNNAMED CREEK

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
575 EACH	UPR RCH	0.18175	26.70	0.00	27.97	11.44	5.69	3.53	3.66	0.74	0.75	0.38	0.00	0.90	0.00	1.59
	INCR	0.0005	26.70	0.00	13.60	4.10	2.00	1.94	1.94	0.21	0.00	0.08	0.00	0.00	0.00	1.96

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
575	22.90	22.80	0.18224	61.40	0.16500	0.01	0.27	4.09	110.45	409.17	1.10	0.00	0.000	0.028	0.165
576	22.80	22.70	0.18274	61.24	0.16541	0.01	0.27	4.09	110.47	409.19	1.10	0.00	0.000	0.028	0.165
577	22.70	22.60	0.18323	61.07	0.16583	0.01	0.27	4.09	110.49	409.20	1.10	0.00	0.000	0.028	0.166
578	22.60	22.50	0.18373	60.91	0.16625	0.01	0.27	4.09	110.51	409.21	1.11	0.00	0.000	0.028	0.166
579	22.50	22.40	0.18422	60.74	0.16667	0.01	0.27	4.09	110.53	409.23	1.11	0.00	0.000	0.028	0.167
580	22.40	22.30	0.18471	60.58	0.16708	0.01	0.27	4.09	110.55	409.24	1.11	0.00	0.000	0.028	0.167
581	22.30	22.20	0.18521	60.42	0.16750	0.01	0.27	4.09	110.57	409.25	1.11	0.00	0.000	0.028	0.167
582	22.20	22.10	0.18570	60.26	0.16792	0.01	0.27	4.09	110.59	409.27	1.11	0.00	0.000	0.028	0.168
583	22.10	22.00	0.18619	60.10	0.16833	0.01	0.27	4.09	110.61	409.28	1.11	0.00	0.000	0.028	0.168
584	22.00	21.90	0.18669	59.94	0.16875	0.01	0.27	4.09	110.63	409.29	1.11	0.00	0.000	0.028	0.169
585	21.90	21.80	0.18718	59.78	0.16917	0.01	0.27	4.09	110.65	409.31	1.11	0.00	0.000	0.028	0.169
586	21.80	21.70	0.18768	59.62	0.16958	0.01	0.27	4.09	110.67	409.32	1.11	0.00	0.000	0.029	0.170
587	21.70	21.60	0.18817	59.47	0.17000	0.01	0.27	4.09	110.69	409.33	1.11	0.00	0.000	0.029	0.170
588	21.60	21.50	0.18866	59.31	0.17041	0.01	0.27	4.09	110.71	409.35	1.11	0.00	0.000	0.029	0.170

589	21.50	21.40	0.18916	59.16	0.17083	0.01	0.27	4.09	110.73	409.36	1.11	0.00	0.000	0.029	0.171
590	21.40	21.30	0.18965	59.00	0.17125	0.01	0.27	4.09	110.75	409.37	1.11	0.00	0.000	0.029	0.171
TOT						0.11			1769.61	6548.36					
AVG					0.16810		0.27	4.09			1.11				
CUM							7.83								

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
575	22.800	8.01	2.94	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
576	22.700	8.01	2.94	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
577	22.600	8.01	2.94	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
578	22.500	8.01	2.94	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
579	22.400	8.01	2.94	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
580	22.300	8.01	2.94	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
581	22.200	8.01	2.94	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
582	22.100	8.01	2.94	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
583	22.000	8.01	2.94	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
584	21.900	8.01	2.94	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
585	21.800	8.01	2.94	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
586	21.700	8.01	2.94	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
587	21.600	8.01	2.94	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
588	21.500	8.01	2.94	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
589	21.400	8.01	2.94	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
590	21.300	8.01	2.94	0.08	0.12	0.00	1.43	1.43	1.43	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05

20 DEG C RATE 0.06 0.00 0.94 0.04 0.00 0.00 0.00 0.00 0.00 0.04

AVG 20 DEG C RATE 2.59 0.10 0.05 0.05 0.00 0.04

0.05

* g/m²/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 *
575	22.800	26.70	0.00	27.93	11.42	5.69	3.52	3.66	0.74	0.75	0.38	1.87	0.00	0.90	0.00	0.00	1.59
576	22.700	26.70	0.00	27.90	11.40	5.69	3.52	3.66	0.73	0.75	0.38	1.86	0.00	0.90	0.00	0.00	1.60
577	22.600	26.70	0.00	27.86	11.38	5.68	3.52	3.65	0.73	0.75	0.38	1.86	0.00	0.90	0.00	0.00	1.60
578	22.500	26.70	0.00	27.82	11.36	5.68	3.51	3.65	0.73	0.75	0.38	1.86	0.00	0.90	0.00	0.00	1.60
579	22.400	26.70	0.00	27.78	11.34	5.68	3.51	3.64	0.73	0.74	0.38	1.85	0.00	0.90	0.00	0.00	1.60
580	22.300	26.70	0.00	27.74	11.33	5.68	3.50	3.64	0.73	0.74	0.38	1.85	0.00	0.90	0.00	0.00	1.61
581	22.200	26.70	0.00	27.71	11.31	5.68	3.50	3.63	0.73	0.74	0.38	1.85	0.00	0.90	0.00	0.00	1.61
582	22.100	26.70	0.00	27.67	11.29	5.68	3.49	3.63	0.73	0.74	0.38	1.84	0.00	0.90	0.00	0.00	1.61
583	22.000	26.70	0.00	27.63	11.27	5.68	3.49	3.62	0.73	0.74	0.38	1.84	0.00	0.90	0.00	0.00	1.62
584	21.900	26.70	0.00	27.59	11.25	5.67	3.48	3.62	0.72	0.74	0.38	1.84	0.00	0.90	0.00	0.00	1.62
585	21.800	26.70	0.00	27.56	11.23	5.67	3.48	3.61	0.72	0.73	0.37	1.83	0.00	0.90	0.00	0.00	1.62
586	21.700	26.70	0.00	27.52	11.21	5.67	3.47	3.61	0.72	0.73	0.37	1.83	0.00	0.90	0.00	0.00	1.62
587	21.600	26.70	0.00	27.48	11.19	5.67	3.47	3.60	0.72	0.73	0.37	1.82	0.00	0.90	0.00	0.00	1.63
588	21.500	26.70	0.00	27.45	11.17	5.67	3.46	3.60	0.72	0.73	0.37	1.82	0.00	0.90	0.00	0.00	1.63
589	21.400	26.70	0.00	27.41	11.16	5.67	3.46	3.60	0.72	0.73	0.37	1.82	0.00	0.90	0.00	0.00	1.63
590	21.300	26.70	0.00	27.37	11.14	5.67	3.46	3.59	0.72	0.73	0.37	1.81	0.00	0.90	0.00	0.00	1.63

* CM-I = CHLORIDES MG/L CM-II = SULFATES MG/L NCM = CBOD2 mg/L

** g/m³

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL

REACH NO. 18 UNNAMED CR - SITE 12 BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
591	UPR RCH	0.18965	26.70	0.00	27.37	11.14	5.67	3.46	3.59	0.72	0.73	0.37	0.00	0.90	0.00	1.63
EACH	INCR	0.0002	26.70	0.00	13.60	4.10	2.00	1.94	1.94	0.21	0.00	0.08	0.00	0.00	0.00	1.96

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

ELEM	BEGIN	ENDING	FLOW	PCT	ADVCTV	TRAVEL	DEPTH	WIDTH	VOLUME	SURFACE	X-SECT	TIDAL	TIDAL	DISPRSN	MEAN
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***** BIOLOGICAL AND PHYSICAL COEFFICIENTS *****

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
591	21.200	8.01	2.94	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
592	21.100	8.01	2.94	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
593	21.000	8.01	2.94	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
594	20.900	8.01	2.94	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
595	20.800	8.01	2.94	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
596	20.700	8.01	2.94	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
597	20.600	8.01	2.94	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
598	20.500	8.01	2.94	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
599	20.400	8.01	2.94	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
600	20.300	8.01	2.93	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
601	20.200	8.01	2.93	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
602	20.100	8.01	2.93	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
603	20.000	8.01	2.93	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
604	19.900	8.01	2.93	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
605	19.800	8.01	2.93	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
606	19.700	8.01	2.93	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
607	19.600	8.01	2.93	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
608	19.500	8.01	2.93	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
609	19.400	8.01	2.93	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
610	19.300	8.01	2.93	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
611	19.200	8.01	2.93	0.08	0.12	0.00	1.28	1.28	1.28	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05

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 *
591	21.200	26.70	0.00	27.36	11.13	5.67	3.45	3.59	0.72	0.73	0.37	1.81	0.00	0.90	0.00	0.00	1.63
592	21.100	26.70	0.00	27.35	11.12	5.68	3.45	3.58	0.72	0.73	0.37	1.81	0.00	0.90	0.00	0.00	1.63
593	21.000	26.70	0.00	27.33	11.12	5.69	3.45	3.58	0.71	0.72	0.37	1.81	0.00	0.90	0.00	0.00	1.63
594	20.900	26.70	0.00	27.32	11.11	5.70	3.44	3.58	0.71	0.72	0.37	1.81	0.00	0.90	0.00	0.00	1.63
595	20.800	26.70	0.00	27.31	11.10	5.71	3.44	3.57	0.71	0.72	0.37	1.81	0.00	0.90	0.00	0.00	1.63
596	20.700	26.70	0.00	27.29	11.09	5.71	3.44	3.57	0.71	0.72	0.37	1.81	0.00	0.90	0.00	0.00	1.63
597	20.600	26.70	0.00	27.28	11.09	5.72	3.43	3.57	0.71	0.72	0.37	1.80	0.00	0.90	0.00	0.00	1.63
598	20.500	26.70	0.00	27.26	11.08	5.73	3.43	3.56	0.71	0.72	0.37	1.80	0.00	0.90	0.00	0.00	1.63
599	20.400	26.70	0.00	27.25	11.07	5.73	3.43	3.56	0.71	0.72	0.37	1.80	0.00	0.90	0.00	0.00	1.63
600	20.300	26.70	0.00	27.24	11.07	5.74	3.42	3.56	0.71	0.72	0.37	1.80	0.00	0.90	0.00	0.00	1.64
601	20.200	26.70	0.00	27.22	11.06	5.75	3.42	3.55	0.71	0.72	0.37	1.80	0.00	0.90	0.00	0.00	1.64
602	20.100	26.70	0.00	27.21	11.05	5.75	3.42	3.55	0.71	0.72	0.37	1.80	0.00	0.90	0.00	0.00	1.64
603	20.000	26.70	0.00	27.20	11.05	5.76	3.41	3.55	0.71	0.72	0.37	1.80	0.00	0.90	0.00	0.00	1.64
604	19.900	26.70	0.00	27.18	11.04	5.77	3.41	3.54	0.71	0.72	0.37	1.79	0.00	0.90	0.00	0.00	1.64
605	19.800	26.70	0.00	27.17	11.03	5.77	3.41	3.54	0.71	0.72	0.37	1.79	0.00	0.90	0.00	0.00	1.64
606	19.700	26.70	0.00	27.15	11.02	5.78	3.40	3.54	0.71	0.72	0.37	1.79	0.00	0.90	0.00	0.00	1.64
607	19.600	26.70	0.00	27.14	11.02	5.78	3.40	3.54	0.71	0.72	0.37	1.79	0.00	0.90	0.00	0.00	1.64
608	19.500	26.70	0.00	27.13	11.01	5.79	3.40	3.53	0.71	0.72	0.37	1.79	0.00	0.90	0.00	0.00	1.64
609	19.400	26.70	0.00	27.11	11.00	5.80	3.39	3.53	0.70	0.72	0.37	1.79	0.00	0.90	0.00	0.00	1.64
610	19.300	26.70	0.00	27.10	11.00	5.80	3.39	3.53	0.70	0.72	0.36	1.79	0.00	0.90	0.00	0.00	1.64
611	19.200	26.70	0.00	27.09	10.99	5.81	3.39	3.52	0.70	0.72	0.36	1.79	0.00	0.90	0.00	0.00	1.64
612	19.100	26.70	0.00	27.07	10.98	5.81	3.38	3.52	0.70	0.72	0.36	1.78	0.00	0.90	0.00	0.00	1.64
613	19.000	26.70	0.00	27.06	10.98	5.82	3.38	3.52	0.70	0.72	0.36	1.78	0.00	0.90	0.00	0.00	1.64
614	18.900	26.70	0.00	27.05	10.97	5.82	3.38	3.51	0.70	0.72	0.36	1.78	0.00	0.90	0.00	0.00	1.64
615	18.800	26.70	0.00	27.03	10.96	5.83	3.38	3.51	0.70	0.72	0.36	1.78	0.00	0.90	0.00	0.00	1.64
616	18.700	26.70	0.00	27.02	10.96	5.83	3.37	3.51	0.70	0.71	0.36	1.78	0.00	0.90	0.00	0.00	1.64
617	18.600	26.70	0.00	27.01	10.95	5.84	3.37	3.50	0.70	0.71	0.36	1.78	0.00	0.90	0.00	0.00	1.64
618	18.500	26.70	0.00	26.99	10.94	5.84	3.37	3.50	0.70	0.71	0.36	1.78	0.00	0.90	0.00	0.00	1.64
619	18.400	26.70	0.00	26.98	10.94	5.85	3.36	3.50	0.70	0.71	0.36	1.77	0.00	0.90	0.00	0.00	1.64
620	18.300	26.70	0.00	26.97	10.93	5.85	3.36	3.49	0.70	0.71	0.36	1.77	0.00	0.90	0.00	0.00	1.64
621	18.200	26.70	0.00	26.95	10.92	5.86	3.36	3.49	0.70	0.71	0.36	1.77	0.00	0.90	0.00	0.00	1.64
622	18.100	26.70	0.00	26.94	10.92	5.86	3.35	3.49	0.70	0.71	0.36	1.77	0.00	0.90	0.00	0.00	1.64
623	18.000	26.70	0.00	26.93	10.91	5.86	3.35	3.49	0.70	0.71	0.36	1.77	0.00	0.90	0.00	0.00	1.64
624	17.900	26.70	0.00	26.91	10.90	5.87	3.35	3.48	0.70	0.71	0.36	1.77	0.00	0.90	0.00	0.00	1.64
625	17.800	26.70	0.00	26.90	10.90	5.87	3.34	3.48	0.70	0.71	0.36	1.77	0.00	0.90	0.00	0.00	1.64
626	17.700	26.70	0.00	26.89	10.89	5.88	3.34	3.48	0.70	0.71	0.36	1.77	0.00	0.90	0.00	0.00	1.64
627	17.600	26.70	0.00	26.88	10.88	5.88	3.34	3.47	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.64
628	17.500	26.70	0.00	26.86	10.88	5.88	3.34	3.47	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.64
629	17.400	26.70	0.00	26.85	10.87	5.89	3.33	3.47	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.64
630	17.300	26.70	0.00	26.84	10.86	5.89	3.33	3.46	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.64
631	17.200	26.70	0.00	26.82	10.86	5.89	3.33	3.46	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.64

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
 REACH NO. 19 SITE 12 - CLEAR CR

BARNES CREEK WATERSHED MODEL
 BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
632	UPR RCH	0.19755	26.70	0.00	26.82	10.86	5.89	3.33	3.46	0.69	0.71	0.36	0.00	0.90	0.00	1.64

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
632	17.20	17.10	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
633	17.10	17.00	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
634	17.00	16.90	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
635	16.90	16.80	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
636	16.80	16.70	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
637	16.70	16.60	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
638	16.60	16.50	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
639	16.50	16.40	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
640	16.40	16.30	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
641	16.30	16.20	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
642	16.20	16.10	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
643	16.10	16.00	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
644	16.00	15.90	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
645	15.90	15.80	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
646	15.80	15.70	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
647	15.70	15.60	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
648	15.60	15.50	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
649	15.50	15.40	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
650	15.40	15.30	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
651	15.30	15.20	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
652	15.20	15.10	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
653	15.10	15.00	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
654	15.00	14.90	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
655	14.90	14.80	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
656	14.80	14.70	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
657	14.70	14.60	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
658	14.60	14.50	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
659	14.50	14.40	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
660	14.40	14.30	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
661	14.30	14.20	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
662	14.20	14.10	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113

663	14.10	14.00	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
664	14.00	13.90	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
665	13.90	13.80	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
666	13.80	13.70	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
667	13.70	13.60	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
668	13.60	13.50	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
669	13.50	13.40	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
670	13.40	13.30	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
671	13.30	13.20	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
672	13.20	13.10	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
673	13.10	13.00	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
674	13.00	12.90	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
675	12.90	12.80	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
676	12.80	12.70	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
677	12.70	12.60	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
678	12.60	12.50	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
679	12.50	12.40	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
680	12.40	12.30	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
681	12.30	12.20	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
682	12.20	12.10	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
683	12.10	12.00	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
684	12.00	11.90	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
685	11.90	11.80	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
686	11.80	11.70	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
687	11.70	11.60	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
688	11.60	11.50	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
689	11.50	11.40	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
690	11.40	11.30	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
691	11.30	11.20	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
692	11.20	11.10	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
693	11.10	11.00	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
694	11.00	10.90	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
695	10.90	10.80	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
696	10.80	10.70	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
697	10.70	10.60	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
698	10.60	10.50	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
699	10.50	10.40	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
700	10.40	10.30	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
701	10.30	10.20	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
702	10.20	10.10	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113

TOT
AVG
CUM

0.11341
8.82

0.72
0.28 6.20

12367.25 43990.24
1.74

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

ELEM ENDING SAT REAER CBOD CBOD ANBOD BKGD FULL CORR ORGN ORGN NH3 NH3 DENIT PO4 ALG MAC COLI NCM
NCM

NO. SETT	DIST	D.O. mg/L	RATE 1/da	DECAY 1/da	SETT 1/da	DECAY 1/da	SOD *	SOD *	SOD *	DECAY 1/da	SETT 1/da	DECAY 1/da	SRCE *	RATE 1/da	SRCE *	PROD **	PROD **	DECAY 1/da	DECAY 1/da
632	17.100	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
633	17.000	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
634	16.900	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
635	16.800	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
636	16.700	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
637	16.600	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
638	16.500	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
639	16.400	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
640	16.300	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
641	16.200	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
642	16.100	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
643	16.000	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
644	15.900	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
645	15.800	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
646	15.700	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
647	15.600	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
648	15.500	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
649	15.400	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
650	15.300	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
651	15.200	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
652	15.100	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
653	15.000	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
654	14.900	8.01	2.83	0.10	0.12	0.00	1.66	1.66	1.66	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03

0.05

* g/m²/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 *
632	17.100	26.70	0.00	26.82	10.86	5.89	3.32	3.46	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.64
633	17.000	26.70	0.00	26.82	10.86	5.89	3.32	3.46	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.64
634	16.900	26.70	0.00	26.82	10.86	5.89	3.32	3.45	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.64
635	16.800	26.70	0.00	26.82	10.86	5.89	3.32	3.45	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.64
636	16.700	26.70	0.00	26.82	10.86	5.88	3.31	3.45	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.64
637	16.600	26.70	0.00	26.82	10.86	5.88	3.31	3.45	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.63
638	16.500	26.70	0.00	26.82	10.86	5.88	3.31	3.44	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.63
639	16.400	26.70	0.00	26.82	10.86	5.88	3.31	3.44	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.63
640	16.300	26.70	0.00	26.82	10.86	5.87	3.30	3.44	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.63
641	16.200	26.70	0.00	26.82	10.86	5.87	3.30	3.44	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.63
642	16.100	26.70	0.00	26.82	10.86	5.87	3.30	3.43	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.63
643	16.000	26.70	0.00	26.82	10.86	5.87	3.30	3.43	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.63
644	15.900	26.70	0.00	26.82	10.86	5.87	3.29	3.43	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.63
645	15.800	26.70	0.00	26.82	10.86	5.87	3.29	3.43	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.63
646	15.700	26.70	0.00	26.82	10.86	5.86	3.29	3.42	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.62
647	15.600	26.70	0.00	26.82	10.86	5.86	3.29	3.42	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.62
648	15.500	26.70	0.00	26.82	10.86	5.86	3.28	3.42	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.62
649	15.400	26.70	0.00	26.82	10.86	5.86	3.28	3.42	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.62
650	15.300	26.70	0.00	26.82	10.86	5.86	3.28	3.41	0.69	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.62
651	15.200	26.70	0.00	26.82	10.86	5.86	3.28	3.41	0.68	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.62
652	15.100	26.70	0.00	26.82	10.86	5.86	3.27	3.41	0.68	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.62
653	15.000	26.70	0.00	26.82	10.86	5.85	3.27	3.41	0.68	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.62
654	14.900	26.70	0.00	26.82	10.86	5.85	3.27	3.40	0.68	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.62
655	14.800	26.70	0.00	26.82	10.86	5.85	3.27	3.40	0.68	0.71	0.36	1.76	0.00	0.90	0.00	0.00	1.61
656	14.700	26.70	0.00	26.82	10.86	5.85	3.26	3.40	0.68	0.71	0.36	1.75	0.00	0.90	0.00	0.00	1.61
657	14.600	26.70	0.00	26.82	10.86	5.85	3.26	3.40	0.68	0.71	0.36	1.75	0.00	0.90	0.00	0.00	1.61
658	14.500	26.70	0.00	26.82	10.86	5.85	3.26	3.39	0.68	0.71	0.36	1.75	0.00	0.90	0.00	0.00	1.61
659	14.400	26.70	0.00	26.82	10.86	5.85	3.26	3.39	0.68	0.71	0.36	1.75	0.00	0.90	0.00	0.00	1.61
660	14.300	26.70	0.00	26.82	10.86	5.85	3.25	3.39	0.68	0.71	0.36	1.75	0.00	0.90	0.00	0.00	1.61
661	14.200	26.70	0.00	26.82	10.86	5.84	3.25	3.39	0.68	0.71	0.36	1.75	0.00	0.90	0.00	0.00	1.61
662	14.100	26.70	0.00	26.82	10.86	5.84	3.25	3.38	0.68	0.71	0.36	1.75	0.00	0.90	0.00	0.00	1.61
663	14.000	26.70	0.00	26.82	10.86	5.84	3.25	3.38	0.68	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.61
664	13.900	26.70	0.00	26.82	10.86	5.84	3.24	3.38	0.68	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.60
665	13.800	26.70	0.00	26.82	10.86	5.84	3.24	3.38	0.68	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.60
666	13.700	26.70	0.00	26.82	10.86	5.84	3.24	3.37	0.68	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.60
667	13.600	26.70	0.00	26.82	10.86	5.84	3.24	3.37	0.68	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.60
668	13.500	26.70	0.00	26.82	10.86	5.84	3.23	3.37	0.68	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.60
669	13.400	26.70	0.00	26.82	10.86	5.84	3.23	3.37	0.68	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.60
670	13.300	26.70	0.00	26.82	10.86	5.84	3.23	3.37	0.68	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.60
671	13.200	26.70	0.00	26.82	10.86	5.84	3.23	3.36	0.68	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.60

672	13.100	26.70	0.00	26.82	10.86	5.83	3.23	3.36	0.68	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.60
673	13.000	26.70	0.00	26.82	10.86	5.83	3.22	3.36	0.68	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.59
674	12.900	26.70	0.00	26.82	10.86	5.83	3.22	3.36	0.68	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.59
675	12.800	26.70	0.00	26.82	10.86	5.83	3.22	3.35	0.68	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.59
676	12.700	26.70	0.00	26.82	10.86	5.83	3.22	3.35	0.68	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.59
677	12.600	26.70	0.00	26.82	10.86	5.83	3.21	3.35	0.68	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.59
678	12.500	26.70	0.00	26.82	10.86	5.83	3.21	3.35	0.68	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.59
679	12.400	26.70	0.00	26.82	10.86	5.83	3.21	3.34	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.59
680	12.300	26.70	0.00	26.82	10.86	5.83	3.21	3.34	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.59
681	12.200	26.70	0.00	26.82	10.86	5.83	3.20	3.34	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.59
682	12.100	26.70	0.00	26.82	10.86	5.83	3.20	3.34	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.58
683	12.000	26.70	0.00	26.82	10.86	5.83	3.20	3.33	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.58
684	11.900	26.70	0.00	26.82	10.86	5.83	3.20	3.33	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.58
685	11.800	26.70	0.00	26.82	10.86	5.83	3.20	3.33	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.58
686	11.700	26.70	0.00	26.82	10.86	5.83	3.19	3.33	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.58
687	11.600	26.70	0.00	26.82	10.86	5.83	3.19	3.33	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.58
688	11.500	26.70	0.00	26.82	10.86	5.83	3.19	3.32	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.58
689	11.400	26.70	0.00	26.82	10.86	5.83	3.19	3.32	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.58
690	11.300	26.70	0.00	26.82	10.86	5.82	3.18	3.32	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.58
691	11.200	26.70	0.00	26.82	10.86	5.82	3.18	3.32	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.58
692	11.100	26.70	0.00	26.82	10.86	5.82	3.18	3.31	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.57
693	11.000	26.70	0.00	26.82	10.86	5.82	3.18	3.31	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.57
694	10.900	26.70	0.00	26.82	10.86	5.82	3.17	3.31	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.57
695	10.800	26.70	0.00	26.82	10.86	5.82	3.17	3.31	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.57
696	10.700	26.70	0.00	26.82	10.86	5.82	3.17	3.30	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.57
697	10.600	26.70	0.00	26.82	10.86	5.82	3.17	3.30	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.57
698	10.500	26.70	0.00	26.82	10.86	5.82	3.17	3.30	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.57
699	10.400	26.70	0.00	26.82	10.86	5.82	3.16	3.30	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.57
700	10.300	26.70	0.00	26.82	10.86	5.82	3.16	3.30	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.57
701	10.200	26.70	0.00	26.82	10.86	5.82	3.16	3.29	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.56
702	10.100	26.70	0.00	26.82	10.86	5.82	3.16	3.29	0.67	0.72	0.36	1.75	0.00	0.90	0.00	0.00	1.56

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 20 CLEAR CR - BEAR CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
703	UPR RCH	0.19755	26.70	0.00	26.82	10.86	5.82	3.16	3.29	0.67	0.72	0.36	0.00	0.90	0.00	1.56
703	WSTLD	0.00280	26.70	0.00	5.50	1.30	7.20	5.55	5.55	0.75	0.00	0.06	0.00	4.30	0.00	3.76

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
703	10.10	10.00	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
704	10.00	9.90	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
705	9.90	9.80	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
706	9.80	9.70	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
707	9.70	9.60	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
708	9.60	9.50	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
709	9.50	9.40	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
710	9.40	9.30	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
711	9.30	9.20	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
712	9.20	9.10	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
713	9.10	9.00	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
714	9.00	8.90	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
715	8.90	8.80	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
716	8.80	8.70	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
717	8.70	8.60	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
718	8.60	8.50	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
719	8.50	8.40	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
720	8.40	8.30	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
721	8.30	8.20	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
722	8.20	8.10	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
723	8.10	8.00	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
724	8.00	7.90	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
725	7.90	7.80	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
726	7.80	7.70	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
TOT						0.24			4184.10	14871.69					
AVG					0.11492		0.28	6.20			1.74				
CUM						9.07									

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

ELEM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAT	CBOD SETT	ANBOD DECAT	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAT	ORGN SETT	NH3 DECAT	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAT	NCM DECAT
703	10.000	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
704	9.900	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
705	9.800	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03

0.06																			
706	9.700	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
707	9.600	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
708	9.500	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
709	9.400	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
710	9.300	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
711	9.200	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
712	9.100	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
713	9.000	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
714	8.900	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
715	8.800	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
716	8.700	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
717	8.600	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
718	8.500	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
719	8.400	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
720	8.300	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
721	8.200	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
722	8.100	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
723	8.000	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
724	7.900	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
725	7.800	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
726	7.700	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
20 DEG C RATE				0.07		0.00	1.24			0.02		0.00	0.00	0.00	0.00			0.00	0.02
AVG 20 DEG C RATE			2.49		0.10						0.05								
0.05																			

* g/m²/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 *
703	10.000	26.70	0.00	26.53	10.72	5.83	3.19	3.32	0.67	0.71	0.35	1.73	0.00	0.90	0.00	0.00	1.59
704	9.900	26.70	0.00	26.53	10.72	5.82	3.19	3.32	0.67	0.71	0.35	1.73	0.00	0.90	0.00	0.00	1.59
705	9.800	26.70	0.00	26.53	10.72	5.81	3.18	3.32	0.67	0.71	0.35	1.73	0.00	0.90	0.00	0.00	1.59
706	9.700	26.70	0.00	26.53	10.72	5.81	3.18	3.32	0.67	0.71	0.35	1.73	0.00	0.90	0.00	0.00	1.59
707	9.600	26.70	0.00	26.53	10.72	5.80	3.18	3.31	0.67	0.71	0.35	1.73	0.00	0.90	0.00	0.00	1.59
708	9.500	26.70	0.00	26.53	10.72	5.79	3.18	3.31	0.67	0.71	0.35	1.73	0.00	0.90	0.00	0.00	1.59
709	9.400	26.70	0.00	26.53	10.72	5.78	3.17	3.31	0.67	0.71	0.35	1.73	0.00	0.90	0.00	0.00	1.58
710	9.300	26.70	0.00	26.53	10.72	5.78	3.17	3.31	0.67	0.71	0.35	1.73	0.00	0.90	0.00	0.00	1.58
711	9.200	26.70	0.00	26.53	10.72	5.77	3.17	3.30	0.67	0.71	0.35	1.73	0.00	0.90	0.00	0.00	1.58
712	9.100	26.70	0.00	26.53	10.72	5.76	3.17	3.30	0.67	0.72	0.35	1.73	0.00	0.90	0.00	0.00	1.58
713	9.000	26.70	0.00	26.53	10.72	5.76	3.17	3.30	0.67	0.72	0.35	1.73	0.00	0.90	0.00	0.00	1.58
714	8.900	26.70	0.00	26.53	10.72	5.75	3.16	3.30	0.67	0.72	0.35	1.73	0.00	0.90	0.00	0.00	1.58
715	8.800	26.70	0.00	26.53	10.72	5.74	3.16	3.30	0.67	0.72	0.35	1.73	0.00	0.90	0.00	0.00	1.58
716	8.700	26.70	0.00	26.53	10.72	5.74	3.16	3.29	0.67	0.72	0.35	1.73	0.00	0.90	0.00	0.00	1.57
717	8.600	26.70	0.00	26.53	10.72	5.73	3.16	3.29	0.67	0.72	0.35	1.73	0.00	0.90	0.00	0.00	1.57
718	8.500	26.70	0.00	26.53	10.72	5.73	3.15	3.29	0.67	0.72	0.35	1.73	0.00	0.90	0.00	0.00	1.57
719	8.400	26.70	0.00	26.53	10.72	5.72	3.15	3.29	0.67	0.72	0.35	1.73	0.00	0.90	0.00	0.00	1.57
720	8.300	26.70	0.00	26.53	10.72	5.71	3.15	3.29	0.67	0.72	0.35	1.73	0.00	0.90	0.00	0.00	1.57
721	8.200	26.70	0.00	26.53	10.72	5.71	3.15	3.28	0.67	0.72	0.35	1.73	0.00	0.90	0.00	0.00	1.57
722	8.100	26.70	0.00	26.53	10.72	5.70	3.15	3.28	0.66	0.72	0.35	1.73	0.00	0.90	0.00	0.00	1.57
723	8.000	26.70	0.00	26.53	10.72	5.70	3.14	3.28	0.66	0.72	0.35	1.73	0.00	0.90	0.00	0.00	1.57
724	7.900	26.70	0.00	26.53	10.72	5.69	3.14	3.28	0.66	0.72	0.35	1.73	0.00	0.90	0.00	0.00	1.56
725	7.800	26.70	0.00	26.53	10.72	5.69	3.14	3.27	0.66	0.72	0.35	1.73	0.00	0.90	0.00	0.00	1.56
726	7.700	26.70	0.00	26.53	10.72	5.69	3.14	3.27	0.66	0.72	0.35	1.73	0.00	0.90	0.00	0.00	1.56

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 21 BEAR CR - SITE 13

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
727	UPR RCH	0.20035	26.70	0.00	26.53	10.72	5.69	3.14	3.27	0.66	0.72	0.35	0.00	0.90	0.00	1.56

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
727	7.70	7.60	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
728	7.60	7.50	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
729	7.50	7.40	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
730	7.40	7.30	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
731	7.30	7.20	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
732	7.20	7.10	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
733	7.10	7.00	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
734	7.00	6.90	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
735	6.90	6.80	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
736	6.80	6.70	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
737	6.70	6.60	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
738	6.60	6.50	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
739	6.50	6.40	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
740	6.40	6.30	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
741	6.30	6.20	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
742	6.20	6.10	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
743	6.10	6.00	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
744	6.00	5.90	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
TOT						0.18			3138.08	11153.77					
AVG					0.11492		0.28	6.20			1.74				
CUM						9.25									

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

ELEM NCM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECA	CBOD SETT	ANBOD DECA	BKGD SOD	FULL SOD	CORR SOD	ORGN DECA	ORGN SETT	NH3 DECA	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECA	NCM DECA
SETT		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
727	7.600	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
728	7.500	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.03
729	7.400	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.03
730	7.300	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.03
731	7.200	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.03
732	7.100	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.03
733	7.000	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.03

0.06																			
734	6.900	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.03
0.06																			
735	6.800	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.03
0.06																			
736	6.700	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.03
0.06																			
737	6.600	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.03
0.06																			
738	6.500	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.03
0.06																			
739	6.400	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.03
0.06																			
740	6.300	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.03
0.06																			
741	6.200	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.03
0.06																			
742	6.100	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.03
0.06																			
743	6.000	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
744	5.900	8.01	2.82	0.10	0.12	0.00	1.89	1.89	1.89	0.03	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
20 DEG C RATE					0.07		0.00	1.24		0.02		0.00	0.00	0.00	0.00			0.00	0.02
AVG 20 DEG C RATE			2.49		0.10						0.05								
0.05																			

* g/m²/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 *
727	7.600	26.70	0.00	26.53	10.72	5.68	3.13	3.28	0.66	0.72	0.35	1.74	0.00	0.96	0.00	0.00	1.56
728	7.500	26.70	0.00	26.53	10.72	5.68	3.13	3.28	0.66	0.72	0.35	1.74	0.00	1.01	0.00	0.00	1.56
729	7.400	26.70	0.00	26.53	10.72	5.67	3.13	3.29	0.66	0.72	0.35	1.74	0.00	1.07	0.00	0.00	1.56
730	7.300	26.70	0.00	26.53	10.72	5.67	3.12	3.29	0.66	0.72	0.35	1.74	0.00	1.12	0.00	0.00	1.56
731	7.200	26.70	0.00	26.53	10.72	5.66	3.12	3.30	0.66	0.72	0.35	1.74	0.00	1.18	0.00	0.00	1.55
732	7.100	26.70	0.00	26.53	10.72	5.66	3.12	3.30	0.66	0.72	0.35	1.74	0.00	1.23	0.00	0.00	1.55
733	7.000	26.70	0.00	26.53	10.72	5.66	3.12	3.31	0.66	0.72	0.35	1.74	0.00	1.29	0.00	0.00	1.55
734	6.900	26.70	0.00	26.53	10.72	5.65	3.11	3.31	0.66	0.72	0.35	1.74	0.00	1.34	0.00	0.00	1.55
735	6.800	26.70	0.00	26.53	10.72	5.65	3.11	3.32	0.66	0.72	0.35	1.74	0.00	1.40	0.00	0.00	1.55
736	6.700	26.70	0.00	26.53	10.72	5.65	3.11	3.32	0.66	0.72	0.35	1.74	0.00	1.46	0.00	0.00	1.55
737	6.600	26.70	0.00	26.53	10.72	5.64	3.10	3.33	0.66	0.72	0.35	1.74	0.00	1.51	0.00	0.00	1.55
738	6.500	26.70	0.00	26.53	10.72	5.64	3.10	3.33	0.66	0.72	0.35	1.74	0.00	1.57	0.00	0.00	1.55
739	6.400	26.70	0.00	26.53	10.72	5.64	3.10	3.34	0.66	0.72	0.35	1.74	0.00	1.62	0.00	0.00	1.54
740	6.300	26.70	0.00	26.53	10.72	5.64	3.09	3.35	0.66	0.72	0.35	1.74	0.00	1.68	0.00	0.00	1.54

767	3.70	3.60	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
768	3.60	3.50	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
769	3.50	3.40	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
770	3.40	3.30	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
771	3.30	3.20	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
772	3.20	3.10	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
773	3.10	3.00	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
774	3.00	2.90	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
775	2.90	2.80	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
776	2.80	2.70	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
777	2.70	2.60	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
778	2.60	2.50	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
779	2.50	2.40	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
780	2.40	2.30	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
781	2.30	2.20	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
782	2.20	2.10	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
783	2.10	2.00	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
784	2.00	1.90	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
785	1.90	1.80	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
786	1.80	1.70	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
787	1.70	1.60	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
788	1.60	1.50	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
789	1.50	1.40	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
790	1.40	1.30	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
791	1.30	1.20	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
792	1.20	1.10	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
793	1.10	1.00	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
794	1.00	0.90	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
795	0.90	0.80	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
796	0.80	0.70	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
797	0.70	0.60	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
798	0.60	0.50	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
799	0.50	0.40	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
800	0.40	0.30	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
801	0.30	0.20	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
802	0.20	0.10	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
803	0.10	0.00	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
TOT						19.23			332925.34	140989.62					
AVG			0.00355				2.36	23.90			56.43				
CUM						28.48									

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI	NCM
NCM	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY	DECAY
SETT		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da

794	0.900	8.01	0.34	0.08	0.12	0.00	1.66	1.66	1.66	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.04
0.06																			
795	0.800	8.01	0.34	0.08	0.12	0.00	1.66	1.66	1.66	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.04
0.06																			
796	0.700	8.01	0.34	0.08	0.12	0.00	1.66	1.66	1.66	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.04
0.06																			
797	0.600	8.01	0.34	0.08	0.12	0.00	1.66	1.66	1.66	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.04
0.06																			
798	0.500	8.01	0.34	0.08	0.12	0.00	1.66	1.66	1.66	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.04
0.06																			
799	0.400	8.01	0.34	0.08	0.12	0.00	1.66	1.66	1.66	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.04
0.06																			
800	0.300	8.01	0.34	0.08	0.12	0.00	1.66	1.66	1.66	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.04
0.06																			
801	0.200	8.01	0.34	0.08	0.12	0.00	1.66	1.66	1.66	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.04
0.06																			
802	0.100	8.01	0.34	0.08	0.12	0.00	1.66	1.66	1.66	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.04
0.06																			
803	0.000	8.01	0.34	0.08	0.12	0.00	1.66	1.66	1.66	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.04
0.06																			
20 DEG C RATE				0.06		0.00	1.09			0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG 20 DEG C RATE			0.30		0.10						0.05								
0.05																			

* g/m²/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 *
745	5.800	26.70	0.00	26.53	10.72	5.59	3.01	3.29	0.65	0.73	0.35	1.73	0.00	1.90	0.00	0.00	1.52
746	5.700	26.70	0.00	26.53	10.72	5.57	2.94	3.22	0.64	0.74	0.35	1.73	0.00	1.90	0.00	0.00	1.50
747	5.600	26.70	0.00	26.53	10.72	5.54	2.87	3.16	0.63	0.75	0.35	1.72	0.00	1.90	0.00	0.00	1.48
748	5.500	26.70	0.00	26.53	10.72	5.53	2.81	3.10	0.62	0.76	0.35	1.72	0.00	1.90	0.00	0.00	1.47
749	5.400	26.70	0.00	26.53	10.72	5.51	2.75	3.04	0.61	0.77	0.35	1.72	0.00	1.90	0.00	0.00	1.45
750	5.300	26.70	0.00	26.53	10.72	5.50	2.70	2.99	0.59	0.77	0.34	1.71	0.00	1.90	0.00	0.00	1.44
751	5.200	26.70	0.00	26.53	10.72	5.49	2.65	2.94	0.58	0.78	0.34	1.71	0.00	1.90	0.00	0.00	1.42
752	5.100	26.70	0.00	26.53	10.72	5.48	2.60	2.89	0.57	0.79	0.34	1.71	0.00	1.90	0.00	0.00	1.41
753	5.000	26.70	0.00	26.53	10.72	5.48	2.56	2.84	0.57	0.80	0.34	1.70	0.00	1.90	0.00	0.00	1.39
754	4.900	26.70	0.00	26.53	10.72	5.48	2.52	2.80	0.56	0.81	0.34	1.70	0.00	1.90	0.00	0.00	1.38
755	4.800	26.70	0.00	26.53	10.72	5.47	2.48	2.76	0.55	0.81	0.34	1.70	0.00	1.90	0.00	0.00	1.37
756	4.700	26.70	0.00	26.53	10.72	5.47	2.44	2.73	0.54	0.82	0.34	1.70	0.00	1.90	0.00	0.00	1.35
757	4.600	26.70	0.00	26.53	10.72	5.47	2.41	2.69	0.53	0.83	0.34	1.69	0.00	1.90	0.00	0.00	1.34
758	4.500	26.70	0.00	26.53	10.72	5.48	2.37	2.66	0.52	0.83	0.33	1.69	0.00	1.90	0.00	0.00	1.33
759	4.400	26.70	0.00	26.53	10.72	5.48	2.34	2.63	0.51	0.84	0.33	1.69	0.00	1.90	0.00	0.00	1.32
760	4.300	26.70	0.00	26.53	10.72	5.48	2.31	2.60	0.51	0.85	0.33	1.69	0.00	1.90	0.00	0.00	1.31
761	4.200	26.70	0.00	26.53	10.72	5.49	2.29	2.57	0.50	0.86	0.33	1.69	0.00	1.90	0.00	0.00	1.30

762	4.100	26.70	0.00	26.53	10.72	5.49	2.26	2.55	0.49	0.86	0.33	1.68	0.00	1.90	0.00	0.00	1.29
763	4.000	26.70	0.00	26.53	10.72	5.49	2.24	2.52	0.49	0.87	0.33	1.68	0.00	1.90	0.00	0.00	1.28
764	3.900	26.70	0.00	26.53	10.72	5.50	2.22	2.50	0.48	0.88	0.33	1.68	0.00	1.90	0.00	0.00	1.27
765	3.800	26.70	0.00	26.53	10.72	5.51	2.19	2.48	0.47	0.88	0.33	1.68	0.00	1.90	0.00	0.00	1.26
766	3.700	26.70	0.00	26.53	10.72	5.51	2.17	2.46	0.47	0.89	0.32	1.68	0.00	1.90	0.00	0.00	1.25
767	3.600	26.70	0.00	26.53	10.72	5.52	2.16	2.44	0.46	0.89	0.32	1.68	0.00	1.90	0.00	0.00	1.24
768	3.500	26.70	0.00	26.53	10.72	5.52	2.14	2.42	0.45	0.90	0.32	1.68	0.00	1.90	0.00	0.00	1.23
769	3.400	26.70	0.00	26.53	10.72	5.53	2.12	2.41	0.45	0.91	0.32	1.68	0.00	1.90	0.00	0.00	1.22
770	3.300	26.70	0.00	26.53	10.72	5.53	2.11	2.39	0.44	0.91	0.32	1.68	0.00	1.90	0.00	0.00	1.21
771	3.200	26.70	0.00	26.53	10.72	5.54	2.09	2.38	0.44	0.92	0.32	1.68	0.00	1.90	0.00	0.00	1.21
772	3.100	26.70	0.00	26.53	10.72	5.54	2.08	2.36	0.43	0.92	0.32	1.67	0.00	1.90	0.00	0.00	1.20
773	3.000	26.70	0.00	26.53	10.72	5.55	2.07	2.35	0.43	0.93	0.32	1.67	0.00	1.90	0.00	0.00	1.19
774	2.900	26.70	0.00	26.53	10.72	5.55	2.05	2.34	0.42	0.94	0.31	1.67	0.00	1.90	0.00	0.00	1.18
775	2.800	26.70	0.00	26.53	10.72	5.56	2.04	2.33	0.42	0.94	0.31	1.67	0.00	1.90	0.00	0.00	1.18
776	2.700	26.70	0.00	26.53	10.72	5.56	2.03	2.32	0.41	0.95	0.31	1.67	0.00	1.90	0.00	0.00	1.17
777	2.600	26.70	0.00	26.53	10.72	5.57	2.02	2.31	0.41	0.95	0.31	1.67	0.00	1.90	0.00	0.00	1.16
778	2.500	26.70	0.00	26.53	10.72	5.57	2.01	2.30	0.41	0.96	0.31	1.67	0.00	1.90	0.00	0.00	1.16
779	2.400	26.70	0.00	26.53	10.72	5.58	2.00	2.29	0.40	0.96	0.31	1.67	0.00	1.90	0.00	0.00	1.15
780	2.300	26.70	0.00	26.53	10.72	5.58	2.00	2.28	0.40	0.97	0.31	1.67	0.00	1.90	0.00	0.00	1.15
781	2.200	26.70	0.00	26.53	10.72	5.59	1.99	2.27	0.40	0.97	0.31	1.67	0.00	1.90	0.00	0.00	1.14
782	2.100	26.70	0.00	26.53	10.72	5.59	1.98	2.27	0.39	0.98	0.30	1.67	0.00	1.90	0.00	0.00	1.13
783	2.000	26.70	0.00	26.53	10.72	5.60	1.97	2.26	0.39	0.98	0.30	1.68	0.00	1.90	0.00	0.00	1.13
784	1.900	26.70	0.00	26.53	10.72	5.60	1.97	2.25	0.38	0.99	0.30	1.68	0.00	1.90	0.00	0.00	1.12
785	1.800	26.70	0.00	26.53	10.72	5.60	1.96	2.25	0.38	0.99	0.30	1.68	0.00	1.90	0.00	0.00	1.12
786	1.700	26.70	0.00	26.53	10.72	5.61	1.96	2.24	0.38	1.00	0.30	1.68	0.00	1.90	0.00	0.00	1.11
787	1.600	26.70	0.00	26.53	10.72	5.61	1.95	2.24	0.38	1.00	0.30	1.68	0.00	1.90	0.00	0.00	1.11
788	1.500	26.70	0.00	26.53	10.72	5.61	1.95	2.23	0.37	1.01	0.30	1.68	0.00	1.90	0.00	0.00	1.10
789	1.400	26.70	0.00	26.53	10.72	5.62	1.94	2.23	0.37	1.01	0.30	1.68	0.00	1.90	0.00	0.00	1.10
790	1.300	26.70	0.00	26.53	10.72	5.62	1.94	2.22	0.37	1.02	0.29	1.68	0.00	1.90	0.00	0.00	1.10
791	1.200	26.70	0.00	26.53	10.72	5.62	1.93	2.22	0.36	1.02	0.29	1.68	0.00	1.90	0.00	0.00	1.09
792	1.100	26.70	0.00	26.53	10.72	5.63	1.93	2.21	0.36	1.03	0.29	1.68	0.00	1.90	0.00	0.00	1.09
793	1.000	26.70	0.00	26.53	10.72	5.63	1.93	2.21	0.36	1.03	0.29	1.68	0.00	1.90	0.00	0.00	1.08
794	0.900	26.70	0.00	26.53	10.72	5.63	1.92	2.21	0.36	1.04	0.29	1.68	0.00	1.90	0.00	0.00	1.08
795	0.800	26.70	0.00	26.53	10.72	5.63	1.92	2.20	0.35	1.04	0.29	1.68	0.00	1.90	0.00	0.00	1.08
796	0.700	26.70	0.00	26.53	10.72	5.64	1.92	2.20	0.35	1.05	0.29	1.69	0.00	1.90	0.00	0.00	1.07
797	0.600	26.70	0.00	26.53	10.72	5.64	1.91	2.20	0.35	1.05	0.29	1.69	0.00	1.90	0.00	0.00	1.07
798	0.500	26.70	0.00	26.53	10.72	5.64	1.91	2.20	0.35	1.06	0.28	1.69	0.00	1.90	0.00	0.00	1.07
799	0.400	26.70	0.00	26.53	10.72	5.64	1.91	2.19	0.35	1.06	0.28	1.69	0.00	1.90	0.00	0.00	1.06
800	0.300	26.70	0.00	26.53	10.72	5.65	1.91	2.19	0.34	1.06	0.28	1.69	0.00	1.90	0.00	0.00	1.06
801	0.200	26.70	0.00	26.53	10.72	5.65	1.90	2.19	0.34	1.07	0.28	1.69	0.00	1.90	0.00	0.00	1.06
802	0.100	26.70	0.00	26.53	10.72	5.65	1.90	2.19	0.34	1.07	0.28	1.69	0.00	1.90	0.00	0.00	1.05
803	0.000	26.70	0.00	26.53	10.72	5.65	1.90	2.18	0.34	1.08	0.28	1.69	0.00	1.90	0.00	0.00	1.05

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

STREAM SUMMARY
HEADWATER

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER RUN

TRAVEL TIME	=		28.48	DAYS
MAXIMUM EFFLUENT	=		82.54	PERCENT
FLOW	=	0.03511	TO	0.20105 m ³ /s
DISPERSION	=	0.0036	TO	0.0379 m ² /s
VELOCITY	=	0.00355	TO	0.26300 m/s
DEPTH	=	0.12	TO	2.36 m
WIDTH	=	2.92	TO	23.90 m
BOD DECAY	=	0.07	TO	0.24 per day
NH3 DECAY	=	0.00	TO	0.00 per day
SDMNT OXYGEN DMND	=	0.99	TO	1.89 g/m ² /d
NH3 SOURCE	=	0.00	TO	0.00 g/m ² /d
REAERATION	=	0.34	TO	6.44 per day
BOD SETTLING	=	0.12	TO	0.12 per day
ORGN DECAY	=	0.03	TO	0.20 per day
ORGN SETTLING	=	0.06	TO	0.23 per day
TEMPERATURE	=	26.00	TO	26.70 deg C
DISSOLVED OXYGEN	=	5.22	TO	7.23 mg/L

.....EXECUTION COMPLETED

APPENDIX B2 - Current summer projection justifications

Barnes Creek Summer Projection Model Input Description

DATA TYPE 3, Program Constants

Description of Constant	Value	Result	Source/Justification
Maximum iteration limit	1000.0		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.
Settled rate units.	2.0	Sets the settled rate to a velocity (m/day).	By making the settling rate a velocity the rate becomes dependent upon the depth.
K2 Max	25.0	Max K2 at 20 C allowed for any computational element	EPA Policy in the absence of a measured value.
Effective BOD due to algae	0.2		
NCM Oxygen Uptake	1.0	Oxygen Uptake Rate per Unit of NBOD decay.	Standard LA modeling procedure

Barnes Creek Summer Projection Model Input Description

DATA TYPE 9, Advection Hydraulic Coefficients					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	2.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.1	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
2	Site 2 to Site 3	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	2.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.1	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
3	Site 3 to Little Barnes Creek	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.10	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.31	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
4	Little Barnes Creek to Redhead Branch	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.27	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
5	Redhead Branch to Site 6	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.27	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
6	Site 6 to Little Caney Creek	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.45	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
7	Little Caney Creek to dam	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.45	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
8	dam to Caney Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	8.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.38	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
9	Caney Creek to Hurricane Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.33	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
10	Hurricane Creek to Site 10	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.33	Zero flow cross section
		Mannings - N	Unitless	0.27	Value determined by considering sluggish stream.
11	Site 10 to Magnolia Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	4.08	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
12	Magnolia Creek to Brushy Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
13	Brushy Creek to Righthand Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.

Barnes Creek Summer Projection Model Input Description

DATA TYPE 11, INITIAL CONDITIONS					
Reach #	REACH DESCRIPTION	Initial Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Temperature	°Celsius	26	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2
		Chlorophyll a	mg/l	2.6	Site 2
2	Site 2 to Site 3	Temperature	°Celsius	26	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2
		Chlorophyll a	mg/l	2.6	Site 2
3	Site 3 to Little Barnes Creek	Temperature	°Celsius	26	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 3
		Nitrate Nitrite	mg/l	0.37	Site 3
		Chlorophyll a	mg/l	2	Site 3
4	Little Barnes Creek to Redhead Branch	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 4
		Nitrate Nitrite	mg/l	0.09	Site 4
		Chlorophyll a	mg/l	1.9	Site 4
5	Redhead Branch to Site 6	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 4
		Nitrate Nitrite	mg/l	0.09	Site 4
		Chlorophyll a	mg/l	1.9	Site 4
6	Site 6 to Little Caney Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 6
		Nitrate Nitrite	mg/l	0.1	Site 6
		Chlorophyll a	mg/l	6.1	Site 6
7	Little Caney Creek to dam	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 6
		Nitrate Nitrite	mg/l	0.1	Site 6
		Chlorophyll a	mg/l	6.1	Site 6
8	dam to Caney Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 7
		Nitrate Nitrite	mg/l	0.07	Site 7
		Chlorophyll a	mg/l	0.7	Site 7
9	Caney Creek to Hurricane Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 8
		Nitrate Nitrite	mg/l	0.09	Site 8
		Chlorophyll a	mg/l	0.6	Site 8
10	Hurricane Creek to Site 10	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 8
		Nitrate Nitrite	mg/l	0.09	Site 8
		Chlorophyll a	mg/l	0.6	Site 8
11	Site 10 to Magnolia Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
12	Magnolia Creek to Brushy Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
13	Brushy Creek to Righthand Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
14	Righthand Creek to Site 11	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
15	Site 11 to Boggy Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
16	Boggy Creek to Wolf Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
17	Wolf Creek to Unnamed Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
18	Unnamed Creek to Site 12	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
19	Site 12 to Clear Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
20	Clear Creek to Bear Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
21	Bear Creek to Site 13	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
22	Site 13 to Calcasieu River	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 13
		Nitrate Nitrite	mg/l	0.06	Site 13
		Chlorophyll a	mg/l	1.9	Site 13

Barnes Creek Summer Projection Model Input Description

DATA TYPE 12, Recreation, Sediment Oxygen Demand and BOD Coeff.					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	0.83	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.18	Bottle Rate for Site 2
		BOD Settling rate	m/day	0.1	Calibration
2	Site 2 to Site 3	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	0.68	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.18	Bottle Rate for Site 2
		BOD Settling rate	m/day	0.1	Calibration
3	Site 3 to Little Barnes Creek	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	0.68	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 3
		BOD Settling rate	m/day	0.1	Calibration
4	Little Barnes Creek to Redhead Branch	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	0.94	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.1	Bottle Rate for Site 4
		BOD Settling rate	m/day	0.1	Calibration
5	Redhead Branch to Site 6	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.01	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.1	Bottle Rate for Site 4
		BOD Settling rate	m/day	0.1	Calibration
6	Site 6 to Little Caney Creek	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	0.75	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 6
		BOD Settling rate	m/day	0.1	Calibration
7	Little Caney Creek to dam	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	0.71	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 6
		BOD Settling rate	m/day	0.1	Calibration
8	dam to Caney Creek	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	0.94	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 7
		BOD Settling rate	m/day	0.1	Calibration
9	Caney Creek to Hurricane Creek	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.13	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 8
		BOD Settling rate	m/day	0.1	Calibration
10	Hurricane Creek to Site 10	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.13	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 8
		BOD Settling rate	m/day	0.1	Calibration
11	Site 10 to Magnolia Creek	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.13	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
12	Magnolia Creek to Brushy Creek	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.13	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
13	Brushy Creek to Righthand Creek	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.13	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
14	Righthand Creek to Site 11	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	0.98	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
15	Site 11 to Boggy Creek	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	0.94	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
16	Boggy Creek to Wolf Creek	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	0.94	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
17	Wolf Creek to Unnamed Creek	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	0.94	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
18	Unnamed Creek to Site 12	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	0.84	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
19	Site 12 to Clear Creek	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.09	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
20	Clear Creek to Bear Creek	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.24	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
21	Bear Creek to Site 13	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.24	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
22	Site 13 to Calcasieu River	K _s option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.09	75% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 13
		BOD Settling rate	m/day	0.1	Calibration

Barnes Creek Summer Projection Model Input Description

DATA TYPE 13, Nitrogen and Phosphorus

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 2
		Org-N Settling rate	m/day	0.20	Calibration
2	Site 2 to Site 3	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 2
		Org-N Settling rate	m/day	0.2	Calibration
3	Site 3 to Little Barnes Creek	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 3
		Org-N Settling rate	m/day	0.2	Calibration
4	Little Barnes Creek to Redhead Branch	Org-N Decay	1/day	0.05	NBOD Bottle Rate Site 4
		Org-N Settling rate	m/day	0.05	Calibration
5	Redhead Branch to Site 6	Org-N Decay	1/day	0.05	NBOD Bottle Rate Site 4
		Org-N Settling rate	m/day	0.05	Calibration
6	Site 6 to Little Caney Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 6
		Org-N Settling rate	m/day	0.05	Calibration
7	Little Caney Creek to dam	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 6
		Org-N Settling rate	m/day	0.05	Calibration
8	dam to Caney Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 7
		Org-N Settling rate	m/day	0.05	Calibration
9	Caney Creek to Hurricane Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 8
		Org-N Settling rate	m/day	0.05	Calibration
10	Hurricane Creek to Site 10	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 8
		Org-N Settling rate	m/day	0.05	Calibration
11	Site 10 to Magnolia Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
12	Magnolia Creek to Brushy Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
13	Brushy Creek to Righthand Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
14	Righthand Creek to Site 11	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
15	Site 11 to Boggy Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
16	Boggy Creek to Wolf Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
17	Wolf Creek to Unnamed Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
18	Unnamed Creek to Site 12	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
19	Site 12 to Clear Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
20	Clear Creek to Bear Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
21	Bear Creek to Site 13	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
22	Site 13 to Calcasieu River	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 13
		Org-N Settling rate	m/day	0.05	Calibration

Barnes Creek Summer Projection Model Input Description

DATA TYPE 15, Coliform and Nonconservative Coefficients

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	NCM Decay	1/day	0.13	Bottle Rate Site 2
		NCM Settling Rate	m/day	0.05	Calibration
2	Site 2 to Site 3	NCM Decay	1/day	0.13	Bottle Rate Site 2
		NCM Settling Rate	m/day	0.05	Calibration
3	Site 3 to Little Barnes Creek	NCM Decay	1/day	0.13	Bottle Rate Site 3
		NCM Settling Rate	m/day	0.05	Calibration
4	Little Barnes Creek to Redhead Branch	NCM Decay	1/day	0.05	Bottle Rate Site 4
		NCM Settling Rate	m/day	0.05	Calibration
5	Redhead Branch to Site 6	NCM Decay	1/day	0.05	Bottle Rate Site 4
		NCM Settling Rate	m/day	0.05	Calibration
6	Site 6 to Little Caney Creek	NCM Decay	1/day	0.04	Bottle Rate Site 6
		NCM Settling Rate	m/day	0.05	Calibration
7	Little Caney Creek to dam	NCM Decay	1/day	0.04	Bottle Rate Site 6
		NCM Settling Rate	m/day	0.05	Calibration
8	dam to Caney Creek	NCM Decay	1/day	0.02	Bottle Rate Site 7
		NCM Settling Rate	m/day	0.05	Calibration
9	Caney Creek to Hurricane Creek	NCM Decay	1/day	0.03	Bottle Rate Site 8
		NCM Settling Rate	m/day	0.05	Calibration
10	Hurricane Creek to Site 10	NCM Decay	1/day	0.03	Bottle Rate Site 8
		NCM Settling Rate	m/day	0.05	Calibration
11	Site 10 to Magnolia Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
12	Magnolia Creek to Brushy Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
13	Brushy Creek to Righthand Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
14	Righthand Creek to Site 11	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
15	Site 11 to Boggy Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
16	Boggy Creek to Wolf Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
17	Wolf Creek to Unnamed Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
18	Unnamed Creek to Site 12	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
19	Site 12 to Clear Creek	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
20	Clear Creek to Bear Creek	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
21	Bear Creek to Site 13	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
22	Site 13 to Calcasieu River	NCM Decay	1/day	0.03	Bottle Rate Site 13
		NCM Settling Rate	m/day	0.05	Calibration

Barnes Creek Summer Projection Model Input Description

DATA TYPE 17, Incremental Data for DO, BOD, Nitrogen					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.27	75% reduction in total nonpoint
		Org.-N	mg/l	0.49	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 2
		NO ₂₊₃ -N	mg/l	0.56	Site 2
3	Site 3 to Little Barnes Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.23	75% reduction in total nonpoint
		Org.-N	mg/l	0.26	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 3
		NO ₂₊₃ -N	mg/l	0.37	Site 3
4	Little Barnes Creek to Redhead Branch	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.63	75% reduction in total nonpoint
		Org.-N	mg/l	0.15	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 4
		NO ₂₊₃ -N	mg/l	0.09	Site 4
5	Redhead Branch to Site 6	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.63	75% reduction in total nonpoint
		Org.-N	mg/l	0.15	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 4
		NO ₂₊₃ -N	mg/l	0.09	Site 4
6	Site 6 to Little Caney Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	3.21	75% reduction in total nonpoint
		Org.-N	mg/l	0.26	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 6
		NO ₂₊₃ -N	mg/l	0.1	Site 6
7	Little Caney Creek to dam	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	3.21	75% reduction in total nonpoint
		Org.-N	mg/l	0.26	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 6
		NO ₂₊₃ -N	mg/l	0.1	Site 6
8	dam to Caney Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.54	75% reduction in total nonpoint
		Org.-N	mg/l	0.07	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 7
		NO ₂₊₃ -N	mg/l	0.07	Site 7
10	Hurricane Creek to Site 10	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.7	75% reduction in total nonpoint
		Org.-N	mg/l	0.29	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 8
		NO ₂₊₃ -N	mg/l	0.09	Site 8
11	Site 10 to Magnolia Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.86	75% reduction in total nonpoint
		Org.-N	mg/l	0.29	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ -N	mg/l	0.08	Site 10
12	Magnolia Creek to Brushy Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.86	75% reduction in total nonpoint
		Org.-N	mg/l	0.29	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ -N	mg/l	0.08	Site 10
13	Brushy Creek to Righthand Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.86	75% reduction in total nonpoint
		Org.-N	mg/l	0.29	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ -N	mg/l	0.08	Site 10
14	Righthand Creek to Site 11	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.86	75% reduction in total nonpoint
		Org.-N	mg/l	0.29	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ -N	mg/l	0.08	Site 10
15	Site 11 to Boggy Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	1.94	75% reduction in total nonpoint
		Org.-N	mg/l	0.21	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ -N	mg/l	0.08	Site 11
16	Boggy Creek to Wolf Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	1.94	75% reduction in total nonpoint
		Org.-N	mg/l	0.21	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ -N	mg/l	0.08	Site 11
17	Wolf Creek to Unnamed Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	1.94	75% reduction in total nonpoint
		Org.-N	mg/l	0.21	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ -N	mg/l	0.08	Site 11
18	Unnamed Creek to Site 12	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	1.94	75% reduction in total nonpoint
		Org.-N	mg/l	0.21	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ -N	mg/l	0.08	Site 11

Barnes Creek Summer Projection Model Input Description

DATA TYPE 18, Incremental Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Chlorophyll a	ug/l	4.3	Site 2
		NCM	mg/l	3.4	Site 2
3	Site 3 to Little Barnes Creek	Chlorophyll a	ug/l	4.46	Site 3
		NCM	mg/l	3.45	Site 3
4	Little Barnes Creek to Redhead Branch	Chlorophyll a	ug/l	4.23	Site 4
		NCM	mg/l	3.48	Site 4
5	Redhead Branch to Site 6	Chlorophyll a	ug/l	4.23	Site 4
		NCM	mg/l	3.48	Site 4
6	Site 6 to Little Caney Creek	Chlorophyll a	ug/l	3.01	Site 6
		NCM	mg/l	5.05	Site 6
7	Little Caney Creek to dam	Chlorophyll a	ug/l	3.01	Site 6
		NCM	mg/l	5.05	Site 6
8	dam to Caney Creek	Chlorophyll a	ug/l	3.72	Site 7
		NCM	mg/l	4.03	Site 7
10	Hurricane Creek to Site 10	Chlorophyll a	ug/l	2.68	Site 8
		NCM	mg/l	4.52	Site 8
11	Site 10 to Magnolia Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
12	Magnolia Creek to Brushy Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
13	Brushy Creek to Righthand Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
14	Righthand Creek to Site 11	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
15	Site 11 to Boggy Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
16	Boggy Creek to Wolf Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
17	Wolf Creek to Unnamed Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
18	Unnamed Creek to Site 12	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11

Barnes Creek Summer Projection Model Input Description

DATA TYPE 19, Nonpoint Source Data					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	CBOD1	kg/day	1.1	75% reduction in total nonpoint
		CBOD2	kg/day	3.75	75% reduction in total nonpoint
		O-N	kg/day	1.13	75% reduction in total nonpoint
2	Site 2 to Site 3	CBOD1	kg/day	0	75% reduction in total nonpoint
		CBOD2	kg/day	1.125	75% reduction in total nonpoint
		O-N	kg/day	0	75% reduction in total nonpoint
3	Site 3 to Little Barnes Creek	CBOD1	kg/day	6	75% reduction in total nonpoint
		CBOD2	kg/day	3.75	75% reduction in total nonpoint
		O-N	kg/day	0	75% reduction in total nonpoint
4	Little Barnes Creek to Redhead Branch	CBOD1	kg/day	1.1	75% reduction in total nonpoint
		CBOD2	kg/day	1.875	75% reduction in total nonpoint
		O-N	kg/day	0.38	75% reduction in total nonpoint
5	Redhead Branch to Site 6	CBOD1	kg/day	0	75% reduction in total nonpoint
		CBOD2	kg/day	2.813	75% reduction in total nonpoint
		O-N	kg/day	0.38	75% reduction in total nonpoint
6	Site 6 to Little Caney Creek	CBOD1	kg/day	7.5	75% reduction in total nonpoint
		CBOD2	kg/day	1.5	75% reduction in total nonpoint
		O-N	kg/day	0.75	75% reduction in total nonpoint
7	Little Caney Creek to dam	CBOD1	kg/day	5.3	75% reduction in total nonpoint
		CBOD2	kg/day	0.75	75% reduction in total nonpoint
		O-N	kg/day	0.23	75% reduction in total nonpoint
8	dam to Caney Creek	CBOD1	kg/day	2.3	75% reduction in total nonpoint
		CBOD2	kg/day	1.125	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
9	Caney Creek to Hurricane Creek	CBOD1	kg/day	0.8	75% reduction in total nonpoint
		CBOD2	kg/day	3.375	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
10	Hurricane Creek to Site 10	CBOD1	kg/day	0.8	75% reduction in total nonpoint
		CBOD2	kg/day	1.125	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
11	Site 10 to Magnolia Creek	CBOD1	kg/day	1.9	75% reduction in total nonpoint
		CBOD2	kg/day	0	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
12	Magnolia Creek to Brushy Creek	CBOD1	kg/day	1.1	75% reduction in total nonpoint
		CBOD2	kg/day	0	75% reduction in total nonpoint
		O-N	kg/day	0	75% reduction in total nonpoint
13	Brushy Creek to Righthand Creek	CBOD1	kg/day	1.9	75% reduction in total nonpoint
		CBOD2	kg/day	0	75% reduction in total nonpoint
		O-N	kg/day	0	75% reduction in total nonpoint
14	Righthand Creek to Site 11	CBOD1	kg/day	1.5	75% reduction in total nonpoint
		CBOD2	kg/day	0	75% reduction in total nonpoint
		O-N	kg/day	0	75% reduction in total nonpoint
15	Site 11 to Boggy Creek	CBOD1	kg/day	1.9	75% reduction in total nonpoint
		CBOD2	kg/day	0	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
16	Boggy Creek to Wolf Creek	CBOD1	kg/day	0	75% reduction in total nonpoint
		CBOD2	kg/day	0	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
17	Wolf Creek to Unnamed Creek	CBOD1	kg/day	1.1	75% reduction in total nonpoint
		CBOD2	kg/day	0.75	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
18	Unnamed Creek to Site 12	CBOD1	kg/day	1.9	75% reduction in total nonpoint
		CBOD2	kg/day	0.75	75% reduction in total nonpoint
		O-N	kg/day	0.32	75% reduction in total nonpoint
19	Site 12 to Clear Creek	CBOD1	kg/day	5.6	75% reduction in total nonpoint
		CBOD2	kg/day	0.38	75% reduction in total nonpoint
		O-N	kg/day	0.32	75% reduction in total nonpoint
20	Clear Creek to Bear Creek	CBOD1	kg/day	1.9	75% reduction in total nonpoint
		CBOD2	kg/day	0	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
21	Bear Creek to Site 13	CBOD1	kg/day	1.1	75% reduction in total nonpoint
		CBOD2	kg/day	0	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
22	Site 13 to Calcasieu River	CBOD1	kg/day	123.8	75% reduction in total nonpoint
		CBOD2	kg/day	31.88	75% reduction in total nonpoint
		O-N	kg/day	10.13	75% reduction in total nonpoint

Barnes Creek Summer Projection Model Input Description

DATA TYPE 20, Headwater Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	
		Headwater name		Barnes Creek	
		Headwater flow	cms	0.0351	Projected flow for summer critical
		Temperature	°Celcius	26.00	90th percentile Temperature from Ambient Site 0837
		Conservative Matl. I	mg/l	33.90	Site 2
		Conservative Matl. II	mg/l	12.40	Site 2

Barnes Creek Summer Projection Model Input Description

DATA TYPE 21, Headwater Data for DO, BOD, and Nitrogen

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	Site 2
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		BOD	mg/l	2.25	75% reduction in total nonpoint
		O-N	mg/l	0.63	75% reduction in total nonpoint
		NH ₃	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2

Barnes Creek Summer Projection Model Input Description

DATA TYPE 22, Headwater Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	
		Chlorophyll a	mg/l	2.6	Site 2
		CBOD 2	mg/l	3.4	Site 2

Barnes Creek Summer Projection Model Input Description

DATA TYPE 27, Lower Boundary Conditions

Reach #	NAME	Parameter	Units	Value	Source/Justification
36	Sandy Creek - Hwy 124	Temperature	°Celcius	26	90th percentile Temperature from Ambient Site 0837
		Salinity	ppt		
		Conservative Matl. I	mg/l		
		Conservative Matl. II			
		Dissolved O ₂	mg/l		
		BOD	mg/l		
		Org.- N	mg/l		
		NH ₃ -N	mg/l		
		NO ₂₊₃ -N	mg/l		
		Chlorophyll a	ug/l	1.9	Site 13
		Nonconservative	mg/l		

APPENDIX B3 - Current summer loading calculations

Proposed 2.0 DO Standard Summer TMDL calculations and Projection model calculations for Incremental loads:

Barnes Creek - 030601 and 030602

Shaded cells are input values for calculations.
Values to be used in the projection models.

Reach Description and #	Incremental Load Determinations:										Projection Model Input determinations:						Projection Model Input determinations:					
	Calibration Load determinations:					Percentage Reduction calculations:					Projection Model Input determinations:		Projection Model Input determinations:		Sub-total MOS load (kg/day)		Sub-total LA load (kg/day)					
	Projection Flow (cms)	Calb UCBOB conc (mg/l)	Unadjusted UCBOB (kg/day)	Calb UNBOD conc. (mg/l)	Unadjusted UNBOD (kg/day)	Background Conc. UCBOB (mg/l)	Background Conc. UNBOD (mg/l)	Background % Reduction	Background Load UCBOB (kg/day)	Background Load UNBOD (kg/day)	Actual % Reduction of Man-Made Loads	Increm. UCBOB Load Adjusted For % Reduction (LA load)	Increm. UNBOD Load Adjusted For % Reduction (LA load)	Increm. UCBOB Adjusted for MOS (kg/day) (I)	Increm. UNBOD Adjusted for MOS (kg/day) (I)	Projection UCBOB conc. (mg/l)	Projection UNBOD conc. (mg/l)	Proj. UCBOB MOS load (kg/day)	Proj. UNBOD MOS load (kg/day)	Sub-total MOS load (kg/day)	Sub-total LA load (kg/day)	
A	B	C = (86.4)(A)(B)	D	E = (86.4)(A)(D)	F	G	H/I	H = (1-HI) (86.4)(A)(F)	I = (1-HI) (86.4)(A)(G)	J, Note 1	K = (C-H)(I-J) + H	L = (E-I)(I-J) + I	M = (K-H) / ((1-MOS) + H)	N = (I-J) / ((1-MOS) + I)	M / ((A)(86.4))	N / ((A)(86.4))	O = K	M = N - L	P = O + P	O + P	K + L	
1							0%			35%												
2	-0.0272	6.05	-14.22	1.30	-3.06		0%	0.00	0.00	35%	-9.24	-1.99	-12	-2	4.92	1.06	-2	0	-3	-11		
3	-0.0204	5.94	-10.47	0.70	-1.23		0%	0.00	0.00	35%	-6.81	-0.80	-9	-1	4.83	0.57	-2	0	-2	-8		
4	0.0057	7.01	3.45	0.41	0.20		0%	0.00	0.00	35%	2.24	0.13	3	0	5.70	0.33	1	0	1	2		
5	0.0057	7.01	3.45	0.41	0.20		0%	0.00	0.00	35%	2.24	0.13	3	0	5.70	0.33	1	0	1	2		
6	-0.0096	8.55	-7.09	0.70	-0.58		0%	0.00	0.00	35%	-4.61	-0.38	-6	0	6.95	0.57	-1	0	-1	-5		
7	-0.0096	8.55	-7.09	0.70	-0.58		0%	0.00	0.00	35%	-4.61	-0.38	-6	0	6.95	0.57	-1	0	-1	-5		
8							0%			35%												
9							0%			35%												
10	0.0071	7.20	4.42	0.77	0.47		0%	0.00	0.00	35%	2.87	0.31	4	0	5.85	0.63	1	0	1	3		
11	0.0033	7.62	2.17	0.78	0.22		0%	0.00	0.00	35%	1.41	0.14	2	0	6.19	0.63	0	0	0	2		
12	0.0033	7.62	2.17	0.78	0.22		0%	0.00	0.00	35%	1.41	0.14	2	0	6.19	0.63	0	0	0	2		
13	0.0033	7.62	2.17	0.78	0.22		0%	0.00	0.00	35%	1.41	0.14	2	0	6.19	0.63	0	0	0	2		
14	0.0033	7.62	2.17	0.78	0.22		0%	0.00	0.00	35%	1.41	0.14	2	0	6.19	0.63	0	0	0	2		
15	0.0079	5.16	3.52	0.57	0.39		0%	0.00	0.00	35%	2.29	0.25	3	0	4.19	0.46	1	0	1	3		
16	0.0079	5.16	3.52	0.57	0.39		0%	0.00	0.00	35%	2.29	0.25	3	0	4.19	0.46	1	0	1	3		
17	0.0079	5.16	3.52	0.57	0.39		0%	0.00	0.00	35%	2.29	0.25	3	0	4.19	0.46	1	0	1	3		
18	0.0079	5.16	3.52	0.57	0.39		0%	0.00	0.00	35%	2.29	0.25	3	0	4.19	0.46	1	0	1	3		
19							0%			35%												
20							0%			35%												
21							0%			35%												
22							0%			35%												
Sub-Total benthic loading								0	0		-3	-1	-4	-2			-1	0	-1	-4		

Note 1: The percentage reduction values are taken from the "Non-Point Benthic Load Input and TMDL Calculations" worksheet

EXPLICIT MARGINS:
MARGIN OF SAFETY (MOS) (%) = **20%**

Proposed 2.0 DO Standard Summer TMDL calculations and Projection model calculations for Headwater / Tributary loads:

Barnes Creek - 030601 and 030602

Shaded cells are input values for calculations.
Values to be used in the projection models.

Headwater / Tributary load determinations																	
Headwater / Tributary Description and Reach #	Seasonal Critical flow (cms)	UCBOD (mg/l)	UNBOD (mg/l)	UCBOD (kg/day)	UNBOD (kg/day)	Background UCBOD conc. (mg/l)	Background UNBOD conc. (mg/l)	Background % Reduction	Background UCBOD Load (kg/day)	Background UNBOD Load (kg/day)	Percent reduction of Man-Made loads	UCBOD load adjusted for % Reduction (kg/day)	UNBOD load adjusted for % Reduction (kg/day)	Reduced UCBOD load adjusted for MOS (kg/day)	Reduced UNBOD load adjusted for MOS (kg/day)	Projection UCBOD input conc. (mg/l)	Projection UNBOD input conc. (mg/l)
	A	B	C	D = (86.4)(A)(B)	E = (86.4)(A)(C)	F	G	H1	H = (1-H1)(86.4)(A)(F)	I = (1-H1)(86.4)(A)(G)	J	K = (D-H)(1-J) + H	L = (D-I)(1-J) + I	M = (K - H) / (1 - MOS) + H	N = (L - I) / (1 - MOS) + I	(M)/[(A)(86.4)]	(N)/[(A)(86.4)]
Barnes Creek	0.0351	6.05	1.30	18.35	3.94	5.33	0.22	0%	16.17	0.67	35%	17.59	2.80	17.94	3.33	5.92	1.10
Clear Creek	0.0028	5.55	0.00	1.34	0.00	5.33	0.22	0%	1.29	0.05	35%	1.32	0.00	1.33	0.00	5.51	0.00
SUB-TOTAL TMDL LOADING				20	4				17	1		19	3	19	3		

5.06 5.31
4.95 0.97 0.24

EXPLICIT MARGINS:
MARGIN OF SAFETY (MOS) (%) = **20%**

Proposed 2.0 DO Standard Summer TMDL Calculations for Point Source loads:

Barnes Creek - 030601 and 030602

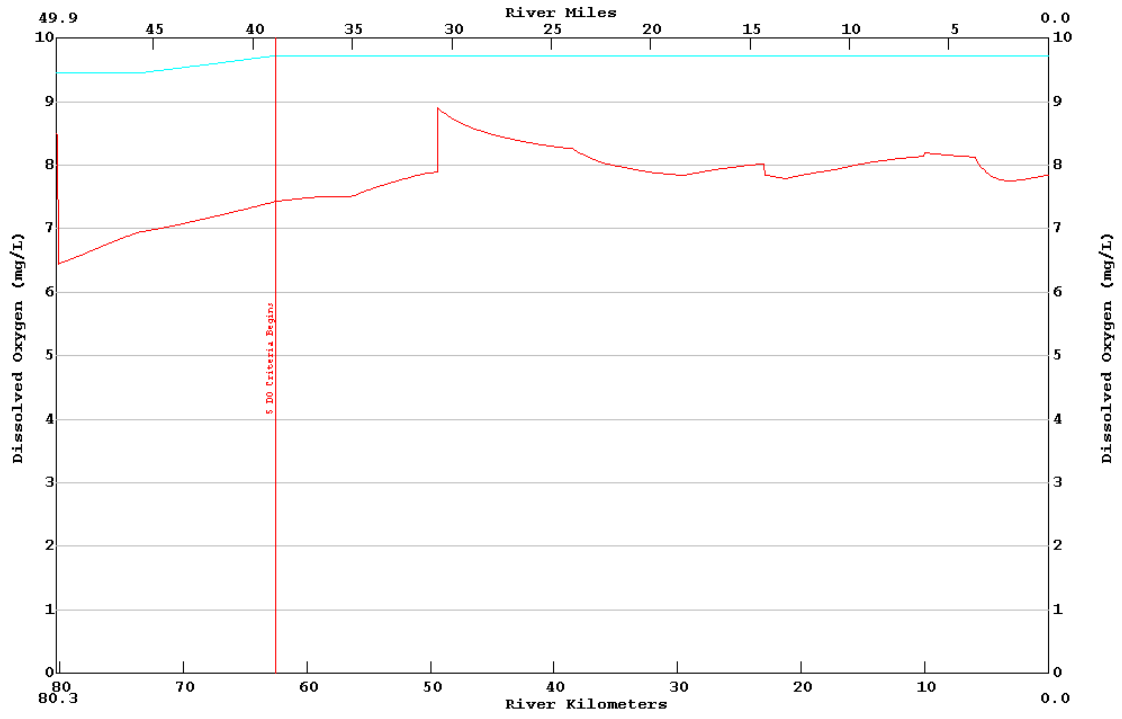
Input data into the shaded cells.

Point Source Loading Calculations																				
Pt. Source / Facility Description and Reach #	Receiving Stream	Included in the Projection Model (Yes/No)	Anticipated/ design flow (cms)	Flow with MOS (cms)	Proposed Permit Limits			UCBOD				UNBOD				Sub-total of Point Source Loads				
					CBOD ₅ (mg/l)	NH ₃ N (mg/l)	MOS (%)	Ultimate Conc. (mg/l) (2)	Loads (kg/day) (1)	WLA (kg/day)	Reserve/ MOS Load (kg/day)	Ultimate Conc. (mg/l) (2)	Loads (kg/day) (1)	WLA (kg/day)	Reserve/ MOS Load (kg/day)	Loads (kg/day)	WLA (kg/day)	Reserve/ MOS (kg/day)		
					A	A1 = A/(1-D)				E = 2.3 x B	F = (86.4)(A1)(E)	G = (1-D) x F	H = (D)(F)	I = 4.3 x B	J = (86.4)(A1)(I)	K = (1-D) x J	L = (D)(J)	F + J	G + K	H + L
City of DeRidder	Unnamed Ditch to Barnes Creek	Yes	0.132752	0.165940	10.00	5.00	0.20	23.00	329.76	263.81	65.95	21.50	308.25	246.60	61.65	638.01	510.41	127.60		
Evergreen Mobile Home Park	Unnamed ditch to Little Barnes Creek to Barnes Creek	No	0.000700	0.000875	30.00	15.00	0.20	69.00	5.22	4.17	1.04	64.50	4.88	3.90	0.98	10.09	8.07	2.02		
Beauregard Fire Prot Dist #2	Unnamed ditch to unnamed trib to Barnes Creek	No	0.000020	0.000025	30.00	15.00	0.20	69.00	0.15	0.12	0.03	64.50	0.14	0.11	0.03	0.29	0.23	0.06		
Broadlands Fire Dept Station #1	Unnamed ditch to Little Barnes Creek to Barnes Creek	No	0.000020	0.000025	30.00	15.00	0.20	69.00	0.15	0.12	0.03	64.50	0.14	0.11	0.03	0.29	0.23	0.06		
SUB-TOTAL Loads			0.133492						335.27	268.22	67.05		313.41	250.72	62.68	648.68	518.94	129.74		

(1) - Load(kg/day) = 86.4 x Ultimate Conc.(mg/l) x Modeled Flow(cms)
 (2) - [UCBOD conc. = CBOD5(mg/l) x 2.3] and [UNBOD conc. = NH3N(mg/l) x 4.3]

APPENDIX B4 - Current winter projection model input/output and graphs

LA-QUAL Version 5.02 Run at 11:17 on 02/19/2002 File D:\Barnes Creek\Input Files\barnswin2.txt
BARNES CREEK WINTER RUN min= 6.44 max= 8.90
:MAINSTEM



LA-QUAL Version 5.02
Louisiana Department of Environmental Quality

Input file is D:\Barnes Creek\Input Files\barnswin2.txt
Output produced at 11:17 on 02/19/2002

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

CARD TYPE	CONTROL TITLES
TITLE01	BARNES CREEK WATERSHED MODEL
TITLE02	BARNES CREEK WINTER RUN
CNTROL04 YES	METRIC UNITS
CNTROL05 YES	OXYGEN DEPENDENT RATES
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 YES	CONSERVATIVE MATERIAL II = SULFATES	IN MG/L
MODOPT05 YES	DISSOLVED OXYGEN	
MODOPT06 YES	BIOCHEMICAL OXYGEN DEMAND	
MODOPT07 YES	NITROGEN	
MODOPT08 NO	PHOSPHORUS	
MODOPT09 NO	CHLOROPHYLL A	
MODOPT10 NO	MACROPHYTES	
MODOPT11 NO	COLIFORM	
MODOPT12 YES	NONCONSERVATIVE MATERIAL = CBOD2	IN mg/L
ENDATA02		

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
PROGRAM	MAXIMUM ITERATION LIMIT	= 1000.00000
PROGRAM	KL MINIMUM	= 0.70000 meters/day
PROGRAM	NCM OXYGEN UPTAKE RATE	= 1.00000 mg O/mg NCM
PROGRAM	INHIBITION CONTROL VALUE	= 3.00000
PROGRAM	NH3 OXYGEN UPTAKE RATE	= 0.00000 mg O/mg N
PROGRAM	K2 MAXIMUM	= 25.00000 per day
PROGRAM	HYDRAULIC CALCULATION METHOD	= 2.00000 (widths and depths)
PROGRAM	SETTLING RATE UNITS	= 2.00000 (per day)
PROGRAM	OCEAN EXCHANGE RATIO	= 0.00000
PROGRAM	EFFECTIVE BOD DUE TO ALGAE	= 0.15000 mg/L BOD per ug/L chl a
PROGRAM	ORGN OXYGEN UPTAKE RATE	= 1.00000 mg O/mg N
PROGRAM	N MACROPHYTE UPTAKE	= 0.00300 mg N/mg macrophyte/day
PROGRAM	MACROPHYTE OXYGEN PROD	= 0.00000 mg O/mg macrophyte/day
PROGRAM	N PREFERENCE	= 0.60000 (0.0=NH3 1.0=NO3)
ENDATA03		

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

CARD TYPE	RATE CODE	THETA VALUE
THETA	NCM DECA	1.04700
THETA	ORGN DEC	1.07000

ENDATA04

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
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ENDATA05

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
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ENDATA06

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
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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	BC	HEADWATER - SITE 2	80.30	TO 78.10	0.1000	2.20	22	1	22
REACH ID	2	BC	SITE 2 - SITE 3	78.10	TO 73.70	0.1000	4.40	44	23	66
REACH ID	3	BC	SITE 3 - LITTLE BARNES CR	73.70	TO 62.50	0.1000	11.20	112	67	178
REACH ID	4	BC	LITTLE BARNES - REDHEAD CR	62.50	TO 59.00	0.1000	3.50	35	179	213
REACH ID	5	BC	REDHEAD CR - SITE 6	59.00	TO 56.30	0.1000	2.70	27	214	240
REACH ID	6	BC	SITE 6 - LITTLE CANEY CR	56.30	TO 51.40	0.1000	4.90	49	241	289
REACH ID	7	BC	LITTLE CANEY CR - DAM	51.40	TO 49.40	0.1000	2.00	20	290	309
REACH ID	8	BC	DAM - CANEY CREEK	49.40	TO 46.50	0.1000	2.90	29	310	338
REACH ID	9	BC	CANEY CR - HURRICANE CR	46.50	TO 38.50	0.1000	8.00	80	339	418
REACH ID	10	BC	HURRICANE CR - SITE 10	38.50	TO 36.40	0.1000	2.10	21	419	439
REACH ID	11	BC	SITE 10 - MAGNOLIA CR	36.40	TO 34.10	0.1000	2.30	23	440	462
REACH ID	12	BC	MAGNOLIA CR - BRUSHY CR	34.10	TO 32.40	0.1000	1.70	17	463	479
REACH ID	13	BC	BRUSHY CR - RIGHTHAND CR	32.40	TO 30.50	0.1000	1.90	19	480	498
REACH ID	14	BC	RIGHTHAND CR - SITE 11	30.50	TO 29.50	0.1000	1.00	10	499	508
REACH ID	15	BC	SITE 11 - BOGGY CR	29.50	TO 23.00	0.1000	6.50	65	509	573
REACH ID	16	BC	BOGGY CR - WOLF CREEK	23.00	TO 22.90	0.1000	0.10	1	574	574
REACH ID	17	BC	WOLF CR - UNNAMED CREEK	22.90	TO 21.30	0.1000	1.60	16	575	590
REACH ID	18	BC	UNNAMED CR - SITE 12	21.30	TO 17.20	0.1000	4.10	41	591	631
REACH ID	19	BC	SITE 12 - CLEAR CR	17.20	TO 10.10	0.1000	7.10	71	632	702
REACH ID	20	BC	CLEAR CR - BEAR CR	10.10	TO 7.70	0.1000	2.40	24	703	726
REACH ID	21	BC	BEAR CR - SITE 13	7.70	TO 5.90	0.1000	1.80	18	727	744
REACH ID	22	BC	SITE 13 - CALCASIEU RIVER	5.90	TO 0.00	0.1000	5.90	59	745	803

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"
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 1										
HYDR-1	1	BC	2.680	0.930	2.800	0.620	1.000	0.100	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 2										
HYDR-1	2	BC	2.680	0.930	2.800	0.620	1.000	0.100	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 3										
HYDR-1	3	BC	2.680	0.930	3.100	0.620	1.000	0.310	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 4										
HYDR-1	4	BC	2.680	0.930	3.200	0.620	1.000	0.270	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 5										
HYDR-1	5	BC	2.680	0.930	3.200	0.620	1.000	0.270	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 6										
HYDR-1	6	BC	2.680	0.930	5.800	0.620	1.000	0.450	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 7										
HYDR-1	7	BC	2.680	0.930	5.800	0.620	1.000	0.450	0.00000	0.027
HYDR-1	8	BC	0.230	0.540	8.200	0.100	0.210	0.380	0.00000	0.027
HYDR-1	9	BC	0.230	0.540	4.000	0.100	0.210	0.330	0.00000	0.027
HYDR-1	10	BC	0.230	0.540	4.000	0.100	0.210	0.330	0.00000	0.027
HYDR-1	11	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	12	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	13	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	14	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	15	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	16	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	17	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	18	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	19	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	20	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	21	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	22	BC	0.230	0.540	23.800	0.100	0.210	2.290	0.00000	0.027

ENDATA09

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

CARD TYPE	REACH	ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"
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ENDATA10

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

CARD TYPE	REACH	ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
INITIAL	1	BC	18.10	0.00	8.50	0.00	0.56	0.00	2.60	0.00
INITIAL	2	BC	18.10	0.00	8.50	0.00	0.56	0.00	2.60	0.00
INITIAL	3	BC	18.10	0.00	8.50	0.00	0.37	0.00	2.00	0.00
INITIAL	4	BC	16.70	0.00	8.80	0.00	0.09	0.00	1.90	0.00
INITIAL	5	BC	16.70	0.00	8.80	0.00	0.09	0.00	1.90	0.00
INITIAL	6	BC	16.70	0.00	8.80	0.00	0.10	0.00	6.10	0.00

INITIAL	7	BC	16.70	0.00	8.80	0.00	0.10	0.00	6.10	0.00
INITIAL	8	BC	16.70	0.00	8.80	0.00	0.07	0.00	1.00	0.00
INITIAL	9	BC	16.70	0.00	8.80	0.00	0.09	0.00	0.60	0.00
INITIAL	10	BC	16.70	0.00	8.80	0.00	0.09	0.00	0.60	0.00
INITIAL	11	BC	16.70	0.00	8.80	0.00	0.08	0.00	1.10	0.00
INITIAL	12	BC	16.70	0.00	8.80	0.00	0.08	0.00	1.10	0.00
INITIAL	13	BC	16.70	0.00	8.80	0.00	0.08	0.00	1.10	0.00
INITIAL	14	BC	16.70	0.00	8.80	0.00	0.08	0.00	1.10	0.00
INITIAL	15	BC	16.70	0.00	8.80	0.00	0.08	0.00	0.90	0.00
INITIAL	16	BC	16.70	0.00	8.80	0.00	0.08	0.00	0.90	0.00
INITIAL	17	BC	16.70	0.00	8.80	0.00	0.08	0.00	0.90	0.00
INITIAL	18	BC	16.70	0.00	8.80	0.00	0.08	0.00	0.90	0.00
INITIAL	19	BC	16.70	0.00	8.80	0.00	0.10	0.00	0.90	0.00
INITIAL	20	BC	16.70	0.00	8.80	0.00	0.10	0.00	0.90	0.00
INITIAL	21	BC	16.70	0.00	8.80	0.00	0.10	0.00	0.90	0.00
INITIAL	22	BC	16.70	0.00	8.80	0.00	0.06	0.00	1.90	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 g/m ² /d	AEROB BOD DECAY per day	BOD SETT m/d	BOD CONV TO SOD	ANAER BOD DECAY
COEF-1	1	BC	20	K2=a/D	0.700	0.000	0.000	0.830	0.180	0.100	0.000	0.000
COEF-1	2	BC	20	K2=a/D	0.700	0.000	0.000	0.680	0.180	0.100	0.000	0.000
COEF-1	3	BC	20	K2=a/D	0.700	0.000	0.000	0.680	0.130	0.100	0.000	0.000
COEF-1	4	BC	20	K2=a/D	0.700	0.000	0.000	0.940	0.100	0.100	0.000	0.000
COEF-1	5	BC	20	K2=a/D	0.700	0.000	0.000	1.010	0.100	0.100	0.000	0.000
COEF-1	6	BC	20	K2=a/D	0.700	0.000	0.000	0.750	0.130	0.100	0.000	0.000
COEF-1	7	BC	20	K2=a/D	0.700	0.000	0.000	0.710	0.130	0.100	0.000	0.000
COEF-1	8	BC	20	K2=a/D	0.700	0.000	0.000	0.940	0.050	0.100	0.000	0.000
COEF-1	9	BC	20	K2=a/D	0.700	0.000	0.000	1.130	0.050	0.100	0.000	0.000
COEF-1	10	BC	20	K2=a/D	0.700	0.000	0.000	1.130	0.050	0.100	0.000	0.000
COEF-1	11	BC	20	K2=a/D	0.700	0.000	0.000	1.130	0.090	0.100	0.000	0.000
COEF-1	12	BC	20	K2=a/D	0.700	0.000	0.000	1.130	0.090	0.100	0.000	0.000
COEF-1	13	BC	20	K2=a/D	0.700	0.000	0.000	1.130	0.090	0.100	0.000	0.000
COEF-1	14	BC	20	K2=a/D	0.700	0.000	0.000	0.980	0.090	0.100	0.000	0.000
COEF-1	15	BC	20	K2=a/D	0.700	0.000	0.000	0.940	0.060	0.100	0.000	0.000
COEF-1	16	BC	20	K2=a/D	0.700	0.000	0.000	0.940	0.060	0.100	0.000	0.000
COEF-1	17	BC	20	K2=a/D	0.700	0.000	0.000	0.940	0.060	0.100	0.000	0.000
COEF-1	18	BC	20	K2=a/D	0.700	0.000	0.000	0.840	0.060	0.100	0.000	0.000
COEF-1	19	BC	20	K2=a/D	0.700	0.000	0.000	1.090	0.070	0.100	0.000	0.000
COEF-1	20	BC	20	K2=a/D	0.700	0.000	0.000	1.240	0.070	0.100	0.000	0.000
COEF-1	21	BC	20	K2=a/D	0.700	0.000	0.000	1.240	0.070	0.100	0.000	0.000
COEF-1	22	BC	20	K2=a/D	0.700	0.000	0.000	1.090	0.060	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
COEF-2		1	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000

COEF-2	2	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	3	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	4	BC	0.050	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	5	BC	0.050	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	6	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	7	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	8	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	9	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	10	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	11	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	12	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	13	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	14	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	15	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	16	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	17	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	18	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	19	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	20	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	21	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	22	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000

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	BC	0.00	0.13	0.05	0.00
COEF-4	2	BC	0.00	0.13	0.05	0.00
COEF-4	3	BC	0.00	0.13	0.05	0.00
COEF-4	4	BC	0.00	0.05	0.05	0.00
COEF-4	5	BC	0.00	0.05	0.05	0.00
COEF-4	6	BC	0.00	0.04	0.05	0.00
COEF-4	7	BC	0.00	0.04	0.05	0.00
COEF-4	8	BC	0.00	0.02	0.05	0.00
COEF-4	9	BC	0.00	0.03	0.05	0.00
COEF-4	10	BC	0.00	0.03	0.05	0.00
COEF-4	11	BC	0.00	0.03	0.05	0.00
COEF-4	12	BC	0.00	0.03	0.05	0.00
COEF-4	13	BC	0.00	0.03	0.05	0.00
COEF-4	14	BC	0.00	0.03	0.05	0.00
COEF-4	15	BC	0.00	0.04	0.05	0.00
COEF-4	16	BC	0.00	0.04	0.05	0.00
COEF-4	17	BC	0.00	0.04	0.05	0.00
COEF-4	18	BC	0.00	0.04	0.05	0.00
COEF-4	19	BC	0.00	0.02	0.05	0.00

COEF-4	20	BC	0.00	0.02	0.05	0.00
COEF-4	21	BC	0.00	0.02	0.05	0.00
COEF-4	22	BC	0.00	0.03	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	IN/DIST	OUT/DIST
INCR-1	1	BC	0.00000	0.00000	18.10	0.00	33.90	12.40	0.00000	0.00000
INCR-1	2	BC	-0.02720	0.00000	18.10	0.00	33.90	12.40	0.00000	-0.00618
INCR-1	3	BC	-0.02040	0.00000	18.10	0.00	33.60	11.00	0.00000	-0.00182
INCR-1	4	BC	0.00000	0.00570	18.10	0.00	30.20	7.90	0.00163	0.00000
INCR-1	5	BC	0.00000	0.00570	18.10	0.00	30.20	7.90	0.00211	0.00000
INCR-1	6	BC	-0.00960	0.00000	18.10	0.00	23.60	6.00	0.00000	-0.00196
INCR-1	7	BC	-0.00960	0.00000	18.10	0.00	23.60	6.00	0.00000	-0.00480
INCR-1	8	BC	0.00000	0.00000	16.70	0.00	8.80	3.20	0.00000	0.00000
INCR-1	9	BC	0.00000	0.00000	16.70	0.00	6.90	2.70	0.00000	0.00000
INCR-1	10	BC	0.00000	0.00710	16.70	0.00	6.90	2.70	0.00338	0.00000
INCR-1	11	BC	0.00000	0.00330	16.70	0.00	9.20	3.40	0.00143	0.00000
INCR-1	12	BC	0.00000	0.00330	16.70	0.00	9.20	3.40	0.00194	0.00000
INCR-1	13	BC	0.00000	0.00330	16.70	0.00	9.20	3.40	0.00174	0.00000
INCR-1	14	BC	0.00000	0.00330	16.70	0.00	9.20	3.40	0.00330	0.00000
INCR-1	15	BC	0.00000	0.00790	16.70	0.00	13.60	4.10	0.00122	0.00000
INCR-1	16	BC	0.00000	0.00790	16.70	0.00	13.60	4.10	0.07900	0.00000
INCR-1	17	BC	0.00000	0.00790	16.70	0.00	13.60	4.10	0.00494	0.00000
INCR-1	18	BC	0.00000	0.00790	16.70	0.00	13.60	4.10	0.00193	0.00000
INCR-1	19	BC	0.00000	0.00000	16.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	20	BC	0.00000	0.00000	16.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	21	BC	0.00000	0.00000	16.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	22	BC	0.00000	0.00000	16.70	0.00	9.30	2.70	0.00000	0.00000

ENDATA16

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

CARD TYPE	REACH	ID	DO	BOD	ORG-N	NH3	NO3+2
INCR-2	1	BC	2.00	2.65	1.30	0.00	0.56
INCR-2	2	BC	2.00	2.27	1.30	0.00	0.49
INCR-2	3	BC	2.00	2.23	0.70	0.00	0.26
INCR-2	4	BC	2.00	2.63	0.41	0.00	0.15
INCR-2	5	BC	2.00	2.63	0.41	0.00	0.15
INCR-2	6	BC	2.00	3.21	0.70	0.00	0.26
INCR-2	7	BC	2.00	3.21	0.70	0.00	0.26
INCR-2	8	BC	2.00	5.54	0.88	0.00	0.07
INCR-2	9	BC	2.00	4.38	0.77	0.00	0.09
INCR-2	10	BC	2.00	2.70	0.77	0.00	0.29
INCR-2	11	BC	2.00	2.86	0.78	0.00	0.29
INCR-2	12	BC	2.00	2.86	0.78	0.00	0.29
INCR-2	13	BC	2.00	2.86	0.78	0.00	0.29
INCR-2	14	BC	2.00	2.86	0.78	0.00	0.29
INCR-2	15	BC	2.00	1.94	0.57	0.00	0.21
INCR-2	16	BC	2.00	1.94	0.57	0.00	0.21
INCR-2	17	BC	2.00	1.94	0.57	0.00	0.21

INCR-2	18	BC	2.00	1.94	0.57	0.00	0.21
INCR-2	19	BC	2.00	4.32	0.79	0.00	0.10
INCR-2	20	BC	2.00	4.32	0.79	0.00	0.10
INCR-2	21	BC	2.00	4.32	0.79	0.00	0.10
INCR-2	22	BC	2.00	5.12	0.78	0.00	0.06

ENDATA17

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

CARD TYPE	REACH	ID	PHOS	CHL A	COLI	NCM
INCR-3	1	BC	0.00	4.30	0.00	3.40
INCR-3	2	BC	0.00	4.30	0.00	3.40
INCR-3	3	BC	0.00	4.46	0.00	3.45
INCR-3	4	BC	0.00	4.23	0.00	3.48
INCR-3	5	BC	0.00	4.23	0.00	3.48
INCR-3	6	BC	0.00	3.01	0.00	5.05
INCR-3	7	BC	0.00	3.01	0.00	5.05
INCR-3	8	BC	0.00	3.72	0.00	4.03
INCR-3	9	BC	0.00	2.68	0.00	4.52
INCR-3	10	BC	0.00	2.68	0.00	4.52
INCR-3	11	BC	0.00	2.44	0.00	5.18
INCR-3	12	BC	0.00	2.44	0.00	5.18
INCR-3	13	BC	0.00	2.44	0.00	5.18
INCR-3	14	BC	0.00	2.44	0.00	5.18
INCR-3	15	BC	0.00	2.58	0.00	1.96
INCR-3	16	BC	0.00	2.58	0.00	1.96
INCR-3	17	BC	0.00	2.58	0.00	1.96
INCR-3	18	BC	0.00	2.58	0.00	1.96
INCR-3	19	BC	0.00	3.20	0.00	3.07
INCR-3	20	BC	0.00	3.20	0.00	3.07
INCR-3	21	BC	0.00	3.20	0.00	3.07
INCR-3	22	BC	0.00	1.34	0.00	2.73

ENDATA18

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

CARD TYPE	REACH	ID	BOD	ORG-N	COLI	NCM	DO
NONPOINT	1	BC	1.10	1.13	0.00	3.75	0.00
NONPOINT	2	BC	0.00	0.00	0.00	1.12	0.00
NONPOINT	3	BC	6.00	0.00	0.00	3.75	0.00
NONPOINT	4	BC	1.10	0.38	0.00	1.88	0.00
NONPOINT	5	BC	0.00	0.38	0.00	2.81	0.00
NONPOINT	6	BC	7.50	0.75	0.00	1.50	0.00
NONPOINT	7	BC	5.30	0.23	0.00	0.75	0.00
NONPOINT	8	BC	2.30	0.19	0.00	1.12	0.00
NONPOINT	9	BC	0.80	0.19	0.00	3.38	0.00
NONPOINT	10	BC	0.80	0.19	0.00	1.12	0.00
NONPOINT	11	BC	1.90	0.19	0.00	0.00	0.00
NONPOINT	12	BC	1.10	0.00	0.00	0.00	0.00
NONPOINT	13	BC	1.90	0.00	0.00	0.00	0.00
NONPOINT	14	BC	1.50	0.00	0.00	0.00	0.00
NONPOINT	15	BC	1.90	0.19	0.00	0.00	0.00

NONPOINT	16	BC	0.00	0.19	0.00	0.00	0.00
NONPOINT	17	BC	1.10	0.19	0.00	0.75	0.00
NONPOINT	18	BC	1.90	0.32	0.00	0.75	0.00
NONPOINT	19	BC	5.60	0.32	0.00	0.38	0.00
NONPOINT	20	BC	1.90	0.19	0.00	0.00	0.00
NONPOINT	21	BC	1.10	0.19	0.00	0.00	0.00
NONPOINT	22	BC	123.80	10.13	0.00	31.88	0.00

ENDATA19

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

CARD TYPE	ELEMENT	NAME	UNIT	FLOW m ³ /s	FLOW cfs	TEMP deg C	SALIN ppt	CM-I MG/L	CM-II MG/L
HDWTR-1	1	HEADWATER	0	0.11560	4.082	18.10	0.00	33.900	12.400

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	HEADWATER	8.50	2.20	0.63	0.00	0.56

ENDATA21

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

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
HDWTR-3	1	HEADWATER	0.00	2.60	0.00	3.40

ENDATA22

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

CARD TYPE	JUNCTION ELEMENT	UPSTRM ELEMENT	RIVER KILOM	NAME
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ENDATA23

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

CARD TYPE	ELEMENT	RKILO	NAME	FLOW m ³ /s	FLOW cfs	FLOW MGD	TEMP deg C	SALIN ppt	CM-I MG/L	CM-II MG/L
WSTLD-1	2	80.20	CITY OF DERIDDER	0.16590	5.85805	3.787	18.10	0.00	32.100	14.100
WSTLD-1	179	62.50	LITTLE BARNES CR	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	214	59.00	REDHEAD BRANCH	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	290	51.40	LITTLE CANEY CR	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	339	46.50	CANEY CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	419	38.50	HURRICANE CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	463	34.10	MAGNOLIA CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	480	32.40	BRUSHY CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	499	30.50	RIGHTHAND CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	574	23.00	BOGGY CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	575	22.90	WOLF CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000

WSTLD-1	591	21.30	UNNAMED CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	703	10.10	CLEAR CREEK	0.02800	0.98870	0.639	16.70	0.00	5.500	1.300
WSTLD-1	727	7.70	BEAR CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000

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
WSTLD-2	2	CITY OF DERIDDER	5.00	23.00	0.00	3.33	0.00	1.70	0.46
WSTLD-2	179	LITTLE BARNES CR	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	214	REDHEAD BRANCH	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	290	LITTLE CANEY CR	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	339	CANEY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	419	HURRICANE CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	463	MAGNOLIA CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	480	BRUSHY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	499	RIGHTHAND CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	574	BOGGY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	575	WOLF CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	591	UNNAMED CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	703	CLEAR CREEK	8.80	5.55	0.00	0.75	0.00	0.00	0.06
WSTLD-2	727	BEAR CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ENDATA25

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

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
WSTLD-3	2	CITY OF DERIDDER	0.00	0.90	0.00	0.00
WSTLD-3	179	LITTLE BARNES CR	0.00	0.00	0.00	0.00
WSTLD-3	214	REDHEAD BRANCH	0.00	0.00	0.00	0.00
WSTLD-3	290	LITTLE CANEY CR	0.00	0.00	0.00	0.00
WSTLD-3	339	CANEY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	419	HURRICANE CREEK	0.00	0.00	0.00	0.00
WSTLD-3	463	MAGNOLIA CREEK	0.00	0.00	0.00	0.00
WSTLD-3	480	BRUSHY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	499	RIGHTHAND CREEK	0.00	0.00	0.00	0.00
WSTLD-3	574	BOGGY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	575	WOLF CREEK	0.00	0.00	0.00	0.00
WSTLD-3	591	UNNAMED CREEK	0.00	0.00	0.00	0.00
WSTLD-3	703	CLEAR CREEK	0.00	4.30	0.00	3.76
WSTLD-3	727	BEAR CREEK	0.00	0.00	0.00	0.00

ENDATA26

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

CARD TYPE	CONSTITUENT	CONCENTRATION

ENDATA27

\$\$\$ DATA TYPE 28 (DAM DATA) \$\$\$

CARD TYPE	ELEMENT	NAME	EQN	"A"	"B"	"H"

DAM DATA 310 DAM AT SITE 7 1 1.000 0.800 4.740
 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 = 22
 PLOT RCH 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
 ENDATA30

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

OVERLAY 1 bcprojovl.txt :MAINSTEM
 ENDATA31

.....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

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
 REACH NO. 1 HEADWATER - SITE 2 BARNES CREEK WINTER RUN

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

ELEM	TYPE	FLOW	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	PHOS	CHL A	COLI
NCM		m ³ /	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	#/100mL
NO.															
1	HDWTR	0.11560	18.10	0.00	33.90	12.40	8.50	1.81	2.20	0.63	0.00	0.56	0.00	2.60	0.00
3.40															
2	WSTLD	0.16590	18.10	0.00	32.10	14.10	5.00	23.00	23.00	3.27	0.00	0.52	0.00	0.90	0.00
0.00															

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
1	80.30	80.20	0.11560	0.00	0.21307	0.01	0.17	3.16	54.25	316.03	0.54	0.00	0.000	0.025
0.213														
2	80.20	80.10	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
3	80.10	80.00	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
4	80.00	79.90	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
5	79.90	79.80	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
6	79.80	79.70	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
7	79.70	79.60	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
8	79.60	79.50	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
9	79.50	79.40	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
10	79.40	79.30	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
11	79.30	79.20	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
12	79.20	79.10	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
13	79.10	79.00	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
14	79.00	78.90	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
15	78.90	78.80	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
16	78.80	78.70	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
17	78.70	78.60	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
18	78.60	78.50	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
19	78.50	78.40	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
20	78.40	78.30	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
21	78.30	78.20	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
22	78.20	78.10	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283														
TOT						0.09			2143.78	7927.32				

21	78.200	9.45	2.45	0.16	0.10	0.00	0.74	0.74	0.74	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
22	78.100	9.45	2.45	0.16	0.10	0.00	0.74	0.74	0.74	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
20	DEG C RATE				0.18		0.00	0.83		0.13		0.00	0.00	0.00	0.00			0.00
0.13	AVG 20 DEG C RATE			2.62		0.10				0.20								
0.05																		

* g/m²/d ** mg/L/day

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

ELEM NCM 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
1	80.200	18.10	0.00	33.90	12.40	8.49	1.85	2.24	0.64	0.00	0.56	1.20	0.00	2.60	0.00	0.00
3.41																
2	80.100	18.10	0.00	32.84	13.40	6.44	14.29	14.68	2.19	0.00	0.53	2.72	0.00	2.60	0.00	0.00
1.41																
3	80.000	18.10	0.00	32.84	13.40	6.45	14.27	14.66	2.19	0.00	0.53	2.72	0.00	2.60	0.00	0.00
1.41																
4	79.900	18.10	0.00	32.84	13.40	6.46	14.26	14.65	2.19	0.00	0.53	2.73	0.00	2.60	0.00	0.00
1.42																
5	79.800	18.10	0.00	32.84	13.40	6.47	14.25	14.64	2.19	0.00	0.53	2.73	0.00	2.60	0.00	0.00
1.43																
6	79.700	18.10	0.00	32.84	13.40	6.48	14.23	14.62	2.19	0.01	0.53	2.73	0.00	2.60	0.00	0.00
1.43																
7	79.600	18.10	0.00	32.84	13.40	6.48	14.22	14.61	2.19	0.01	0.53	2.73	0.00	2.60	0.00	0.00
1.44																
8	79.500	18.10	0.00	32.84	13.40	6.49	14.21	14.60	2.19	0.01	0.53	2.73	0.00	2.60	0.00	0.00
1.44																
9	79.400	18.10	0.00	32.84	13.40	6.50	14.19	14.58	2.18	0.01	0.53	2.73	0.00	2.60	0.00	0.00
1.45																
10	79.300	18.10	0.00	32.84	13.40	6.51	14.18	14.57	2.18	0.01	0.53	2.73	0.00	2.60	0.00	0.00
1.46																
11	79.200	18.10	0.00	32.84	13.40	6.51	14.17	14.56	2.18	0.01	0.53	2.73	0.00	2.60	0.00	0.00
1.46																
12	79.100	18.10	0.00	32.84	13.40	6.52	14.16	14.55	2.18	0.01	0.53	2.73	0.00	2.60	0.00	0.00
1.47																
13	79.000	18.10	0.00	32.84	13.40	6.53	14.14	14.53	2.18	0.01	0.53	2.73	0.00	2.60	0.00	0.00
1.47																
14	78.900	18.10	0.00	32.84	13.40	6.54	14.13	14.52	2.18	0.01	0.53	2.73	0.00	2.60	0.00	0.00
1.48																
15	78.800	18.10	0.00	32.84	13.40	6.54	14.12	14.51	2.18	0.01	0.53	2.73	0.00	2.60	0.00	0.00
1.49																
16	78.700	18.10	0.00	32.84	13.40	6.55	14.10	14.49	2.18	0.02	0.53	2.73	0.00	2.60	0.00	0.00
1.49																
17	78.600	18.10	0.00	32.84	13.40	6.56	14.09	14.48	2.18	0.02	0.53	2.73	0.00	2.60	0.00	0.00

57	74.600	9.45	2.58	0.16	0.10	0.00	0.60	0.60	0.60	0.11	0.19	0.00	0.00	0.00	0.00	0.10	0.00	0.00	
0.12	0.05																		
58	74.500	9.45	2.58	0.16	0.10	0.00	0.60	0.60	0.60	0.11	0.19	0.00	0.00	0.00	0.00	0.10	0.00	0.00	
0.12	0.05																		
59	74.400	9.45	2.59	0.16	0.10	0.00	0.60	0.60	0.60	0.11	0.19	0.00	0.00	0.00	0.00	0.10	0.00	0.00	
0.12	0.05																		
60	74.300	9.45	2.59	0.16	0.10	0.00	0.60	0.60	0.60	0.11	0.19	0.00	0.00	0.00	0.00	0.10	0.00	0.00	
0.12	0.05																		
61	74.200	9.45	2.60	0.16	0.10	0.00	0.60	0.60	0.60	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00	
0.12	0.05																		
62	74.100	9.45	2.60	0.16	0.10	0.00	0.60	0.60	0.60	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00	
0.12	0.05																		
63	74.000	9.45	2.60	0.16	0.10	0.00	0.60	0.60	0.60	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00	
0.12	0.05																		
64	73.900	9.45	2.61	0.16	0.10	0.00	0.60	0.60	0.60	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00	
0.12	0.05																		
65	73.800	9.45	2.61	0.16	0.10	0.00	0.60	0.60	0.60	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00	
0.12	0.05																		
66	73.700	9.45	2.61	0.16	0.10	0.00	0.60	0.60	0.60	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00	
0.12	0.05																		
20 DEG C RATE					0.18		0.00	0.68		0.13		0.00	0.00	0.00	0.00			0.00	
0.13																			
AVG 20 DEG C RATE			2.63		0.10						0.20								
0.05																			

* g/m²/d

** mg/L/day

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

ELEM NCM 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	
23	78.000	18.10	0.00	32.84	13.40	6.60	14.01	14.40	2.17	0.02	0.53	2.73	0.00	2.59	0.00	0.00	
1.53																	
24	77.900	18.10	0.00	32.84	13.40	6.61	14.00	14.38	2.17	0.02	0.53	2.73	0.00	2.57	0.00	0.00	
1.53																	
25	77.800	18.10	0.00	32.84	13.40	6.62	13.98	14.36	2.17	0.02	0.53	2.73	0.00	2.56	0.00	0.00	
1.53																	
26	77.700	18.10	0.00	32.84	13.40	6.63	13.97	14.35	2.17	0.03	0.53	2.73	0.00	2.55	0.00	0.00	
1.53																	
27	77.600	18.10	0.00	32.84	13.40	6.64	13.95	14.33	2.16	0.03	0.53	2.72	0.00	2.53	0.00	0.00	
1.53																	
28	77.500	18.10	0.00	32.84	13.40	6.65	13.94	14.31	2.16	0.03	0.53	2.72	0.00	2.52	0.00	0.00	
1.53																	
29	77.400	18.10	0.00	32.84	13.40	6.66	13.92	14.30	2.16	0.03	0.53	2.72	0.00	2.50	0.00	0.00	
1.53																	
30	77.300	18.10	0.00	32.84	13.40	6.66	13.91	14.28	2.15	0.03	0.53	2.72	0.00	2.49	0.00	0.00	
1.53																	
31	77.200	18.10	0.00	32.84	13.40	6.67	13.89	14.26	2.15	0.03	0.53	2.72	0.00	2.48	0.00	0.00	

1.53																	
32	77.100	18.10	0.00	32.84	13.40	6.68	13.88	14.25	2.15	0.03	0.53	2.71	0.00	2.46	0.00	0.00	
1.53																	
33	77.000	18.10	0.00	32.84	13.40	6.69	13.86	14.23	2.15	0.03	0.53	2.71	0.00	2.45	0.00	0.00	
1.53																	
34	76.900	18.10	0.00	32.84	13.40	6.70	13.85	14.21	2.14	0.03	0.53	2.71	0.00	2.44	0.00	0.00	
1.53																	
35	76.800	18.10	0.00	32.84	13.40	6.71	13.83	14.20	2.14	0.03	0.53	2.71	0.00	2.42	0.00	0.00	
1.53																	
36	76.700	18.10	0.00	32.84	13.40	6.71	13.82	14.18	2.14	0.04	0.53	2.71	0.00	2.41	0.00	0.00	
1.53																	
37	76.600	18.10	0.00	32.84	13.40	6.72	13.80	14.16	2.14	0.04	0.53	2.71	0.00	2.40	0.00	0.00	
1.53																	
38	76.500	18.10	0.00	32.84	13.40	6.73	13.79	14.15	2.13	0.04	0.53	2.70	0.00	2.38	0.00	0.00	
1.53																	
39	76.400	18.10	0.00	32.84	13.40	6.74	13.77	14.13	2.13	0.04	0.53	2.70	0.00	2.37	0.00	0.00	
1.53																	
40	76.300	18.10	0.00	32.84	13.40	6.75	13.76	14.11	2.13	0.04	0.53	2.70	0.00	2.35	0.00	0.00	
1.53																	
41	76.200	18.10	0.00	32.84	13.40	6.75	13.74	14.10	2.13	0.04	0.53	2.70	0.00	2.34	0.00	0.00	
1.53																	
42	76.100	18.10	0.00	32.84	13.40	6.76	13.73	14.08	2.12	0.04	0.53	2.70	0.00	2.33	0.00	0.00	
1.53																	
43	76.000	18.10	0.00	32.84	13.40	6.77	13.71	14.06	2.12	0.04	0.53	2.70	0.00	2.31	0.00	0.00	
1.53																	
44	75.900	18.10	0.00	32.84	13.40	6.78	13.70	14.04	2.12	0.04	0.53	2.69	0.00	2.30	0.00	0.00	
1.53																	
45	75.800	18.10	0.00	32.84	13.40	6.79	13.69	14.03	2.11	0.04	0.53	2.69	0.00	2.29	0.00	0.00	
1.53																	
46	75.700	18.10	0.00	32.84	13.40	6.79	13.67	14.01	2.11	0.05	0.53	2.69	0.00	2.27	0.00	0.00	
1.53																	
47	75.600	18.10	0.00	32.84	13.40	6.80	13.66	13.99	2.11	0.05	0.53	2.69	0.00	2.26	0.00	0.00	
1.53																	
48	75.500	18.10	0.00	32.84	13.40	6.81	13.64	13.98	2.11	0.05	0.53	2.69	0.00	2.25	0.00	0.00	
1.53																	
49	75.400	18.10	0.00	32.84	13.40	6.82	13.63	13.96	2.10	0.05	0.53	2.69	0.00	2.23	0.00	0.00	
1.53																	
50	75.300	18.10	0.00	32.84	13.40	6.82	13.61	13.94	2.10	0.05	0.53	2.68	0.00	2.22	0.00	0.00	
1.53																	
51	75.200	18.10	0.00	32.84	13.40	6.83	13.60	13.93	2.10	0.05	0.53	2.68	0.00	2.20	0.00	0.00	
1.53																	
52	75.100	18.10	0.00	32.84	13.40	6.84	13.58	13.91	2.10	0.05	0.53	2.68	0.00	2.19	0.00	0.00	
1.53																	
53	75.000	18.10	0.00	32.84	13.40	6.85	13.57	13.89	2.09	0.05	0.53	2.68	0.00	2.18	0.00	0.00	
1.53																	
54	74.900	18.10	0.00	32.84	13.40	6.85	13.55	13.88	2.09	0.05	0.53	2.68	0.00	2.16	0.00	0.00	
1.53																	
55	74.800	18.10	0.00	32.84	13.40	6.86	13.54	13.86	2.09	0.05	0.53	2.68	0.00	2.15	0.00	0.00	
1.53																	
56	74.700	18.10	0.00	32.84	13.40	6.87	13.52	13.84	2.09	0.06	0.53	2.67	0.00	2.14	0.00	0.00	
1.53																	
57	74.600	18.10	0.00	32.84	13.40	6.88	13.51	13.83	2.08	0.06	0.53	2.67	0.00	2.12	0.00	0.00	
1.53																	
58	74.500	18.10	0.00	32.84	13.40	6.88	13.50	13.81	2.08	0.06	0.53	2.67	0.00	2.11	0.00	0.00	

165	63.800	9.69	1.44	0.11	0.09	0.00	0.56	0.56	0.56	0.11	0.19	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.11	0.05																	
166	63.700	9.69	1.44	0.11	0.09	0.00	0.56	0.56	0.56	0.11	0.19	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.11	0.05																	
167	63.600	9.70	1.44	0.11	0.09	0.00	0.56	0.56	0.56	0.10	0.19	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.11	0.05																	
168	63.500	9.70	1.44	0.11	0.09	0.00	0.56	0.56	0.56	0.10	0.19	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.11	0.05																	
169	63.400	9.70	1.44	0.11	0.09	0.00	0.56	0.56	0.56	0.10	0.19	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.11	0.05																	
170	63.300	9.70	1.44	0.11	0.09	0.00	0.56	0.56	0.56	0.10	0.19	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.11	0.05																	
171	63.200	9.71	1.44	0.11	0.09	0.00	0.56	0.56	0.56	0.10	0.19	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.11	0.05																	
172	63.100	9.71	1.44	0.11	0.09	0.00	0.56	0.56	0.56	0.10	0.19	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.11	0.05																	
173	63.000	9.71	1.44	0.11	0.09	0.00	0.55	0.55	0.55	0.10	0.19	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.11	0.05																	
174	62.900	9.72	1.44	0.11	0.09	0.00	0.55	0.55	0.55	0.10	0.19	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.11	0.05																	
175	62.800	9.72	1.44	0.11	0.09	0.00	0.55	0.55	0.55	0.10	0.19	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.11	0.05																	
176	62.700	9.72	1.44	0.11	0.09	0.00	0.55	0.55	0.55	0.10	0.19	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.11	0.05																	
177	62.600	9.72	1.44	0.11	0.09	0.00	0.55	0.55	0.55	0.10	0.18	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.11	0.05																	
178	62.500	9.73	1.44	0.11	0.09	0.00	0.55	0.55	0.55	0.10	0.18	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.11	0.05																	
20	DEG C RATE			0.13		0.00	0.68			0.13		0.00	0.00	0.00	0.00			0.00
0.13																		
AVG	20 DEG C RATE		1.52		0.10						0.20							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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	
67	73.600	18.09	0.00	32.84	13.40	6.94	13.36	13.66	2.05	0.07	0.53	2.65	0.00	2.00	0.00	0.00	
1.53																	
68	73.500	18.08	0.00	32.84	13.40	6.95	13.34	13.64	2.05	0.07	0.53	2.65	0.00	2.00	0.00	0.00	
1.53																	
69	73.400	18.06	0.00	32.84	13.40	6.95	13.32	13.62	2.04	0.07	0.53	2.65	0.00	2.00	0.00	0.00	
1.53																	
70	73.300	18.05	0.00	32.84	13.40	6.95	13.30	13.59	2.04	0.07	0.53	2.64	0.00	2.00	0.00	0.00	
1.53																	
71	73.200	18.04	0.00	32.84	13.40	6.96	13.27	13.57	2.03	0.07	0.53	2.64	0.00	2.00	0.00	0.00	

1.53																
72	73.100	18.02	0.00	32.84	13.40	6.96	13.25	13.55	2.03	0.08	0.53	2.64	0.00	1.99	0.00	0.00
1.53																
73	73.000	18.01	0.00	32.84	13.40	6.96	13.23	13.53	2.02	0.08	0.53	2.64	0.00	1.99	0.00	0.00
1.53																
74	72.900	18.00	0.00	32.84	13.40	6.97	13.21	13.51	2.02	0.08	0.53	2.63	0.00	1.99	0.00	0.00
1.53																
75	72.800	17.99	0.00	32.84	13.40	6.97	13.19	13.49	2.01	0.08	0.53	2.63	0.00	1.99	0.00	0.00
1.53																
76	72.700	17.98	0.00	32.84	13.40	6.97	13.17	13.47	2.01	0.08	0.53	2.63	0.00	1.99	0.00	0.00
1.52																
77	72.600	17.96	0.00	32.84	13.40	6.98	13.15	13.45	2.00	0.09	0.53	2.62	0.00	1.99	0.00	0.00
1.52																
78	72.500	17.95	0.00	32.84	13.40	6.98	13.13	13.43	2.00	0.09	0.53	2.62	0.00	1.99	0.00	0.00
1.52																
79	72.400	17.94	0.00	32.84	13.40	6.99	13.11	13.41	1.99	0.09	0.53	2.62	0.00	1.99	0.00	0.00
1.52																
80	72.300	17.93	0.00	32.84	13.40	6.99	13.09	13.39	1.99	0.09	0.53	2.61	0.00	1.99	0.00	0.00
1.52																
81	72.200	17.91	0.00	32.84	13.40	6.99	13.07	13.37	1.98	0.09	0.53	2.61	0.00	1.99	0.00	0.00
1.52																
82	72.100	17.90	0.00	32.84	13.40	7.00	13.05	13.35	1.98	0.09	0.53	2.61	0.00	1.99	0.00	0.00
1.52																
83	72.000	17.89	0.00	32.84	13.40	7.00	13.03	13.32	1.97	0.10	0.53	2.60	0.00	1.98	0.00	0.00
1.52																
84	71.900	17.88	0.00	32.84	13.40	7.00	13.01	13.30	1.97	0.10	0.53	2.60	0.00	1.98	0.00	0.00
1.52																
85	71.800	17.86	0.00	32.84	13.40	7.01	12.99	13.28	1.96	0.10	0.53	2.60	0.00	1.98	0.00	0.00
1.52																
86	71.700	17.85	0.00	32.84	13.40	7.01	12.97	13.26	1.96	0.10	0.53	2.59	0.00	1.98	0.00	0.00
1.52																
87	71.600	17.84	0.00	32.84	13.40	7.02	12.95	13.24	1.95	0.10	0.53	2.59	0.00	1.98	0.00	0.00
1.52																
88	71.500	17.83	0.00	32.84	13.40	7.02	12.93	13.22	1.95	0.11	0.53	2.59	0.00	1.98	0.00	0.00
1.52																
89	71.400	17.81	0.00	32.84	13.40	7.02	12.91	13.20	1.94	0.11	0.53	2.58	0.00	1.98	0.00	0.00
1.52																
90	71.300	17.80	0.00	32.84	13.40	7.03	12.89	13.18	1.94	0.11	0.53	2.58	0.00	1.98	0.00	0.00
1.52																
91	71.200	17.79	0.00	32.84	13.40	7.03	12.87	13.16	1.94	0.11	0.53	2.58	0.00	1.98	0.00	0.00
1.52																
92	71.100	17.77	0.00	32.84	13.40	7.04	12.85	13.14	1.93	0.11	0.53	2.58	0.00	1.98	0.00	0.00
1.52																
93	71.000	17.76	0.00	32.84	13.40	7.04	12.83	13.12	1.93	0.11	0.53	2.57	0.00	1.98	0.00	0.00
1.52																
94	70.900	17.75	0.00	32.84	13.40	7.04	12.81	13.10	1.92	0.12	0.53	2.57	0.00	1.98	0.00	0.00
1.52																
95	70.800	17.74	0.00	32.84	13.40	7.05	12.79	13.08	1.92	0.12	0.53	2.57	0.00	1.97	0.00	0.00
1.51																
96	70.700	17.73	0.00	32.84	13.40	7.05	12.77	13.06	1.91	0.12	0.53	2.56	0.00	1.97	0.00	0.00
1.51																
97	70.600	17.71	0.00	32.84	13.40	7.06	12.75	13.04	1.91	0.12	0.53	2.56	0.00	1.97	0.00	0.00
1.51																
98	70.500	17.70	0.00	32.84	13.40	7.06	12.73	13.02	1.90	0.12	0.53	2.56	0.00	1.97	0.00	0.00

1.51																
99	70.400	17.69	0.00	32.84	13.40	7.06	12.71	13.00	1.90	0.12	0.53	2.55	0.00	1.97	0.00	0.00
1.51																
100	70.300	17.68	0.00	32.84	13.40	7.07	12.69	12.98	1.89	0.13	0.53	2.55	0.00	1.97	0.00	0.00
1.51																
101	70.200	17.66	0.00	32.84	13.40	7.07	12.67	12.96	1.89	0.13	0.53	2.55	0.00	1.97	0.00	0.00
1.51																
102	70.100	17.65	0.00	32.84	13.40	7.08	12.65	12.94	1.88	0.13	0.53	2.55	0.00	1.97	0.00	0.00
1.51																
103	70.000	17.64	0.00	32.84	13.40	7.08	12.63	12.92	1.88	0.13	0.53	2.54	0.00	1.97	0.00	0.00
1.51																
104	69.900	17.62	0.00	32.84	13.40	7.08	12.61	12.90	1.87	0.13	0.53	2.54	0.00	1.97	0.00	0.00
1.51																
105	69.800	17.61	0.00	32.84	13.40	7.09	12.59	12.88	1.87	0.14	0.53	2.54	0.00	1.97	0.00	0.00
1.51																
106	69.700	17.60	0.00	32.84	13.40	7.09	12.57	12.86	1.86	0.14	0.53	2.53	0.00	1.96	0.00	0.00
1.51																
107	69.600	17.59	0.00	32.84	13.40	7.10	12.55	12.84	1.86	0.14	0.53	2.53	0.00	1.96	0.00	0.00
1.51																
108	69.500	17.58	0.00	32.84	13.40	7.10	12.53	12.82	1.85	0.14	0.53	2.53	0.00	1.96	0.00	0.00
1.51																
109	69.400	17.56	0.00	32.84	13.40	7.11	12.51	12.80	1.85	0.14	0.53	2.52	0.00	1.96	0.00	0.00
1.51																
110	69.300	17.55	0.00	32.84	13.40	7.11	12.49	12.79	1.85	0.14	0.53	2.52	0.00	1.96	0.00	0.00
1.51																
111	69.200	17.54	0.00	32.84	13.40	7.11	12.47	12.77	1.84	0.15	0.53	2.52	0.00	1.96	0.00	0.00
1.51																
112	69.100	17.52	0.00	32.84	13.40	7.12	12.45	12.75	1.84	0.15	0.53	2.52	0.00	1.96	0.00	0.00
1.51																
113	69.000	17.51	0.00	32.84	13.40	7.12	12.43	12.73	1.83	0.15	0.53	2.51	0.00	1.96	0.00	0.00
1.51																
114	68.900	17.50	0.00	32.84	13.40	7.13	12.41	12.71	1.83	0.15	0.53	2.51	0.00	1.96	0.00	0.00
1.51																
115	68.800	17.49	0.00	32.84	13.40	7.13	12.39	12.69	1.82	0.15	0.53	2.51	0.00	1.96	0.00	0.00
1.51																
116	68.700	17.48	0.00	32.84	13.40	7.14	12.38	12.67	1.82	0.15	0.53	2.50	0.00	1.96	0.00	0.00
1.50																
117	68.600	17.46	0.00	32.84	13.40	7.14	12.36	12.65	1.81	0.16	0.53	2.50	0.00	1.95	0.00	0.00
1.50																
118	68.500	17.45	0.00	32.84	13.40	7.15	12.34	12.63	1.81	0.16	0.53	2.50	0.00	1.95	0.00	0.00
1.50																
119	68.400	17.44	0.00	32.84	13.40	7.15	12.32	12.61	1.80	0.16	0.53	2.50	0.00	1.95	0.00	0.00
1.50																
120	68.300	17.43	0.00	32.84	13.40	7.15	12.30	12.59	1.80	0.16	0.53	2.49	0.00	1.95	0.00	0.00
1.50																
121	68.200	17.41	0.00	32.84	13.40	7.16	12.28	12.57	1.80	0.16	0.53	2.49	0.00	1.95	0.00	0.00
1.50																
122	68.100	17.40	0.00	32.84	13.40	7.16	12.26	12.55	1.79	0.16	0.53	2.49	0.00	1.95	0.00	0.00
1.50																
123	68.000	17.39	0.00	32.84	13.40	7.17	12.24	12.54	1.79	0.16	0.53	2.48	0.00	1.95	0.00	0.00
1.50																
124	67.900	17.38	0.00	32.84	13.40	7.17	12.22	12.52	1.78	0.17	0.53	2.48	0.00	1.95	0.00	0.00
1.50																
125	67.800	17.36	0.00	32.84	13.40	7.18	12.21	12.50	1.78	0.17	0.53	2.48	0.00	1.95	0.00	0.00

1.50																
126	67.700	17.35	0.00	32.84	13.40	7.18	12.19	12.48	1.77	0.17	0.53	2.48	0.00	1.95	0.00	0.00
1.50																
127	67.600	17.34	0.00	32.84	13.40	7.19	12.17	12.46	1.77	0.17	0.53	2.47	0.00	1.95	0.00	0.00
1.50																
128	67.500	17.33	0.00	32.84	13.40	7.19	12.15	12.44	1.77	0.17	0.53	2.47	0.00	1.94	0.00	0.00
1.50																
129	67.400	17.31	0.00	32.84	13.40	7.19	12.13	12.42	1.76	0.17	0.53	2.47	0.00	1.94	0.00	0.00
1.50																
130	67.300	17.30	0.00	32.84	13.40	7.20	12.11	12.40	1.76	0.18	0.53	2.46	0.00	1.94	0.00	0.00
1.50																
131	67.200	17.29	0.00	32.84	13.40	7.20	12.09	12.38	1.75	0.18	0.53	2.46	0.00	1.94	0.00	0.00
1.50																
132	67.100	17.28	0.00	32.84	13.40	7.21	12.07	12.37	1.75	0.18	0.53	2.46	0.00	1.94	0.00	0.00
1.50																
133	67.000	17.26	0.00	32.84	13.40	7.21	12.06	12.35	1.74	0.18	0.53	2.46	0.00	1.94	0.00	0.00
1.50																
134	66.900	17.25	0.00	32.84	13.40	7.22	12.04	12.33	1.74	0.18	0.53	2.45	0.00	1.94	0.00	0.00
1.50																
135	66.800	17.24	0.00	32.84	13.40	7.22	12.02	12.31	1.73	0.18	0.53	2.45	0.00	1.94	0.00	0.00
1.50																
136	66.700	17.23	0.00	32.84	13.40	7.23	12.00	12.29	1.73	0.19	0.53	2.45	0.00	1.94	0.00	0.00
1.50																
137	66.600	17.21	0.00	32.84	13.40	7.23	11.98	12.27	1.73	0.19	0.53	2.45	0.00	1.94	0.00	0.00
1.50																
138	66.500	17.20	0.00	32.84	13.40	7.24	11.96	12.25	1.72	0.19	0.53	2.44	0.00	1.94	0.00	0.00
1.50																
139	66.400	17.19	0.00	32.84	13.40	7.24	11.95	12.24	1.72	0.19	0.53	2.44	0.00	1.93	0.00	0.00
1.49																
140	66.300	17.18	0.00	32.84	13.40	7.25	11.93	12.22	1.71	0.19	0.53	2.44	0.00	1.93	0.00	0.00
1.49																
141	66.200	17.16	0.00	32.84	13.40	7.25	11.91	12.20	1.71	0.19	0.53	2.43	0.00	1.93	0.00	0.00
1.49																
142	66.100	17.15	0.00	32.84	13.40	7.26	11.89	12.18	1.71	0.19	0.53	2.43	0.00	1.93	0.00	0.00
1.49																
143	66.000	17.14	0.00	32.84	13.40	7.26	11.87	12.16	1.70	0.20	0.53	2.43	0.00	1.93	0.00	0.00
1.49																
144	65.900	17.12	0.00	32.84	13.40	7.26	11.85	12.14	1.70	0.20	0.53	2.43	0.00	1.93	0.00	0.00
1.49																
145	65.800	17.11	0.00	32.84	13.40	7.27	11.84	12.13	1.69	0.20	0.53	2.42	0.00	1.93	0.00	0.00
1.49																
146	65.700	17.10	0.00	32.84	13.40	7.27	11.82	12.11	1.69	0.20	0.53	2.42	0.00	1.93	0.00	0.00
1.49																
147	65.600	17.09	0.00	32.84	13.40	7.28	11.80	12.09	1.68	0.20	0.53	2.42	0.00	1.93	0.00	0.00
1.49																
148	65.500	17.08	0.00	32.84	13.40	7.28	11.78	12.07	1.68	0.20	0.53	2.42	0.00	1.93	0.00	0.00
1.49																
149	65.400	17.06	0.00	32.84	13.40	7.29	11.76	12.05	1.68	0.21	0.53	2.41	0.00	1.93	0.00	0.00
1.49																
150	65.300	17.05	0.00	32.84	13.40	7.29	11.75	12.04	1.67	0.21	0.53	2.41	0.00	1.92	0.00	0.00
1.49																
151	65.200	17.04	0.00	32.84	13.40	7.30	11.73	12.02	1.67	0.21	0.53	2.41	0.00	1.92	0.00	0.00
1.49																
152	65.100	17.03	0.00	32.84	13.40	7.30	11.71	12.00	1.66	0.21	0.53	2.40	0.00	1.92	0.00	0.00

* CM-I = CHLORIDES
 MG/L
 ** g/m³

CM-II = SULFATES
 MG/L

NCM = CBOD2
 mg/L

FINAL REPORT HEADWATER
 REACH NO. 4 LITTLE BARNES - REDHEAD CR

BARNES CREEK WATERSHED MODEL
 BARNES CREEK WINTER RUN

***** REACH INPUTS

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
179	UPR RCH	0.23390	16.70	0.00	32.84	13.40	7.43	11.26	11.54	1.56	0.25	0.53	0.00	1.90	0.00
1.48															
EACH	INCR	0.0002	18.10	0.00	30.20	7.90	2.00	2.63	2.63	0.41	0.00	0.15	0.00		0.00
3.48															

***** HYDRAULIC PARAMETER VALUES

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
179	62.50	62.40	0.23406	58.89	0.14478	0.01	0.42	3.89	161.66	389.44	1.62	0.00	0.000	0.035
0.145														
180	62.40	62.30	0.23423	58.85	0.14483	0.01	0.42	3.89	161.72	389.49	1.62	0.00	0.000	0.035
0.145														
181	62.30	62.20	0.23439	58.81	0.14488	0.01	0.42	3.90	161.78	389.53	1.62	0.00	0.000	0.035
0.145														
182	62.20	62.10	0.23455	58.77	0.14493	0.01	0.42	3.90	161.84	389.58	1.62	0.00	0.000	0.035
0.145														
183	62.10	62.00	0.23471	58.73	0.14498	0.01	0.42	3.90	161.90	389.62	1.62	0.00	0.000	0.035
0.145														
184	62.00	61.90	0.23488	58.69	0.14503	0.01	0.42	3.90	161.95	389.67	1.62	0.00	0.000	0.035
0.145														
185	61.90	61.80	0.23504	58.65	0.14508	0.01	0.42	3.90	162.01	389.71	1.62	0.00	0.000	0.035
0.145														
186	61.80	61.70	0.23520	58.61	0.14512	0.01	0.42	3.90	162.07	389.76	1.62	0.00	0.000	0.035
0.145														
187	61.70	61.60	0.23537	58.57	0.14517	0.01	0.42	3.90	162.13	389.80	1.62	0.00	0.000	0.035
0.145														
188	61.60	61.50	0.23553	58.53	0.14522	0.01	0.42	3.90	162.19	389.85	1.62	0.00	0.000	0.035
0.145														
189	61.50	61.40	0.23569	58.49	0.14527	0.01	0.42	3.90	162.24	389.89	1.62	0.00	0.000	0.035

0.145														
190	61.40	61.30	0.23585	58.45	0.14532	0.01	0.42	3.90	162.30	389.93	1.62	0.00	0.000	0.035
0.145														
191	61.30	61.20	0.23602	58.41	0.14537	0.01	0.42	3.90	162.36	389.98	1.62	0.00	0.000	0.035
0.145														
192	61.20	61.10	0.23618	58.37	0.14541	0.01	0.42	3.90	162.42	390.02	1.62	0.00	0.000	0.035
0.145														
193	61.10	61.00	0.23634	58.33	0.14546	0.01	0.42	3.90	162.48	390.07	1.62	0.00	0.000	0.035
0.145														
194	61.00	60.90	0.23651	58.28	0.14551	0.01	0.42	3.90	162.53	390.11	1.63	0.00	0.000	0.035
0.146														
195	60.90	60.80	0.23667	58.24	0.14556	0.01	0.42	3.90	162.59	390.16	1.63	0.00	0.000	0.035
0.146														
196	60.80	60.70	0.23683	58.20	0.14561	0.01	0.42	3.90	162.65	390.20	1.63	0.00	0.000	0.035
0.146														
197	60.70	60.60	0.23699	58.16	0.14566	0.01	0.42	3.90	162.71	390.25	1.63	0.00	0.000	0.035
0.146														
198	60.60	60.50	0.23716	58.12	0.14570	0.01	0.42	3.90	162.77	390.29	1.63	0.00	0.000	0.035
0.146														
199	60.50	60.40	0.23732	58.08	0.14575	0.01	0.42	3.90	162.83	390.34	1.63	0.00	0.000	0.035
0.146														
200	60.40	60.30	0.23748	58.05	0.14580	0.01	0.42	3.90	162.88	390.38	1.63	0.00	0.000	0.035
0.146														
201	60.30	60.20	0.23765	58.01	0.14585	0.01	0.42	3.90	162.94	390.43	1.63	0.00	0.000	0.035
0.146														
202	60.20	60.10	0.23781	57.97	0.14589	0.01	0.42	3.90	163.00	390.47	1.63	0.00	0.000	0.035
0.146														
203	60.10	60.00	0.23797	57.93	0.14594	0.01	0.42	3.91	163.06	390.52	1.63	0.00	0.000	0.035
0.146														
204	60.00	59.90	0.23813	57.89	0.14599	0.01	0.42	3.91	163.12	390.56	1.63	0.00	0.000	0.035
0.146														
205	59.90	59.80	0.23830	57.85	0.14604	0.01	0.42	3.91	163.17	390.61	1.63	0.00	0.000	0.035
0.146														
206	59.80	59.70	0.23846	57.81	0.14609	0.01	0.42	3.91	163.23	390.65	1.63	0.00	0.000	0.035
0.146														
207	59.70	59.60	0.23862	57.77	0.14613	0.01	0.42	3.91	163.29	390.70	1.63	0.00	0.000	0.035
0.146														
208	59.60	59.50	0.23879	57.73	0.14618	0.01	0.42	3.91	163.35	390.74	1.63	0.00	0.000	0.035
0.146														
209	59.50	59.40	0.23895	57.69	0.14623	0.01	0.42	3.91	163.41	390.79	1.63	0.00	0.000	0.035
0.146														
210	59.40	59.30	0.23911	57.65	0.14628	0.01	0.42	3.91	163.47	390.83	1.63	0.00	0.000	0.035
0.146														
211	59.30	59.20	0.23927	57.61	0.14632	0.01	0.42	3.91	163.52	390.88	1.64	0.00	0.000	0.035
0.146														
212	59.20	59.10	0.23944	57.57	0.14637	0.01	0.42	3.91	163.58	390.92	1.64	0.00	0.000	0.035
0.146														
213	59.10	59.00	0.23960	57.53	0.14642	0.01	0.42	3.91	163.64	390.97	1.64	0.00	0.000	0.035
0.146														
TOT														
AVG					0.14560		0.28			5692.80	13657.14			1.63
CUM							1.49							

 ***** BIOLOGICAL AND PHYSICAL COEFFICIENTS

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
179	62.400	9.73	1.58	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
180	62.300	9.73	1.58	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
181	62.200	9.73	1.58	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
182	62.100	9.73	1.58	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
183	62.000	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
184	61.900	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
185	61.800	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
186	61.700	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
187	61.600	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
188	61.500	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
189	61.400	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
190	61.300	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
191	61.200	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
192	61.100	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
193	61.000	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
194	60.900	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
195	60.800	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
196	60.700	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
197	60.600	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
198	60.500	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
199	60.400	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.04	0.05																	
200	60.300	9.73	1.57	0.09	0.09	0.00	0.76	0.76	0.76	0.04	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00

0.147	221	58.30	58.20	0.24129	57.13	0.14691	0.01	0.42	3.91	164.24	391.43	1.64	0.00	0.000	0.036
0.147	222	58.20	58.10	0.24150	57.08	0.14697	0.01	0.42	3.91	164.32	391.49	1.64	0.00	0.000	0.036
0.147	223	58.10	58.00	0.24171	57.03	0.14703	0.01	0.42	3.92	164.40	391.55	1.64	0.00	0.000	0.036
0.147	224	58.00	57.90	0.24192	56.98	0.14709	0.01	0.42	3.92	164.47	391.61	1.64	0.00	0.000	0.036
0.147	225	57.90	57.80	0.24213	56.93	0.14715	0.01	0.42	3.92	164.55	391.66	1.65	0.00	0.000	0.036
0.147	226	57.80	57.70	0.24234	56.88	0.14721	0.01	0.42	3.92	164.62	391.72	1.65	0.00	0.000	0.036
0.147	227	57.70	57.60	0.24256	56.83	0.14727	0.01	0.42	3.92	164.70	391.78	1.65	0.00	0.000	0.036
0.147	228	57.60	57.50	0.24277	56.78	0.14733	0.01	0.42	3.92	164.77	391.84	1.65	0.00	0.000	0.036
0.147	229	57.50	57.40	0.24298	56.73	0.14739	0.01	0.42	3.92	164.85	391.90	1.65	0.00	0.000	0.036
0.147	230	57.40	57.30	0.24319	56.68	0.14745	0.01	0.42	3.92	164.93	391.96	1.65	0.00	0.000	0.036
0.148	231	57.30	57.20	0.24340	56.63	0.14751	0.01	0.42	3.92	165.00	392.01	1.65	0.00	0.000	0.036
0.148	232	57.20	57.10	0.24361	56.58	0.14757	0.01	0.42	3.92	165.08	392.07	1.65	0.00	0.000	0.036
0.148	233	57.10	57.00	0.24382	56.54	0.14763	0.01	0.42	3.92	165.15	392.13	1.65	0.00	0.000	0.036
0.148	234	57.00	56.90	0.24403	56.49	0.14769	0.01	0.42	3.92	165.23	392.19	1.65	0.00	0.000	0.036
0.148	235	56.90	56.80	0.24424	56.44	0.14775	0.01	0.42	3.92	165.30	392.25	1.65	0.00	0.000	0.036
0.148	236	56.80	56.70	0.24446	56.39	0.14781	0.01	0.42	3.92	165.38	392.30	1.65	0.00	0.000	0.036
0.148	237	56.70	56.60	0.24467	56.34	0.14787	0.01	0.42	3.92	165.46	392.36	1.65	0.00	0.000	0.036
0.148	238	56.60	56.50	0.24488	56.29	0.14793	0.01	0.42	3.92	165.53	392.42	1.66	0.00	0.000	0.036
0.148	239	56.50	56.40	0.24509	56.24	0.14799	0.01	0.42	3.92	165.61	392.48	1.66	0.00	0.000	0.036
0.148	240	56.40	56.30	0.24530	56.20	0.14805	0.01	0.42	3.93	165.68	392.54	1.66	0.00	0.000	0.036
	TOT						0.21			4446.87	10578.08				
	AVG			0.14727				0.42	3.92			1.65			
	CUM						1.70								

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

ELEM NCM	ENDING NCM	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI
NO.	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY
DECAY	SETT	mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da

240	56.300	9.73	1.55	0.09	0.09	0.00	0.82	0.82	0.82	0.04	0.05	0.00	0.00	0.00	0.00	0.26	0.00	0.00
0.04	0.05																	
20	DEG C RATE			0.10		0.00	1.01			0.05		0.00	0.00	0.00	0.00			0.00
0.05																		
AVG	20 DEG C RATE			1.67		0.10					0.05							
0.05																		

* g/m²/d ** mg/L/day

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

ELEM NCM 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
214	58.900	16.70	0.00	32.77	13.27	7.50	10.55	10.86	1.51	0.26	0.52	2.29	0.00	2.06	0.00	0.00
1.59																
215	58.800	16.70	0.00	32.77	13.26	7.50	10.53	10.86	1.51	0.26	0.52	2.29	0.00	2.21	0.00	0.00
1.59																
216	58.700	16.70	0.00	32.77	13.26	7.50	10.51	10.86	1.51	0.26	0.52	2.29	0.00	2.37	0.00	0.00
1.60																
217	58.600	16.70	0.00	32.77	13.25	7.50	10.48	10.86	1.51	0.26	0.52	2.29	0.00	2.52	0.00	0.00
1.60																
218	58.500	16.70	0.00	32.77	13.25	7.50	10.46	10.86	1.51	0.26	0.52	2.29	0.00	2.68	0.00	0.00
1.61																
219	58.400	16.70	0.00	32.76	13.24	7.50	10.44	10.87	1.51	0.26	0.52	2.28	0.00	2.83	0.00	0.00
1.61																
220	58.300	16.70	0.00	32.76	13.24	7.50	10.42	10.87	1.51	0.26	0.52	2.28	0.00	2.99	0.00	0.00
1.62																
221	58.200	16.70	0.00	32.76	13.23	7.50	10.40	10.87	1.50	0.26	0.52	2.28	0.00	3.14	0.00	0.00
1.62																
222	58.100	16.70	0.00	32.76	13.23	7.50	10.38	10.87	1.50	0.26	0.52	2.28	0.00	3.30	0.00	0.00
1.63																
223	58.000	16.70	0.00	32.75	13.22	7.50	10.36	10.87	1.50	0.26	0.52	2.28	0.00	3.46	0.00	0.00
1.64																
224	57.900	16.70	0.00	32.75	13.22	7.50	10.33	10.88	1.50	0.26	0.52	2.28	0.00	3.61	0.00	0.00
1.64																
225	57.800	16.70	0.00	32.75	13.21	7.50	10.31	10.88	1.50	0.26	0.52	2.28	0.00	3.77	0.00	0.00
1.65																
226	57.700	16.70	0.00	32.75	13.21	7.50	10.29	10.88	1.50	0.26	0.52	2.27	0.00	3.92	0.00	0.00
1.65																
227	57.600	16.70	0.00	32.75	13.21	7.50	10.27	10.88	1.50	0.26	0.52	2.27	0.00	4.08	0.00	0.00
1.66																
228	57.500	16.70	0.00	32.74	13.20	7.50	10.25	10.89	1.50	0.26	0.52	2.27	0.00	4.23	0.00	0.00
1.66																
229	57.400	16.70	0.00	32.74	13.20	7.50	10.23	10.89	1.49	0.26	0.52	2.27	0.00	4.39	0.00	0.00
1.67																
230	57.300	16.70	0.00	32.74	13.19	7.50	10.21	10.89	1.49	0.26	0.52	2.27	0.00	4.54	0.00	0.00
1.67																
231	57.200	16.70	0.00	32.74	13.19	7.51	10.19	10.89	1.49	0.26	0.51	2.27	0.00	4.70	0.00	0.00

269	53.50	53.40	0.23962	56.20	0.06150	0.02	0.60	6.51	389.65	650.97	3.90	0.00	0.000	0.020
0.061														
270	53.40	53.30	0.23942	56.20	0.06146	0.02	0.60	6.51	389.54	650.92	3.90	0.00	0.000	0.020
0.061														
271	53.30	53.20	0.23923	56.20	0.06143	0.02	0.60	6.51	389.43	650.86	3.89	0.00	0.000	0.020
0.061														
272	53.20	53.10	0.23903	56.20	0.06140	0.02	0.60	6.51	389.31	650.81	3.89	0.00	0.000	0.020
0.061														
273	53.10	53.00	0.23883	56.20	0.06137	0.02	0.60	6.51	389.20	650.76	3.89	0.00	0.000	0.020
0.061														
274	53.00	52.90	0.23864	56.20	0.06133	0.02	0.60	6.51	389.09	650.70	3.89	0.00	0.000	0.020
0.061														
275	52.90	52.80	0.23844	56.20	0.06130	0.02	0.60	6.51	388.98	650.65	3.89	0.00	0.000	0.020
0.061														
276	52.80	52.70	0.23825	56.20	0.06127	0.02	0.60	6.51	388.87	650.59	3.89	0.00	0.000	0.020
0.061														
277	52.70	52.60	0.23805	56.20	0.06123	0.02	0.60	6.51	388.76	650.54	3.89	0.00	0.000	0.020
0.061														
278	52.60	52.50	0.23785	56.20	0.06120	0.02	0.60	6.50	388.65	650.49	3.89	0.00	0.000	0.020
0.061														
279	52.50	52.40	0.23766	56.20	0.06117	0.02	0.60	6.50	388.53	650.43	3.89	0.00	0.000	0.020
0.061														
280	52.40	52.30	0.23746	56.20	0.06114	0.02	0.60	6.50	388.42	650.38	3.88	0.00	0.000	0.020
0.061														
281	52.30	52.20	0.23727	56.20	0.06110	0.02	0.60	6.50	388.31	650.32	3.88	0.00	0.000	0.020
0.061														
282	52.20	52.10	0.23707	56.20	0.06107	0.02	0.60	6.50	388.20	650.27	3.88	0.00	0.000	0.020
0.061														
283	52.10	52.00	0.23688	56.20	0.06104	0.02	0.60	6.50	388.09	650.22	3.88	0.00	0.000	0.020
0.061														
284	52.00	51.90	0.23668	56.20	0.06100	0.02	0.60	6.50	387.98	650.16	3.88	0.00	0.000	0.020
0.061														
285	51.90	51.80	0.23648	56.20	0.06097	0.02	0.60	6.50	387.87	650.11	3.88	0.00	0.000	0.020
0.061														
286	51.80	51.70	0.23629	56.20	0.06094	0.02	0.60	6.50	387.76	650.05	3.88	0.00	0.000	0.020
0.061														
287	51.70	51.60	0.23609	56.20	0.06090	0.02	0.60	6.50	387.65	650.00	3.88	0.00	0.000	0.020
0.061														
288	51.60	51.50	0.23590	56.20	0.06087	0.02	0.60	6.50	387.53	649.95	3.88	0.00	0.000	0.020
0.061														
289	51.50	51.40	0.23570	56.20	0.06084	0.02	0.60	6.50	387.42	649.89	3.87	0.00	0.000	0.020
0.061														
TOT														
AVG					0.06162		0.92			19114.64	31908.20			
CUM							2.62	0.60	6.51			3.90		

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI
NCM	NCM																	
NO.	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY

* g/m²/d

** mg/L/day

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

ELEM NCM 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
241 1.73	56.200	16.70	0.00	32.72	13.15	7.52	9.97	10.89	1.48	0.26	0.51	2.25	0.00	6.10	0.00	0.00
242 1.72	56.100	16.70	0.00	32.72	13.15	7.53	9.94	10.86	1.48	0.26	0.51	2.25	0.00	6.10	0.00	0.00
243 1.72	56.000	16.70	0.00	32.72	13.15	7.54	9.91	10.83	1.48	0.27	0.51	2.25	0.00	6.10	0.00	0.00
244 1.72	55.900	16.70	0.00	32.72	13.15	7.54	9.88	10.80	1.47	0.27	0.51	2.25	0.00	6.10	0.00	0.00
245 1.72	55.800	16.70	0.00	32.72	13.15	7.55	9.85	10.77	1.47	0.27	0.51	2.25	0.00	6.10	0.00	0.00
246 1.72	55.700	16.70	0.00	32.72	13.15	7.56	9.82	10.74	1.47	0.27	0.51	2.25	0.00	6.10	0.00	0.00
247 1.72	55.600	16.70	0.00	32.72	13.15	7.57	9.79	10.71	1.47	0.27	0.51	2.25	0.00	6.10	0.00	0.00
248 1.72	55.500	16.70	0.00	32.72	13.15	7.57	9.76	10.68	1.47	0.27	0.51	2.25	0.00	6.10	0.00	0.00
249 1.72	55.400	16.70	0.00	32.72	13.15	7.58	9.73	10.65	1.47	0.27	0.51	2.25	0.00	6.10	0.00	0.00
250 1.72	55.300	16.70	0.00	32.72	13.15	7.59	9.70	10.62	1.47	0.27	0.51	2.25	0.00	6.10	0.00	0.00
251 1.71	55.200	16.70	0.00	32.72	13.15	7.60	9.67	10.59	1.46	0.27	0.51	2.25	0.00	6.10	0.00	0.00
252 1.71	55.100	16.70	0.00	32.72	13.15	7.60	9.64	10.56	1.46	0.27	0.51	2.25	0.00	6.10	0.00	0.00
253 1.71	55.000	16.70	0.00	32.72	13.15	7.61	9.61	10.53	1.46	0.27	0.51	2.24	0.00	6.10	0.00	0.00
254 1.71	54.900	16.70	0.00	32.72	13.15	7.62	9.58	10.50	1.46	0.27	0.51	2.24	0.00	6.10	0.00	0.00
255 1.71	54.800	16.70	0.00	32.72	13.15	7.62	9.56	10.47	1.46	0.27	0.51	2.24	0.00	6.10	0.00	0.00
256 1.71	54.700	16.70	0.00	32.72	13.15	7.63	9.53	10.44	1.46	0.28	0.51	2.24	0.00	6.10	0.00	0.00
257 1.71	54.600	16.70	0.00	32.72	13.15	7.64	9.50	10.41	1.46	0.28	0.51	2.24	0.00	6.10	0.00	0.00
258 1.71	54.500	16.70	0.00	32.72	13.15	7.64	9.47	10.38	1.45	0.28	0.51	2.24	0.00	6.10	0.00	0.00
259 1.71	54.400	16.70	0.00	32.72	13.15	7.65	9.44	10.36	1.45	0.28	0.51	2.24	0.00	6.10	0.00	0.00
260 1.70	54.300	16.70	0.00	32.72	13.15	7.66	9.41	10.33	1.45	0.28	0.51	2.24	0.00	6.10	0.00	0.00
261 1.70	54.200	16.70	0.00	32.72	13.15	7.66	9.38	10.30	1.45	0.28	0.51	2.24	0.00	6.10	0.00	0.00
262	54.100	16.70	0.00	32.72	13.15	7.67	9.35	10.27	1.45	0.28	0.51	2.24	0.00	6.10	0.00	0.00

1.70																	
263	54.000	16.70	0.00	32.72	13.15	7.68	9.33	10.24	1.45	0.28	0.51	2.24	0.00	6.10	0.00	0.00	
1.70																	
264	53.900	16.70	0.00	32.72	13.15	7.68	9.30	10.21	1.45	0.28	0.51	2.24	0.00	6.10	0.00	0.00	
1.70																	
265	53.800	16.70	0.00	32.72	13.15	7.69	9.27	10.18	1.44	0.28	0.51	2.24	0.00	6.10	0.00	0.00	
1.70																	
266	53.700	16.70	0.00	32.72	13.15	7.69	9.24	10.16	1.44	0.28	0.51	2.23	0.00	6.10	0.00	0.00	
1.70																	
267	53.600	16.70	0.00	32.72	13.15	7.70	9.21	10.13	1.44	0.28	0.51	2.23	0.00	6.10	0.00	0.00	
1.70																	
268	53.500	16.70	0.00	32.72	13.15	7.71	9.19	10.10	1.44	0.28	0.51	2.23	0.00	6.10	0.00	0.00	
1.70																	
269	53.400	16.70	0.00	32.72	13.15	7.71	9.16	10.07	1.44	0.29	0.51	2.23	0.00	6.10	0.00	0.00	
1.69																	
270	53.300	16.70	0.00	32.72	13.15	7.72	9.13	10.05	1.44	0.29	0.51	2.23	0.00	6.10	0.00	0.00	
1.69																	
271	53.200	16.70	0.00	32.72	13.15	7.72	9.10	10.02	1.44	0.29	0.51	2.23	0.00	6.10	0.00	0.00	
1.69																	
272	53.100	16.70	0.00	32.72	13.15	7.73	9.08	9.99	1.44	0.29	0.51	2.23	0.00	6.10	0.00	0.00	
1.69																	
273	53.000	16.70	0.00	32.72	13.15	7.74	9.05	9.96	1.43	0.29	0.51	2.23	0.00	6.10	0.00	0.00	
1.69																	
274	52.900	16.70	0.00	32.72	13.15	7.74	9.02	9.94	1.43	0.29	0.51	2.23	0.00	6.10	0.00	0.00	
1.69																	
275	52.800	16.70	0.00	32.72	13.15	7.75	8.99	9.91	1.43	0.29	0.51	2.23	0.00	6.10	0.00	0.00	
1.69																	
276	52.700	16.70	0.00	32.72	13.15	7.75	8.97	9.88	1.43	0.29	0.51	2.23	0.00	6.10	0.00	0.00	
1.69																	
277	52.600	16.70	0.00	32.72	13.15	7.76	8.94	9.85	1.43	0.29	0.51	2.23	0.00	6.10	0.00	0.00	
1.69																	
278	52.500	16.70	0.00	32.72	13.15	7.76	8.91	9.83	1.43	0.29	0.51	2.23	0.00	6.10	0.00	0.00	
1.68																	
279	52.400	16.70	0.00	32.72	13.15	7.77	8.89	9.80	1.43	0.29	0.51	2.22	0.00	6.10	0.00	0.00	
1.68																	
280	52.300	16.70	0.00	32.72	13.15	7.77	8.86	9.77	1.42	0.29	0.51	2.22	0.00	6.10	0.00	0.00	
1.68																	
281	52.200	16.70	0.00	32.72	13.15	7.78	8.83	9.75	1.42	0.29	0.51	2.22	0.00	6.10	0.00	0.00	
1.68																	
282	52.100	16.70	0.00	32.72	13.15	7.79	8.81	9.72	1.42	0.30	0.51	2.22	0.00	6.10	0.00	0.00	
1.68																	
283	52.000	16.70	0.00	32.72	13.15	7.79	8.78	9.69	1.42	0.30	0.51	2.22	0.00	6.10	0.00	0.00	
1.68																	
284	51.900	16.70	0.00	32.72	13.15	7.80	8.75	9.67	1.42	0.30	0.51	2.22	0.00	6.10	0.00	0.00	
1.68																	
285	51.800	16.70	0.00	32.72	13.15	7.80	8.73	9.64	1.42	0.30	0.51	2.22	0.00	6.10	0.00	0.00	
1.68																	
286	51.700	16.70	0.00	32.72	13.15	7.81	8.70	9.61	1.42	0.30	0.50	2.22	0.00	6.10	0.00	0.00	
1.68																	
287	51.600	16.70	0.00	32.72	13.15	7.81	8.67	9.59	1.41	0.30	0.50	2.22	0.00	6.10	0.00	0.00	
1.67																	
288	51.500	16.70	0.00	32.72	13.15	7.82	8.65	9.56	1.41	0.30	0.50	2.22	0.00	6.10	0.00	0.00	
1.67																	
289	51.400	16.70	0.00	32.72	13.15	7.82	8.62	9.54	1.41	0.30	0.50	2.22	0.00	6.10	0.00	0.00	

299	50.400	9.73	1.10	0.11	0.09	0.00	0.58	0.58	0.58	0.03	0.05	0.00	0.00	0.00	0.00	0.15	0.00	0.00
0.03	0.05																	
300	50.300	9.73	1.10	0.11	0.09	0.00	0.58	0.58	0.58	0.03	0.05	0.00	0.00	0.00	0.00	0.14	0.00	0.00
0.03	0.05																	
301	50.200	9.73	1.10	0.11	0.09	0.00	0.58	0.58	0.58	0.03	0.05	0.00	0.00	0.00	0.00	0.13	0.00	0.00
0.03	0.05																	
302	50.100	9.73	1.10	0.11	0.09	0.00	0.58	0.58	0.58	0.03	0.05	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.03	0.05																	
303	50.000	9.73	1.11	0.11	0.09	0.00	0.58	0.58	0.58	0.03	0.05	0.00	0.00	0.00	0.00	0.11	0.00	0.00
0.03	0.05																	
304	49.900	9.73	1.11	0.11	0.09	0.00	0.58	0.58	0.58	0.03	0.05	0.00	0.00	0.00	0.00	0.10	0.00	0.00
0.03	0.05																	
305	49.800	9.73	1.11	0.11	0.09	0.00	0.58	0.58	0.58	0.03	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.03	0.05																	
306	49.700	9.73	1.11	0.11	0.09	0.00	0.58	0.58	0.58	0.03	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
307	49.600	9.73	1.11	0.11	0.09	0.00	0.58	0.58	0.58	0.03	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.05																	
308	49.500	9.73	1.11	0.11	0.09	0.00	0.58	0.58	0.58	0.03	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
309	49.400	9.73	1.11	0.11	0.09	0.00	0.58	0.58	0.58	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	

20 DEG C RATE				0.13		0.00	0.71			0.04		0.00	0.00	0.00	0.00			0.00
0.04																		
AVG 20 DEG C RATE			1.18		0.10						0.05							
0.05																		

* g/m²/d ** mg/L/day

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

ELEM	ENDING	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	TOTN	PHOS	CHL A	MACRO	COLI
NCM	DIST	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	**	#/100mL
*																
290	51.300	16.70	0.00	32.72	13.15	7.83	8.60	9.48	1.41	0.30	0.50	2.22	0.00	5.84	0.00	0.00
1.67																
291	51.200	16.70	0.00	32.72	13.15	7.83	8.58	9.42	1.41	0.30	0.50	2.22	0.00	5.59	0.00	0.00
1.67																
292	51.100	16.70	0.00	32.72	13.15	7.84	8.56	9.36	1.41	0.30	0.50	2.21	0.00	5.34	0.00	0.00
1.67																
293	51.000	16.70	0.00	32.72	13.15	7.84	8.54	9.30	1.41	0.30	0.50	2.21	0.00	5.08	0.00	0.00
1.67																
294	50.900	16.70	0.00	32.72	13.15	7.85	8.52	9.24	1.40	0.30	0.50	2.21	0.00	4.82	0.00	0.00
1.67																
295	50.800	16.70	0.00	32.72	13.15	7.85	8.50	9.19	1.40	0.31	0.50	2.21	0.00	4.57	0.00	0.00
1.67																
296	50.700	16.70	0.00	32.72	13.15	7.86	8.48	9.13	1.40	0.31	0.50	2.21	0.00	4.32	0.00	0.00
1.67																
297	50.600	16.70	0.00	32.72	13.15	7.86	8.46	9.07	1.40	0.31	0.50	2.21	0.00	4.06	0.00	0.00

1.67																	
298	50.500	16.70	0.00	32.72	13.15	7.86	8.44	9.01	1.40	0.31	0.50	2.21	0.00	3.80	0.00	0.00	
1.67																	
299	50.400	16.70	0.00	32.72	13.15	7.87	8.42	8.95	1.40	0.31	0.50	2.21	0.00	3.55	0.00	0.00	
1.67																	
300	50.300	16.70	0.00	32.72	13.15	7.87	8.40	8.90	1.40	0.31	0.50	2.21	0.00	3.30	0.00	0.00	
1.66																	
301	50.200	16.70	0.00	32.72	13.15	7.87	8.38	8.84	1.39	0.31	0.50	2.21	0.00	3.04	0.00	0.00	
1.66																	
302	50.100	16.70	0.00	32.72	13.15	7.88	8.36	8.78	1.39	0.31	0.50	2.21	0.00	2.78	0.00	0.00	
1.66																	
303	50.000	16.70	0.00	32.72	13.15	7.88	8.34	8.72	1.39	0.31	0.50	2.21	0.00	2.53	0.00	0.00	
1.66																	
304	49.900	16.70	0.00	32.72	13.15	7.88	8.32	8.66	1.39	0.31	0.50	2.20	0.00	2.28	0.00	0.00	
1.66																	
305	49.800	16.70	0.00	32.72	13.15	7.89	8.30	8.61	1.39	0.31	0.50	2.20	0.00	2.02	0.00	0.00	
1.66																	
306	49.700	16.70	0.00	32.72	13.15	7.89	8.28	8.55	1.39	0.31	0.50	2.20	0.00	1.76	0.00	0.00	
1.66																	
307	49.600	16.70	0.00	32.72	13.15	7.89	8.26	8.49	1.38	0.32	0.50	2.20	0.00	1.51	0.00	0.00	
1.66																	
308	49.500	16.70	0.00	32.72	13.15	7.89	8.24	8.43	1.38	0.32	0.50	2.20	0.00	1.25	0.00	0.00	
1.66																	
309	49.400	16.70	0.00	32.72	13.15	7.89	8.23	8.38	1.38	0.32	0.50	2.20	0.00	1.00	0.00	0.00	
1.66																	

* CM-I = CHLORIDES
MG/L
** g/m³

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

FINAL REPORT HEADWATER
REACH NO. 8 DAM - CANEY CREEK

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER RUN

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

ELEM NCM NO.	TYPE	FLOW m ³ /	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
310	UPR RCH	0.22610	16.70	0.00	32.72	13.15	7.89	8.23	8.38	1.38	0.32	0.50	0.00	1.00	0.00
310	DAM	DAM AT SITE 7 ADDS 1.01 MG/L DISSOLVED OXYGEN GIVING 8.90 MG/L D.O. FOR THE UPR RCH INPUT													

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

ELEM MEAN NO.	BEGIN DIST	ENDING DIST	FLOW	PCT EFF	ADVCTV VELO	TRAVEL TIME	DEPTH	WIDTH	VOLUME	SURFACE AREA	X-SECT AREA	TIDAL PRISM	TIDAL VELO	DISPRSN
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VELO m/s	km	km	m ³ /	m/s	days	m	m	m ³	m ²	m ²	m ³	m/s	m ² / s		
0.060	310	49.40	49.30	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	311	49.30	49.20	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	312	49.20	49.10	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	313	49.10	49.00	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	314	49.00	48.90	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	315	48.90	48.80	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	316	48.80	48.70	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	317	48.70	48.60	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	318	48.60	48.50	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	319	48.50	48.40	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	320	48.40	48.30	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	321	48.30	48.20	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	322	48.20	48.10	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	323	48.10	48.00	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	324	48.00	47.90	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	325	47.90	47.80	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	326	47.80	47.70	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	327	47.70	47.60	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	328	47.60	47.50	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	329	47.50	47.40	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	330	47.40	47.30	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	331	47.30	47.20	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	332	47.20	47.10	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	333	47.10	47.00	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060	334	47.00	46.90	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016

325	47.800	9.73	1.44	0.04	0.09	0.00	0.76	0.76	0.76	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
326	47.700	9.73	1.44	0.04	0.09	0.00	0.76	0.76	0.76	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
327	47.600	9.73	1.44	0.04	0.09	0.00	0.76	0.76	0.76	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
328	47.500	9.73	1.44	0.04	0.09	0.00	0.76	0.76	0.76	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
329	47.400	9.73	1.44	0.04	0.09	0.00	0.76	0.76	0.76	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
330	47.300	9.73	1.44	0.04	0.09	0.00	0.76	0.76	0.76	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
331	47.200	9.73	1.44	0.04	0.09	0.00	0.76	0.76	0.76	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
332	47.100	9.73	1.44	0.04	0.09	0.00	0.76	0.76	0.76	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
333	47.000	9.73	1.44	0.04	0.09	0.00	0.76	0.76	0.76	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
334	46.900	9.73	1.44	0.04	0.09	0.00	0.76	0.76	0.76	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
335	46.800	9.73	1.44	0.04	0.09	0.00	0.76	0.76	0.76	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
336	46.700	9.73	1.44	0.04	0.09	0.00	0.76	0.76	0.76	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
337	46.600	9.73	1.44	0.04	0.09	0.00	0.76	0.76	0.76	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
338	46.500	9.73	1.44	0.04	0.09	0.00	0.76	0.76	0.76	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
20 DEG C RATE				0.05		0.00	0.94			0.02		0.00	0.00	0.00	0.00			0.00
0.02																		
AVG 20 DEG C RATE			1.54		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
310	49.300	16.70	0.00	32.72	13.15	8.88	8.21	8.36	1.38	0.32	0.50	2.20	0.00	0.99	0.00	0.00
1.66																
311	49.200	16.70	0.00	32.72	13.15	8.87	8.19	8.34	1.38	0.32	0.50	2.20	0.00	0.97	0.00	0.00
1.66																
312	49.100	16.70	0.00	32.72	13.15	8.85	8.17	8.32	1.38	0.32	0.50	2.20	0.00	0.96	0.00	0.00
1.66																
313	49.000	16.70	0.00	32.72	13.15	8.84	8.16	8.30	1.38	0.32	0.50	2.20	0.00	0.94	0.00	0.00
1.66																
314	48.900	16.70	0.00	32.72	13.15	8.82	8.14	8.28	1.37	0.32	0.50	2.20	0.00	0.93	0.00	0.00

1.66																	
315	48.800	16.70	0.00	32.72	13.15	8.81	8.12	8.26	1.37	0.32	0.50	2.20	0.00	0.92	0.00	0.00	
1.66																	
316	48.700	16.70	0.00	32.72	13.15	8.80	8.11	8.24	1.37	0.32	0.50	2.19	0.00	0.90	0.00	0.00	
1.66																	
317	48.600	16.70	0.00	32.72	13.15	8.78	8.09	8.22	1.37	0.32	0.50	2.19	0.00	0.89	0.00	0.00	
1.66																	
318	48.500	16.70	0.00	32.72	13.15	8.77	8.07	8.20	1.37	0.32	0.50	2.19	0.00	0.88	0.00	0.00	
1.66																	
319	48.400	16.70	0.00	32.72	13.15	8.76	8.05	8.18	1.37	0.32	0.50	2.19	0.00	0.86	0.00	0.00	
1.66																	
320	48.300	16.70	0.00	32.72	13.15	8.75	8.04	8.16	1.37	0.32	0.50	2.19	0.00	0.85	0.00	0.00	
1.66																	
321	48.200	16.70	0.00	32.72	13.15	8.73	8.02	8.15	1.37	0.32	0.50	2.19	0.00	0.83	0.00	0.00	
1.66																	
322	48.100	16.70	0.00	32.72	13.15	8.72	8.00	8.13	1.36	0.32	0.50	2.19	0.00	0.82	0.00	0.00	
1.66																	
323	48.000	16.70	0.00	32.72	13.15	8.71	7.99	8.11	1.36	0.32	0.50	2.19	0.00	0.81	0.00	0.00	
1.66																	
324	47.900	16.70	0.00	32.72	13.15	8.70	7.97	8.09	1.36	0.32	0.50	2.19	0.00	0.79	0.00	0.00	
1.66																	
325	47.800	16.70	0.00	32.72	13.15	8.69	7.95	8.07	1.36	0.32	0.50	2.19	0.00	0.78	0.00	0.00	
1.66																	
326	47.700	16.70	0.00	32.72	13.15	8.68	7.94	8.05	1.36	0.32	0.50	2.19	0.00	0.77	0.00	0.00	
1.66																	
327	47.600	16.70	0.00	32.72	13.15	8.67	7.92	8.03	1.36	0.32	0.50	2.18	0.00	0.75	0.00	0.00	
1.66																	
328	47.500	16.70	0.00	32.72	13.15	8.66	7.90	8.01	1.36	0.32	0.50	2.18	0.00	0.74	0.00	0.00	
1.66																	
329	47.400	16.70	0.00	32.72	13.15	8.65	7.89	8.00	1.36	0.32	0.50	2.18	0.00	0.72	0.00	0.00	
1.66																	
330	47.300	16.70	0.00	32.72	13.15	8.64	7.87	7.98	1.35	0.33	0.50	2.18	0.00	0.71	0.00	0.00	
1.66																	
331	47.200	16.70	0.00	32.72	13.15	8.63	7.85	7.96	1.35	0.33	0.50	2.18	0.00	0.70	0.00	0.00	
1.66																	
332	47.100	16.70	0.00	32.72	13.15	8.62	7.84	7.94	1.35	0.33	0.50	2.18	0.00	0.68	0.00	0.00	
1.66																	
333	47.000	16.70	0.00	32.72	13.15	8.62	7.82	7.92	1.35	0.33	0.50	2.18	0.00	0.67	0.00	0.00	
1.66																	
334	46.900	16.70	0.00	32.72	13.15	8.61	7.81	7.90	1.35	0.33	0.50	2.18	0.00	0.66	0.00	0.00	
1.66																	
335	46.800	16.70	0.00	32.72	13.15	8.60	7.79	7.89	1.35	0.33	0.50	2.18	0.00	0.64	0.00	0.00	
1.66																	
336	46.700	16.70	0.00	32.72	13.15	8.59	7.77	7.87	1.35	0.33	0.50	2.18	0.00	0.63	0.00	0.00	
1.66																	
337	46.600	16.70	0.00	32.72	13.15	8.58	7.76	7.85	1.35	0.33	0.50	2.18	0.00	0.61	0.00	0.00	
1.66																	
338	46.500	16.70	0.00	32.72	13.15	8.58	7.74	7.83	1.34	0.33	0.50	2.17	0.00	0.60	0.00	0.00	
1.66																	

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
 REACH NO. 9 CANEY CR - HURRICANE CR

BARNES CREEK WATERSHED MODEL
 BARNES CREEK WINTER RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
339 1.66	UPR RCH	0.22610	16.70	0.00	32.72	13.15	8.58	7.74	7.83	1.34	0.33	0.50	0.00	0.60	0.00

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
339 0.137	46.50	46.40	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
340 0.137	46.40	46.30	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
341 0.137	46.30	46.20	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
342 0.137	46.20	46.10	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
343 0.137	46.10	46.00	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
344 0.137	46.00	45.90	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
345 0.137	45.90	45.80	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
346 0.137	45.80	45.70	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
347 0.137	45.70	45.60	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
348 0.137	45.60	45.50	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
349 0.137	45.50	45.40	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
350 0.137	45.40	45.30	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
351 0.137	45.30	45.20	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
352	45.20	45.10	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032

0.137														
380	42.40	42.30	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
381	42.30	42.20	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
382	42.20	42.10	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
383	42.10	42.00	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
384	42.00	41.90	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
385	41.90	41.80	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
386	41.80	41.70	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
387	41.70	41.60	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
388	41.60	41.50	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
389	41.50	41.40	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
390	41.40	41.30	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
391	41.30	41.20	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
392	41.20	41.10	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
393	41.10	41.00	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
394	41.00	40.90	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
395	40.90	40.80	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
396	40.80	40.70	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
397	40.70	40.60	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
398	40.60	40.50	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
399	40.50	40.40	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
400	40.40	40.30	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
401	40.30	40.20	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
402	40.20	40.10	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
403	40.10	40.00	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
404	40.00	39.90	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
405	39.90	39.80	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
406	39.80	39.70	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032

0.137																		
407	39.70	39.60	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032				
0.137																		
408	39.60	39.50	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032				
0.137																		
409	39.50	39.40	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032				
0.137																		
410	39.40	39.30	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032				
0.137																		
411	39.30	39.20	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032				
0.137																		
412	39.20	39.10	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032				
0.137																		
413	39.10	39.00	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032				
0.137																		
414	39.00	38.90	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032				
0.137																		
415	38.90	38.80	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032				
0.137																		
416	38.80	38.70	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032				
0.137																		
417	38.70	38.60	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032				
0.137																		
418	38.60	38.50	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032				
0.137																		
TOT						0.68				13234.21	32824.38							
AVG					0.13668		0.40	4.10				1.65						
CUM						4.24												

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
339	46.400	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
340	46.300	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
341	46.200	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
342	46.100	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
343	46.000	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
344	45.900	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
345	45.800	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00

* CM-I = CHLORIDES
 MG/L
 ** g/m³

CM-II = SULFATES
 MG/L

NCM = CBOD2
 mg/L

FINAL REPORT HEADWATER
 REACH NO. 10 HURRICANE CR - SITE 10

BARNES CREEK WATERSHED MODEL
 BARNES CREEK WINTER RUN

***** REACH INPUTS

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
419	UPR RCH	0.22610	16.70	0.00	32.72	13.15	8.26	7.10	7.19	1.29	0.35	0.50	0.00	0.60	0.00
1.75 EACH 4.52	INCR	0.0003	16.70	0.00	6.90	2.70	2.00	2.70	2.70	0.77	0.00	0.29	0.00		0.00

***** HYDRAULIC PARAMETER VALUES

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
419 0.137	38.50	38.40	0.22644	56.11	0.13687	0.01	0.40	4.10	165.44	410.31	1.65	0.00	0.000	0.032
420 0.137	38.40	38.30	0.22678	56.03	0.13706	0.01	0.40	4.10	165.45	410.32	1.65	0.00	0.000	0.032
421 0.137	38.30	38.20	0.22711	55.94	0.13726	0.01	0.40	4.10	165.47	410.33	1.65	0.00	0.000	0.032
422 0.137	38.20	38.10	0.22745	55.86	0.13745	0.01	0.40	4.10	165.48	410.34	1.65	0.00	0.000	0.032
423 0.138	38.10	38.00	0.22779	55.78	0.13764	0.01	0.40	4.10	165.49	410.35	1.65	0.00	0.000	0.032
424 0.138	38.00	37.90	0.22813	55.70	0.13784	0.01	0.40	4.10	165.50	410.35	1.66	0.00	0.000	0.032
425 0.138	37.90	37.80	0.22847	55.61	0.13803	0.01	0.40	4.10	165.52	410.36	1.66	0.00	0.000	0.032
426 0.138	37.80	37.70	0.22880	55.53	0.13823	0.01	0.40	4.10	165.53	410.37	1.66	0.00	0.000	0.032
427 0.138	37.70	37.60	0.22914	55.45	0.13842	0.01	0.40	4.10	165.54	410.38	1.66	0.00	0.000	0.033
428 0.139	37.60	37.50	0.22948	55.37	0.13861	0.01	0.40	4.10	165.55	410.39	1.66	0.00	0.000	0.033

427	37.600	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
428	37.500	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
429	37.400	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
430	37.300	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
431	37.200	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
432	37.100	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
433	37.000	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
434	36.900	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
435	36.800	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
436	36.700	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
437	36.600	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
438	36.500	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
439	36.400	9.73	1.62	0.04	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	

20	DEG C RATE			0.05		0.00	1.13			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG	20 DEG C RATE		1.74		0.10						0.05							
0.05																		

* g/m²/d ** mg/L/day

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

ELEM NCM 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
419	38.400	16.70	0.00	32.68	13.13	8.25	7.09	7.18	1.29	0.35	0.50	2.14	0.00	0.62	0.00	0.00
1.75																
420	38.300	16.70	0.00	32.64	13.12	8.24	7.08	7.17	1.29	0.35	0.50	2.14	0.00	0.65	0.00	0.00
1.76																
421	38.200	16.70	0.00	32.60	13.10	8.22	7.06	7.16	1.29	0.35	0.50	2.14	0.00	0.67	0.00	0.00
1.76																
422	38.100	16.70	0.00	32.56	13.08	8.21	7.05	7.15	1.29	0.35	0.50	2.14	0.00	0.70	0.00	0.00
1.77																
423	38.000	16.70	0.00	32.52	13.07	8.20	7.04	7.15	1.29	0.35	0.50	2.13	0.00	0.72	0.00	0.00
1.78																
424	37.900	16.70	0.00	32.49	13.05	8.19	7.03	7.14	1.28	0.35	0.50	2.13	0.00	0.74	0.00	0.00

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
440	36.40	36.30	0.23334	54.45	0.09327	0.01	0.42	5.90	250.17	590.48	2.50	0.00	0.000	0.023
0.093														
441	36.30	36.20	0.23349	54.42	0.09333	0.01	0.42	5.90	250.18	590.49	2.50	0.00	0.000	0.023
0.093														
442	36.20	36.10	0.23363	54.38	0.09338	0.01	0.42	5.90	250.18	590.49	2.50	0.00	0.000	0.023
0.093														
443	36.10	36.00	0.23377	54.35	0.09344	0.01	0.42	5.90	250.19	590.49	2.50	0.00	0.000	0.023
0.093														
444	36.00	35.90	0.23392	54.32	0.09349	0.01	0.42	5.90	250.20	590.50	2.50	0.00	0.000	0.023
0.093														
445	35.90	35.80	0.23406	54.28	0.09355	0.01	0.42	5.90	250.20	590.50	2.50	0.00	0.000	0.023
0.094														
446	35.80	35.70	0.23420	54.25	0.09360	0.01	0.42	5.91	250.21	590.50	2.50	0.00	0.000	0.023
0.094														
447	35.70	35.60	0.23435	54.22	0.09366	0.01	0.42	5.91	250.22	590.51	2.50	0.00	0.000	0.023
0.094														
448	35.60	35.50	0.23449	54.18	0.09371	0.01	0.42	5.91	250.22	590.51	2.50	0.00	0.000	0.023
0.094														
449	35.50	35.40	0.23463	54.15	0.09377	0.01	0.42	5.91	250.23	590.51	2.50	0.00	0.000	0.023
0.094														
450	35.40	35.30	0.23478	54.12	0.09382	0.01	0.42	5.91	250.24	590.52	2.50	0.00	0.000	0.023
0.094														
451	35.30	35.20	0.23492	54.09	0.09388	0.01	0.42	5.91	250.25	590.52	2.50	0.00	0.000	0.023
0.094														
452	35.20	35.10	0.23506	54.05	0.09393	0.01	0.42	5.91	250.25	590.52	2.50	0.00	0.000	0.023
0.094														
453	35.10	35.00	0.23521	54.02	0.09399	0.01	0.42	5.91	250.26	590.53	2.50	0.00	0.000	0.023
0.094														
454	35.00	34.90	0.23535	53.99	0.09404	0.01	0.42	5.91	250.27	590.53	2.50	0.00	0.000	0.023
0.094														
455	34.90	34.80	0.23550	53.95	0.09409	0.01	0.42	5.91	250.27	590.53	2.50	0.00	0.000	0.023
0.094														
456	34.80	34.70	0.23564	53.92	0.09415	0.01	0.42	5.91	250.28	590.54	2.50	0.00	0.000	0.023
0.094														
457	34.70	34.60	0.23578	53.89	0.09420	0.01	0.42	5.91	250.29	590.54	2.50	0.00	0.000	0.023
0.094														
458	34.60	34.50	0.23593	53.85	0.09426	0.01	0.42	5.91	250.30	590.54	2.50	0.00	0.000	0.023
0.094														
459	34.50	34.40	0.23607	53.82	0.09431	0.01	0.42	5.91	250.30	590.55	2.50	0.00	0.000	0.023
0.094														
460	34.40	34.30	0.23621	53.79	0.09437	0.01	0.42	5.91	250.31	590.55	2.50	0.00	0.000	0.023
0.094														
461	34.30	34.20	0.23636	53.76	0.09442	0.01	0.42	5.91	250.32	590.55	2.50	0.00	0.000	0.023

0.094	462	34.20	34.10	0.23650	53.72	0.09448	0.01	0.42	5.91	250.32	590.56	2.50	0.00	0.000	0.023
0.094	TOT							0.28		5755.66	13581.96				
	AVG					0.09387		0.42	5.91			2.50			
	CUM							4.70							

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
440	36.300	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
441	36.200	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
442	36.100	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
443	36.000	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
444	35.900	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
445	35.800	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
446	35.700	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
447	35.600	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
448	35.500	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
449	35.400	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
450	35.300	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
451	35.200	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
452	35.100	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
453	35.000	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
454	34.900	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
455	34.800	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
456	34.700	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
457	34.600	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00

453	35.000	16.70	0.00	31.74	12.75	7.99	6.67	6.83	1.26	0.35	0.49	2.09	0.00	1.10	0.00	0.00
1.87																
454	34.900	16.70	0.00	31.72	12.74	7.99	6.66	6.82	1.25	0.35	0.49	2.09	0.00	1.10	0.00	0.00
1.87																
455	34.800	16.70	0.00	31.71	12.74	7.98	6.65	6.81	1.25	0.35	0.49	2.09	0.00	1.10	0.00	0.00
1.87																
456	34.700	16.70	0.00	31.70	12.73	7.98	6.63	6.80	1.25	0.35	0.49	2.09	0.00	1.10	0.00	0.00
1.87																
457	34.600	16.70	0.00	31.68	12.72	7.98	6.62	6.79	1.25	0.35	0.49	2.09	0.00	1.10	0.00	0.00
1.87																
458	34.500	16.70	0.00	31.67	12.72	7.97	6.61	6.77	1.25	0.35	0.49	2.09	0.00	1.10	0.00	0.00
1.87																
459	34.400	16.70	0.00	31.65	12.71	7.97	6.60	6.76	1.25	0.35	0.49	2.09	0.00	1.10	0.00	0.00
1.87																
460	34.300	16.70	0.00	31.64	12.71	7.97	6.59	6.75	1.25	0.35	0.49	2.09	0.00	1.10	0.00	0.00
1.87																
461	34.200	16.70	0.00	31.63	12.70	7.96	6.57	6.74	1.25	0.35	0.49	2.09	0.00	1.10	0.00	0.00
1.87																
462	34.100	16.70	0.00	31.61	12.70	7.96	6.56	6.73	1.25	0.35	0.49	2.09	0.00	1.10	0.00	0.00
1.87																

* CM-I = CHLORIDES
MG/L
** g/m³

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

FINAL REPORT HEADWATER
REACH NO. 12 MAGNOLIA CR - BRUSHY CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER RUN

***** REACH INPUTS

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
463	UPR RCH	0.23650	16.70	0.00	31.61	12.70	7.96	6.56	6.73	1.25	0.35	0.49	0.00	1.10	0.00
1.87															
EACH 5.18	INCR	0.0002	16.70	0.00	9.20	3.40	2.00	2.86	2.86	0.78	0.00	0.29	0.00		0.00

***** HYDRAULIC PARAMETER VALUES

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
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465	33.800	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
466	33.700	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
467	33.600	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
468	33.500	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
469	33.400	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
470	33.300	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
471	33.200	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
472	33.100	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
473	33.000	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
474	32.900	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
475	32.800	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
476	32.700	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
477	32.600	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
478	32.500	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
479	32.400	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
20	DEG C RATE			0.09		0.00	1.13			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG	20 DEG C RATE		1.65		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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	
463	34.000	16.70	0.00	31.59	12.69	7.95	6.55	6.71	1.25	0.35	0.49	2.08	0.00	1.10	0.00	0.00	
1.87																	
464	33.900	16.70	0.00	31.58	12.68	7.95	6.53	6.70	1.24	0.35	0.49	2.08	0.00	1.10	0.00	0.00	
1.88																	
465	33.800	16.70	0.00	31.56	12.67	7.95	6.52	6.69	1.24	0.35	0.49	2.08	0.00	1.10	0.00	0.00	
1.88																	
466	33.700	16.70	0.00	31.54	12.67	7.94	6.51	6.67	1.24	0.35	0.49	2.08	0.00	1.10	0.00	0.00	

1.88	467	33.600	16.70	0.00	31.52	12.66	7.94	6.49	6.66	1.24	0.35	0.49	2.08	0.00	1.10	0.00	0.00
1.88	468	33.500	16.70	0.00	31.50	12.65	7.93	6.48	6.65	1.24	0.35	0.49	2.08	0.00	1.10	0.00	0.00
1.88	469	33.400	16.70	0.00	31.49	12.64	7.93	6.47	6.63	1.24	0.35	0.49	2.08	0.00	1.10	0.00	0.00
1.88	470	33.300	16.70	0.00	31.47	12.64	7.93	6.45	6.62	1.24	0.35	0.49	2.07	0.00	1.10	0.00	0.00
1.88	471	33.200	16.70	0.00	31.45	12.63	7.92	6.44	6.61	1.23	0.35	0.49	2.07	0.00	1.10	0.00	0.00
1.88	472	33.100	16.70	0.00	31.43	12.62	7.92	6.43	6.59	1.23	0.35	0.49	2.07	0.00	1.10	0.00	0.00
1.88	473	33.000	16.70	0.00	31.41	12.61	7.91	6.42	6.58	1.23	0.35	0.49	2.07	0.00	1.10	0.00	0.00
1.88	474	32.900	16.70	0.00	31.39	12.61	7.91	6.40	6.57	1.23	0.35	0.49	2.07	0.00	1.10	0.00	0.00
1.89	475	32.800	16.70	0.00	31.38	12.60	7.91	6.39	6.55	1.23	0.35	0.49	2.07	0.00	1.10	0.00	0.00
1.89	476	32.700	16.70	0.00	31.36	12.59	7.90	6.38	6.54	1.23	0.35	0.49	2.06	0.00	1.10	0.00	0.00
1.89	477	32.600	16.70	0.00	31.34	12.58	7.90	6.36	6.53	1.23	0.35	0.49	2.06	0.00	1.10	0.00	0.00
1.89	478	32.500	16.70	0.00	31.32	12.58	7.90	6.35	6.52	1.22	0.35	0.49	2.06	0.00	1.10	0.00	0.00
1.89	479	32.400	16.70	0.00	31.30	12.57	7.89	6.34	6.50	1.22	0.35	0.49	2.06	0.00	1.10	0.00	0.00

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 13 BRUSHY CR - RIGHTHAND CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER RUN

***** REACH INPUTS

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
480	UPR RCH	0.23980	16.70	0.00	31.30	12.57	7.89	6.34	6.50	1.22	0.35	0.49	0.00	1.10	0.00
1.89 EACH 5.18	INCR	0.0002	16.70	0.00	9.20	3.40	2.00	2.86	2.86	0.78	0.00	0.29	0.00		0.00

***** HYDRAULIC PARAMETER VALUES

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
480	32.40	32.30	0.23997	52.95	0.09580	0.01	0.42	5.91	250.49	590.64	2.50	0.00	0.000	0.023
0.096														
481	32.30	32.20	0.24015	52.91	0.09587	0.01	0.42	5.91	250.50	590.65	2.51	0.00	0.000	0.023
0.096														
482	32.20	32.10	0.24032	52.87	0.09593	0.01	0.42	5.91	250.51	590.65	2.51	0.00	0.000	0.023
0.096														
483	32.10	32.00	0.24049	52.83	0.09600	0.01	0.42	5.91	250.52	590.65	2.51	0.00	0.000	0.024
0.096														
484	32.00	31.90	0.24067	52.79	0.09606	0.01	0.42	5.91	250.53	590.66	2.51	0.00	0.000	0.024
0.096														
485	31.90	31.80	0.24084	52.76	0.09613	0.01	0.42	5.91	250.53	590.66	2.51	0.00	0.000	0.024
0.096														
486	31.80	31.70	0.24102	52.72	0.09620	0.01	0.42	5.91	250.54	590.67	2.51	0.00	0.000	0.024
0.096														
487	31.70	31.60	0.24119	52.68	0.09626	0.01	0.42	5.91	250.55	590.67	2.51	0.00	0.000	0.024
0.096														
488	31.60	31.50	0.24136	52.64	0.09633	0.01	0.42	5.91	250.56	590.68	2.51	0.00	0.000	0.024
0.096														
489	31.50	31.40	0.24154	52.60	0.09640	0.01	0.42	5.91	250.57	590.68	2.51	0.00	0.000	0.024
0.096														
490	31.40	31.30	0.24171	52.57	0.09646	0.01	0.42	5.91	250.58	590.68	2.51	0.00	0.000	0.024
0.096														
491	31.30	31.20	0.24188	52.53	0.09653	0.01	0.42	5.91	250.59	590.69	2.51	0.00	0.000	0.024
0.097														
492	31.20	31.10	0.24206	52.49	0.09659	0.01	0.42	5.91	250.59	590.69	2.51	0.00	0.000	0.024
0.097														
493	31.10	31.00	0.24223	52.45	0.09666	0.01	0.42	5.91	250.60	590.70	2.51	0.00	0.000	0.024
0.097														
494	31.00	30.90	0.24241	52.42	0.09673	0.01	0.42	5.91	250.61	590.70	2.51	0.00	0.000	0.024
0.097														
495	30.90	30.80	0.24258	52.38	0.09679	0.01	0.42	5.91	250.62	590.70	2.51	0.00	0.000	0.024
0.097														
496	30.80	30.70	0.24275	52.34	0.09686	0.01	0.42	5.91	250.63	590.71	2.51	0.00	0.000	0.024
0.097														
497	30.70	30.60	0.24293	52.30	0.09692	0.01	0.42	5.91	250.64	590.71	2.51	0.00	0.000	0.024
0.097														
498	30.60	30.50	0.24310	52.27	0.09699	0.01	0.42	5.91	250.64	590.72	2.51	0.00	0.000	0.024
0.097														
TOT						0.23			4760.80	11222.90				
AVG					0.09639		0.42	5.91			2.51			
CUM						5.14								

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
480	32.300	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
481	32.200	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
482	32.100	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
483	32.000	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
484	31.900	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
485	31.800	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
486	31.700	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
487	31.600	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
488	31.500	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
489	31.400	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
490	31.300	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
491	31.200	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
492	31.100	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
493	31.000	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
494	30.900	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
495	30.800	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
496	30.700	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
497	30.600	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
498	30.500	9.73	1.54	0.08	0.09	0.00	0.92	0.92	0.92	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
20	DEG C RATE			0.09		0.00	1.13			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG	20 DEG C RATE		1.65		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
480	32.300	16.70	0.00	31.29	12.56	7.89	6.33	6.49	1.22	0.35	0.49	2.06	0.00	1.10	0.00	0.00
1.89																
481	32.200	16.70	0.00	31.27	12.56	7.89	6.32	6.48	1.22	0.35	0.49	2.06	0.00	1.10	0.00	0.00
1.89																
482	32.100	16.70	0.00	31.26	12.55	7.89	6.31	6.47	1.22	0.35	0.49	2.06	0.00	1.10	0.00	0.00
1.89																
483	32.000	16.70	0.00	31.24	12.54	7.88	6.30	6.46	1.22	0.35	0.49	2.05	0.00	1.10	0.00	0.00
1.89																
484	31.900	16.70	0.00	31.23	12.54	7.88	6.29	6.45	1.22	0.35	0.49	2.05	0.00	1.10	0.00	0.00
1.89																
485	31.800	16.70	0.00	31.21	12.53	7.88	6.28	6.44	1.21	0.35	0.49	2.05	0.00	1.10	0.00	0.00
1.90																
486	31.700	16.70	0.00	31.19	12.52	7.88	6.26	6.43	1.21	0.35	0.49	2.05	0.00	1.10	0.00	0.00
1.90																
487	31.600	16.70	0.00	31.18	12.52	7.88	6.25	6.42	1.21	0.35	0.49	2.05	0.00	1.10	0.00	0.00
1.90																
488	31.500	16.70	0.00	31.16	12.51	7.87	6.24	6.41	1.21	0.35	0.49	2.05	0.00	1.10	0.00	0.00
1.90																
489	31.400	16.70	0.00	31.15	12.50	7.87	6.23	6.40	1.21	0.35	0.49	2.05	0.00	1.10	0.00	0.00
1.90																
490	31.300	16.70	0.00	31.13	12.50	7.87	6.22	6.39	1.21	0.35	0.49	2.04	0.00	1.10	0.00	0.00
1.90																
491	31.200	16.70	0.00	31.11	12.49	7.87	6.21	6.38	1.21	0.35	0.49	2.04	0.00	1.10	0.00	0.00
1.90																
492	31.100	16.70	0.00	31.10	12.48	7.87	6.20	6.37	1.20	0.35	0.49	2.04	0.00	1.10	0.00	0.00
1.90																
493	31.000	16.70	0.00	31.08	12.48	7.86	6.19	6.36	1.20	0.35	0.49	2.04	0.00	1.10	0.00	0.00
1.90																
494	30.900	16.70	0.00	31.07	12.47	7.86	6.18	6.35	1.20	0.35	0.49	2.04	0.00	1.10	0.00	0.00
1.90																
495	30.800	16.70	0.00	31.05	12.46	7.86	6.17	6.34	1.20	0.35	0.49	2.04	0.00	1.10	0.00	0.00
1.90																
496	30.700	16.70	0.00	31.04	12.46	7.86	6.16	6.33	1.20	0.35	0.49	2.04	0.00	1.10	0.00	0.00
1.90																
497	30.600	16.70	0.00	31.02	12.45	7.86	6.15	6.32	1.20	0.35	0.49	2.03	0.00	1.10	0.00	0.00
1.90																
498	30.500	16.70	0.00	31.00	12.44	7.86	6.14	6.31	1.20	0.35	0.49	2.03	0.00	1.10	0.00	0.00
1.90																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

***** REACH INPUTS

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
499	UPR RCH	0.24310	16.70	0.00	31.00	12.44	7.86	6.14	6.31	1.20	0.35	0.49	0.00	1.10	0.00
1.90 EACH 5.18	INCR	0.0003	16.70	0.00	9.20	3.40	2.00	2.86	2.86	0.78	0.00	0.29	0.00		0.00

***** HYDRAULIC PARAMETER VALUES

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
499 0.097	30.50	30.40	0.24343	52.19	0.09712	0.01	0.42	5.91	250.66	590.72	2.51	0.00	0.000	0.024
500 0.097	30.40	30.30	0.24376	52.12	0.09724	0.01	0.42	5.91	250.68	590.73	2.51	0.00	0.000	0.024
501 0.097	30.30	30.20	0.24409	52.05	0.09737	0.01	0.42	5.91	250.69	590.74	2.51	0.00	0.000	0.024
502 0.097	30.20	30.10	0.24442	51.98	0.09749	0.01	0.42	5.91	250.71	590.75	2.51	0.00	0.000	0.024
503 0.098	30.10	30.00	0.24475	51.91	0.09762	0.01	0.42	5.91	250.72	590.76	2.51	0.00	0.000	0.024
504 0.098	30.00	29.90	0.24508	51.84	0.09774	0.01	0.42	5.91	250.74	590.76	2.51	0.00	0.000	0.024
505 0.098	29.90	29.80	0.24541	51.77	0.09787	0.01	0.42	5.91	250.75	590.77	2.51	0.00	0.000	0.024
506 0.098	29.80	29.70	0.24574	51.70	0.09799	0.01	0.42	5.91	250.77	590.78	2.51	0.00	0.000	0.024
507 0.098	29.70	29.60	0.24607	51.63	0.09812	0.01	0.42	5.91	250.79	590.79	2.51	0.00	0.000	0.024
508 0.098	29.60	29.50	0.24640	51.57	0.09825	0.01	0.42	5.91	250.80	590.79	2.51	0.00	0.000	0.024
TOT AVG CUM					0.09768	0.12 5.25	0.42	5.91	2507.30	5907.60	2.51			

***** BIOLOGICAL AND PHYSICAL COEFFICIENTS

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
499	30.400	9.73	1.54	0.08	0.09	0.00	0.80	0.80	0.80	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
500	30.300	9.73	1.54	0.08	0.09	0.00	0.80	0.80	0.80	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
501	30.200	9.73	1.54	0.08	0.09	0.00	0.80	0.80	0.80	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
502	30.100	9.73	1.54	0.08	0.09	0.00	0.80	0.80	0.80	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
503	30.000	9.73	1.54	0.08	0.09	0.00	0.80	0.80	0.80	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
504	29.900	9.73	1.54	0.08	0.09	0.00	0.80	0.80	0.80	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
505	29.800	9.73	1.54	0.08	0.09	0.00	0.80	0.80	0.80	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
506	29.700	9.73	1.54	0.08	0.09	0.00	0.80	0.80	0.80	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
507	29.600	9.73	1.54	0.08	0.09	0.00	0.80	0.80	0.80	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
508	29.500	9.73	1.54	0.08	0.09	0.00	0.80	0.80	0.80	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
20	DEG C RATE			0.09		0.00	0.98			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG	20 DEG C RATE		1.65		0.10						0.05							
0.05																		

* g/m²/d ** mg/L/day

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

ELEM NCM 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
499	30.400	16.70	0.00	30.98	12.43	7.85	6.13	6.29	1.20	0.35	0.49	2.03	0.00	1.08	0.00	0.00
1.91																
500	30.300	16.70	0.00	30.95	12.42	7.85	6.12	6.28	1.19	0.35	0.49	2.03	0.00	1.06	0.00	0.00
1.91																
501	30.200	16.70	0.00	30.92	12.41	7.85	6.11	6.27	1.19	0.35	0.48	2.03	0.00	1.04	0.00	0.00
1.91																
502	30.100	16.70	0.00	30.89	12.40	7.85	6.10	6.26	1.19	0.35	0.48	2.03	0.00	1.02	0.00	0.00
1.92																
503	30.000	16.70	0.00	30.86	12.38	7.85	6.09	6.24	1.19	0.35	0.48	2.02	0.00	1.00	0.00	0.00

1.92																	
504	29.900	16.70	0.00	30.83	12.37	7.84	6.08	6.23	1.19	0.35	0.48	2.02	0.00	0.98	0.00	0.00	
1.92																	
505	29.800	16.70	0.00	30.80	12.36	7.84	6.07	6.22	1.19	0.35	0.48	2.02	0.00	0.96	0.00	0.00	
1.92																	
506	29.700	16.70	0.00	30.77	12.35	7.84	6.07	6.21	1.18	0.35	0.48	2.02	0.00	0.94	0.00	0.00	
1.93																	
507	29.600	16.70	0.00	30.74	12.34	7.84	6.06	6.19	1.18	0.35	0.48	2.02	0.00	0.92	0.00	0.00	
1.93																	
508	29.500	16.70	0.00	30.71	12.32	7.84	6.05	6.18	1.18	0.35	0.48	2.01	0.00	0.90	0.00	0.00	
1.93																	

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 15 SITE 11 - BOGGY CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER RUN

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

ELEM NCM NO.	TYPE	FLOW m ³ /	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
509	UPR RCH	0.24640	16.70	0.00	30.71	12.32	7.84	6.05	6.18	1.18	0.35	0.48	0.00	0.90	0.00
1.93															
EACH	INCR	0.0001	16.70	0.00	13.60	4.10	2.00	1.94	1.94	0.57	0.00	0.21	0.00		0.00
1.96															

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

ELEM MEAN NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
509	29.50	29.40	0.24652	51.54	0.21860	0.01	0.27	4.11	112.77	410.80	1.13	0.00	0.000	0.037
0.219														
510	29.40	29.30	0.24664	51.51	0.21870	0.01	0.27	4.11	112.78	410.80	1.13	0.00	0.000	0.037
0.219														
511	29.30	29.20	0.24676	51.49	0.21880	0.01	0.27	4.11	112.78	410.80	1.13	0.00	0.000	0.037
0.219														
512	29.20	29.10	0.24689	51.46	0.21890	0.01	0.27	4.11	112.79	410.81	1.13	0.00	0.000	0.037
0.219														
513	29.10	29.00	0.24701	51.44	0.21900	0.01	0.27	4.11	112.79	410.81	1.13	0.00	0.000	0.037

0.219														
514	29.00	28.90	0.24713	51.41	0.21910	0.01	0.27	4.11	112.79	410.81	1.13	0.00	0.000	0.037
0.219														
515	28.90	28.80	0.24725	51.39	0.21920	0.01	0.27	4.11	112.80	410.81	1.13	0.00	0.000	0.037
0.219														
516	28.80	28.70	0.24737	51.36	0.21930	0.01	0.27	4.11	112.80	410.82	1.13	0.00	0.000	0.037
0.219														
517	28.70	28.60	0.24749	51.34	0.21940	0.01	0.27	4.11	112.80	410.82	1.13	0.00	0.000	0.037
0.219														
518	28.60	28.50	0.24762	51.31	0.21950	0.01	0.27	4.11	112.81	410.82	1.13	0.00	0.000	0.037
0.219														
519	28.50	28.40	0.24774	51.29	0.21960	0.01	0.27	4.11	112.81	410.83	1.13	0.00	0.000	0.037
0.220														
520	28.40	28.30	0.24786	51.26	0.21970	0.01	0.27	4.11	112.82	410.83	1.13	0.00	0.000	0.037
0.220														
521	28.30	28.20	0.24798	51.24	0.21980	0.01	0.27	4.11	112.82	410.83	1.13	0.00	0.000	0.037
0.220														
522	28.20	28.10	0.24810	51.21	0.21990	0.01	0.27	4.11	112.82	410.83	1.13	0.00	0.000	0.037
0.220														
523	28.10	28.00	0.24822	51.19	0.22000	0.01	0.27	4.11	112.83	410.84	1.13	0.00	0.000	0.038
0.220														
524	28.00	27.90	0.24834	51.16	0.22010	0.01	0.27	4.11	112.83	410.84	1.13	0.00	0.000	0.038
0.220														
525	27.90	27.80	0.24847	51.14	0.22020	0.01	0.27	4.11	112.84	410.84	1.13	0.00	0.000	0.038
0.220														
526	27.80	27.70	0.24859	51.11	0.22030	0.01	0.27	4.11	112.84	410.85	1.13	0.00	0.000	0.038
0.220														
527	27.70	27.60	0.24871	51.09	0.22040	0.01	0.27	4.11	112.84	410.85	1.13	0.00	0.000	0.038
0.220														
528	27.60	27.50	0.24883	51.06	0.22050	0.01	0.27	4.11	112.85	410.85	1.13	0.00	0.000	0.038
0.221														
529	27.50	27.40	0.24895	51.04	0.22060	0.01	0.27	4.11	112.85	410.86	1.13	0.00	0.000	0.038
0.221														
530	27.40	27.30	0.24907	51.01	0.22070	0.01	0.27	4.11	112.86	410.86	1.13	0.00	0.000	0.038
0.221														
531	27.30	27.20	0.24920	50.99	0.22080	0.01	0.27	4.11	112.86	410.86	1.13	0.00	0.000	0.038
0.221														
532	27.20	27.10	0.24932	50.96	0.22090	0.01	0.27	4.11	112.86	410.86	1.13	0.00	0.000	0.038
0.221														
533	27.10	27.00	0.24944	50.94	0.22100	0.01	0.27	4.11	112.87	410.87	1.13	0.00	0.000	0.038
0.221														
534	27.00	26.90	0.24956	50.91	0.22110	0.01	0.27	4.11	112.87	410.87	1.13	0.00	0.000	0.038
0.221														
535	26.90	26.80	0.24968	50.89	0.22120	0.01	0.27	4.11	112.88	410.87	1.13	0.00	0.000	0.038
0.221														
536	26.80	26.70	0.24980	50.86	0.22130	0.01	0.27	4.11	112.88	410.88	1.13	0.00	0.000	0.038
0.221														
537	26.70	26.60	0.24992	50.84	0.22140	0.01	0.27	4.11	112.88	410.88	1.13	0.00	0.000	0.038
0.221														
538	26.60	26.50	0.25005	50.81	0.22150	0.01	0.27	4.11	112.89	410.88	1.13	0.00	0.000	0.038
0.221														
539	26.50	26.40	0.25017	50.79	0.22160	0.01	0.27	4.11	112.89	410.88	1.13	0.00	0.000	0.038
0.222														
540	26.40	26.30	0.25029	50.76	0.22170	0.01	0.27	4.11	112.90	410.89	1.13	0.00	0.000	0.038

0.222														
541	26.30	26.20	0.25041	50.74	0.22180	0.01	0.27	4.11	112.90	410.89	1.13	0.00	0.000	0.038
0.222														
542	26.20	26.10	0.25053	50.72	0.22190	0.01	0.27	4.11	112.90	410.89	1.13	0.00	0.000	0.038
0.222														
543	26.10	26.00	0.25065	50.69	0.22200	0.01	0.27	4.11	112.91	410.90	1.13	0.00	0.000	0.038
0.222														
544	26.00	25.90	0.25078	50.67	0.22210	0.01	0.27	4.11	112.91	410.90	1.13	0.00	0.000	0.038
0.222														
545	25.90	25.80	0.25090	50.64	0.22220	0.01	0.27	4.11	112.91	410.90	1.13	0.00	0.000	0.038
0.222														
546	25.80	25.70	0.25102	50.62	0.22230	0.01	0.27	4.11	112.92	410.90	1.13	0.00	0.000	0.038
0.222														
547	25.70	25.60	0.25114	50.59	0.22240	0.01	0.27	4.11	112.92	410.91	1.13	0.00	0.000	0.038
0.222														
548	25.60	25.50	0.25126	50.57	0.22250	0.01	0.27	4.11	112.93	410.91	1.13	0.00	0.000	0.038
0.222														
549	25.50	25.40	0.25138	50.54	0.22260	0.01	0.27	4.11	112.93	410.91	1.13	0.00	0.000	0.038
0.223														
550	25.40	25.30	0.25150	50.52	0.22270	0.01	0.27	4.11	112.93	410.91	1.13	0.00	0.000	0.038
0.223														
551	25.30	25.20	0.25163	50.49	0.22280	0.01	0.27	4.11	112.94	410.92	1.13	0.00	0.000	0.038
0.223														
552	25.20	25.10	0.25175	50.47	0.22290	0.01	0.27	4.11	112.94	410.92	1.13	0.00	0.000	0.038
0.223														
553	25.10	25.00	0.25187	50.45	0.22300	0.01	0.27	4.11	112.95	410.92	1.13	0.00	0.000	0.038
0.223														
554	25.00	24.90	0.25199	50.42	0.22310	0.01	0.27	4.11	112.95	410.93	1.13	0.00	0.000	0.038
0.223														
555	24.90	24.80	0.25211	50.40	0.22320	0.01	0.27	4.11	112.95	410.93	1.13	0.00	0.000	0.038
0.223														
556	24.80	24.70	0.25223	50.37	0.22330	0.01	0.27	4.11	112.96	410.93	1.13	0.00	0.000	0.038
0.223														
557	24.70	24.60	0.25236	50.35	0.22340	0.01	0.27	4.11	112.96	410.93	1.13	0.00	0.000	0.038
0.223														
558	24.60	24.50	0.25248	50.32	0.22350	0.01	0.27	4.11	112.97	410.94	1.13	0.00	0.000	0.038
0.223														
559	24.50	24.40	0.25260	50.30	0.22360	0.01	0.27	4.11	112.97	410.94	1.13	0.00	0.000	0.038
0.224														
560	24.40	24.30	0.25272	50.28	0.22370	0.01	0.27	4.11	112.97	410.94	1.13	0.00	0.000	0.038
0.224														
561	24.30	24.20	0.25284	50.25	0.22380	0.01	0.27	4.11	112.98	410.95	1.13	0.00	0.000	0.038
0.224														
562	24.20	24.10	0.25296	50.23	0.22390	0.01	0.27	4.11	112.98	410.95	1.13	0.00	0.000	0.038
0.224														
563	24.10	24.00	0.25308	50.20	0.22400	0.01	0.27	4.11	112.99	410.95	1.13	0.00	0.000	0.038
0.224														
564	24.00	23.90	0.25321	50.18	0.22410	0.01	0.27	4.11	112.99	410.95	1.13	0.00	0.000	0.038
0.224														
565	23.90	23.80	0.25333	50.16	0.22420	0.01	0.27	4.11	112.99	410.96	1.13	0.00	0.000	0.038
0.224														
566	23.80	23.70	0.25345	50.13	0.22430	0.01	0.27	4.11	113.00	410.96	1.13	0.00	0.000	0.038
0.224														
567	23.70	23.60	0.25357	50.11	0.22440	0.01	0.27	4.11	113.00	410.96	1.13	0.00	0.000	0.038

0.224	568	23.60	23.50	0.25369	50.08	0.22450	0.01	0.27	4.11	113.00	410.97	1.13	0.00	0.000	0.038
0.224	569	23.50	23.40	0.25381	50.06	0.22460	0.01	0.27	4.11	113.01	410.97	1.13	0.00	0.000	0.038
0.225	570	23.40	23.30	0.25393	50.04	0.22470	0.01	0.27	4.11	113.01	410.97	1.13	0.00	0.000	0.038
0.225	571	23.30	23.20	0.25406	50.01	0.22480	0.01	0.27	4.11	113.02	410.97	1.13	0.00	0.000	0.038
0.225	572	23.20	23.10	0.25418	49.99	0.22490	0.01	0.28	4.11	113.02	410.98	1.13	0.00	0.000	0.038
0.225	573	23.10	23.00	0.25430	49.96	0.22500	0.01	0.28	4.11	113.02	410.98	1.13	0.00	0.000	0.038
0.225	TOT						0.34			7338.44	26707.79				
	AVG					0.22178		0.27	4.11				1.13		
	CUM						5.59								

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
509	29.400	9.73	2.38	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
510	29.300	9.73	2.38	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
511	29.200	9.73	2.38	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
512	29.100	9.73	2.38	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
513	29.000	9.73	2.38	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
514	28.900	9.73	2.38	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
515	28.800	9.73	2.38	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
516	28.700	9.73	2.38	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
517	28.600	9.73	2.38	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
518	28.500	9.73	2.38	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
519	28.400	9.73	2.38	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
520	28.300	9.73	2.38	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
521	28.200	9.73	2.38	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00

556	24.700	16.70	0.00	30.32	12.13	7.99	5.80	5.94	1.15	0.35	0.48	1.98	0.00	0.90	0.00	0.00
1.89																
557	24.600	16.70	0.00	30.31	12.13	7.99	5.80	5.93	1.15	0.35	0.48	1.98	0.00	0.90	0.00	0.00
1.89																
558	24.500	16.70	0.00	30.30	12.13	7.99	5.79	5.93	1.15	0.35	0.48	1.98	0.00	0.90	0.00	0.00
1.89																
559	24.400	16.70	0.00	30.29	12.12	7.99	5.79	5.92	1.15	0.35	0.48	1.98	0.00	0.90	0.00	0.00
1.89																
560	24.300	16.70	0.00	30.28	12.12	8.00	5.78	5.92	1.15	0.35	0.48	1.97	0.00	0.90	0.00	0.00
1.89																
561	24.200	16.70	0.00	30.28	12.11	8.00	5.78	5.92	1.15	0.35	0.48	1.97	0.00	0.90	0.00	0.00
1.89																
562	24.100	16.70	0.00	30.27	12.11	8.00	5.78	5.91	1.15	0.35	0.48	1.97	0.00	0.90	0.00	0.00
1.89																
563	24.000	16.70	0.00	30.26	12.11	8.00	5.77	5.91	1.15	0.35	0.48	1.97	0.00	0.90	0.00	0.00
1.89																
564	23.900	16.70	0.00	30.25	12.10	8.01	5.77	5.90	1.15	0.35	0.48	1.97	0.00	0.90	0.00	0.00
1.89																
565	23.800	16.70	0.00	30.24	12.10	8.01	5.76	5.90	1.15	0.35	0.48	1.97	0.00	0.90	0.00	0.00
1.89																
566	23.700	16.70	0.00	30.24	12.09	8.01	5.76	5.89	1.15	0.35	0.47	1.97	0.00	0.90	0.00	0.00
1.89																
567	23.600	16.70	0.00	30.23	12.09	8.01	5.75	5.89	1.14	0.35	0.47	1.97	0.00	0.90	0.00	0.00
1.89																
568	23.500	16.70	0.00	30.22	12.09	8.01	5.75	5.88	1.14	0.35	0.47	1.97	0.00	0.90	0.00	0.00
1.89																
569	23.400	16.70	0.00	30.21	12.08	8.02	5.74	5.88	1.14	0.35	0.47	1.97	0.00	0.90	0.00	0.00
1.88																
570	23.300	16.70	0.00	30.21	12.08	8.02	5.74	5.87	1.14	0.35	0.47	1.97	0.00	0.90	0.00	0.00
1.88																
571	23.200	16.70	0.00	30.20	12.08	8.02	5.73	5.87	1.14	0.35	0.47	1.97	0.00	0.90	0.00	0.00
1.88																
572	23.100	16.70	0.00	30.19	12.07	8.02	5.73	5.86	1.14	0.35	0.47	1.97	0.00	0.90	0.00	0.00
1.88																
573	23.000	16.70	0.00	30.18	12.07	8.02	5.72	5.86	1.14	0.35	0.47	1.97	0.00	0.90	0.00	0.00
1.88																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 16 BOGGY CR - WOLF CREEK

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER RUN

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

ELEM	TYPE	FLOW	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	PHOS	CHL A	COLI
NCM		m ³ /	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	#/100mL
NO.															

*

574	UPR RCH	0.25430	16.70	0.00	30.18	12.07	8.02	5.72	5.86	1.14	0.35	0.47	0.00	0.90	0.00
1.88															
EACH	INCR	0.0079	16.70	0.00	13.60	4.10	2.00	1.94	1.94	0.57	0.00	0.21	0.00		0.00
1.96															

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / m/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
574 0.231	23.00	22.90	0.26220	48.46	0.23148	0.01	0.28	4.11	113.27	411.16	1.13	0.00	0.000	0.040
TOT AVG CUM					0.23148	0.01 5.60	0.28	4.11	113.27	411.16	1.13			

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

ELEM NCM NO. DECAY 1/da	ENDING NCM DIST SETT 1/da	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
574 0.03	22.900 0.05	9.73	2.38	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
20 0.04	DEG C RATE			0.06		0.00	0.94			0.04		0.00	0.00	0.00	0.00			0.00
AVG 0.05	20 DEG C RATE		2.54		0.10						0.05							

* g/m²/d ** mg/L/day

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

ELEM NCM 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
574	22.900	16.70	0.00	29.68	11.83	7.85	5.60	5.74	1.13	0.34	0.47	1.94	0.00	0.90	0.00	0.00

1.88

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 17 WOLF CR - UNNAMED CREEK

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER RUN

***** REACH INPUTS

ELEM NCM NO.	TYPE	FLOW m ³ /	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
575	UPR RCH	0.26220	16.70	0.00	29.68	11.83	7.85	5.60	5.74	1.13	0.34	0.47	0.00	0.90	0.00
1.88	EACH INCR	0.0005	16.70	0.00	13.60	4.10	2.00	1.94	1.94	0.57	0.00	0.21	0.00		0.00
1.96															

***** HYDRAULIC PARAMETER VALUES

ELEM MEAN NO. VELO	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
575	22.90	22.80	0.26269	48.37	0.23188	0.00	0.28	4.11	113.29	411.17	1.13	0.00	0.000	0.040
0.232														
576	22.80	22.70	0.26319	48.28	0.23228	0.00	0.28	4.11	113.30	411.19	1.13	0.00	0.000	0.040
0.232														
577	22.70	22.60	0.26368	48.19	0.23269	0.00	0.28	4.11	113.32	411.20	1.13	0.00	0.000	0.040
0.233														
578	22.60	22.50	0.26417	48.10	0.23309	0.00	0.28	4.11	113.33	411.21	1.13	0.00	0.000	0.040
0.233														
579	22.50	22.40	0.26467	48.01	0.23350	0.00	0.28	4.11	113.35	411.22	1.13	0.00	0.000	0.040
0.233														
580	22.40	22.30	0.26516	47.92	0.23390	0.00	0.28	4.11	113.37	411.23	1.13	0.00	0.000	0.040
0.234														
581	22.30	22.20	0.26566	47.83	0.23431	0.00	0.28	4.11	113.38	411.24	1.13	0.00	0.000	0.040
0.234														
582	22.20	22.10	0.26615	47.74	0.23471	0.00	0.28	4.11	113.40	411.25	1.13	0.00	0.000	0.040
0.235														
583	22.10	22.00	0.26664	47.65	0.23511	0.00	0.28	4.11	113.41	411.26	1.13	0.00	0.000	0.040
0.235														
584	22.00	21.90	0.26714	47.56	0.23552	0.00	0.28	4.11	113.43	411.28	1.13	0.00	0.000	0.040

0.236																		
585	21.90	21.80	0.26763	47.47	0.23592	0.00	0.28	4.11	113.44	411.29	1.13	0.00	0.000	0.040				
0.236																		
586	21.80	21.70	0.26812	47.39	0.23632	0.00	0.28	4.11	113.46	411.30	1.13	0.00	0.000	0.040				
0.236																		
587	21.70	21.60	0.26862	47.30	0.23673	0.00	0.28	4.11	113.47	411.31	1.13	0.00	0.000	0.041				
0.237																		
588	21.60	21.50	0.26911	47.21	0.23713	0.00	0.28	4.11	113.49	411.32	1.13	0.00	0.000	0.041				
0.237																		
589	21.50	21.40	0.26961	47.13	0.23753	0.00	0.28	4.11	113.50	411.33	1.14	0.00	0.000	0.041				
0.238																		
590	21.40	21.30	0.27010	47.04	0.23794	0.00	0.28	4.11	113.52	411.34	1.14	0.00	0.000	0.041				
0.238																		
TOT						0.08				1814.45	6580.15							
AVG					0.23490		0.28	4.11				1.13						
CUM						5.68												

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
575	22.800	9.73	2.38	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
576	22.700	9.73	2.37	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
577	22.600	9.73	2.37	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
578	22.500	9.73	2.37	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
579	22.400	9.73	2.37	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
580	22.300	9.73	2.37	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
581	22.200	9.73	2.37	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
582	22.100	9.73	2.37	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
583	22.000	9.73	2.37	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
584	21.900	9.73	2.37	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
585	21.800	9.73	2.37	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
586	21.700	9.73	2.37	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
587	21.600	9.73	2.37	0.05	0.09	0.00	0.76	0.76	0.76	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00

590 21.300 16.70 0.00 29.21 11.60 7.79 5.48 5.62 1.12 0.33 0.46 1.91 0.00 0.90 0.00 0.00
 1.91

* CM-I = CHLORIDES CM-II = SULFATES NCM = CBOD2
 MG/L MG/L mg/L
 ** g/m³

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
 REACH NO. 18 UNNAMED CR - SITE 12 BARNES CREEK WINTER RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
591 1.91	UPR RCH	0.27010	16.70	0.00	29.21	11.60	7.79	5.48	5.62	1.12	0.33	0.46	0.00	0.90	0.00
EACH 1.96	INCR	0.0002	16.70	0.00	13.60	4.10	2.00	1.94	1.94	0.57	0.00	0.21	0.00		0.00

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
591 0.238	21.30	21.20	0.27029	47.01	0.23810	0.00	0.28	4.11	113.52	411.35	1.14	0.00	0.000	0.041
592 0.238	21.20	21.10	0.27049	46.97	0.23825	0.00	0.28	4.11	113.53	411.35	1.14	0.00	0.000	0.041
593 0.238	21.10	21.00	0.27068	46.94	0.23841	0.00	0.28	4.11	113.53	411.36	1.14	0.00	0.000	0.041
594 0.239	21.00	20.90	0.27087	46.91	0.23857	0.00	0.28	4.11	113.54	411.36	1.14	0.00	0.000	0.041
595 0.239	20.90	20.80	0.27106	46.87	0.23872	0.00	0.28	4.11	113.55	411.37	1.14	0.00	0.000	0.041
596 0.239	20.80	20.70	0.27126	46.84	0.23888	0.00	0.28	4.11	113.55	411.37	1.14	0.00	0.000	0.041
597 0.239	20.70	20.60	0.27145	46.81	0.23904	0.00	0.28	4.11	113.56	411.37	1.14	0.00	0.000	0.041
598 0.239	20.60	20.50	0.27164	46.77	0.23920	0.00	0.28	4.11	113.56	411.38	1.14	0.00	0.000	0.041
599 0.239	20.50	20.40	0.27183	46.74	0.23935	0.00	0.28	4.11	113.57	411.38	1.14	0.00	0.000	0.041

20 DEG C RATE 0.06 0.00 0.84 0.04 0.00 0.00 0.00 0.00 0.00
 0.04
 AVG 20 DEG C RATE 2.53 0.10 0.05
 0.05

* g/m²/d ** mg/L/day

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

ELEM NCM 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
591	21.200	16.70	0.00	29.20	11.60	7.79	5.48	5.61	1.12	0.33	0.46	1.91	0.00	0.90	0.00	0.00
1.91																
592	21.100	16.70	0.00	29.19	11.59	7.80	5.47	5.61	1.12	0.33	0.46	1.91	0.00	0.90	0.00	0.00
1.91																
593	21.000	16.70	0.00	29.18	11.59	7.80	5.47	5.60	1.12	0.33	0.46	1.91	0.00	0.90	0.00	0.00
1.91																
594	20.900	16.70	0.00	29.17	11.58	7.80	5.47	5.60	1.11	0.33	0.46	1.90	0.00	0.90	0.00	0.00
1.91																
595	20.800	16.70	0.00	29.16	11.57	7.81	5.46	5.60	1.11	0.33	0.46	1.90	0.00	0.90	0.00	0.00
1.91																
596	20.700	16.70	0.00	29.14	11.57	7.81	5.46	5.59	1.11	0.33	0.46	1.90	0.00	0.90	0.00	0.00
1.91																
597	20.600	16.70	0.00	29.13	11.56	7.82	5.45	5.59	1.11	0.33	0.46	1.90	0.00	0.90	0.00	0.00
1.91																
598	20.500	16.70	0.00	29.12	11.56	7.82	5.45	5.58	1.11	0.33	0.46	1.90	0.00	0.90	0.00	0.00
1.91																
599	20.400	16.70	0.00	29.11	11.55	7.83	5.44	5.58	1.11	0.33	0.46	1.90	0.00	0.90	0.00	0.00
1.91																
600	20.300	16.70	0.00	29.10	11.55	7.83	5.44	5.57	1.11	0.33	0.46	1.90	0.00	0.90	0.00	0.00
1.91																
601	20.200	16.70	0.00	29.09	11.54	7.83	5.44	5.57	1.11	0.33	0.46	1.90	0.00	0.90	0.00	0.00
1.91																
602	20.100	16.70	0.00	29.08	11.54	7.84	5.43	5.57	1.11	0.33	0.46	1.90	0.00	0.90	0.00	0.00
1.91																
603	20.000	16.70	0.00	29.07	11.53	7.84	5.43	5.56	1.11	0.33	0.46	1.90	0.00	0.90	0.00	0.00
1.91																
604	19.900	16.70	0.00	29.06	11.53	7.84	5.42	5.56	1.11	0.33	0.46	1.90	0.00	0.90	0.00	0.00
1.91																
605	19.800	16.70	0.00	29.05	11.52	7.85	5.42	5.55	1.11	0.33	0.46	1.90	0.00	0.90	0.00	0.00
1.91																
606	19.700	16.70	0.00	29.04	11.52	7.85	5.41	5.55	1.11	0.33	0.46	1.90	0.00	0.90	0.00	0.00
1.91																
607	19.600	16.70	0.00	29.02	11.51	7.86	5.41	5.54	1.11	0.33	0.46	1.90	0.00	0.90	0.00	0.00
1.91																
608	19.500	16.70	0.00	29.01	11.51	7.86	5.41	5.54	1.11	0.33	0.46	1.89	0.00	0.90	0.00	0.00
1.91																
609	19.400	16.70	0.00	29.00	11.50	7.86	5.40	5.54	1.11	0.33	0.46	1.89	0.00	0.90	0.00	0.00

1.91																	
610	19.300	16.70	0.00	28.99	11.50	7.87	5.40	5.53	1.11	0.33	0.45	1.89	0.00	0.90	0.00	0.00	0.00
1.91																	
611	19.200	16.70	0.00	28.98	11.49	7.87	5.39	5.53	1.11	0.33	0.45	1.89	0.00	0.90	0.00	0.00	0.00
1.91																	
612	19.100	16.70	0.00	28.97	11.49	7.87	5.39	5.52	1.11	0.33	0.45	1.89	0.00	0.90	0.00	0.00	0.00
1.91																	
613	19.000	16.70	0.00	28.96	11.48	7.88	5.38	5.52	1.11	0.33	0.45	1.89	0.00	0.90	0.00	0.00	0.00
1.91																	
614	18.900	16.70	0.00	28.95	11.48	7.88	5.38	5.52	1.11	0.33	0.45	1.89	0.00	0.90	0.00	0.00	0.00
1.91																	
615	18.800	16.70	0.00	28.94	11.47	7.88	5.38	5.51	1.10	0.33	0.45	1.89	0.00	0.90	0.00	0.00	0.00
1.91																	
616	18.700	16.70	0.00	28.93	11.46	7.89	5.37	5.51	1.10	0.33	0.45	1.89	0.00	0.90	0.00	0.00	0.00
1.91																	
617	18.600	16.70	0.00	28.92	11.46	7.89	5.37	5.50	1.10	0.33	0.45	1.89	0.00	0.90	0.00	0.00	0.00
1.91																	
618	18.500	16.70	0.00	28.91	11.45	7.89	5.36	5.50	1.10	0.33	0.45	1.89	0.00	0.90	0.00	0.00	0.00
1.91																	
619	18.400	16.70	0.00	28.89	11.45	7.90	5.36	5.49	1.10	0.33	0.45	1.89	0.00	0.90	0.00	0.00	0.00
1.91																	
620	18.300	16.70	0.00	28.88	11.44	7.90	5.36	5.49	1.10	0.33	0.45	1.89	0.00	0.90	0.00	0.00	0.00
1.91																	
621	18.200	16.70	0.00	28.87	11.44	7.90	5.35	5.49	1.10	0.33	0.45	1.89	0.00	0.90	0.00	0.00	0.00
1.91																	
622	18.100	16.70	0.00	28.86	11.43	7.91	5.35	5.48	1.10	0.33	0.45	1.88	0.00	0.90	0.00	0.00	0.00
1.91																	
623	18.000	16.70	0.00	28.85	11.43	7.91	5.34	5.48	1.10	0.33	0.45	1.88	0.00	0.90	0.00	0.00	0.00
1.91																	
624	17.900	16.70	0.00	28.84	11.42	7.91	5.34	5.47	1.10	0.33	0.45	1.88	0.00	0.90	0.00	0.00	0.00
1.91																	
625	17.800	16.70	0.00	28.83	11.42	7.91	5.33	5.47	1.10	0.33	0.45	1.88	0.00	0.90	0.00	0.00	0.00
1.91																	
626	17.700	16.70	0.00	28.82	11.41	7.92	5.33	5.47	1.10	0.33	0.45	1.88	0.00	0.90	0.00	0.00	0.00
1.91																	
627	17.600	16.70	0.00	28.81	11.41	7.92	5.33	5.46	1.10	0.33	0.45	1.88	0.00	0.90	0.00	0.00	0.00
1.91																	
628	17.500	16.70	0.00	28.80	11.40	7.92	5.32	5.46	1.10	0.33	0.45	1.88	0.00	0.90	0.00	0.00	0.00
1.91																	
629	17.400	16.70	0.00	28.79	11.40	7.93	5.32	5.45	1.10	0.33	0.45	1.88	0.00	0.90	0.00	0.00	0.00
1.91																	
630	17.300	16.70	0.00	28.78	11.39	7.93	5.31	5.45	1.10	0.33	0.45	1.88	0.00	0.90	0.00	0.00	0.00
1.91																	
631	17.200	16.70	0.00	28.77	11.39	7.93	5.31	5.45	1.10	0.33	0.45	1.88	0.00	0.90	0.00	0.00	0.00
1.91																	

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 19 SITE 12 - CLEAR CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER RUN

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

ELEM NCM NO.*	TYPE	FLOW m ³ /	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
632	UPR RCH	0.27800	16.70	0.00	28.77	11.39	7.93	5.31	5.45	1.10	0.33	0.45	0.00	0.90	0.00

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

ELEM MEAN NO. VELO	BEGIN DIST	ENDING DIST	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
632	17.20	17.10	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
633	17.10	17.00	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
634	17.00	16.90	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
635	16.90	16.80	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
636	16.80	16.70	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
637	16.70	16.60	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
638	16.60	16.50	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
639	16.50	16.40	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
640	16.40	16.30	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
641	16.30	16.20	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
642	16.20	16.10	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
643	16.10	16.00	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
644	16.00	15.90	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
645	15.90	15.80	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
646	15.80	15.70	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
647	15.70	15.60	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028

0.156														
648	15.60	15.50	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
649	15.50	15.40	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
650	15.40	15.30	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
651	15.30	15.20	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
652	15.20	15.10	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
653	15.10	15.00	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
654	15.00	14.90	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
655	14.90	14.80	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
656	14.80	14.70	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
657	14.70	14.60	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
658	14.60	14.50	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
659	14.50	14.40	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
660	14.40	14.30	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
661	14.30	14.20	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
662	14.20	14.10	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
663	14.10	14.00	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
664	14.00	13.90	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
665	13.90	13.80	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
666	13.80	13.70	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
667	13.70	13.60	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
668	13.60	13.50	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
669	13.50	13.40	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
670	13.40	13.30	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
671	13.30	13.20	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
672	13.20	13.10	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
673	13.10	13.00	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
674	13.00	12.90	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028

0.156														
675	12.90	12.80	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
676	12.80	12.70	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
677	12.70	12.60	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
678	12.60	12.50	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
679	12.50	12.40	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
680	12.40	12.30	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
681	12.30	12.20	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
682	12.20	12.10	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
683	12.10	12.00	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
684	12.00	11.90	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
685	11.90	11.80	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
686	11.80	11.70	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
687	11.70	11.60	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
688	11.60	11.50	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
689	11.50	11.40	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
690	11.40	11.30	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
691	11.30	11.20	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
692	11.20	11.10	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
693	11.10	11.00	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
694	11.00	10.90	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
695	10.90	10.80	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
696	10.80	10.70	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
697	10.70	10.60	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
698	10.60	10.50	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
699	10.50	10.40	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
700	10.40	10.30	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
0.156														
701	10.30	10.20	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028

0.156																		
702	10.20	10.10	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028				
0.156																		
TOT							0.53		12639.47	44128.06								
AVG					0.15616		0.29	6.22						1.78				
CUM							6.40											

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI
NCM	NCM																	
NO.	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY
DECAY	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																	
632	17.100	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
633	17.000	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
634	16.900	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
635	16.800	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
636	16.700	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
637	16.600	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
638	16.500	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
639	16.400	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
640	16.300	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
641	16.200	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
642	16.100	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
643	16.000	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
644	15.900	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
645	15.800	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
646	15.700	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
647	15.600	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
648	15.500	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
649	15.400	9.73	2.28	0.06	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00

678	12.500	16.70	0.00	28.77	11.39	8.09	5.19	5.32	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.88																
679	12.400	16.70	0.00	28.77	11.39	8.10	5.18	5.32	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.88																
680	12.300	16.70	0.00	28.77	11.39	8.10	5.18	5.32	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.88																
681	12.200	16.70	0.00	28.77	11.39	8.10	5.18	5.31	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.88																
682	12.100	16.70	0.00	28.77	11.39	8.10	5.18	5.31	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.87																
683	12.000	16.70	0.00	28.77	11.39	8.11	5.17	5.31	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.87																
684	11.900	16.70	0.00	28.77	11.39	8.11	5.17	5.31	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.87																
685	11.800	16.70	0.00	28.77	11.39	8.11	5.17	5.30	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.87																
686	11.700	16.70	0.00	28.77	11.39	8.11	5.17	5.30	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.87																
687	11.600	16.70	0.00	28.77	11.39	8.11	5.16	5.30	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.87																
688	11.500	16.70	0.00	28.77	11.39	8.12	5.16	5.30	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.87																
689	11.400	16.70	0.00	28.77	11.39	8.12	5.16	5.29	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.87																
690	11.300	16.70	0.00	28.77	11.39	8.12	5.16	5.29	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.87																
691	11.200	16.70	0.00	28.77	11.39	8.12	5.15	5.29	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.87																
692	11.100	16.70	0.00	28.77	11.39	8.12	5.15	5.29	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.87																
693	11.000	16.70	0.00	28.77	11.39	8.12	5.15	5.28	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.87																
694	10.900	16.70	0.00	28.77	11.39	8.13	5.15	5.28	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.87																
695	10.800	16.70	0.00	28.77	11.39	8.13	5.14	5.28	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.87																
696	10.700	16.70	0.00	28.77	11.39	8.13	5.14	5.27	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.87																
697	10.600	16.70	0.00	28.77	11.39	8.13	5.14	5.27	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.86																
698	10.500	16.70	0.00	28.77	11.39	8.13	5.13	5.27	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.86																
699	10.400	16.70	0.00	28.77	11.39	8.13	5.13	5.27	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.86																
700	10.300	16.70	0.00	28.77	11.39	8.14	5.13	5.26	1.08	0.34	0.45	1.87	0.00	0.90	0.00	0.00
1.86																
701	10.200	16.70	0.00	28.77	11.39	8.14	5.13	5.26	1.08	0.34	0.45	1.86	0.00	0.90	0.00	0.00
1.86																
702	10.100	16.70	0.00	28.76	11.39	8.14	5.12	5.26	1.08	0.34	0.45	1.86	0.00	0.90	0.00	0.00
1.86																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
 REACH NO. 20 CLEAR CR - BEAR CR

BARNES CREEK WATERSHED MODEL
 BARNES CREEK WINTER RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
703 1.86	UPR RCH	0.27800	16.70	0.00	28.76	11.39	8.14	5.12	5.26	1.08	0.34	0.45	0.00	0.90	0.00
703 3.76	WSTLD	0.02800	16.70	0.00	5.50	1.30	8.80	5.55	5.55	0.75	0.00	0.06	0.00	4.30	0.00

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
703 0.171	10.10	10.00	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
704 0.171	10.00	9.90	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
705 0.171	9.90	9.80	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
706 0.171	9.80	9.70	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
707 0.171	9.70	9.60	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
708 0.171	9.60	9.50	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
709 0.171	9.50	9.40	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
710 0.171	9.40	9.30	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
711 0.171	9.30	9.20	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
712 0.171	9.20	9.10	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
713 0.171	9.10	9.00	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
714 0.171	9.00	8.90	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030

710	9.300	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
711	9.200	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
712	9.100	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
713	9.000	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
714	8.900	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
715	8.800	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
716	8.700	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
717	8.600	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
718	8.500	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
719	8.400	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
720	8.300	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
721	8.200	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
722	8.100	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
723	8.000	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
724	7.900	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
725	7.800	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
726	7.700	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
20 DEG C RATE				0.07		0.00	1.24			0.02		0.00	0.00	0.00	0.00			0.00
0.02																		
AVG 20 DEG C RATE			2.43		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
703	10.000	16.70	0.00	26.64	10.47	8.20	5.16	5.30	1.05	0.31	0.41	1.77	0.00	0.90	0.00	0.00
2.03																
704	9.900	16.70	0.00	26.64	10.47	8.20	5.16	5.29	1.05	0.31	0.41	1.77	0.00	0.90	0.00	0.00

2.03																	
705	9.800	16.70	0.00	26.64	10.47	8.19	5.16	5.29	1.05	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.03																	
706	9.700	16.70	0.00	26.64	10.47	8.19	5.15	5.29	1.05	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.03																	
707	9.600	16.70	0.00	26.64	10.47	8.19	5.15	5.29	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.03																	
708	9.500	16.70	0.00	26.64	10.47	8.19	5.15	5.28	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.03																	
709	9.400	16.70	0.00	26.64	10.47	8.18	5.15	5.28	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.03																	
710	9.300	16.70	0.00	26.64	10.47	8.18	5.15	5.28	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.03																	
711	9.200	16.70	0.00	26.64	10.47	8.18	5.14	5.28	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.03																	
712	9.100	16.70	0.00	26.64	10.47	8.18	5.14	5.28	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.03																	
713	9.000	16.70	0.00	26.64	10.47	8.18	5.14	5.27	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.03																	
714	8.900	16.70	0.00	26.64	10.47	8.17	5.14	5.27	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.02																	
715	8.800	16.70	0.00	26.64	10.47	8.17	5.13	5.27	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.02																	
716	8.700	16.70	0.00	26.64	10.47	8.17	5.13	5.27	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.02																	
717	8.600	16.70	0.00	26.64	10.47	8.17	5.13	5.26	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.02																	
718	8.500	16.70	0.00	26.64	10.47	8.17	5.13	5.26	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.02																	
719	8.400	16.70	0.00	26.64	10.47	8.16	5.12	5.26	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.02																	
720	8.300	16.70	0.00	26.64	10.47	8.16	5.12	5.26	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.02																	
721	8.200	16.70	0.00	26.64	10.47	8.16	5.12	5.25	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.02																	
722	8.100	16.70	0.00	26.64	10.47	8.16	5.12	5.25	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.02																	
723	8.000	16.70	0.00	26.64	10.47	8.16	5.12	5.25	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.02																	
724	7.900	16.70	0.00	26.64	10.47	8.16	5.11	5.25	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.02																	
725	7.800	16.70	0.00	26.64	10.47	8.15	5.11	5.25	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.02																	
726	7.700	16.70	0.00	26.64	10.47	8.15	5.11	5.24	1.04	0.31	0.41	1.77	0.00	0.90	0.00	0.00	
2.01																	

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 21 BEAR CR - SITE 13

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
727 2.01	UPR RCH	0.30600	16.70	0.00	26.64	10.47	8.15	5.11	5.24	1.04	0.31	0.41	0.00	0.90	0.00

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
727 0.171	7.70	7.60	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
728 0.171	7.60	7.50	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
729 0.171	7.50	7.40	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
730 0.171	7.40	7.30	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
731 0.171	7.30	7.20	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
732 0.171	7.20	7.10	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
733 0.171	7.10	7.00	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
734 0.171	7.00	6.90	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
735 0.171	6.90	6.80	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
736 0.171	6.80	6.70	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
737 0.171	6.70	6.60	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
738 0.171	6.60	6.50	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
739 0.171	6.50	6.40	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
740 0.171	6.40	6.30	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
741 0.171	6.30	6.20	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
742	6.20	6.10	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030

0.171																			
743	6.10	6.00	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030					
0.171																			
744	6.00	5.90	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030					
0.171																			
TOT						0.12			3224.96	11198.42									
AVG					0.17079		0.29	6.22											
CUM						6.69													

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI
NCM	NCM																	
NO.	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY
DECAY	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																	
727	7.600	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
728	7.500	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
729	7.400	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.02	0.05																	
730	7.300	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.02	0.05																	
731	7.200	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.02	0.05																	
732	7.100	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.02	0.05																	
733	7.000	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.02	0.05																	
734	6.900	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.02	0.05																	
735	6.800	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.02	0.05																	
736	6.700	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.02	0.05																	
737	6.600	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.02	0.05																	
738	6.500	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.02	0.05																	
739	6.400	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.02	0.05																	
740	6.300	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.02	0.05																	
741	6.200	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.02	0.05																	
742	6.100	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.02	0.05																	
743	6.000	9.73	2.27	0.06	0.09	0.00	1.01	1.01	1.01	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00

744 5.900 16.70 0.00 26.64 10.47 8.13 5.05 5.34 1.04 0.31 0.41 1.77 0.00 1.90 0.00 0.00
 2.00

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = CBOD2
 mg/L

** g/m³

FINAL REPORT HEADWATER
 REACH NO. 22 SITE 13 - CALCASIEU RIVER

BARNES CREEK WATERSHED MODEL
 BARNES CREEK WINTER RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
745 2.00	UPR RCH	0.30600	16.70	0.00	26.64	10.47	8.13	5.05	5.34	1.04	0.31	0.41	0.00	1.90	0.00

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / m/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
745 0.005	5.90	5.80	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
746 0.005	5.80	5.70	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
747 0.005	5.70	5.60	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
748 0.005	5.60	5.50	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
749 0.005	5.50	5.40	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
750 0.005	5.40	5.30	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
751 0.005	5.30	5.20	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
752 0.005	5.20	5.10	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
753 0.005	5.10	5.00	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
754 0.005	5.00	4.90	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006

782	2.20	2.10	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
783	2.10	2.00	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
784	2.00	1.90	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
785	1.90	1.80	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
786	1.80	1.70	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
787	1.70	1.60	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
788	1.60	1.50	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
789	1.50	1.40	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
790	1.40	1.30	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
791	1.30	1.20	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
792	1.20	1.10	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
793	1.10	1.00	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
794	1.00	0.90	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
795	0.90	0.80	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
796	0.80	0.70	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
797	0.70	0.60	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
798	0.60	0.50	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
799	0.50	0.40	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
800	0.40	0.30	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
801	0.30	0.20	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
802	0.20	0.10	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
803	0.10	0.00	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														

TOT 12.64 334207.41 141135.89
 AVG 0.00540 2.37 23.92 56.65
 CUM 19.33

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

ELEM ENDING SAT REAER CBOD CBOD ANBOD BKGD FULL CORR ORGN ORGN NH3 NH3 DENIT PO4 ALG MAC COLI

796	0.700	9.73	0.28	0.05	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
797	0.600	9.73	0.28	0.05	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
798	0.500	9.73	0.28	0.05	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
799	0.400	9.73	0.28	0.05	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
800	0.300	9.73	0.28	0.05	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
801	0.200	9.73	0.28	0.05	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
802	0.100	9.73	0.28	0.05	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
803	0.000	9.73	0.28	0.05	0.09	0.00	0.89	0.89	0.89	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
20	DEG C RATE			0.06		0.00	1.09			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG	20	DEG C RATE	0.30		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
745	5.800	16.70	0.00	26.64	10.47	8.09	4.98	5.27	1.03	0.32	0.41	1.76	0.00	1.90	0.00	0.00
1.99																
746	5.700	16.70	0.00	26.64	10.47	8.06	4.91	5.19	1.02	0.32	0.41	1.76	0.00	1.90	0.00	0.00
1.98																
747	5.600	16.70	0.00	26.64	10.47	8.03	4.84	5.12	1.01	0.33	0.41	1.75	0.00	1.90	0.00	0.00
1.97																
748	5.500	16.70	0.00	26.64	10.47	8.00	4.77	5.06	1.01	0.33	0.41	1.75	0.00	1.90	0.00	0.00
1.96																
749	5.400	16.70	0.00	26.64	10.47	7.97	4.70	4.99	1.00	0.34	0.41	1.75	0.00	1.90	0.00	0.00
1.95																
750	5.300	16.70	0.00	26.64	10.47	7.95	4.64	4.93	0.99	0.34	0.41	1.74	0.00	1.90	0.00	0.00
1.94																
751	5.200	16.70	0.00	26.64	10.47	7.92	4.58	4.86	0.98	0.35	0.41	1.74	0.00	1.90	0.00	0.00
1.93																
752	5.100	16.70	0.00	26.64	10.47	7.90	4.52	4.80	0.97	0.35	0.41	1.73	0.00	1.90	0.00	0.00
1.92																
753	5.000	16.70	0.00	26.64	10.47	7.89	4.46	4.75	0.96	0.36	0.41	1.73	0.00	1.90	0.00	0.00
1.91																
754	4.900	16.70	0.00	26.64	10.47	7.87	4.40	4.69	0.96	0.36	0.41	1.73	0.00	1.90	0.00	0.00
1.90																
755	4.800	16.70	0.00	26.64	10.47	7.85	4.35	4.63	0.95	0.36	0.41	1.72	0.00	1.90	0.00	0.00

1.89																
756	4.700	16.70	0.00	26.64	10.47	7.84	4.30	4.58	0.94	0.37	0.41	1.72	0.00	1.90	0.00	0.00
1.89																
757	4.600	16.70	0.00	26.64	10.47	7.83	4.24	4.53	0.93	0.37	0.41	1.71	0.00	1.90	0.00	0.00
1.88																
758	4.500	16.70	0.00	26.64	10.47	7.82	4.19	4.48	0.93	0.38	0.41	1.71	0.00	1.90	0.00	0.00
1.87																
759	4.400	16.70	0.00	26.64	10.47	7.81	4.15	4.43	0.92	0.38	0.41	1.71	0.00	1.90	0.00	0.00
1.86																
760	4.300	16.70	0.00	26.64	10.47	7.80	4.10	4.38	0.91	0.39	0.41	1.70	0.00	1.90	0.00	0.00
1.85																
761	4.200	16.70	0.00	26.64	10.47	7.79	4.05	4.34	0.90	0.39	0.41	1.70	0.00	1.90	0.00	0.00
1.84																
762	4.100	16.70	0.00	26.64	10.47	7.78	4.01	4.29	0.90	0.39	0.40	1.70	0.00	1.90	0.00	0.00
1.84																
763	4.000	16.70	0.00	26.64	10.47	7.78	3.97	4.25	0.89	0.40	0.40	1.69	0.00	1.90	0.00	0.00
1.83																
764	3.900	16.70	0.00	26.64	10.47	7.77	3.92	4.21	0.88	0.40	0.40	1.69	0.00	1.90	0.00	0.00
1.82																
765	3.800	16.70	0.00	26.64	10.47	7.77	3.88	4.17	0.88	0.41	0.40	1.69	0.00	1.90	0.00	0.00
1.81																
766	3.700	16.70	0.00	26.64	10.47	7.77	3.84	4.13	0.87	0.41	0.40	1.69	0.00	1.90	0.00	0.00
1.81																
767	3.600	16.70	0.00	26.64	10.47	7.76	3.81	4.09	0.86	0.42	0.40	1.68	0.00	1.90	0.00	0.00
1.80																
768	3.500	16.70	0.00	26.64	10.47	7.76	3.77	4.05	0.86	0.42	0.40	1.68	0.00	1.90	0.00	0.00
1.79																
769	3.400	16.70	0.00	26.64	10.47	7.76	3.73	4.02	0.85	0.42	0.40	1.68	0.00	1.90	0.00	0.00
1.78																
770	3.300	16.70	0.00	26.64	10.47	7.76	3.70	3.98	0.85	0.43	0.40	1.67	0.00	1.90	0.00	0.00
1.78																
771	3.200	16.70	0.00	26.64	10.47	7.76	3.66	3.95	0.84	0.43	0.40	1.67	0.00	1.90	0.00	0.00
1.77																
772	3.100	16.70	0.00	26.64	10.47	7.76	3.63	3.92	0.83	0.44	0.40	1.67	0.00	1.90	0.00	0.00
1.76																
773	3.000	16.70	0.00	26.64	10.47	7.76	3.60	3.89	0.83	0.44	0.40	1.67	0.00	1.90	0.00	0.00
1.76																
774	2.900	16.70	0.00	26.64	10.47	7.76	3.57	3.85	0.82	0.44	0.40	1.66	0.00	1.90	0.00	0.00
1.75																
775	2.800	16.70	0.00	26.64	10.47	7.76	3.54	3.82	0.82	0.45	0.40	1.66	0.00	1.90	0.00	0.00
1.74																
776	2.700	16.70	0.00	26.64	10.47	7.76	3.51	3.80	0.81	0.45	0.40	1.66	0.00	1.90	0.00	0.00
1.74																
777	2.600	16.70	0.00	26.64	10.47	7.76	3.48	3.77	0.80	0.45	0.40	1.66	0.00	1.90	0.00	0.00
1.73																
778	2.500	16.70	0.00	26.64	10.47	7.76	3.46	3.74	0.80	0.46	0.40	1.65	0.00	1.90	0.00	0.00
1.73																
779	2.400	16.70	0.00	26.64	10.47	7.76	3.43	3.71	0.79	0.46	0.40	1.65	0.00	1.90	0.00	0.00
1.72																
780	2.300	16.70	0.00	26.64	10.47	7.77	3.40	3.69	0.79	0.47	0.40	1.65	0.00	1.90	0.00	0.00
1.71																
781	2.200	16.70	0.00	26.64	10.47	7.77	3.38	3.66	0.78	0.47	0.40	1.65	0.00	1.90	0.00	0.00
1.71																
782	2.100	16.70	0.00	26.64	10.47	7.77	3.35	3.64	0.78	0.47	0.39	1.65	0.00	1.90	0.00	0.00

1.70																
783	2.000	16.70	0.00	26.64	10.47	7.77	3.33	3.62	0.77	0.48	0.39	1.64	0.00	1.90	0.00	0.00
1.70																
784	1.900	16.70	0.00	26.64	10.47	7.78	3.31	3.59	0.77	0.48	0.39	1.64	0.00	1.90	0.00	0.00
1.69																
785	1.800	16.70	0.00	26.64	10.47	7.78	3.29	3.57	0.76	0.48	0.39	1.64	0.00	1.90	0.00	0.00
1.68																
786	1.700	16.70	0.00	26.64	10.47	7.78	3.26	3.55	0.76	0.49	0.39	1.64	0.00	1.90	0.00	0.00
1.68																
787	1.600	16.70	0.00	26.64	10.47	7.79	3.24	3.53	0.75	0.49	0.39	1.64	0.00	1.90	0.00	0.00
1.67																
788	1.500	16.70	0.00	26.64	10.47	7.79	3.22	3.51	0.75	0.49	0.39	1.63	0.00	1.90	0.00	0.00
1.67																
789	1.400	16.70	0.00	26.64	10.47	7.79	3.20	3.49	0.74	0.50	0.39	1.63	0.00	1.90	0.00	0.00
1.66																
790	1.300	16.70	0.00	26.64	10.47	7.80	3.19	3.47	0.74	0.50	0.39	1.63	0.00	1.90	0.00	0.00
1.66																
791	1.200	16.70	0.00	26.64	10.47	7.80	3.17	3.45	0.73	0.51	0.39	1.63	0.00	1.90	0.00	0.00
1.65																
792	1.100	16.70	0.00	26.64	10.47	7.80	3.15	3.43	0.73	0.51	0.39	1.63	0.00	1.90	0.00	0.00
1.65																
793	1.000	16.70	0.00	26.64	10.47	7.81	3.13	3.42	0.72	0.51	0.39	1.63	0.00	1.90	0.00	0.00
1.64																
794	0.900	16.70	0.00	26.64	10.47	7.81	3.12	3.40	0.72	0.52	0.39	1.62	0.00	1.90	0.00	0.00
1.64																
795	0.800	16.70	0.00	26.64	10.47	7.81	3.10	3.38	0.72	0.52	0.39	1.62	0.00	1.90	0.00	0.00
1.63																
796	0.700	16.70	0.00	26.64	10.47	7.82	3.08	3.37	0.71	0.52	0.39	1.62	0.00	1.90	0.00	0.00
1.63																
797	0.600	16.70	0.00	26.64	10.47	7.82	3.07	3.35	0.71	0.53	0.39	1.62	0.00	1.90	0.00	0.00
1.62																
798	0.500	16.70	0.00	26.64	10.47	7.83	3.05	3.34	0.70	0.53	0.39	1.62	0.00	1.90	0.00	0.00
1.62																
799	0.400	16.70	0.00	26.64	10.47	7.83	3.04	3.32	0.70	0.53	0.39	1.62	0.00	1.90	0.00	0.00
1.62																
800	0.300	16.70	0.00	26.64	10.47	7.83	3.02	3.31	0.70	0.53	0.39	1.62	0.00	1.90	0.00	0.00
1.61																
801	0.200	16.70	0.00	26.64	10.47	7.84	3.01	3.30	0.69	0.54	0.38	1.61	0.00	1.90	0.00	0.00
1.61																
802	0.100	16.70	0.00	26.64	10.47	7.84	3.00	3.28	0.69	0.54	0.38	1.61	0.00	1.90	0.00	0.00
1.60																
803	0.000	16.70	0.00	26.64	10.47	7.84	2.99	3.27	0.68	0.54	0.38	1.61	0.00	1.90	0.00	0.00
1.60																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

STREAM SUMMARY
HEADWATER

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER RUN

TRAVEL TIME = 19.33 DAYS

MAXIMUM EFFLUENT	=			58.93 PERCENT
FLOW	=	0.11560	TO	0.30600 m ³ /s
DISPERSION	=	0.0055	TO	0.0482 m ² /s
VELOCITY	=	0.00540	TO	0.28291 m/s
DEPTH	=	0.17	TO	2.37 m
WIDTH	=	3.16	TO	23.92 m
BOD DECAY	=	0.04	TO	0.16 per day
NH3 DECAY	=	0.00	TO	0.00 per day
SDMNT OXYGEN DMND	=	0.55	TO	1.01 g/m ² /d
NH3 SOURCE	=	0.00	TO	0.00 g/m ² /d
REAERATION	=	0.28	TO	3.92 per day
BOD SETTLING	=	0.09	TO	0.10 per day
ORGN DECAY	=	0.02	TO	0.11 per day
ORGN SETTLING	=	0.05	TO	0.19 per day
TEMPERATURE	=	16.70	TO	18.10 deg C
DISSOLVED OXYGEN	=	6.44	TO	8.88 mg/L

.....EXECUTION COMPLETED

APPENDIX B5 - Current winter projection model justifications

Barnes Creek Winter Projection Model Input Description

DATA TYPE 3, Program Constants

Description of Constant	Value	Result	Source/Justification
Maximum iteration limit	1000.0		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.
Settled rate units.	2.0	Sets the settled rate to a velocity (m/day).	By making the settling rate a velocity the rate becomes dependent upon the depth.
K2 Max	25.0	Max K2 at 20 C allowed for any computational element	EPA Policy in the absence of a measured value.
Effective BOD due to algae	0.2		
NCM Oxygen Uptake	1.0	Oxygen Uptake Rate per Unit of NBOD decay.	Standard LA modeling procedure

Barnes Creek Winter Projection Model Input Description

DATA TYPE 9, Advective Hydraulic Coefficients					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	2.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.1	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream
2	Site 2 to Site 3	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	2.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.1	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream
3	Site 3 to Little Barnes Creek	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.10	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.31	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream
4	Little Barnes Creek to Redhead Branch	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.27	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
5	Redhead Branch to Site 6	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.27	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
6	Site 6 to Little Caney Creek	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.45	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
7	Little Caney Creek to dam	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.45	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
8	dam to Caney Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	8.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.38	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
9	Caney Creek to Hurricane Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.33	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
10	Hurricane Creek to Site 10	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.33	Zero flow cross section
		Mannings - N	Unitless	0.27	Value determined by considering sluggish stream.
11	Site 10 to Magnolia Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	4.08	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
12	Magnolia Creek to Brushy Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
13	Brushy Creek to Righthand Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
14	Righthand Creek to Site 11	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
15	Site 11 to Boggy Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration

Barnes Creek Winter Projection Model Input Description

DATA TYPE 9, Advective Hydraulic Coefficients					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.2	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
16	Boggy Creek to Wolf Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	4.08	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.2	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
17	Wolf Creek to Unnamed Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.2	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
18	Unnamed Creek to Site 12	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	4.08	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.2	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
19	Site 12 to Clear Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	6.10	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.21	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
20	Clear Creek to Bear Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	6.10	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.21	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
21	Bear Creek to Site 13	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	6.10	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.21	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
22	Site 13 to Calcasieu River	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	23.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	2.29	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.

Barnes Creek Winter Projection Model Input Description

DATA TYPE 11, INITIAL CONDITIONS

Reach #	REACH DESCRIPTION	Initial Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2
		Chlorophyll a	mg/l	2.6	Site 2
2	Site 2 to Site 3	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2
		Chlorophyll a	mg/l	2.6	Site 2
3	Site 3 to Little Barnes Creek	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 3
		Nitrate Nitrite	mg/l	0.37	Site 3
		Chlorophyll a	mg/l	2	Site 3
4	Little Barnes Creek to Redhead Branch	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 4
		Nitrate Nitrite	mg/l	0.09	Site 4
		Chlorophyll a	mg/l	1.9	Site 4
5	Redhead Branch to Site 6	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 4
		Nitrate Nitrite	mg/l	0.09	Site 4
		Chlorophyll a	mg/l	1.9	Site 4
6	Site 6 to Little Caney Creek	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 6
		Nitrate Nitrite	mg/l	0.1	Site 6
		Chlorophyll a	mg/l	6.1	Site 6
7	Little Caney Creek to dam	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 6
		Nitrate Nitrite	mg/l	0.1	Site 6
		Chlorophyll a	mg/l	6.1	Site 6
8	dam to Caney Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 7
		Nitrate Nitrite	mg/l	0.07	Site 7
		Chlorophyll a	mg/l	1	Site 7
9	Caney Creek to Hurricane Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 8
		Nitrate Nitrite	mg/l	0.09	Site 8
		Chlorophyll a	mg/l	0.6	Site 8

Barnes Creek Winter Projection Model Input Description

DATA TYPE 11, INITIAL CONDITIONS

Reach #	REACH DESCRIPTION	Initial Parameter	Units	Value	Source/Justification
10	Hurricane Creek to Site 10	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 8
		Nitrate Nitrite	mg/l	0.09	Site 8
		Chlorophyll a	mg/l	0.6	Site 8
11	Site 10 to Magnolia Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
12	Magnolia Creek to Brushy Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
13	Brushy Creek to Righthand Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
14	Righthand Creek to Site 11	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
15	Site 11 to Boggy Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
16	Boggy Creek to Wolf Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
17	Wolf Creek to Unnamed Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
18	Unnamed Creek to Site 12	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11

Barnes Creek Winter Projection Model Input Description

DATA TYPE 11, INITIAL CONDITIONS

Reach #	REACH DESCRIPTION	Initial Parameter	Units	Value	Source/Justification
19	Site 12 to Clear Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
20	Clear Creek to Bear Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
21	Bear Creek to Site 13	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
22	Site 13 to Calcasieu River	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 13
		Nitrate Nitrite	mg/l	0.06	Site 13
		Chlorophyll a	mg/l	1.9	Site 13

Barnes Creek Winter Projection Model Input Description

DATA TYPE 12, Reaeration, Sediment Oxygen Demand and BOD Coeff.

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	0.83	Calibration
		Aerobic BOD decay	1/day	0.18	Bottle Rate for Site 2
		BOD Settling rate	m/day	0.1	Calibration
2	Site 2 to Site 3	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	0.68	Calibration
		Aerobic BOD decay	1/day	0.18	Bottle Rate for Site 2
		BOD Settling rate	m/day	0.1	Calibration
3	Site 3 to Little Barnes Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	0.68	Calibration
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 3
		BOD Settling rate	m/day	0.1	Calibration
4	Little Barnes Creek to Redhead Branch	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	0.94	Calibration
		Aerobic BOD decay	1/day	0.1	Bottle Rate for Site 4
		BOD Settling rate	m/day	0.1	Calibration
5	Redhead Branch to Site 6	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.01	Calibration
		Aerobic BOD decay	1/day	0.1	Bottle Rate for Site 4
		BOD Settling rate	m/day	0.1	Calibration
6	Site 6 to Little Caney Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	0.75	Calibration
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 6
		BOD Settling rate	m/day	0.1	Calibration
7	Little Caney Creek to dam	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	0.71	Calibration
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 6
		BOD Settling rate	m/day	0.1	Calibration

Barnes Creek Winter Projection Model Input Description

DATA TYPE 12, Reaeration, Sediment Oxygen Demand and BOD Coeff.

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
8	dam to Caney Creek	K ₂ option	Unitless	20	0.7/Depth
		Background SOD	g/m ² -day	0.94	Calibration
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 7
		BOD Settling rate	m/day	0.1	Calibration
9	Caney Creek to Hurricane Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.13	Calibration
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 8
		BOD Settling rate	m/day	0.1	Calibration
10	Hurricane Creek to Site 10	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.13	Calibration
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 8
		BOD Settling rate	m/day	0.1	Calibration
11	Site 10 to Magnolia Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.13	Calibration
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
12	Magnolia Creek to Brushy Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.13	Calibration
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
13	Brushy Creek to Righthand Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.13	Calibration
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
14	Righthand Creek to Site 11	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	0.98	Calibration
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
15	Site 11 to Boggy Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	0.94	Calibration
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
16	Boggy Creek to Wolf Creek	K ₂ option	Unitless	20	0.7/Depth
		Background SOD	g/m ² -day	0.94	Calibration

Barnes Creek Winter Projection Model Input Description

DATA TYPE 12, Reaeration, Sediment Oxygen Demand and BOD Coeff.

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
17	Wolf Creek to Unnamed Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	0.94	Calibration
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
18	Unnamed Creek to Site 12	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	0.84	Calibration
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
19	Site 12 to Clear Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.09	Calibration
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
20	Clear Creek to Bear Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.24	Calibration
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
21	Bear Creek to Site 13	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.24	Calibration
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
22	Site 13 to Calcasieu River	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.09	Calibration
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 13
		BOD Settling rate	m/day	0.1	Calibration

Barnes Creek Winter Projection Model Input Description

DATA TYPE 13, Nitrogen and Phosphorus

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 2
		Org-N Settling rate	m/day	0.20	Calibration
2	Site 2 to Site 3	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 2
		Org-N Settling rate	m/day	0.2	Calibration
3	Site 3 to Little Barnes Creek	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 3
		Org-N Settling rate	m/day	0.2	Calibration
4	Little Barnes Creek to Redhead Branch	Org-N Decay	1/day	0.05	NBOD Bottle Rate Site 4
		Org-N Settling rate	m/day	0.05	Calibration
5	Redhead Branch to Site 6	Org-N Decay	1/day	0.05	NBOD Bottle Rate Site 4
		Org-N Settling rate	m/day	0.05	Calibration
6	Site 6 to Little Caney Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 6
		Org-N Settling rate	m/day	0.05	Calibration
7	Little Caney Creek to dam	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 6
		Org-N Settling rate	m/day	0.05	Calibration
8	dam to Caney Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 7
		Org-N Settling rate	m/day	0.05	Calibration
9	Caney Creek to Hurricane Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 8
		Org-N Settling rate	m/day	0.05	Calibration
10	Hurricane Creek to Site 10	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 8
		Org-N Settling rate	m/day	0.05	Calibration
11	Site 10 to Magnolia Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
12	Magnolia Creek to Brushy Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
13	Brushy Creek to Righthand Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
14	Righthand Creek to Site 11	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
15	Site 11 to Boggy Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
16	Boggy Creek to Wolf Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
17	Wolf Creek to Unnamed Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
18	Unnamed Creek to Site 12	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
19	Site 12 to Clear Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
20	Clear Creek to Bear Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
21	Bear Creek to Site 13	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
22	Site 13 to Calcasieu River	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 13
		Org-N Settling rate	m/day	0.05	Calibration

Barnes Creek Winter Projection Model Input Description

DATA TYPE 15, Coliform and Nonconservative Coefficients

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	NCM Decay	1/day	0.13	Bottle Rate Site 2
		NCM Settling Rate	m/day	0.05	Calibration
2	Site 2 to Site 3	NCM Decay	1/day	0.13	Bottle Rate Site 2
		NCM Settling Rate	m/day	0.05	Calibration
3	Site 3 to Little Barnes Creek	NCM Decay	1/day	0.13	Bottle Rate Site 3
		NCM Settling Rate	m/day	0.05	Calibration
4	Little Barnes Creek to Redhead Branch	NCM Decay	1/day	0.05	Bottle Rate Site 4
		NCM Settling Rate	m/day	0.05	Calibration
5	Redhead Branch to Site 6	NCM Decay	1/day	0.05	Bottle Rate Site 4
		NCM Settling Rate	m/day	0.05	Calibration
6	Site 6 to Little Caney Creek	NCM Decay	1/day	0.04	Bottle Rate Site 6
		NCM Settling Rate	m/day	0.05	Calibration
7	Little Caney Creek to dam	NCM Decay	1/day	0.04	Bottle Rate Site 6
		NCM Settling Rate	m/day	0.05	Calibration
8	dam to Caney Creek	NCM Decay	1/day	0.02	Bottle Rate Site 7
		NCM Settling Rate	m/day	0.05	Calibration
9	Caney Creek to Hurricane Creek	NCM Decay	1/day	0.03	Bottle Rate Site 8
		NCM Settling Rate	m/day	0.05	Calibration
10	Hurricane Creek to Site 10	NCM Decay	1/day	0.03	Bottle Rate Site 8
		NCM Settling Rate	m/day	0.05	Calibration
11	Site 10 to Magnolia Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
12	Magnolia Creek to Brushy Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
13	Brushy Creek to Righthand Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
14	Righthand Creek to Site 11	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
15	Site 11 to Boggy Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
16	Boggy Creek to Wolf Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
17	Wolf Creek to Unnamed Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
18	Unnamed Creek to Site 12	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
19	Site 12 to Clear Creek	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
20	Clear Creek to Bear Creek	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration

Barnes Creek Winter Projection Model Input Description

DATA TYPE 15, Coliform and Nonconservative Coefficients

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
21	Bear Creek to Site 13	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
22	Site 13 to Calcasieu River	NCM Decay	1/day	0.03	Bottle Rate Site 13
		NCM Settling Rate	m/day	0.05	Calibration

Barnes Creek Winter Projection Model Input Description

DATA TYPE 16, Incremental Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Incremental Outflow	m ³ /s	-0.0272	
		Incremental Inflow	m ³ /s		
		Temperature	°Celsius	26	90th percentile Temperature from Ambient Site 0837
		Salinity	ppt		
		Conservative Matl. I	mg/l	33.9	Site 2
		Conservative Matl. II	mg/l	12.4	Site 2
3	Site 3 to Little Barnes Creek	Incremental Outflow	m ³ /s	-0.0204	
		Incremental Inflow	m ³ /s		
		Temperature	°Celsius	26	90th percentile Temperature from Ambient Site 0837
		Salinity	ppt		
		Conservative Matl. I	mg/l	33.6	Site 3
		Conservative Matl. II	mg/l	11	Site 3
4	Little Barnes Creek to Redhead Branch	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0057	
		Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	30.2	Site 4
		Conservative Matl. II	mg/l	7.9	Site 4
5	Redhead Branch to Site 6	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0057	
		Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	30.2	Site 4
		Conservative Matl. II	mg/l	7.9	Site 4
6	Site 6 to Little Caney Creek	Incremental Outflow	m ³ /s	-0.0317	
		Incremental Inflow	m ³ /s		
		Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	23.6	Site 6
		Conservative Matl. II	mg/l	6	Site 6

Barnes Creek Winter Projection Model Input Description

DATA TYPE 16, Incremental Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
7	Little Caney Creek to dam	Incremental Outflow	m ³ /s	-0.0317	
		Incremental Inflow	m ³ /s		
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	23.6	Site 6
		Conservative Matl. II	mg/l	6	Site 6
8	dam to Caney Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0442	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	8.8	Site 7
		Conservative Matl. II	mg/l	3.2	Site 7
10	Hurricane Creek to Site 10	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0071	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	6.9	Site 8
		Conservative Matl. II	mg/l	2.7	Site 8
11	Site 10 to Magnolia Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	9.2	Site 10
		Conservative Matl. II	mg/l	3.4	Site 10
12	Magnolia Creek to Brushy Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	9.2	Site 10
		Conservative Matl. II	mg/l	3.4	Site 10

Barnes Creek Winter Projection Model Input Description

DATA TYPE 16, Incremental Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
13	Brushy Creek to Righthand Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	9.2	Site 10
		Conservative Matl. II	mg/l	3.4	Site 10
14	Righthand Creek to Site 11	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	9.2	Site 10
		Conservative Matl. II	mg/l	3.4	Site 10
15	Site 11 to Boggy Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	13.6	Site 11
		Conservative Matl. II	mg/l	4.1	Site 11
16	Boggy Creek to Wolf Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	13.6	Site 11
		Conservative Matl. II	mg/l	4.1	Site 11
17	Wolf Creek to Unnamed Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	13.6	Site 11
		Conservative Matl. II	mg/l	4.1	Site 11

Barnes Creek Winter Projection Model Input Description

DATA TYPE 16, Incremental Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
18	Unnamed Creek to Site 12	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	13.6	Site 11
		Conservative Matl. II	mg/l	4.1	Site 11

Barnes Creek Winter Projection Model Input Description

DATA TYPE 17, Incremental Data for DO, BOD, Nitrogen

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.65	75% reduction in total nonpoint
		Org.-N	mg/l	0.49	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 2
		NO ₂₊₃ - N	mg/l	0.56	Site 2
3	Site 3 to Little Barnes Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.27	75% reduction in total nonpoint
		Org.-N	mg/l	0.26	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 3
		NO ₂₊₃ - N	mg/l	0.37	Site 3
4	Little Barnes Creek to Redhead Branch	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.23	75% reduction in total nonpoint
		Org.-N	mg/l	0.15	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 4
		NO ₂₊₃ - N	mg/l	0.09	Site 4
5	Redhead Branch to Site 6	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.63	75% reduction in total nonpoint
		Org.-N	mg/l	0.15	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 4
		NO ₂₊₃ - N	mg/l	0.09	Site 4
6	Site 6 to Little Caney Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.63	75% reduction in total nonpoint
		Org.-N	mg/l	0.26	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 6
		NO ₂₊₃ - N	mg/l	0.1	Site 6
7	Little Caney Creek to dam	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	3.21	75% reduction in total nonpoint
		Org.-N	mg/l	0.26	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 6
		NO ₂₊₃ - N	mg/l	0.1	Site 6
8	dam to Caney Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	3.21	75% reduction in total nonpoint
		Org.-N	mg/l	0.07	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 7
		NO ₂₊₃ - N	mg/l	0.07	Site 7

Barnes Creek Winter Projection Model Input Description

DATA TYPE 17, Incremental Data for DO, BOD, Nitrogen

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
10	Hurricane Creek to Site 10	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.7	75% reduction in total nonpoint
		Org.-N	mg/l	0.29	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 8
		NO ₂₊₃ - N	mg/l	0.09	Site 8
11	Site 10 to Magnolia Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.86	75% reduction in total nonpoint
		Org.-N	mg/l	0.29	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ - N	mg/l	0.08	Site 10
12	Magnolia Creek to Brushy Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.86	75% reduction in total nonpoint
		Org.-N	mg/l	0.29	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ - N	mg/l	0.08	Site 10
13	Brushy Creek to Righthand Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.86	75% reduction in total nonpoint
		Org.-N	mg/l	0.29	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ - N	mg/l	0.08	Site 10
14	Righthand Creek to Site 11	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	2.86	75% reduction in total nonpoint
		Org.-N	mg/l	0.29	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ - N	mg/l	0.08	Site 10
15	Site 11 to Boggy Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	1.94	75% reduction in total nonpoint
		Org.-N	mg/l	0.21	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ - N	mg/l	0.08	Site 11
16	Boggy Creek to Wolf Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	1.94	75% reduction in total nonpoint
		Org.-N	mg/l	0.21	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ - N	mg/l	0.08	Site 11

Barnes Creek Winter Projection Model Input Description

DATA TYPE 17, Incremental Data for DO, BOD, Nitrogen					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
17	Wolf Creek to Unnamed Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	1.94	75% reduction in total nonpoint
		Org.-N	mg/l	0.21	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ - N	mg/l	0.08	Site 11
18	Unnamed Creek to Site 12	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	1.94	75% reduction in total nonpoint
		Org.-N	mg/l	0.21	75% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ - N	mg/l	0.08	Site 11

Barnes Creek Winter Projection Model Input Description

DATA TYPE 18, Incremental Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Chlorophyll a	ug/l	4.3	Site 2
		NCM	mg/l	3.4	Site 2
3	Site 3 to Little Barnes Creek	Chlorophyll a	ug/l	4.46	Site 3
		NCM	mg/l	3.45	Site 3
4	Little Barnes Creek to Redhead Branch	Chlorophyll a	ug/l	4.23	Site 4
		NCM	mg/l	3.48	Site 4
5	Redhead Branch to Site 6	Chlorophyll a	ug/l	4.23	Site 4
		NCM	mg/l	3.48	Site 4
6	Site 6 to Little Caney Creek	Chlorophyll a	ug/l	3.01	Site 6
		NCM	mg/l	5.05	Site 6
7	Little Caney Creek to dam	Chlorophyll a	ug/l	3.01	Site 6
		NCM	mg/l	5.05	Site 6
8	dam to Caney Creek	Chlorophyll a	ug/l	3.72	Site 7
		NCM	mg/l	4.03	Site 7
10	Hurricane Creek to Site 10	Chlorophyll a	ug/l	2.68	Site 8
		NCM	mg/l	4.52	Site 8
11	Site 10 to Magnolia Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
12	Magnolia Creek to Brushy Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
13	Brushy Creek to Righthand Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
14	Righthand Creek to Site 11	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
15	Site 11 to Boggy Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
16	Boggy Creek to Wolf Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
17	Wolf Creek to Unnamed Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
18	Unnamed Creek to Site 12	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11

Barnes Creek Winter Projection Model Input Description

DATA TYPE 19, Nonpoint Source Data

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	CBOD1	kg/day	1.1	75% reduction in total nonpoint
		CBOD2	kg/day	3.75	75% reduction in total nonpoint
		O-N	kg/day	1.13	75% reduction in total nonpoint
2	Site 2 to Site 3	CBOD1	kg/day	0	75% reduction in total nonpoint
		CBOD2	kg/day	1.125	75% reduction in total nonpoint
		O-N	kg/day	0	75% reduction in total nonpoint
3	Site 3 to Little Barnes Creek	CBOD1	kg/day	6	75% reduction in total nonpoint
		CBOD2	kg/day	3.75	75% reduction in total nonpoint
		O-N	kg/day	0	75% reduction in total nonpoint
4	Little Barnes Creek to Redhead Branch	CBOD1	kg/day	1.1	75% reduction in total nonpoint
		CBOD2	kg/day	1.875	75% reduction in total nonpoint
		O-N	kg/day	0.38	75% reduction in total nonpoint
5	Redhead Branch to Site 6	CBOD1	kg/day	0	75% reduction in total nonpoint
		CBOD2	kg/day	2.813	75% reduction in total nonpoint
		O-N	kg/day	0.38	75% reduction in total nonpoint
6	Site 6 to Little Caney Creek	CBOD1	kg/day	7.5	75% reduction in total nonpoint
		CBOD2	kg/day	1.5	75% reduction in total nonpoint
		O-N	kg/day	0.75	75% reduction in total nonpoint
7	Little Caney Creek to dam	CBOD1	kg/day	5.3	75% reduction in total nonpoint
		CBOD2	kg/day	0.75	75% reduction in total nonpoint
		O-N	kg/day	0.23	75% reduction in total nonpoint
8	dam to Caney Creek	CBOD1	kg/day	2.3	75% reduction in total nonpoint
		CBOD2	kg/day	1.125	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
9	Caney Creek to Hurricane Creek	CBOD1	kg/day	0.8	75% reduction in total nonpoint
		CBOD2	kg/day	3.375	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
10	Hurricane Creek to Site 10	CBOD1	kg/day	0.8	75% reduction in total nonpoint
		CBOD2	kg/day	1.125	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
11	Site 10 to Magnolia Creek	CBOD1	kg/day	1.9	75% reduction in total nonpoint
		CBOD2	kg/day	0	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
12	Magnolia Creek to Brushy Creek	CBOD1	kg/day	1.1	75% reduction in total nonpoint
		CBOD2	kg/day	0	75% reduction in total nonpoint
		O-N	kg/day	0	75% reduction in total nonpoint
13	Brushy Creek to Righthand Creek	CBOD1	kg/day	1.9	75% reduction in total nonpoint
		CBOD2	kg/day	0	75% reduction in total nonpoint
		O-N	kg/day	0	75% reduction in total nonpoint

Barnes Creek Winter Projection Model Input Description

DATA TYPE 19, Nonpoint Source Data

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
14	Righthand Creek to Site 11	CBOD1	kg/day	1.5	75% reduction in total nonpoint
		CBOD2	kg/day	0	75% reduction in total nonpoint
		O-N	kg/day	0	75% reduction in total nonpoint
15	Site 11 to Boggy Creek	CBOD1	kg/day	1.9	75% reduction in total nonpoint
		CBOD2	kg/day	0	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
16	Boggy Creek to Wolf Creek	CBOD1	kg/day	0	75% reduction in total nonpoint
		CBOD2	kg/day	0	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
17	Wolf Creek to Unnamed Creek	CBOD1	kg/day	1.1	75% reduction in total nonpoint
		CBOD2	kg/day	0.75	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
18	Unnamed Creek to Site 12	CBOD1	kg/day	1.9	75% reduction in total nonpoint
		CBOD2	kg/day	0.75	75% reduction in total nonpoint
		O-N	kg/day	0.32	75% reduction in total nonpoint
19	Site 12 to Clear Creek	CBOD1	kg/day	5.6	75% reduction in total nonpoint
		CBOD2	kg/day	0.38	75% reduction in total nonpoint
		O-N	kg/day	0.32	75% reduction in total nonpoint
20	Clear Creek to Bear Creek	CBOD1	kg/day	1.9	75% reduction in total nonpoint
		CBOD2	kg/day	0	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
21	Bear Creek to Site 13	CBOD1	kg/day	1.1	75% reduction in total nonpoint
		CBOD2	kg/day	0	75% reduction in total nonpoint
		O-N	kg/day	0.19	75% reduction in total nonpoint
22	Site 13 to Calcasieu River	CBOD1	kg/day	123.8	75% reduction in total nonpoint
		CBOD2	kg/day	31.88	75% reduction in total nonpoint
		O-N	kg/day	10.13	75% reduction in total nonpoint

Barnes Creek Winter Projection Model Input Description

DATA TYPE 20, Headwater Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	
		Headwater name		Barnes Creek	
		Headwater flow	cms	0.0351	Projected flow for summer critical
		Temperature	°Celcius	26.00	90th percentile Temperature from Ambient Site 0837
		Conservative Matl. I	mg/l	33.90	Site 2
		Conservative Matl. II	mg/l	12.40	Site 2

Barnes Creek Winter Projection Model Input Description

DATA TYPE 21, Headwater Data for DO, BOD, and Nitrogen					
Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	Site 2
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		BOD	mg/l	2.25	75% reduction in total nonpoint
		O-N	mg/l	0.63	75% reduction in total nonpoint
		NH ₃	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2

Barnes Creek Winter Projection Model Input Description

DATA TYPE 22, Headwater Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	
		Chlorophyll a	mg/l	2.6	Site 2
		CBOD 2	mg/l	3.4	Site 2

Barnes Creek Winter Projection Model Input Description

DATA TYPE 27, Lower Boundary Conditions					
Reach #	NAME	Parameter	Units	Value	Source/Justification
36	Sandy Creek - Hwy 124	Temperature	°Celcius	26	90th percentile Temperature from Ambient Site 0837
		Salinity	ppt		
		Conservative Matl. I	mg/l		
		Conservative Matl. II			
		Dissolved O ₂	mg/l		
		BOD	mg/l		
		Org.- N	mg/l		
		NH ₃ -N	mg/l		
		NO ₂₊₃ -N	mg/l		
		Chlorophyll a	ug/l	1.9	Site 13
		Nonconservative	mg/l		

APPENDIX B6 - Current winter loading calculations

Winter TMDL calculations and Projection model calculations for Incremental loads:

Barnes Creek - 030601 and 030602

Shaded cells are input values for calculations.
Values to be used in the projection models.

Reach Description and #	Calibration Load determinations:										Percentage Reduction calculations:			Projection Model Input determinations:				Projection Model Input determinations:			
	Projection Flow (cms)	Calb. UCBOD conc. (mg/l)	Unadjusted UCBOD (kg/day)	Calb. UNBOD conc. (mg/l)	Unadjusted UNBOD (kg/day)	Background Conc. UCBOD (mg/l)	Background Conc. UNBOD (mg/l)	Background % Reduction	Background Load UCBOD (kg/day)	Background Load UNBOD (kg/day)	Actual % Reduction of Man Made Loads	Increm. UCBOD Load Adjusted For % Reduction (LA load)	Increm. UNBOD Load Adjusted For % Reduction (LA load)	Increm. UCBOD Adjusted for MOS (kg/day) (1)	Increm. UNBOD Adjusted for MOS (kg/day) (1)	Projection UCBOD conc. (mg/l)	Projection UNBOD conc. (mg/l)	Proj. UCBOD MOS load (kg/day)	Proj. UNBOD MOS load (kg/day)	Sub-total MOS load (kg/day)	Sub-total LA load (kg/day)
	A	B	C = (86.4)(A)(B)	D	E = (86.4)(A)(D)	F	G	H1	H = (1-H1)(86.4)(A)(F)	I = (1-H1)(86.4)(A)(G)	J, Note 1	K = (C-H)(1-J) + H	L = (E-I)(1-J) + I	M = (K-H) / (1-MOS) + H	N = (L-I) / (1-MOS) + I	M / [(A)(86.4)]	N / [(A)(86.4)]	O = M - K	P = N - L	O + P	K + L
1								0%			70%										
2	-0.0272	6.05	-14.22	1.30	-3.06			0%	0.00	0.00	70%	-4.27	-0.92	-5	-1	2.27	0.49	-1	0	-1	-5
3	-0.0204	5.94	-10.47	0.70	-1.23			0%	0.00	0.00	70%	-3.14	-0.37	-4	0	2.23	0.26	-1	0	-1	-4
4	0.0057	7.01	3.45	0.41	0.20			0%	0.00	0.00	70%	1.04	0.06	1	0	2.63	0.15	0	0	0	1
5	0.0057	7.01	3.45	0.41	0.20			0%	0.00	0.00	70%	1.04	0.06	1	0	2.63	0.15	0	0	0	1
6	-0.0096	8.55	-7.09	0.70	-0.58			0%	0.00	0.00	70%	-2.13	-0.17	-3	0	3.21	0.26	-1	0	-1	-2
7	-0.0096	8.55	-7.09	0.70	-0.58			0%	0.00	0.00	70%	-2.13	-0.17	-3	0	3.21	0.26	-1	0	-1	-2
8								0%			70%										
9								0%			70%										
10	0.0071	7.20	4.42	0.77	0.47			0%	0.00	0.00	70%	1.33	0.14	2	0	2.70	0.29	0	0	0	1
11	0.0033	7.62	2.17	0.78	0.22			0%	0.00	0.00	70%	0.65	0.07	1	0	2.86	0.29	0	0	0	1
12	0.0033	7.62	2.17	0.78	0.22			0%	0.00	0.00	70%	0.65	0.07	1	0	2.86	0.29	0	0	0	1
13	0.0033	7.62	2.17	0.78	0.22			0%	0.00	0.00	70%	0.65	0.07	1	0	2.86	0.29	0	0	0	1
14	0.0033	7.62	2.17	0.78	0.22			0%	0.00	0.00	70%	0.65	0.07	1	0	2.86	0.29	0	0	0	1
15	0.0079	5.16	3.52	0.57	0.39			0%	0.00	0.00	70%	1.06	0.12	1	0	1.94	0.21	0	0	0	1
16	0.0079	5.16	3.52	0.57	0.39			0%	0.00	0.00	70%	1.06	0.12	1	0	1.94	0.21	0	0	0	1
17	0.0079	5.16	3.52	0.57	0.39			0%	0.00	0.00	70%	1.06	0.12	1	0	1.94	0.21	0	0	0	1
18	0.0079	5.16	3.52	0.57	0.39			0%	0.00	0.00	70%	1.06	0.12	1	0	1.94	0.21	0	0	0	1
19								0%			70%										
20								0%			70%										
21								0%			70%										
22								0%			70%										
Sub-Total benthic loading									0	0		-1	-1	-2	-1			0	0	-1	-2

Note 1: The percentage reduction values are taken from the "Non-Point Benthic Load Input and TMDL Calculations" worksheet.

EXPLICIT MARGINS:
MARGIN OF SAFETY (MOS) (%) = **20%**

Winter TMDL Calculations for Point Source loads:

Barnes Creek - 030601 and 030602

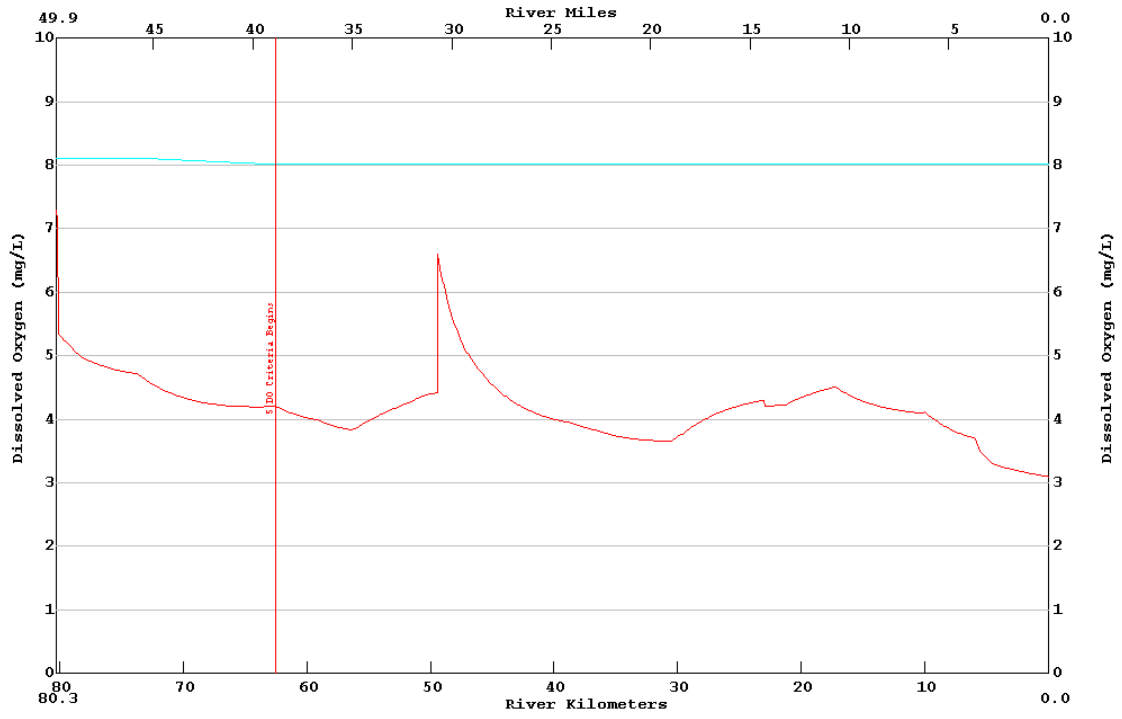
Input data into the shaded cells.

Point Source Loading Calculations																		
Pt. Source / Facility Description and Reach #	Receiving Stream	Included in the Projection Model (Yes/No)	Anticipated/ design flow (cms)	Flow with MOS (cms)	Proposed Permit Limits			UCBOD				UNBOD				Sub-total of Point Source Loads		
					CBOD ₅ (mg/l)	NH ₃ N (mg/l)	MOS (%)	Ultimate Conc. (mg/l) (2)	Loads (kg/day) (1)	WLA (kg/day)	Reserve/ MOS Load (kg/day)	Ultimate Conc. (mg/l) (2)	Loads (kg/day) (1)	WLA (kg/day)	Reserve/ MOS Load (kg/day)	Loads (kg/day)	WLA (kg/day)	Reserve/ MOS (kg/day)
			A	A1 = A/(1-D)	B	C	D	E = 2.3 x B	F = (86.4)(A1)(E)	G = (1-D) x F	H = (D)(F)	I = 4.3 x B	J = (86.4)(A1)(I)	K = (1-D) x J	L = (D)(J)	F + J	G + K	H + L
City of DeRidder	Unnamed Ditch to Barnes Creek	Yes	0.132752	0.165940	10.00	5.00	0.20	23.00	329.76	263.81	65.95	21.50	308.25	246.60	61.65	638.01	510.41	127.60
Evergreen Mobile Home Park	Unnamed ditch to Little Barnes Creek to Barnes Creek	No	0.000700	0.000875	30.00	15.00	0.20	69.00	5.22	4.17	1.04	64.50	4.88	3.90	0.98	10.09	8.07	2.02
Beauregard Fire Prot Dist #2	Unnamed ditch to unnamed trib to Barnes Creek	No	0.000020	0.000025	30.00	15.00	0.20	69.00	0.15	0.12	0.03	64.50	0.14	0.11	0.03	0.29	0.23	0.06
Broadlands Fire Dept Station #1	Unnamed ditch to Little Barnes Creek to Barnes Creek	No	0.000020	0.000025	30.00	15.00	0.20	69.00	0.15	0.12	0.03	64.50	0.14	0.11	0.03	0.29	0.23	0.06
SUB-TOTAL Loads			0.133492						335.27	268.22	67.05		313.41	250.72	62.68	648.68	518.94	129.74

(1) - Load(kg/day) = 86.4 x Ultimate Conc.(mg/l) x Modeled Flow(cms)
(2) - [UCBOD conc. = CBOD5(mg/l) x 2.3] and [UNBOD conc. = NH3N(mg/l) x 4.3]

APPENDIX B7 - Proposed 3.0 summer projection model input/output and graphs

LA-QUAL Version 5.02 Run at 10:52 on 02/19/2002 File D:\Barnes Creek\Input Files\barnssum3.0.txt
BARNES CREEK SUMMER 3.0 MG/L RUN min= 3.10 max= 7.30
:MAINSTEM



LA-QUAL Version 5.02
Louisiana Department of Environmental Quality

Input file is D:\Barnes Creek\Input Files\barnssum3.0.txt
Output produced at 10:52 on 02/19/2002

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

CARD TYPE		CONTROL TITLES
TITLE01		BARNES CREEK WATERSHED MODEL
TITLE02		BARNES CREEK SUMMER 3.0 MG/L RUN
CNTROL04	YES	METRIC UNITS
CNTROL05	YES	OXYGEN DEPENDENT RATES
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	YES	CONSERVATIVE MATERIAL II = SULFATES	IN MG/L
MODOPT05	YES	DISSOLVED OXYGEN	
MODOPT06	YES	BIOCHEMICAL OXYGEN DEMAND	
MODOPT07	YES	NITROGEN	
MODOPT08	NO	PHOSPHORUS	
MODOPT09	NO	CHLOROPHYLL A	
MODOPT10	NO	MACROPHYTES	
MODOPT11	NO	COLIFORM	
MODOPT12	YES	NONCONSERVATIVE MATERIAL = CBOD2	IN mg/L
ENDATA02			

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
PROGRAM	MAXIMUM ITERATION LIMIT	= 1000.00000
PROGRAM	PLOT TYPE	= 3.00000
PROGRAM	FINAL REPORT TYPE	= 1.00000
PROGRAM	SPECIAL REPORT TYPE	= 3.00000
PROGRAM	KL MINIMUM	= 0.70000 meters/day
PROGRAM	NCM OXYGEN UPTAKE RATE	= 1.00000 mg O/mg NCM
PROGRAM	INHIBITION CONTROL VALUE	= 3.00000
PROGRAM	NH3 OXYGEN UPTAKE RATE	= 0.00000 mg O/mg N
PROGRAM	K2 MAXIMUM	= 25.00000 per day
PROGRAM	HYDRAULIC CALCULATION METHOD	= 2.00000 (widths and depths)
PROGRAM	SETTLING RATE UNITS	= 2.00000 (per day)
PROGRAM	OCEAN EXCHANGE RATIO	= 0.00000

```

PROGRAM      EFFECTIVE BOD DUE TO ALGAE      =      0.15000 mg/L BOD per ug/L chl a
PROGRAM      ORGN OXYGEN UPTAKE RATE          =      1.00000 mg O/mg N
PROGRAM      ALGAE OXYGEN PROD                =      0.05000 mg O/ug chl a/day
PROGRAM      N MACROPHYTE UPTAKE              =      0.00300 mg N/mg macrophyte/day
PROGRAM      MACROPHYTE OXYGEN PROD           =      0.00000 mg O/mg macrophyte/day
PROGRAM      N PREFERENCE                      =      0.60000 (0.0=NH3 1.0=NO3)
ENDATA03

```

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

```

CARD TYPE    RATE CODE    THETA VALUE
THETA        NCM DECA     1.04700
THETA        ORGN DEC     1.07000
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	BC	HEADWATER - SITE 2	80.30	TO 78.10	0.1000	2.20	22	1	22
REACH ID	2	BC	SITE 2 - SITE 3	78.10	TO 73.70	0.1000	4.40	44	23	66
REACH ID	3	BC	SITE 3 - LITTLE BARNES CR	73.70	TO 62.50	0.1000	11.20	112	67	178
REACH ID	4	BC	LITTLE BARNES - REDHEAD CR	62.50	TO 59.00	0.1000	3.50	35	179	213
REACH ID	5	BC	REDHEAD CR - SITE 6	59.00	TO 56.30	0.1000	2.70	27	214	240
REACH ID	6	BC	SITE 6 - LITTLE CANEY CR	56.30	TO 51.40	0.1000	4.90	49	241	289
REACH ID	7	BC	LITTLE CANEY CR - DAM	51.40	TO 49.40	0.1000	2.00	20	290	309
REACH ID	8	BC	DAM - CANEY CREEK	49.40	TO 46.50	0.1000	2.90	29	310	338
REACH ID	9	BC	CANEY CR - HURRICANE CR	46.50	TO 38.50	0.1000	8.00	80	339	418
REACH ID	10	BC	HURRICANE CR - SITE 10	38.50	TO 36.40	0.1000	2.10	21	419	439
REACH ID	11	BC	SITE 10 - MAGNOLIA CR	36.40	TO 34.10	0.1000	2.30	23	440	462

REACH ID	12	BC	MAGNOLIA CR - BRUSHY CR	34.10	TO	32.40	0.1000	1.70	17	463	479
REACH ID	13	BC	BRUSHY CR - RIGHTHAND CR	32.40	TO	30.50	0.1000	1.90	19	480	498
REACH ID	14	BC	RIGHTHAND CR - SITE 11	30.50	TO	29.50	0.1000	1.00	10	499	508
REACH ID	15	BC	SITE 11 - BOGGY CR	29.50	TO	23.00	0.1000	6.50	65	509	573
REACH ID	16	BC	BOGGY CR - WOLF CREEK	23.00	TO	22.90	0.1000	0.10	1	574	574
REACH ID	17	BC	WOLF CR - UNNAMED CREEK	22.90	TO	21.30	0.1000	1.60	16	575	590
REACH ID	18	BC	UNNAMED CR - SITE 12	21.30	TO	17.20	0.1000	4.10	41	591	631
REACH ID	19	BC	SITE 12 - CLEAR CR	17.20	TO	10.10	0.1000	7.10	71	632	702
REACH ID	20	BC	CLEAR CR - BEAR CR	10.10	TO	7.70	0.1000	2.40	24	703	726
REACH ID	21	BC	BEAR CR - SITE 13	7.70	TO	5.90	0.1000	1.80	18	727	744
REACH ID	22	BC	SITE 13 - CALCASIEU RIVER	5.90	TO	0.00	0.1000	5.90	59	745	803

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"
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 1										
HYDR-1	1	BC	2.680	0.930	2.800	0.620	1.000	0.100	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 2										
HYDR-1	2	BC	2.680	0.930	2.800	0.620	1.000	0.100	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 3										
HYDR-1	3	BC	2.680	0.930	3.100	0.620	1.000	0.310	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 4										
HYDR-1	4	BC	2.680	0.930	3.200	0.620	1.000	0.270	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 5										
HYDR-1	5	BC	2.680	0.930	3.200	0.620	1.000	0.270	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 6										
HYDR-1	6	BC	2.680	0.930	5.800	0.620	1.000	0.450	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 7										
HYDR-1	7	BC	2.680	0.930	5.800	0.620	1.000	0.450	0.00000	0.027
HYDR-1	8	BC	0.230	0.540	8.200	0.100	0.210	0.380	0.00000	0.027
HYDR-1	9	BC	0.230	0.540	4.000	0.100	0.210	0.330	0.00000	0.027
HYDR-1	10	BC	0.230	0.540	4.000	0.100	0.210	0.330	0.00000	0.027
HYDR-1	11	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	12	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	13	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	14	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	15	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	16	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	17	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	18	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	19	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	20	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	21	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	22	BC	0.230	0.540	23.800	0.100	0.210	2.290	0.00000	0.027

ENDATA09

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

CARD TYPE	REACH	ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"
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ENDATA10

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

CARD TYPE	REACH	ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
INITIAL	1	BC	26.00	0.00	7.30	0.00	0.56	0.00	2.60	0.00
INITIAL	2	BC	26.00	0.00	7.30	0.00	0.56	0.00	2.60	0.00
INITIAL	3	BC	26.00	0.00	7.30	0.00	0.37	0.00	2.00	0.00
INITIAL	4	BC	26.70	0.00	7.20	0.00	0.09	0.00	1.90	0.00
INITIAL	5	BC	26.70	0.00	7.20	0.00	0.09	0.00	1.90	0.00
INITIAL	6	BC	26.70	0.00	7.20	0.00	0.10	0.00	6.10	0.00
INITIAL	7	BC	26.70	0.00	7.20	0.00	0.10	0.00	6.10	0.00
INITIAL	8	BC	26.70	0.00	7.20	0.00	0.07	0.00	1.00	0.00
INITIAL	9	BC	26.70	0.00	7.20	0.00	0.09	0.00	0.60	0.00
INITIAL	10	BC	26.70	0.00	7.20	0.00	0.09	0.00	0.60	0.00
INITIAL	11	BC	26.70	0.00	7.20	0.00	0.08	0.00	1.10	0.00
INITIAL	12	BC	26.70	0.00	7.20	0.00	0.08	0.00	1.10	0.00
INITIAL	13	BC	26.70	0.00	7.20	0.00	0.08	0.00	1.10	0.00
INITIAL	14	BC	26.70	0.00	7.20	0.00	0.08	0.00	1.10	0.00
INITIAL	15	BC	26.70	0.00	7.20	0.00	0.08	0.00	0.90	0.00
INITIAL	16	BC	26.70	0.00	7.20	0.00	0.08	0.00	0.90	0.00
INITIAL	17	BC	26.70	0.00	7.20	0.00	0.08	0.00	0.90	0.00
INITIAL	18	BC	26.70	0.00	7.20	0.00	0.08	0.00	0.90	0.00
INITIAL	19	BC	26.70	0.00	7.20	0.00	0.10	0.00	0.90	0.00
INITIAL	20	BC	26.70	0.00	7.20	0.00	0.10	0.00	0.90	0.00
INITIAL	21	BC	26.70	0.00	7.20	0.00	0.10	0.00	0.90	0.00
INITIAL	22	BC	26.70	0.00	7.20	0.00	0.06	0.00	1.90	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 g/m ² /d	AEROB BOD DECAY per day	BOD SETT m/d	BOD CONV TO SOD	ANAER BOD DECAY
COEF-1	1	BC	20 K2=a/D	0.700	0.000	0.000	1.510	0.180	0.100	0.000	0.000
COEF-1	2	BC	20 K2=a/D	0.700	0.000	0.000	1.240	0.180	0.100	0.000	0.000
COEF-1	3	BC	20 K2=a/D	0.700	0.000	0.000	1.240	0.130	0.100	0.000	0.000
COEF-1	4	BC	20 K2=a/D	0.700	0.000	0.000	1.720	0.100	0.100	0.000	0.000
COEF-1	5	BC	20 K2=a/D	0.700	0.000	0.000	1.860	0.100	0.100	0.000	0.000
COEF-1	6	BC	20 K2=a/D	0.700	0.000	0.000	1.380	0.130	0.100	0.000	0.000
COEF-1	7	BC	20 K2=a/D	0.700	0.000	0.000	1.310	0.130	0.100	0.000	0.000
COEF-1	8	BC	20 K2=a/D	0.700	0.000	0.000	1.720	0.050	0.100	0.000	0.000
COEF-1	9	BC	20 K2=a/D	0.700	0.000	0.000	2.060	0.050	0.100	0.000	0.000
COEF-1	10	BC	20 K2=a/D	0.700	0.000	0.000	2.060	0.050	0.100	0.000	0.000

COEF-1	11	BC	20	K2=a/D	0.700	0.000	0.000	2.060	0.090	0.100	0.000	0.000
COEF-1	12	BC	20	K2=a/D	0.700	0.000	0.000	2.060	0.090	0.100	0.000	0.000
COEF-1	13	BC	20	K2=a/D	0.700	0.000	0.000	2.060	0.090	0.100	0.000	0.000
COEF-1	14	BC	20	K2=a/D	0.700	0.000	0.000	1.790	0.090	0.100	0.000	0.000
COEF-1	15	BC	20	K2=a/D	0.700	0.000	0.000	1.720	0.060	0.100	0.000	0.000
COEF-1	16	BC	20	K2=a/D	0.700	0.000	0.000	1.720	0.060	0.100	0.000	0.000
COEF-1	17	BC	20	K2=a/D	0.700	0.000	0.000	1.720	0.060	0.100	0.000	0.000
COEF-1	18	BC	20	K2=a/D	0.700	0.000	0.000	1.550	0.060	0.100	0.000	0.000
COEF-1	19	BC	20	K2=a/D	0.700	0.000	0.000	1.990	0.070	0.100	0.000	0.000
COEF-1	20	BC	20	K2=a/D	0.700	0.000	0.000	2.270	0.070	0.100	0.000	0.000
COEF-1	21	BC	20	K2=a/D	0.700	0.000	0.000	2.270	0.070	0.100	0.000	0.000
COEF-1	22	BC	20	K2=a/D	0.700	0.000	0.000	1.990	0.060	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
COEF-2	1	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	2	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	3	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	4	BC	0.050	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	5	BC	0.050	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	6	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	7	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	8	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	9	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	10	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	11	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	12	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	13	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	14	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	15	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	16	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	17	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	18	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	19	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	20	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	21	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	22	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000

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	BC	0.00	0.13	0.05	0.00
COEF-4	2	BC	0.00	0.13	0.05	0.00
COEF-4	3	BC	0.00	0.13	0.05	0.00
COEF-4	4	BC	0.00	0.05	0.05	0.00
COEF-4	5	BC	0.00	0.05	0.05	0.00
COEF-4	6	BC	0.00	0.04	0.05	0.00
COEF-4	7	BC	0.00	0.04	0.05	0.00
COEF-4	8	BC	0.00	0.02	0.05	0.00
COEF-4	9	BC	0.00	0.03	0.05	0.00
COEF-4	10	BC	0.00	0.03	0.05	0.00
COEF-4	11	BC	0.00	0.03	0.05	0.00
COEF-4	12	BC	0.00	0.03	0.05	0.00
COEF-4	13	BC	0.00	0.03	0.05	0.00
COEF-4	14	BC	0.00	0.03	0.05	0.00
COEF-4	15	BC	0.00	0.04	0.05	0.00
COEF-4	16	BC	0.00	0.04	0.05	0.00
COEF-4	17	BC	0.00	0.04	0.05	0.00
COEF-4	18	BC	0.00	0.04	0.05	0.00
COEF-4	19	BC	0.00	0.02	0.05	0.00
COEF-4	20	BC	0.00	0.02	0.05	0.00
COEF-4	21	BC	0.00	0.02	0.05	0.00
COEF-4	22	BC	0.00	0.03	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	IN/DIST	OUT/DIST
INCR-1	1	BC	0.00000	0.00000	26.00	0.00	33.90	12.40	0.00000	0.00000
INCR-1	2	BC	-0.02720	0.00000	26.00	0.00	33.90	12.40	0.00000	-0.00618
INCR-1	3	BC	-0.02040	0.00000	26.00	0.00	33.60	11.00	0.00000	-0.00182
INCR-1	4	BC	0.00000	0.00570	26.70	0.00	30.20	7.90	0.00163	0.00000
INCR-1	5	BC	0.00000	0.00570	26.70	0.00	30.20	7.90	0.00211	0.00000
INCR-1	6	BC	-0.00960	0.00000	26.70	0.00	23.60	6.00	0.00000	-0.00196
INCR-1	7	BC	-0.00960	0.00000	26.70	0.00	23.60	6.00	0.00000	-0.00480
INCR-1	8	BC	0.00000	0.00000	26.70	0.00	8.80	3.20	0.00000	0.00000
INCR-1	9	BC	0.00000	0.00000	26.70	0.00	6.90	2.70	0.00000	0.00000
INCR-1	10	BC	0.00000	0.00710	26.70	0.00	6.90	2.70	0.00338	0.00000
INCR-1	11	BC	0.00000	0.00330	26.70	0.00	9.20	3.40	0.00143	0.00000
INCR-1	12	BC	0.00000	0.00330	26.70	0.00	9.20	3.40	0.00194	0.00000
INCR-1	13	BC	0.00000	0.00330	26.70	0.00	9.20	3.40	0.00174	0.00000
INCR-1	14	BC	0.00000	0.00330	26.70	0.00	9.20	3.40	0.00330	0.00000
INCR-1	15	BC	0.00000	0.00790	26.70	0.00	13.60	4.10	0.00122	0.00000
INCR-1	16	BC	0.00000	0.00790	26.70	0.00	13.60	4.10	0.07900	0.00000
INCR-1	17	BC	0.00000	0.00790	26.70	0.00	13.60	4.10	0.00494	0.00000

INCR-1	18	BC	0.00000	0.00790	26.70	0.00	13.60	4.10	0.00193	0.00000
INCR-1	19	BC	0.00000	0.00000	26.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	20	BC	0.00000	0.00000	26.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	21	BC	0.00000	0.00000	26.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	22	BC	0.00000	0.00000	26.70	0.00	9.30	2.70	0.00000	0.00000

ENDATA16

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

CARD TYPE	REACH	ID	DO	BOD	ORG-N	NH3	NO3+2
INCR-2	1	BC	2.00	2.65	0.89	0.00	0.56
INCR-2	2	BC	2.00	4.16	0.89	0.00	0.56
INCR-2	3	BC	2.00	4.08	0.48	0.00	0.37
INCR-2	4	BC	2.00	4.82	0.28	0.00	0.09
INCR-2	5	BC	2.00	4.82	0.28	0.00	0.09
INCR-2	6	BC	2.00	5.88	0.48	0.00	0.10
INCR-2	7	BC	2.00	5.88	0.48	0.00	0.10
INCR-2	8	BC	2.00	5.54	0.07	0.00	0.07
INCR-2	9	BC	2.00	4.38	0.09	0.00	0.09
INCR-2	10	BC	2.00	4.95	0.53	0.00	0.09
INCR-2	11	BC	2.00	5.24	0.54	0.00	0.08
INCR-2	12	BC	2.00	5.24	0.54	0.00	0.08
INCR-2	13	BC	2.00	5.24	0.54	0.00	0.08
INCR-2	14	BC	2.00	5.24	0.54	0.00	0.08
INCR-2	15	BC	2.00	3.55	0.39	0.00	0.08
INCR-2	16	BC	2.00	3.55	0.39	0.00	0.08
INCR-2	17	BC	2.00	3.55	0.39	0.00	0.08
INCR-2	18	BC	2.00	3.55	0.39	0.00	0.08
INCR-2	19	BC	2.00	4.32	0.10	0.00	0.10
INCR-2	20	BC	2.00	4.32	0.10	0.00	0.10
INCR-2	21	BC	2.00	4.32	0.10	0.00	0.10
INCR-2	22	BC	2.00	5.12	0.06	0.00	0.06

ENDATA17

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

CARD TYPE	REACH	ID	PHOS	CHL A	COLI	NCM
INCR-3	1	BC	0.00	4.30	0.00	3.40
INCR-3	2	BC	0.00	4.30	0.00	3.40
INCR-3	3	BC	0.00	4.46	0.00	3.45
INCR-3	4	BC	0.00	4.23	0.00	3.48
INCR-3	5	BC	0.00	4.23	0.00	3.48
INCR-3	6	BC	0.00	3.01	0.00	5.05
INCR-3	7	BC	0.00	3.01	0.00	5.05
INCR-3	8	BC	0.00	3.72	0.00	4.03
INCR-3	9	BC	0.00	2.68	0.00	4.52
INCR-3	10	BC	0.00	2.68	0.00	4.52
INCR-3	11	BC	0.00	2.44	0.00	5.18

INCR-3	12	BC	0.00	2.44	0.00	5.18
INCR-3	13	BC	0.00	2.44	0.00	5.18
INCR-3	14	BC	0.00	2.44	0.00	5.18
INCR-3	15	BC	0.00	2.58	0.00	1.96
INCR-3	16	BC	0.00	2.58	0.00	1.96
INCR-3	17	BC	0.00	2.58	0.00	1.96
INCR-3	18	BC	0.00	2.58	0.00	1.96
INCR-3	19	BC	0.00	3.20	0.00	3.07
INCR-3	20	BC	0.00	3.20	0.00	3.07
INCR-3	21	BC	0.00	3.20	0.00	3.07
INCR-3	22	BC	0.00	1.34	0.00	2.73

ENDATA18

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

CARD TYPE	REACH	ID	BOD	ORG-N	COLI	NCM	DO
NONPOINT	1	BC	2.06	2.06	0.00	6.88	0.00
NONPOINT	2	BC	0.00	0.00	0.00	2.06	0.00
NONPOINT	3	BC	11.00	0.00	0.00	6.88	0.00
NONPOINT	4	BC	2.06	0.69	0.00	3.44	0.00
NONPOINT	5	BC	0.00	0.69	0.00	5.16	0.00
NONPOINT	6	BC	13.75	1.38	0.00	2.75	0.00
NONPOINT	7	BC	9.62	0.41	0.00	1.38	0.00
NONPOINT	8	BC	4.12	0.34	0.00	2.06	0.00
NONPOINT	9	BC	1.38	0.34	0.00	6.19	0.00
NONPOINT	10	BC	1.38	0.34	0.00	2.06	0.00
NONPOINT	11	BC	3.44	0.34	0.00	0.00	0.00
NONPOINT	12	BC	2.06	0.00	0.00	0.00	0.00
NONPOINT	13	BC	3.44	0.00	0.00	0.00	0.00
NONPOINT	14	BC	2.75	0.00	0.00	0.00	0.00
NONPOINT	15	BC	3.44	0.34	0.00	0.00	0.00
NONPOINT	16	BC	0.00	0.34	0.00	0.00	0.00
NONPOINT	17	BC	2.06	0.34	0.00	1.38	0.00
NONPOINT	18	BC	3.44	0.58	0.00	1.38	0.00
NONPOINT	19	BC	10.31	0.58	0.00	0.69	0.00
NONPOINT	20	BC	3.44	0.34	0.00	0.00	0.00
NONPOINT	21	BC	2.06	0.34	0.00	0.00	0.00
NONPOINT	22	BC	226.88	18.56	0.00	68.44	0.00

ENDATA19

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

CARD TYPE	ELEMENT	NAME	UNIT	FLOW m ³ /s	FLOW cfs	TEMP deg C	SALIN ppt	CM-I MG/L	CM-II MG/L
HDWTR-1	1	HEADWATER	0	0.03511	1.240	26.00	0.00	33.900	12.400

ENDATA20

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

WSTLD-2	419	HURRICANE CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	463	MAGNOLIA CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	480	BRUSHY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	499	RIGHTHAND CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	574	BOGGY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	575	WOLF CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	591	UNNAMED CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	703	CLEAR CREEK	7.20	5.55	0.00	0.75	0.00	0.00	0.06
WSTLD-2	727	BEAR CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ENDATA25

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

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
WSTLD-3	2	CITY OF DERIDDER	0.00	0.90	0.00	0.00
WSTLD-3	179	LITTLE BARNES CR	0.00	0.00	0.00	0.00
WSTLD-3	214	REDHEAD BRANCH	0.00	0.00	0.00	0.00
WSTLD-3	290	LITTLE CANEY CR	0.00	0.00	0.00	0.00
WSTLD-3	339	CANEY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	419	HURRICANE CREEK	0.00	0.00	0.00	0.00
WSTLD-3	463	MAGNOLIA CREEK	0.00	0.00	0.00	0.00
WSTLD-3	480	BRUSHY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	499	RIGHTHAND CREEK	0.00	0.00	0.00	0.00
WSTLD-3	574	BOGGY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	575	WOLF CREEK	0.00	0.00	0.00	0.00
WSTLD-3	591	UNNAMED CREEK	0.00	0.00	0.00	0.00
WSTLD-3	703	CLEAR CREEK	0.00	4.30	0.00	3.76
WSTLD-3	727	BEAR CREEK	0.00	0.00	0.00	0.00

ENDATA26

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

CARD TYPE	CONSTITUENT	CONCENTRATION
LOWER BC	TEMPERATURE	= 26.700 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	= 0.000 mg/L
LOWER BC	BIOCHEMICAL OXYGEN DEMAND	= 0.000 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	= 0.000 mg/L

ENDATA27

\$\$\$ DATA TYPE 28 (DAM DATA) \$\$\$

CARD TYPE	ELEMENT	NAME	EQN	"A"	"B"	"H"
DAM DATA ENDATA28	310	DAM AT SITE 7	1	1.000	0.800	4.740

\$\$\$ 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 = 22
PLOT RCH 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
ENDATA30

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

OVERLAY 1 bcprojovl.txt :MAINSTEM
ENDATA31

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

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
REACH NO. 1 HEADWATER - SITE 2 BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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	0.03511	26.00	0.00	33.90	12.40	7.30	2.04	2.43	0.96	0.00	0.56	0.00	2.60	0.00	3.40
2	WSTLD	0.16594	26.00	0.00	32.10	14.10	5.00	23.00	23.00	3.27	0.00	0.52	0.00	0.90	0.00	0.00

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
1	80.30	80.20	0.03511	0.00	0.09878	0.01	0.12	2.92	35.54	291.90	0.36	0.00	0.000	0.009	0.099
2	80.20	80.10	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
3	80.10	80.00	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
4	80.00	79.90	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
5	79.90	79.80	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
6	79.80	79.70	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
7	79.70	79.60	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
8	79.60	79.50	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
9	79.50	79.40	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
10	79.40	79.30	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
11	79.30	79.20	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
12	79.20	79.10	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
13	79.10	79.00	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
14	79.00	78.90	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
15	78.90	78.80	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
16	78.80	78.70	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
17	78.70	78.60	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
18	78.60	78.50	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
19	78.50	78.40	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
20	78.40	78.30	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
21	78.30	78.20	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
22	78.20	78.10	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
TOT						0.10			1640.90	7437.87					
AVG					0.24452		0.22	3.38			0.75				
CUM						0.10									

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

ELEM NCM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY	
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da	
1	80.200	8.11	6.44	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17	
0.06																				
2	80.100	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17	
0.06																				
3	80.000	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17	
0.06																				
4	79.900	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17	

0.06																			
5	79.800	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
6	79.700	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
7	79.600	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
8	79.500	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
9	79.400	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
10	79.300	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
11	79.200	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
12	79.100	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
13	79.000	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
14	78.900	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
15	78.800	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
16	78.700	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
17	78.600	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
18	78.500	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
19	78.400	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
20	78.300	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
21	78.200	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
22	78.100	8.11	3.49	0.24	0.12	0.00	2.20	2.20	2.20	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
	20 DEG C RATE			0.18		0.00	1.51			0.13		0.00	0.00	0.00	0.00			0.00	0.13
	AVG 20 DEG C RATE		3.24		0.10					0.20									
0.05																			

* g/m²/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 *
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1	80.200	26.00	0.00	33.89	12.41	7.14	2.14	2.53	0.99	0.00	0.56	1.56	0.00	2.60	0.00	0.00	3.48
2	80.100	26.00	0.00	32.41	13.80	5.35	19.32	19.71	2.87	0.00	0.52	3.40	0.00	2.60	0.00	0.00	0.63
3	80.000	26.00	0.00	32.41	13.80	5.33	19.29	19.68	2.87	0.01	0.52	3.40	0.00	2.60	0.00	0.00	0.64
4	79.900	26.00	0.00	32.41	13.80	5.31	19.27	19.66	2.87	0.01	0.52	3.41	0.00	2.60	0.00	0.00	0.66
5	79.800	26.00	0.00	32.41	13.80	5.28	19.25	19.64	2.87	0.01	0.52	3.41	0.00	2.60	0.00	0.00	0.68
6	79.700	26.00	0.00	32.41	13.80	5.26	19.22	19.61	2.87	0.01	0.52	3.41	0.00	2.60	0.00	0.00	0.70
7	79.600	26.00	0.00	32.41	13.80	5.24	19.20	19.59	2.87	0.02	0.52	3.41	0.00	2.60	0.00	0.00	0.71
8	79.500	26.00	0.00	32.41	13.80	5.22	19.17	19.56	2.87	0.02	0.52	3.42	0.00	2.60	0.00	0.00	0.73
9	79.400	26.00	0.00	32.41	13.80	5.20	19.15	19.54	2.87	0.02	0.52	3.42	0.00	2.60	0.00	0.00	0.75
10	79.300	26.00	0.00	32.41	13.80	5.18	19.12	19.51	2.87	0.02	0.52	3.42	0.00	2.60	0.00	0.00	0.77
11	79.200	26.00	0.00	32.41	13.80	5.16	19.10	19.49	2.87	0.02	0.52	3.42	0.00	2.60	0.00	0.00	0.78
12	79.100	26.00	0.00	32.41	13.80	5.14	19.08	19.47	2.87	0.03	0.52	3.43	0.00	2.60	0.00	0.00	0.80
13	79.000	26.00	0.00	32.41	13.80	5.12	19.05	19.44	2.87	0.03	0.52	3.43	0.00	2.60	0.00	0.00	0.82
14	78.900	26.00	0.00	32.41	13.80	5.10	19.03	19.42	2.87	0.03	0.52	3.43	0.00	2.60	0.00	0.00	0.83
15	78.800	26.00	0.00	32.41	13.80	5.08	19.00	19.39	2.87	0.03	0.52	3.43	0.00	2.60	0.00	0.00	0.85
16	78.700	26.00	0.00	32.41	13.80	5.06	18.98	19.37	2.87	0.04	0.52	3.44	0.00	2.60	0.00	0.00	0.87
17	78.600	26.00	0.00	32.41	13.80	5.05	18.96	19.35	2.87	0.04	0.52	3.44	0.00	2.60	0.00	0.00	0.89
18	78.500	26.00	0.00	32.41	13.80	5.03	18.93	19.32	2.87	0.04	0.52	3.44	0.00	2.60	0.00	0.00	0.90
19	78.400	26.00	0.00	32.41	13.80	5.01	18.91	19.30	2.87	0.04	0.52	3.44	0.00	2.60	0.00	0.00	0.92
20	78.300	26.00	0.00	32.41	13.80	4.99	18.88	19.27	2.87	0.05	0.52	3.44	0.00	2.60	0.00	0.00	0.94
21	78.200	26.00	0.00	32.41	13.80	4.98	18.86	19.25	2.87	0.05	0.52	3.45	0.00	2.60	0.00	0.00	0.95
22	78.100	26.00	0.00	32.41	13.80	4.96	18.84	19.23	2.87	0.05	0.52	3.45	0.00	2.60	0.00	0.00	0.97

* CM-I = CHLORIDES
 MG/L
 ** g/m³

CM-II = SULFATES
 MG/L

NCM = CBOD2
 mg/L

FINAL REPORT HEADWATER
 REACH NO. 2 SITE 2 - SITE 3

BARNES CREEK WATERSHED MODEL
 BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m³/	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 *
23	UPR RCH	0.20105	26.00	0.00	32.41	13.80	4.96	18.84	19.23	2.87	0.05	0.52	0.00	2.60	0.00	0.97
EACH	INCR	-0.0006														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s	MEAN VELO m/s
23	78.10	78.00	0.20043	82.54	0.26277	0.00	0.22	3.40	76.28	340.11	0.76	0.00	0.000	0.038	0.263
24	78.00	77.90	0.19981	82.54	0.26254	0.00	0.22	3.40	76.11	339.94	0.76	0.00	0.000	0.038	0.263
25	77.90	77.80	0.19920	82.54	0.26231	0.00	0.22	3.40	75.94	339.77	0.76	0.00	0.000	0.038	0.262

26	77.80	77.70	0.19858	82.54	0.26208	0.00	0.22	3.40	75.77	339.59	0.76	0.00	0.000	0.038	0.262
27	77.70	77.60	0.19796	82.54	0.26185	0.00	0.22	3.39	75.60	339.42	0.76	0.00	0.000	0.037	0.262
28	77.60	77.50	0.19734	82.54	0.26161	0.00	0.22	3.39	75.43	339.25	0.75	0.00	0.000	0.037	0.262
29	77.50	77.40	0.19672	82.54	0.26138	0.00	0.22	3.39	75.26	339.08	0.75	0.00	0.000	0.037	0.261
30	77.40	77.30	0.19610	82.54	0.26114	0.00	0.22	3.39	75.10	338.90	0.75	0.00	0.000	0.037	0.261
31	77.30	77.20	0.19549	82.54	0.26090	0.00	0.22	3.39	74.93	338.73	0.75	0.00	0.000	0.037	0.261
32	77.20	77.10	0.19487	82.54	0.26066	0.00	0.22	3.39	74.76	338.56	0.75	0.00	0.000	0.037	0.261
33	77.10	77.00	0.19425	82.54	0.26042	0.00	0.22	3.38	74.59	338.39	0.75	0.00	0.000	0.037	0.260
34	77.00	76.90	0.19363	82.54	0.26017	0.00	0.22	3.38	74.42	338.21	0.74	0.00	0.000	0.037	0.260
35	76.90	76.80	0.19301	82.54	0.25993	0.00	0.22	3.38	74.26	338.04	0.74	0.00	0.000	0.037	0.260
36	76.80	76.70	0.19240	82.54	0.25968	0.00	0.22	3.38	74.09	337.87	0.74	0.00	0.000	0.037	0.260
37	76.70	76.60	0.19178	82.54	0.25943	0.00	0.22	3.38	73.92	337.69	0.74	0.00	0.000	0.037	0.259
38	76.60	76.50	0.19116	82.54	0.25918	0.00	0.22	3.38	73.75	337.52	0.74	0.00	0.000	0.037	0.259
39	76.50	76.40	0.19054	82.54	0.25893	0.00	0.22	3.37	73.59	337.35	0.74	0.00	0.000	0.036	0.259
40	76.40	76.30	0.18992	82.54	0.25868	0.00	0.22	3.37	73.42	337.18	0.73	0.00	0.000	0.036	0.259
41	76.30	76.20	0.18930	82.54	0.25842	0.00	0.22	3.37	73.25	337.00	0.73	0.00	0.000	0.036	0.258
42	76.20	76.10	0.18869	82.54	0.25817	0.00	0.22	3.37	73.09	336.83	0.73	0.00	0.000	0.036	0.258
43	76.10	76.00	0.18807	82.54	0.25791	0.00	0.22	3.37	72.92	336.66	0.73	0.00	0.000	0.036	0.258
44	76.00	75.90	0.18745	82.54	0.25765	0.00	0.22	3.36	72.75	336.48	0.73	0.00	0.000	0.036	0.258
45	75.90	75.80	0.18683	82.54	0.25739	0.00	0.22	3.36	72.59	336.31	0.73	0.00	0.000	0.036	0.257
46	75.80	75.70	0.18621	82.54	0.25713	0.00	0.22	3.36	72.42	336.14	0.72	0.00	0.000	0.036	0.257
47	75.70	75.60	0.18560	82.54	0.25686	0.00	0.22	3.36	72.26	335.96	0.72	0.00	0.000	0.036	0.257
48	75.60	75.50	0.18498	82.54	0.25659	0.00	0.21	3.36	72.09	335.79	0.72	0.00	0.000	0.036	0.257
49	75.50	75.40	0.18436	82.54	0.25633	0.00	0.21	3.36	71.92	335.62	0.72	0.00	0.000	0.036	0.256
50	75.40	75.30	0.18374	82.54	0.25606	0.00	0.21	3.35	71.76	335.44	0.72	0.00	0.000	0.035	0.256
51	75.30	75.20	0.18312	82.54	0.25579	0.00	0.21	3.35	71.59	335.27	0.72	0.00	0.000	0.035	0.256
52	75.20	75.10	0.18250	82.54	0.25551	0.00	0.21	3.35	71.43	335.10	0.71	0.00	0.000	0.035	0.256
53	75.10	75.00	0.18189	82.54	0.25524	0.00	0.21	3.35	71.26	334.92	0.71	0.00	0.000	0.035	0.255
54	75.00	74.90	0.18127	82.54	0.25496	0.00	0.21	3.35	71.10	334.75	0.71	0.00	0.000	0.035	0.255
55	74.90	74.80	0.18065	82.54	0.25468	0.00	0.21	3.35	70.93	334.58	0.71	0.00	0.000	0.035	0.255
56	74.80	74.70	0.18003	82.54	0.25440	0.00	0.21	3.34	70.77	334.40	0.71	0.00	0.000	0.035	0.254
57	74.70	74.60	0.17941	82.54	0.25412	0.00	0.21	3.34	70.60	334.23	0.71	0.00	0.000	0.035	0.254
58	74.60	74.50	0.17880	82.54	0.25384	0.00	0.21	3.34	70.44	334.05	0.70	0.00	0.000	0.035	0.254
59	74.50	74.40	0.17818	82.54	0.25355	0.00	0.21	3.34	70.27	333.88	0.70	0.00	0.000	0.035	0.254
60	74.40	74.30	0.17756	82.54	0.25327	0.00	0.21	3.34	70.11	333.71	0.70	0.00	0.000	0.035	0.253
61	74.30	74.20	0.17694	82.54	0.25298	0.00	0.21	3.34	69.94	333.53	0.70	0.00	0.000	0.034	0.253
62	74.20	74.10	0.17632	82.54	0.25269	0.00	0.21	3.33	69.78	333.36	0.70	0.00	0.000	0.034	0.253
63	74.10	74.00	0.17570	82.54	0.25240	0.00	0.21	3.33	69.61	333.18	0.70	0.00	0.000	0.034	0.252
64	74.00	73.90	0.17509	82.54	0.25210	0.00	0.21	3.33	69.45	333.01	0.69	0.00	0.000	0.034	0.252
65	73.90	73.80	0.17447	82.54	0.25181	0.00	0.21	3.33	69.29	332.84	0.69	0.00	0.000	0.034	0.252
66	73.80	73.70	0.17385	82.54	0.25151	0.00	0.21	3.33	69.12	332.66	0.69	0.00	0.000	0.034	0.252

TOT
AVG
CUM

0.20
0.25734
0.30
0.22
3.36
3197.96
14801.30
0.73

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

ELEM ENDING SAT REAER CBOD CBOD ANBOD BKGD FULL CORR ORGN ORGN NH3 NH3 DENIT PO4 ALG MAC COLI NCM

NCM NO. SETT	DIST	D.O. mg/L	RATE 1/da	DECAY 1/da	SETT 1/da	DECAY 1/da	SOD *	SOD *	SOD *	DECAY 1/da	SETT 1/da	DECAY 1/da	SRCE *	RATE 1/da	SRCE *	PROD **	PROD **	DECAY 1/da	DECAY 1/da
23 0.06	78.000	8.11	3.50	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
24 0.06	77.900	8.11	3.50	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
25 0.06	77.800	8.11	3.51	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
26 0.06	77.700	8.11	3.52	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
27 0.06	77.600	8.11	3.52	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
28 0.06	77.500	8.11	3.53	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
29 0.06	77.400	8.11	3.53	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
30 0.06	77.300	8.11	3.54	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
31 0.06	77.200	8.11	3.55	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
32 0.06	77.100	8.11	3.55	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
33 0.06	77.000	8.11	3.56	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
34 0.06	76.900	8.11	3.56	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
35 0.06	76.800	8.11	3.57	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
36 0.06	76.700	8.11	3.58	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
37 0.06	76.600	8.11	3.58	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
38 0.06	76.500	8.11	3.59	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
39 0.06	76.400	8.11	3.60	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
40 0.06	76.300	8.11	3.60	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
41 0.06	76.200	8.11	3.61	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
42 0.06	76.100	8.11	3.62	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
43 0.06	76.000	8.11	3.62	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
44 0.06	75.900	8.11	3.63	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17

45	75.800	8.11	3.63	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
46	75.700	8.11	3.64	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
47	75.600	8.11	3.65	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
48	75.500	8.11	3.65	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
49	75.400	8.11	3.66	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
50	75.300	8.11	3.67	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
51	75.200	8.11	3.67	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
52	75.100	8.11	3.68	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
53	75.000	8.11	3.69	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
54	74.900	8.11	3.69	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
55	74.800	8.11	3.70	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
56	74.700	8.11	3.71	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
57	74.600	8.11	3.71	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
58	74.500	8.11	3.72	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
59	74.400	8.11	3.73	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
60	74.300	8.11	3.73	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
61	74.200	8.11	3.74	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
62	74.100	8.11	3.75	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
63	74.000	8.11	3.75	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
64	73.900	8.11	3.76	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
65	73.800	8.11	3.77	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
66	73.700	8.11	3.78	0.24	0.12	0.00	1.81	1.81	1.81	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
20 DEG C RATE				0.18		0.00	1.24			0.13		0.00	0.00	0.00	0.00			0.00	0.13
AVG 20 DEG C RATE			3.24		0.10					0.20									
0.05																			

* g/m²/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 *
23	78.000	26.00	0.00	32.41	13.80	4.95	18.81	19.19	2.87	0.05	0.52	3.45	0.00	2.59	0.00	0.00	0.97
24	77.900	26.00	0.00	32.41	13.80	4.94	18.78	19.16	2.86	0.06	0.52	3.44	0.00	2.57	0.00	0.00	0.97
25	77.800	26.00	0.00	32.41	13.80	4.93	18.75	19.13	2.86	0.06	0.52	3.44	0.00	2.56	0.00	0.00	0.98
26	77.700	26.00	0.00	32.41	13.80	4.93	18.72	19.10	2.85	0.06	0.52	3.44	0.00	2.55	0.00	0.00	0.98
27	77.600	26.00	0.00	32.41	13.80	4.92	18.69	19.07	2.85	0.06	0.52	3.44	0.00	2.53	0.00	0.00	0.98
28	77.500	26.00	0.00	32.41	13.80	4.91	18.66	19.04	2.84	0.07	0.52	3.43	0.00	2.52	0.00	0.00	0.98
29	77.400	26.00	0.00	32.41	13.80	4.90	18.63	19.01	2.84	0.07	0.52	3.43	0.00	2.50	0.00	0.00	0.98
30	77.300	26.00	0.00	32.41	13.80	4.89	18.60	18.98	2.83	0.07	0.52	3.43	0.00	2.49	0.00	0.00	0.98
31	77.200	26.00	0.00	32.41	13.80	4.89	18.57	18.95	2.83	0.07	0.52	3.42	0.00	2.48	0.00	0.00	0.99
32	77.100	26.00	0.00	32.41	13.80	4.88	18.55	18.91	2.82	0.08	0.52	3.42	0.00	2.46	0.00	0.00	0.99
33	77.000	26.00	0.00	32.41	13.80	4.87	18.52	18.88	2.82	0.08	0.52	3.42	0.00	2.45	0.00	0.00	0.99
34	76.900	26.00	0.00	32.41	13.80	4.86	18.49	18.85	2.81	0.08	0.52	3.41	0.00	2.44	0.00	0.00	0.99
35	76.800	26.00	0.00	32.41	13.80	4.86	18.46	18.82	2.81	0.08	0.52	3.41	0.00	2.42	0.00	0.00	0.99
36	76.700	26.00	0.00	32.41	13.80	4.85	18.43	18.79	2.80	0.09	0.52	3.41	0.00	2.41	0.00	0.00	1.00
37	76.600	26.00	0.00	32.41	13.80	4.84	18.40	18.76	2.80	0.09	0.52	3.41	0.00	2.40	0.00	0.00	1.00
38	76.500	26.00	0.00	32.41	13.80	4.84	18.37	18.73	2.79	0.09	0.52	3.40	0.00	2.38	0.00	0.00	1.00
39	76.400	26.00	0.00	32.41	13.80	4.83	18.34	18.70	2.78	0.09	0.52	3.40	0.00	2.37	0.00	0.00	1.00
40	76.300	26.00	0.00	32.41	13.80	4.83	18.31	18.67	2.78	0.10	0.52	3.40	0.00	2.35	0.00	0.00	1.00
41	76.200	26.00	0.00	32.41	13.80	4.82	18.29	18.64	2.77	0.10	0.52	3.39	0.00	2.34	0.00	0.00	1.00
42	76.100	26.00	0.00	32.41	13.80	4.81	18.26	18.61	2.77	0.10	0.52	3.39	0.00	2.33	0.00	0.00	1.01
43	76.000	26.00	0.00	32.41	13.80	4.81	18.23	18.58	2.76	0.10	0.52	3.39	0.00	2.31	0.00	0.00	1.01
44	75.900	26.00	0.00	32.41	13.80	4.80	18.20	18.54	2.76	0.11	0.52	3.39	0.00	2.30	0.00	0.00	1.01
45	75.800	26.00	0.00	32.41	13.80	4.80	18.17	18.51	2.75	0.11	0.52	3.38	0.00	2.29	0.00	0.00	1.01
46	75.700	26.00	0.00	32.41	13.80	4.79	18.14	18.48	2.75	0.11	0.52	3.38	0.00	2.27	0.00	0.00	1.01
47	75.600	26.00	0.00	32.41	13.80	4.79	18.11	18.45	2.74	0.11	0.52	3.38	0.00	2.26	0.00	0.00	1.02
48	75.500	26.00	0.00	32.41	13.80	4.78	18.08	18.42	2.74	0.11	0.52	3.37	0.00	2.25	0.00	0.00	1.02
49	75.400	26.00	0.00	32.41	13.80	4.78	18.06	18.39	2.73	0.12	0.52	3.37	0.00	2.23	0.00	0.00	1.02
50	75.300	26.00	0.00	32.41	13.80	4.77	18.03	18.36	2.73	0.12	0.52	3.37	0.00	2.22	0.00	0.00	1.02
51	75.200	26.00	0.00	32.41	13.80	4.77	18.00	18.33	2.72	0.12	0.52	3.37	0.00	2.20	0.00	0.00	1.02
52	75.100	26.00	0.00	32.41	13.80	4.76	17.97	18.30	2.72	0.12	0.52	3.36	0.00	2.19	0.00	0.00	1.03
53	75.000	26.00	0.00	32.41	13.80	4.76	17.94	18.27	2.71	0.13	0.52	3.36	0.00	2.18	0.00	0.00	1.03
54	74.900	26.00	0.00	32.41	13.80	4.75	17.91	18.24	2.71	0.13	0.52	3.36	0.00	2.16	0.00	0.00	1.03
55	74.800	26.00	0.00	32.41	13.80	4.75	17.88	18.21	2.70	0.13	0.52	3.35	0.00	2.15	0.00	0.00	1.03
56	74.700	26.00	0.00	32.41	13.80	4.75	17.86	18.18	2.70	0.13	0.52	3.35	0.00	2.14	0.00	0.00	1.03
57	74.600	26.00	0.00	32.41	13.80	4.74	17.83	18.15	2.69	0.14	0.52	3.35	0.00	2.12	0.00	0.00	1.03
58	74.500	26.00	0.00	32.41	13.80	4.74	17.80	18.12	2.69	0.14	0.52	3.35	0.00	2.11	0.00	0.00	1.04
59	74.400	26.00	0.00	32.41	13.80	4.74	17.77	18.09	2.68	0.14	0.52	3.34	0.00	2.10	0.00	0.00	1.04
60	74.300	26.00	0.00	32.41	13.80	4.73	17.74	18.05	2.67	0.14	0.52	3.34	0.00	2.08	0.00	0.00	1.04
61	74.200	26.00	0.00	32.41	13.80	4.73	17.71	18.02	2.67	0.15	0.52	3.34	0.00	2.07	0.00	0.00	1.04
62	74.100	26.00	0.00	32.41	13.80	4.73	17.69	17.99	2.66	0.15	0.52	3.33	0.00	2.05	0.00	0.00	1.04
63	74.000	26.00	0.00	32.41	13.80	4.72	17.66	17.96	2.66	0.15	0.52	3.33	0.00	2.04	0.00	0.00	1.05
64	73.900	26.00	0.00	32.41	13.80	4.72	17.63	17.93	2.65	0.15	0.52	3.33	0.00	2.03	0.00	0.00	1.05
65	73.800	26.00	0.00	32.41	13.80	4.72	17.60	17.90	2.65	0.15	0.52	3.33	0.00	2.01	0.00	0.00	1.05

66 73.700 26.00 0.00 32.41 13.80 4.71 17.57 17.87 2.64 0.16 0.52 3.32 0.00 2.00 0.00 0.00 1.05

* CM-I = CHLORIDES CM-II = SULFATES NCM = CBOD2
MG/L MG/L mg/L
** g/m³

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
REACH NO. 3 SITE 3 - LITTLE BARNES CR BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m³/	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 *
67	UPR RCH	0.17385	26.00	0.00	32.41	13.80	4.71	17.57	17.87	2.64	0.16	0.52	0.00	2.00	0.00	1.05
EACH	INCR	-0.0002														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s	MEAN VELO m/s
67	73.70	73.60	0.17367	82.54	0.11467	0.01	0.42	3.63	151.45	362.61	1.51	0.00	0.000	0.028	0.115
68	73.60	73.50	0.17349	82.54	0.11459	0.01	0.42	3.63	151.39	362.56	1.51	0.00	0.000	0.028	0.115
69	73.50	73.40	0.17330	82.54	0.11452	0.01	0.42	3.63	151.33	362.51	1.51	0.00	0.000	0.028	0.115
70	73.40	73.30	0.17312	82.54	0.11445	0.01	0.42	3.62	151.27	362.46	1.51	0.00	0.000	0.028	0.114
71	73.30	73.20	0.17294	82.54	0.11438	0.01	0.42	3.62	151.20	362.41	1.51	0.00	0.000	0.028	0.114
72	73.20	73.10	0.17276	82.54	0.11430	0.01	0.42	3.62	151.14	362.35	1.51	0.00	0.000	0.028	0.114
73	73.10	73.00	0.17258	82.54	0.11423	0.01	0.42	3.62	151.08	362.30	1.51	0.00	0.000	0.028	0.114
74	73.00	72.90	0.17239	82.54	0.11416	0.01	0.42	3.62	151.02	362.25	1.51	0.00	0.000	0.028	0.114
75	72.90	72.80	0.17221	82.54	0.11408	0.01	0.42	3.62	150.95	362.20	1.51	0.00	0.000	0.028	0.114
76	72.80	72.70	0.17203	82.54	0.11401	0.01	0.42	3.62	150.89	362.15	1.51	0.00	0.000	0.028	0.114
77	72.70	72.60	0.17185	82.54	0.11393	0.01	0.42	3.62	150.83	362.10	1.51	0.00	0.000	0.027	0.114
78	72.60	72.50	0.17166	82.54	0.11386	0.01	0.42	3.62	150.77	362.05	1.51	0.00	0.000	0.027	0.114
79	72.50	72.40	0.17148	82.54	0.11379	0.01	0.42	3.62	150.71	361.99	1.51	0.00	0.000	0.027	0.114
80	72.40	72.30	0.17130	82.54	0.11371	0.01	0.42	3.62	150.64	361.94	1.51	0.00	0.000	0.027	0.114
81	72.30	72.20	0.17112	82.54	0.11364	0.01	0.42	3.62	150.58	361.89	1.51	0.00	0.000	0.027	0.114
82	72.20	72.10	0.17094	82.54	0.11356	0.01	0.42	3.62	150.52	361.84	1.51	0.00	0.000	0.027	0.114
83	72.10	72.00	0.17075	82.54	0.11349	0.01	0.42	3.62	150.46	361.79	1.50	0.00	0.000	0.027	0.113
84	72.00	71.90	0.17057	82.54	0.11342	0.01	0.42	3.62	150.39	361.74	1.50	0.00	0.000	0.027	0.113
85	71.90	71.80	0.17039	82.54	0.11334	0.01	0.42	3.62	150.33	361.69	1.50	0.00	0.000	0.027	0.113
86	71.80	71.70	0.17021	82.54	0.11327	0.01	0.42	3.62	150.27	361.64	1.50	0.00	0.000	0.027	0.113
87	71.70	71.60	0.17003	82.54	0.11319	0.01	0.42	3.62	150.21	361.58	1.50	0.00	0.000	0.027	0.113
88	71.60	71.50	0.16984	82.54	0.11312	0.01	0.42	3.62	150.15	361.53	1.50	0.00	0.000	0.027	0.113
89	71.50	71.40	0.16966	82.54	0.11304	0.01	0.42	3.61	150.08	361.48	1.50	0.00	0.000	0.027	0.113
90	71.40	71.30	0.16948	82.54	0.11297	0.01	0.42	3.61	150.02	361.43	1.50	0.00	0.000	0.027	0.113

91	71.30	71.20	0.16930	82.54	0.11290	0.01	0.41	3.61	149.96	361.38	1.50	0.00	0.000	0.027	0.113
92	71.20	71.10	0.16911	82.54	0.11282	0.01	0.41	3.61	149.90	361.33	1.50	0.00	0.000	0.027	0.113
93	71.10	71.00	0.16893	82.54	0.11275	0.01	0.41	3.61	149.83	361.28	1.50	0.00	0.000	0.027	0.113
94	71.00	70.90	0.16875	82.54	0.11267	0.01	0.41	3.61	149.77	361.22	1.50	0.00	0.000	0.027	0.113
95	70.90	70.80	0.16857	82.54	0.11260	0.01	0.41	3.61	149.71	361.17	1.50	0.00	0.000	0.027	0.113
96	70.80	70.70	0.16839	82.54	0.11252	0.01	0.41	3.61	149.65	361.12	1.50	0.00	0.000	0.027	0.113
97	70.70	70.60	0.16820	82.54	0.11245	0.01	0.41	3.61	149.59	361.07	1.50	0.00	0.000	0.027	0.112
98	70.60	70.50	0.16802	82.54	0.11237	0.01	0.41	3.61	149.52	361.02	1.50	0.00	0.000	0.027	0.112
99	70.50	70.40	0.16784	82.54	0.11230	0.01	0.41	3.61	149.46	360.97	1.49	0.00	0.000	0.027	0.112
100	70.40	70.30	0.16766	82.54	0.11222	0.01	0.41	3.61	149.40	360.92	1.49	0.00	0.000	0.027	0.112
101	70.30	70.20	0.16748	82.54	0.11215	0.01	0.41	3.61	149.34	360.86	1.49	0.00	0.000	0.027	0.112
102	70.20	70.10	0.16729	82.54	0.11207	0.01	0.41	3.61	149.28	360.81	1.49	0.00	0.000	0.027	0.112
103	70.10	70.00	0.16711	82.54	0.11199	0.01	0.41	3.61	149.21	360.76	1.49	0.00	0.000	0.027	0.112
104	70.00	69.90	0.16693	82.54	0.11192	0.01	0.41	3.61	149.15	360.71	1.49	0.00	0.000	0.027	0.112
105	69.90	69.80	0.16675	82.54	0.11184	0.01	0.41	3.61	149.09	360.66	1.49	0.00	0.000	0.027	0.112
106	69.80	69.70	0.16656	82.54	0.11177	0.01	0.41	3.61	149.03	360.61	1.49	0.00	0.000	0.027	0.112
107	69.70	69.60	0.16638	82.54	0.11169	0.01	0.41	3.61	148.97	360.56	1.49	0.00	0.000	0.027	0.112
108	69.60	69.50	0.16620	82.54	0.11162	0.01	0.41	3.61	148.90	360.50	1.49	0.00	0.000	0.027	0.112
109	69.50	69.40	0.16602	82.54	0.11154	0.01	0.41	3.60	148.84	360.45	1.49	0.00	0.000	0.027	0.112
110	69.40	69.30	0.16584	82.54	0.11146	0.01	0.41	3.60	148.78	360.40	1.49	0.00	0.000	0.027	0.111
111	69.30	69.20	0.16565	82.54	0.11139	0.01	0.41	3.60	148.72	360.35	1.49	0.00	0.000	0.027	0.111
112	69.20	69.10	0.16547	82.54	0.11131	0.01	0.41	3.60	148.66	360.30	1.49	0.00	0.000	0.027	0.111
113	69.10	69.00	0.16529	82.54	0.11124	0.01	0.41	3.60	148.59	360.25	1.49	0.00	0.000	0.027	0.111
114	69.00	68.90	0.16511	82.54	0.11116	0.01	0.41	3.60	148.53	360.19	1.49	0.00	0.000	0.027	0.111
115	68.90	68.80	0.16493	82.54	0.11108	0.01	0.41	3.60	148.47	360.14	1.48	0.00	0.000	0.027	0.111
116	68.80	68.70	0.16474	82.54	0.11101	0.01	0.41	3.60	148.41	360.09	1.48	0.00	0.000	0.027	0.111
117	68.70	68.60	0.16456	82.54	0.11093	0.01	0.41	3.60	148.35	360.04	1.48	0.00	0.000	0.027	0.111
118	68.60	68.50	0.16438	82.54	0.11085	0.01	0.41	3.60	148.28	359.99	1.48	0.00	0.000	0.026	0.111
119	68.50	68.40	0.16420	82.54	0.11078	0.01	0.41	3.60	148.22	359.94	1.48	0.00	0.000	0.026	0.111
120	68.40	68.30	0.16401	82.54	0.11070	0.01	0.41	3.60	148.16	359.89	1.48	0.00	0.000	0.026	0.111
121	68.30	68.20	0.16383	82.54	0.11062	0.01	0.41	3.60	148.10	359.83	1.48	0.00	0.000	0.026	0.111
122	68.20	68.10	0.16365	82.54	0.11055	0.01	0.41	3.60	148.04	359.78	1.48	0.00	0.000	0.026	0.111
123	68.10	68.00	0.16347	82.54	0.11047	0.01	0.41	3.60	147.98	359.73	1.48	0.00	0.000	0.026	0.110
124	68.00	67.90	0.16329	82.54	0.11039	0.01	0.41	3.60	147.91	359.68	1.48	0.00	0.000	0.026	0.110
125	67.90	67.80	0.16310	82.54	0.11032	0.01	0.41	3.60	147.85	359.63	1.48	0.00	0.000	0.026	0.110
126	67.80	67.70	0.16292	82.54	0.11024	0.01	0.41	3.60	147.79	359.58	1.48	0.00	0.000	0.026	0.110
127	67.70	67.60	0.16274	82.54	0.11016	0.01	0.41	3.60	147.73	359.52	1.48	0.00	0.000	0.026	0.110
128	67.60	67.50	0.16256	82.54	0.11008	0.01	0.41	3.59	147.67	359.47	1.48	0.00	0.000	0.026	0.110
129	67.50	67.40	0.16238	82.54	0.11001	0.01	0.41	3.59	147.60	359.42	1.48	0.00	0.000	0.026	0.110
130	67.40	67.30	0.16219	82.54	0.10993	0.01	0.41	3.59	147.54	359.37	1.48	0.00	0.000	0.026	0.110
131	67.30	67.20	0.16201	82.54	0.10985	0.01	0.41	3.59	147.48	359.32	1.47	0.00	0.000	0.026	0.110
132	67.20	67.10	0.16183	82.54	0.10977	0.01	0.41	3.59	147.42	359.27	1.47	0.00	0.000	0.026	0.110
133	67.10	67.00	0.16165	82.54	0.10970	0.01	0.41	3.59	147.36	359.22	1.47	0.00	0.000	0.026	0.110
134	67.00	66.90	0.16147	82.54	0.10962	0.01	0.41	3.59	147.30	359.16	1.47	0.00	0.000	0.026	0.110
135	66.90	66.80	0.16128	82.54	0.10954	0.01	0.41	3.59	147.23	359.11	1.47	0.00	0.000	0.026	0.110
136	66.80	66.70	0.16110	82.54	0.10946	0.01	0.41	3.59	147.17	359.06	1.47	0.00	0.000	0.026	0.109
137	66.70	66.60	0.16092	82.54	0.10939	0.01	0.41	3.59	147.11	359.01	1.47	0.00	0.000	0.026	0.109
138	66.60	66.50	0.16074	82.54	0.10931	0.01	0.41	3.59	147.05	358.96	1.47	0.00	0.000	0.026	0.109
139	66.50	66.40	0.16055	82.54	0.10923	0.01	0.41	3.59	146.99	358.91	1.47	0.00	0.000	0.026	0.109
140	66.40	66.30	0.16037	82.54	0.10915	0.01	0.41	3.59	146.93	358.85	1.47	0.00	0.000	0.026	0.109

0.06																			
166	63.700	8.02	1.95	0.18	0.12	0.00	1.88	1.88	1.88	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
167	63.600	8.02	1.95	0.18	0.12	0.00	1.88	1.88	1.88	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
168	63.500	8.02	1.95	0.18	0.12	0.00	1.88	1.88	1.88	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
169	63.400	8.02	1.95	0.18	0.12	0.00	1.88	1.88	1.88	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
170	63.300	8.02	1.95	0.18	0.12	0.00	1.88	1.88	1.88	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
171	63.200	8.02	1.96	0.18	0.12	0.00	1.89	1.89	1.89	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
172	63.100	8.02	1.96	0.18	0.12	0.00	1.89	1.89	1.89	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
173	63.000	8.02	1.96	0.18	0.12	0.00	1.89	1.89	1.89	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
174	62.900	8.01	1.96	0.18	0.12	0.00	1.89	1.89	1.89	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
175	62.800	8.01	1.96	0.18	0.12	0.00	1.89	1.89	1.89	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
176	62.700	8.01	1.96	0.18	0.12	0.00	1.89	1.89	1.89	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
177	62.600	8.01	1.96	0.18	0.12	0.00	1.89	1.89	1.89	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
178	62.500	8.01	1.96	0.18	0.12	0.00	1.89	1.89	1.89	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
20 DEG C RATE				0.13		0.00	1.24			0.13		0.00	0.00	0.00	0.00			0.00	0.13
AVG 20 DEG C RATE			1.70		0.10						0.20								
0.05																			

* g/m²/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 *
67	73.600	26.01	0.00	32.41	13.80	4.70	17.53	17.83	2.63	0.16	0.52	3.32	0.00	2.00	0.00	0.00	1.05
68	73.500	26.01	0.00	32.41	13.80	4.68	17.48	17.78	2.62	0.17	0.52	3.31	0.00	2.00	0.00	0.00	1.06
69	73.400	26.02	0.00	32.41	13.80	4.67	17.44	17.74	2.61	0.17	0.52	3.30	0.00	2.00	0.00	0.00	1.06
70	73.300	26.02	0.00	32.41	13.80	4.66	17.40	17.70	2.60	0.18	0.52	3.30	0.00	2.00	0.00	0.00	1.06
71	73.200	26.03	0.00	32.41	13.80	4.64	17.35	17.65	2.59	0.18	0.52	3.29	0.00	2.00	0.00	0.00	1.06
72	73.100	26.04	0.00	32.41	13.80	4.63	17.31	17.61	2.58	0.19	0.52	3.29	0.00	1.99	0.00	0.00	1.06
73	73.000	26.04	0.00	32.41	13.80	4.62	17.26	17.56	2.57	0.19	0.52	3.28	0.00	1.99	0.00	0.00	1.06
74	72.900	26.05	0.00	32.41	13.80	4.60	17.22	17.52	2.55	0.20	0.52	3.27	0.00	1.99	0.00	0.00	1.07
75	72.800	26.06	0.00	32.41	13.80	4.59	17.18	17.48	2.54	0.20	0.52	3.27	0.00	1.99	0.00	0.00	1.07
76	72.700	26.06	0.00	32.41	13.80	4.58	17.13	17.43	2.53	0.21	0.52	3.26	0.00	1.99	0.00	0.00	1.07

77	72.600	26.07	0.00	32.41	13.80	4.57	17.09	17.39	2.52	0.21	0.52	3.26	0.00	1.99	0.00	0.00	1.07
78	72.500	26.08	0.00	32.41	13.80	4.55	17.05	17.35	2.51	0.22	0.52	3.25	0.00	1.99	0.00	0.00	1.07
79	72.400	26.08	0.00	32.41	13.80	4.54	17.01	17.30	2.50	0.22	0.52	3.24	0.00	1.99	0.00	0.00	1.07
80	72.300	26.09	0.00	32.41	13.80	4.53	16.96	17.26	2.49	0.23	0.52	3.24	0.00	1.99	0.00	0.00	1.08
81	72.200	26.09	0.00	32.41	13.80	4.52	16.92	17.22	2.48	0.23	0.52	3.23	0.00	1.99	0.00	0.00	1.08
82	72.100	26.10	0.00	32.41	13.80	4.51	16.88	17.17	2.47	0.24	0.52	3.23	0.00	1.99	0.00	0.00	1.08
83	72.000	26.11	0.00	32.41	13.80	4.50	16.83	17.13	2.46	0.24	0.52	3.22	0.00	1.98	0.00	0.00	1.08
84	71.900	26.11	0.00	32.41	13.80	4.49	16.79	17.09	2.45	0.25	0.52	3.21	0.00	1.98	0.00	0.00	1.08
85	71.800	26.12	0.00	32.41	13.80	4.48	16.75	17.05	2.44	0.25	0.52	3.21	0.00	1.98	0.00	0.00	1.08
86	71.700	26.12	0.00	32.41	13.80	4.47	16.71	17.00	2.42	0.26	0.52	3.20	0.00	1.98	0.00	0.00	1.09
87	71.600	26.13	0.00	32.41	13.80	4.46	16.66	16.96	2.41	0.26	0.52	3.20	0.00	1.98	0.00	0.00	1.09
88	71.500	26.14	0.00	32.41	13.80	4.45	16.62	16.92	2.40	0.27	0.52	3.19	0.00	1.98	0.00	0.00	1.09
89	71.400	26.14	0.00	32.41	13.80	4.44	16.58	16.88	2.39	0.27	0.52	3.19	0.00	1.98	0.00	0.00	1.09
90	71.300	26.15	0.00	32.41	13.80	4.43	16.54	16.83	2.38	0.28	0.52	3.18	0.00	1.98	0.00	0.00	1.09
91	71.200	26.16	0.00	32.41	13.80	4.43	16.50	16.79	2.37	0.28	0.52	3.17	0.00	1.98	0.00	0.00	1.09
92	71.100	26.16	0.00	32.41	13.80	4.42	16.45	16.75	2.36	0.29	0.52	3.17	0.00	1.98	0.00	0.00	1.10
93	71.000	26.17	0.00	32.41	13.80	4.41	16.41	16.71	2.35	0.29	0.52	3.16	0.00	1.98	0.00	0.00	1.10
94	70.900	26.17	0.00	32.41	13.80	4.40	16.37	16.67	2.34	0.30	0.52	3.16	0.00	1.98	0.00	0.00	1.10
95	70.800	26.18	0.00	32.41	13.80	4.39	16.33	16.62	2.33	0.30	0.52	3.15	0.00	1.97	0.00	0.00	1.10
96	70.700	26.19	0.00	32.41	13.80	4.39	16.29	16.58	2.32	0.30	0.52	3.15	0.00	1.97	0.00	0.00	1.10
97	70.600	26.19	0.00	32.41	13.80	4.38	16.25	16.54	2.31	0.31	0.52	3.14	0.00	1.97	0.00	0.00	1.10
98	70.500	26.20	0.00	32.41	13.80	4.37	16.20	16.50	2.30	0.31	0.52	3.14	0.00	1.97	0.00	0.00	1.10
99	70.400	26.21	0.00	32.41	13.80	4.37	16.16	16.46	2.29	0.32	0.52	3.13	0.00	1.97	0.00	0.00	1.11
100	70.300	26.21	0.00	32.41	13.80	4.36	16.12	16.42	2.28	0.32	0.52	3.12	0.00	1.97	0.00	0.00	1.11
101	70.200	26.22	0.00	32.41	13.80	4.35	16.08	16.38	2.27	0.33	0.52	3.12	0.00	1.97	0.00	0.00	1.11
102	70.100	26.23	0.00	32.41	13.80	4.35	16.04	16.33	2.26	0.33	0.52	3.11	0.00	1.97	0.00	0.00	1.11
103	70.000	26.23	0.00	32.41	13.80	4.34	16.00	16.29	2.25	0.34	0.52	3.11	0.00	1.97	0.00	0.00	1.11
104	69.900	26.24	0.00	32.41	13.80	4.33	15.96	16.25	2.24	0.34	0.52	3.10	0.00	1.97	0.00	0.00	1.11
105	69.800	26.24	0.00	32.41	13.80	4.33	15.92	16.21	2.23	0.35	0.52	3.10	0.00	1.97	0.00	0.00	1.12
106	69.700	26.25	0.00	32.41	13.80	4.32	15.88	16.17	2.22	0.35	0.52	3.09	0.00	1.96	0.00	0.00	1.12
107	69.600	26.26	0.00	32.41	13.80	4.32	15.84	16.13	2.21	0.36	0.52	3.09	0.00	1.96	0.00	0.00	1.12
108	69.500	26.26	0.00	32.41	13.80	4.31	15.80	16.09	2.20	0.36	0.52	3.08	0.00	1.96	0.00	0.00	1.12
109	69.400	26.27	0.00	32.41	13.80	4.31	15.75	16.05	2.19	0.36	0.52	3.08	0.00	1.96	0.00	0.00	1.12
110	69.300	26.27	0.00	32.41	13.80	4.30	15.71	16.01	2.18	0.37	0.52	3.07	0.00	1.96	0.00	0.00	1.12
111	69.200	26.28	0.00	32.41	13.80	4.30	15.67	15.97	2.17	0.37	0.52	3.06	0.00	1.96	0.00	0.00	1.13
112	69.100	26.29	0.00	32.41	13.80	4.29	15.63	15.93	2.16	0.38	0.52	3.06	0.00	1.96	0.00	0.00	1.13
113	69.000	26.29	0.00	32.41	13.80	4.29	15.59	15.89	2.15	0.38	0.52	3.05	0.00	1.96	0.00	0.00	1.13
114	68.900	26.30	0.00	32.41	13.80	4.28	15.55	15.85	2.14	0.39	0.52	3.05	0.00	1.96	0.00	0.00	1.13
115	68.800	26.31	0.00	32.41	13.80	4.28	15.51	15.81	2.13	0.39	0.52	3.04	0.00	1.96	0.00	0.00	1.13
116	68.700	26.31	0.00	32.41	13.80	4.28	15.47	15.77	2.12	0.40	0.52	3.04	0.00	1.96	0.00	0.00	1.13
117	68.600	26.32	0.00	32.41	13.80	4.27	15.43	15.73	2.11	0.40	0.52	3.03	0.00	1.95	0.00	0.00	1.13
118	68.500	26.33	0.00	32.41	13.80	4.27	15.39	15.69	2.10	0.40	0.52	3.03	0.00	1.95	0.00	0.00	1.14
119	68.400	26.33	0.00	32.41	13.80	4.26	15.36	15.65	2.09	0.41	0.52	3.02	0.00	1.95	0.00	0.00	1.14
120	68.300	26.34	0.00	32.41	13.80	4.26	15.32	15.61	2.09	0.41	0.52	3.02	0.00	1.95	0.00	0.00	1.14
121	68.200	26.34	0.00	32.41	13.80	4.26	15.28	15.57	2.08	0.42	0.52	3.01	0.00	1.95	0.00	0.00	1.14
122	68.100	26.35	0.00	32.41	13.80	4.25	15.24	15.53	2.07	0.42	0.52	3.01	0.00	1.95	0.00	0.00	1.14
123	68.000	26.36	0.00	32.41	13.80	4.25	15.20	15.49	2.06	0.43	0.52	3.00	0.00	1.95	0.00	0.00	1.14
124	67.900	26.36	0.00	32.41	13.80	4.25	15.16	15.45	2.05	0.43	0.52	3.00	0.00	1.95	0.00	0.00	1.15
125	67.800	26.37	0.00	32.41	13.80	4.24	15.12	15.41	2.04	0.43	0.52	2.99	0.00	1.95	0.00	0.00	1.15
126	67.700	26.38	0.00	32.41	13.80	4.24	15.08	15.37	2.03	0.44	0.52	2.99	0.00	1.95	0.00	0.00	1.15

127	67.600	26.38	0.00	32.41	13.80	4.24	15.04	15.33	2.02	0.44	0.52	2.98	0.00	1.95	0.00	0.00	1.15
128	67.500	26.39	0.00	32.41	13.80	4.24	15.00	15.29	2.01	0.45	0.52	2.98	0.00	1.94	0.00	0.00	1.15
129	67.400	26.39	0.00	32.41	13.80	4.23	14.96	15.26	2.00	0.45	0.52	2.97	0.00	1.94	0.00	0.00	1.15
130	67.300	26.40	0.00	32.41	13.80	4.23	14.93	15.22	1.99	0.46	0.52	2.97	0.00	1.94	0.00	0.00	1.16
131	67.200	26.41	0.00	32.41	13.80	4.23	14.89	15.18	1.98	0.46	0.52	2.96	0.00	1.94	0.00	0.00	1.16
132	67.100	26.41	0.00	32.41	13.80	4.23	14.85	15.14	1.98	0.46	0.52	2.96	0.00	1.94	0.00	0.00	1.16
133	67.000	26.42	0.00	32.41	13.80	4.22	14.81	15.10	1.97	0.47	0.52	2.95	0.00	1.94	0.00	0.00	1.16
134	66.900	26.43	0.00	32.41	13.80	4.22	14.77	15.06	1.96	0.47	0.52	2.95	0.00	1.94	0.00	0.00	1.16
135	66.800	26.43	0.00	32.41	13.80	4.22	14.73	15.02	1.95	0.48	0.52	2.94	0.00	1.94	0.00	0.00	1.16
136	66.700	26.44	0.00	32.41	13.80	4.22	14.70	14.99	1.94	0.48	0.52	2.94	0.00	1.94	0.00	0.00	1.16
137	66.600	26.44	0.00	32.41	13.80	4.22	14.66	14.95	1.93	0.48	0.52	2.93	0.00	1.94	0.00	0.00	1.17
138	66.500	26.45	0.00	32.41	13.80	4.21	14.62	14.91	1.92	0.49	0.52	2.93	0.00	1.94	0.00	0.00	1.17
139	66.400	26.46	0.00	32.41	13.80	4.21	14.58	14.87	1.91	0.49	0.52	2.92	0.00	1.93	0.00	0.00	1.17
140	66.300	26.46	0.00	32.41	13.80	4.21	14.54	14.83	1.90	0.50	0.52	2.92	0.00	1.93	0.00	0.00	1.17
141	66.200	26.47	0.00	32.41	13.80	4.21	14.51	14.80	1.90	0.50	0.52	2.91	0.00	1.93	0.00	0.00	1.17
142	66.100	26.48	0.00	32.41	13.80	4.21	14.47	14.76	1.89	0.50	0.52	2.91	0.00	1.93	0.00	0.00	1.17
143	66.000	26.48	0.00	32.41	13.80	4.21	14.43	14.72	1.88	0.51	0.52	2.91	0.00	1.93	0.00	0.00	1.18
144	65.900	26.49	0.00	32.41	13.80	4.21	14.39	14.68	1.87	0.51	0.52	2.90	0.00	1.93	0.00	0.00	1.18
145	65.800	26.49	0.00	32.41	13.80	4.20	14.36	14.65	1.86	0.52	0.52	2.90	0.00	1.93	0.00	0.00	1.18
146	65.700	26.50	0.00	32.41	13.80	4.20	14.32	14.61	1.85	0.52	0.52	2.89	0.00	1.93	0.00	0.00	1.18
147	65.600	26.51	0.00	32.41	13.80	4.20	14.28	14.57	1.84	0.52	0.52	2.89	0.00	1.93	0.00	0.00	1.18
148	65.500	26.51	0.00	32.41	13.80	4.20	14.24	14.53	1.84	0.53	0.52	2.88	0.00	1.93	0.00	0.00	1.18
149	65.400	26.52	0.00	32.41	13.80	4.20	14.21	14.50	1.83	0.53	0.52	2.88	0.00	1.93	0.00	0.00	1.18
150	65.300	26.52	0.00	32.41	13.80	4.20	14.17	14.46	1.82	0.54	0.52	2.87	0.00	1.92	0.00	0.00	1.19
151	65.200	26.53	0.00	32.41	13.80	4.20	14.13	14.42	1.81	0.54	0.52	2.87	0.00	1.92	0.00	0.00	1.19
152	65.100	26.54	0.00	32.41	13.80	4.20	14.10	14.38	1.80	0.54	0.52	2.86	0.00	1.92	0.00	0.00	1.19
153	65.000	26.54	0.00	32.41	13.80	4.20	14.06	14.35	1.79	0.55	0.52	2.86	0.00	1.92	0.00	0.00	1.19
154	64.900	26.55	0.00	32.41	13.80	4.20	14.02	14.31	1.78	0.55	0.52	2.85	0.00	1.92	0.00	0.00	1.19
155	64.800	26.56	0.00	32.41	13.80	4.20	13.99	14.27	1.78	0.55	0.52	2.85	0.00	1.92	0.00	0.00	1.19
156	64.700	26.56	0.00	32.41	13.80	4.20	13.95	14.24	1.77	0.56	0.52	2.85	0.00	1.92	0.00	0.00	1.19
157	64.600	26.57	0.00	32.41	13.80	4.20	13.91	14.20	1.76	0.56	0.52	2.84	0.00	1.92	0.00	0.00	1.20
158	64.500	26.58	0.00	32.41	13.80	4.20	13.88	14.16	1.75	0.57	0.52	2.84	0.00	1.92	0.00	0.00	1.20
159	64.400	26.58	0.00	32.41	13.80	4.20	13.84	14.13	1.74	0.57	0.52	2.83	0.00	1.92	0.00	0.00	1.20
160	64.300	26.59	0.00	32.41	13.80	4.20	13.80	14.09	1.74	0.57	0.52	2.83	0.00	1.92	0.00	0.00	1.20
161	64.200	26.59	0.00	32.41	13.80	4.20	13.77	14.06	1.73	0.58	0.52	2.82	0.00	1.92	0.00	0.00	1.20
162	64.100	26.60	0.00	32.41	13.80	4.20	13.73	14.02	1.72	0.58	0.52	2.82	0.00	1.91	0.00	0.00	1.20
163	64.000	26.61	0.00	32.41	13.80	4.20	13.70	13.98	1.71	0.58	0.52	2.81	0.00	1.91	0.00	0.00	1.21
164	63.900	26.61	0.00	32.41	13.80	4.20	13.66	13.95	1.70	0.59	0.52	2.81	0.00	1.91	0.00	0.00	1.21
165	63.800	26.62	0.00	32.41	13.80	4.20	13.62	13.91	1.70	0.59	0.52	2.81	0.00	1.91	0.00	0.00	1.21
166	63.700	26.62	0.00	32.41	13.80	4.20	13.59	13.88	1.69	0.60	0.52	2.80	0.00	1.91	0.00	0.00	1.21
167	63.600	26.63	0.00	32.41	13.80	4.20	13.55	13.84	1.68	0.60	0.52	2.80	0.00	1.91	0.00	0.00	1.21
168	63.500	26.64	0.00	32.41	13.80	4.20	13.52	13.80	1.67	0.60	0.52	2.79	0.00	1.91	0.00	0.00	1.21
169	63.400	26.64	0.00	32.41	13.80	4.20	13.48	13.77	1.66	0.61	0.52	2.79	0.00	1.91	0.00	0.00	1.21
170	63.300	26.65	0.00	32.41	13.80	4.20	13.45	13.73	1.66	0.61	0.52	2.78	0.00	1.91	0.00	0.00	1.22
171	63.200	26.66	0.00	32.41	13.80	4.20	13.41	13.70	1.65	0.61	0.52	2.78	0.00	1.91	0.00	0.00	1.22
172	63.100	26.66	0.00	32.41	13.80	4.20	13.38	13.66	1.64	0.62	0.52	2.78	0.00	1.91	0.00	0.00	1.22
173	63.000	26.67	0.00	32.41	13.80	4.20	13.34	13.63	1.63	0.62	0.52	2.77	0.00	1.90	0.00	0.00	1.22
174	62.900	26.68	0.00	32.41	13.80	4.20	13.31	13.59	1.62	0.63	0.52	2.77	0.00	1.90	0.00	0.00	1.22
175	62.800	26.68	0.00	32.41	13.80	4.20	13.27	13.56	1.62	0.63	0.52	2.76	0.00	1.90	0.00	0.00	1.22
176	62.700	26.69	0.00	32.41	13.80	4.20	13.24	13.52	1.61	0.63	0.52	2.76	0.00	1.90	0.00	0.00	1.22

202	60.20	60.10	0.15736	80.49	0.11634	0.01	0.37	3.68	135.26	368.00	1.35	0.00	0.000	0.025	0.116
203	60.10	60.00	0.15752	80.40	0.11641	0.01	0.37	3.68	135.32	368.05	1.35	0.00	0.000	0.025	0.116
204	60.00	59.90	0.15769	80.32	0.11648	0.01	0.37	3.68	135.37	368.09	1.35	0.00	0.000	0.025	0.116
205	59.90	59.80	0.15785	80.24	0.11656	0.01	0.37	3.68	135.43	368.14	1.35	0.00	0.000	0.025	0.117
206	59.80	59.70	0.15801	80.15	0.11663	0.01	0.37	3.68	135.48	368.19	1.35	0.00	0.000	0.025	0.117
207	59.70	59.60	0.15817	80.07	0.11670	0.01	0.37	3.68	135.53	368.23	1.36	0.00	0.000	0.025	0.117
208	59.60	59.50	0.15834	79.99	0.11678	0.01	0.37	3.68	135.59	368.28	1.36	0.00	0.000	0.025	0.117
209	59.50	59.40	0.15850	79.91	0.11685	0.01	0.37	3.68	135.64	368.32	1.36	0.00	0.000	0.025	0.117
210	59.40	59.30	0.15866	79.82	0.11692	0.01	0.37	3.68	135.70	368.37	1.36	0.00	0.000	0.025	0.117
211	59.30	59.20	0.15883	79.74	0.11700	0.01	0.37	3.68	135.75	368.42	1.36	0.00	0.000	0.025	0.117
212	59.20	59.10	0.15899	79.66	0.11707	0.01	0.37	3.68	135.81	368.46	1.36	0.00	0.000	0.026	0.117
213	59.10	59.00	0.15915	79.58	0.11714	0.01	0.37	3.69	135.86	368.51	1.36	0.00	0.000	0.026	0.117
TOT															
AVG					0.11588			0.35		4722.87	12870.31			1.35	
CUM								1.83							

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
179	62.400	8.01	2.18	0.14	0.12	0.00	2.62	2.62	2.62	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
180	62.300	8.01	2.17	0.14	0.12	0.00	2.62	2.62	2.62	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
181	62.200	8.01	2.17	0.14	0.12	0.00	2.62	2.62	2.62	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
182	62.100	8.01	2.17	0.14	0.12	0.00	2.62	2.62	2.62	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
183	62.000	8.01	2.17	0.14	0.12	0.00	2.62	2.62	2.62	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
184	61.900	8.01	2.17	0.14	0.12	0.00	2.62	2.62	2.62	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
185	61.800	8.01	2.17	0.14	0.12	0.00	2.62	2.62	2.62	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
186	61.700	8.01	2.17	0.14	0.12	0.00	2.62	2.62	2.62	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
187	61.600	8.01	2.17	0.14	0.12	0.00	2.62	2.62	2.62	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
188	61.500	8.01	2.17	0.14	0.12	0.00	2.62	2.62	2.62	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
189	61.400	8.01	2.17	0.14	0.12	0.00	2.62	2.62	2.62	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
190	61.300	8.01	2.17	0.14	0.12	0.00	2.62	2.62	2.62	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07

0.05

* g/m²/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 *
179	62.400	26.70	0.00	32.41	13.80	4.19	13.13	13.41	1.59	0.64	0.52	2.75	0.00	1.90	0.00	0.00	1.24
180	62.300	26.70	0.00	32.41	13.79	4.18	13.09	13.38	1.59	0.64	0.52	2.75	0.00	1.90	0.00	0.00	1.24
181	62.200	26.70	0.00	32.41	13.78	4.17	13.05	13.34	1.59	0.64	0.52	2.74	0.00	1.90	0.00	0.00	1.25
182	62.100	26.70	0.00	32.40	13.78	4.16	13.02	13.30	1.59	0.64	0.52	2.74	0.00	1.90	0.00	0.00	1.26
183	62.000	26.70	0.00	32.40	13.77	4.16	12.98	13.26	1.58	0.64	0.51	2.74	0.00	1.90	0.00	0.00	1.27
184	61.900	26.70	0.00	32.40	13.77	4.15	12.94	13.23	1.58	0.64	0.51	2.74	0.00	1.90	0.00	0.00	1.28
185	61.800	26.70	0.00	32.40	13.76	4.14	12.90	13.19	1.58	0.64	0.51	2.74	0.00	1.90	0.00	0.00	1.28
186	61.700	26.70	0.00	32.40	13.75	4.13	12.87	13.15	1.58	0.64	0.51	2.73	0.00	1.90	0.00	0.00	1.29
187	61.600	26.70	0.00	32.39	13.75	4.12	12.83	13.12	1.58	0.64	0.51	2.73	0.00	1.90	0.00	0.00	1.30
188	61.500	26.70	0.00	32.39	13.74	4.12	12.79	13.08	1.57	0.64	0.51	2.73	0.00	1.90	0.00	0.00	1.31
189	61.400	26.70	0.00	32.39	13.73	4.11	12.76	13.04	1.57	0.65	0.51	2.73	0.00	1.90	0.00	0.00	1.32
190	61.300	26.70	0.00	32.39	13.73	4.10	12.72	13.01	1.57	0.65	0.51	2.73	0.00	1.90	0.00	0.00	1.32
191	61.200	26.70	0.00	32.38	13.72	4.09	12.69	12.97	1.57	0.65	0.51	2.72	0.00	1.90	0.00	0.00	1.33
192	61.100	26.70	0.00	32.38	13.72	4.09	12.65	12.93	1.56	0.65	0.51	2.72	0.00	1.90	0.00	0.00	1.34
193	61.000	26.70	0.00	32.38	13.71	4.08	12.61	12.90	1.56	0.65	0.51	2.72	0.00	1.90	0.00	0.00	1.35
194	60.900	26.70	0.00	32.38	13.70	4.07	12.58	12.86	1.56	0.65	0.51	2.72	0.00	1.90	0.00	0.00	1.36
195	60.800	26.70	0.00	32.38	13.70	4.07	12.54	12.83	1.56	0.65	0.51	2.72	0.00	1.90	0.00	0.00	1.36
196	60.700	26.70	0.00	32.37	13.69	4.06	12.51	12.79	1.56	0.65	0.51	2.71	0.00	1.90	0.00	0.00	1.37
197	60.600	26.70	0.00	32.37	13.69	4.06	12.47	12.76	1.55	0.65	0.51	2.71	0.00	1.90	0.00	0.00	1.38
198	60.500	26.70	0.00	32.37	13.68	4.05	12.44	12.72	1.55	0.65	0.51	2.71	0.00	1.90	0.00	0.00	1.39
199	60.400	26.70	0.00	32.37	13.67	4.04	12.40	12.69	1.55	0.65	0.51	2.71	0.00	1.90	0.00	0.00	1.39
200	60.300	26.70	0.00	32.36	13.67	4.04	12.37	12.65	1.55	0.65	0.51	2.71	0.00	1.90	0.00	0.00	1.40
201	60.200	26.70	0.00	32.36	13.66	4.03	12.33	12.62	1.55	0.65	0.51	2.70	0.00	1.90	0.00	0.00	1.41
202	60.100	26.70	0.00	32.36	13.66	4.03	12.30	12.58	1.54	0.65	0.51	2.70	0.00	1.90	0.00	0.00	1.42
203	60.000	26.70	0.00	32.36	13.65	4.02	12.26	12.55	1.54	0.65	0.51	2.70	0.00	1.90	0.00	0.00	1.42
204	59.900	26.70	0.00	32.35	13.64	4.02	12.23	12.51	1.54	0.65	0.50	2.70	0.00	1.90	0.00	0.00	1.43
205	59.800	26.70	0.00	32.35	13.64	4.02	12.20	12.48	1.54	0.65	0.50	2.70	0.00	1.90	0.00	0.00	1.44
206	59.700	26.70	0.00	32.35	13.63	4.01	12.16	12.45	1.54	0.65	0.50	2.69	0.00	1.90	0.00	0.00	1.45
207	59.600	26.70	0.00	32.35	13.63	4.01	12.13	12.41	1.53	0.65	0.50	2.69	0.00	1.90	0.00	0.00	1.45
208	59.500	26.70	0.00	32.35	13.62	4.00	12.09	12.38	1.53	0.66	0.50	2.69	0.00	1.90	0.00	0.00	1.46
209	59.400	26.70	0.00	32.34	13.62	4.00	12.06	12.35	1.53	0.66	0.50	2.69	0.00	1.90	0.00	0.00	1.47
210	59.300	26.70	0.00	32.34	13.61	3.99	12.03	12.31	1.53	0.66	0.50	2.69	0.00	1.90	0.00	0.00	1.48
211	59.200	26.70	0.00	32.34	13.60	3.99	11.99	12.28	1.53	0.66	0.50	2.69	0.00	1.90	0.00	0.00	1.48
212	59.100	26.70	0.00	32.34	13.60	3.99	11.96	12.25	1.53	0.66	0.50	2.68	0.00	1.90	0.00	0.00	1.49
213	59.000	26.70	0.00	32.34	13.59	3.98	11.93	12.21	1.52	0.66	0.50	2.68	0.00	1.90	0.00	0.00	1.50

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
214	UPR RCH	0.15915	26.70	0.00	32.34	13.59	3.98	11.93	12.21	1.52	0.66	0.50	0.00	1.90	0.00	1.50
EACH	INCR	0.0002	26.70	0.00	30.20	7.90	2.00	4.82	4.82	0.28	0.00	0.09	0.00		0.00	3.48

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
214	59.00	58.90	0.15936	79.47	0.11724	0.01	0.37	3.69	135.93	368.57	1.36	0.00	0.000	0.026	0.117
215	58.90	58.80	0.15957	79.37	0.11733	0.01	0.37	3.69	136.00	368.63	1.36	0.00	0.000	0.026	0.117
216	58.80	58.70	0.15978	79.26	0.11743	0.01	0.37	3.69	136.07	368.69	1.36	0.00	0.000	0.026	0.117
217	58.70	58.60	0.16000	79.16	0.11752	0.01	0.37	3.69	136.14	368.75	1.36	0.00	0.000	0.026	0.118
218	58.60	58.50	0.16021	79.06	0.11762	0.01	0.37	3.69	136.21	368.81	1.36	0.00	0.000	0.026	0.118
219	58.50	58.40	0.16042	78.95	0.11771	0.01	0.37	3.69	136.28	368.87	1.36	0.00	0.000	0.026	0.118
220	58.40	58.30	0.16063	78.85	0.11780	0.01	0.37	3.69	136.35	368.93	1.36	0.00	0.000	0.026	0.118
221	58.30	58.20	0.16084	78.74	0.11790	0.01	0.37	3.69	136.42	368.99	1.36	0.00	0.000	0.026	0.118
222	58.20	58.10	0.16105	78.64	0.11799	0.01	0.37	3.69	136.49	369.05	1.36	0.00	0.000	0.026	0.118
223	58.10	58.00	0.16126	78.54	0.11809	0.01	0.37	3.69	136.56	369.11	1.37	0.00	0.000	0.026	0.118
224	58.00	57.90	0.16147	78.44	0.11818	0.01	0.37	3.69	136.63	369.17	1.37	0.00	0.000	0.026	0.118
225	57.90	57.80	0.16168	78.33	0.11827	0.01	0.37	3.69	136.70	369.23	1.37	0.00	0.000	0.026	0.118
226	57.80	57.70	0.16190	78.23	0.11837	0.01	0.37	3.69	136.77	369.29	1.37	0.00	0.000	0.026	0.118
227	57.70	57.60	0.16211	78.13	0.11846	0.01	0.37	3.69	136.84	369.35	1.37	0.00	0.000	0.026	0.118
228	57.60	57.50	0.16232	78.03	0.11855	0.01	0.37	3.69	136.92	369.41	1.37	0.00	0.000	0.026	0.119
229	57.50	57.40	0.16253	77.93	0.11865	0.01	0.37	3.69	136.99	369.47	1.37	0.00	0.000	0.026	0.119
230	57.40	57.30	0.16274	77.82	0.11874	0.01	0.37	3.70	137.06	369.52	1.37	0.00	0.000	0.026	0.119
231	57.30	57.20	0.16295	77.72	0.11883	0.01	0.37	3.70	137.13	369.58	1.37	0.00	0.000	0.026	0.119
232	57.20	57.10	0.16316	77.62	0.11892	0.01	0.37	3.70	137.20	369.64	1.37	0.00	0.000	0.026	0.119
233	57.10	57.00	0.16337	77.52	0.11902	0.01	0.37	3.70	137.27	369.70	1.37	0.00	0.000	0.026	0.119
234	57.00	56.90	0.16358	77.42	0.11911	0.01	0.37	3.70	137.34	369.76	1.37	0.00	0.000	0.026	0.119
235	56.90	56.80	0.16380	77.32	0.11920	0.01	0.37	3.70	137.41	369.82	1.37	0.00	0.000	0.026	0.119
236	56.80	56.70	0.16401	77.22	0.11929	0.01	0.37	3.70	137.48	369.88	1.37	0.00	0.000	0.026	0.119
237	56.70	56.60	0.16422	77.12	0.11939	0.01	0.37	3.70	137.55	369.94	1.38	0.00	0.000	0.026	0.119
238	56.60	56.50	0.16443	77.03	0.11948	0.01	0.37	3.70	137.62	370.00	1.38	0.00	0.000	0.026	0.119
239	56.50	56.40	0.16464	76.93	0.11957	0.01	0.37	3.70	137.69	370.06	1.38	0.00	0.000	0.026	0.120
240	56.40	56.30	0.16485	76.83	0.11966	0.01	0.37	3.70	137.76	370.12	1.38	0.00	0.000	0.026	0.120
TOT						0.26			3694.82	9972.33					
AVG					0.11845		0.37	3.69			1.37				

CUM

2.09

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
214	58.900	8.01	2.15	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.07
215	58.800	8.01	2.15	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.07
216	58.700	8.01	2.15	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.07
217	58.600	8.01	2.15	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.07
218	58.500	8.01	2.15	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.07
219	58.400	8.01	2.15	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.07
220	58.300	8.01	2.15	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.07
221	58.200	8.01	2.15	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.07
222	58.100	8.01	2.15	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.07
223	58.000	8.01	2.15	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.07
224	57.900	8.01	2.15	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.07
225	57.800	8.01	2.15	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.07
226	57.700	8.01	2.14	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.07
227	57.600	8.01	2.14	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.07
228	57.500	8.01	2.14	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.07
229	57.400	8.01	2.14	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.07
230	57.300	8.01	2.14	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.07
231	57.200	8.01	2.14	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.07
232	57.100	8.01	2.14	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.07

233	57.000	8.01	2.14	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.07
0.06																			
234	56.900	8.01	2.14	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.07
0.06																			
235	56.800	8.01	2.14	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.07
0.06																			
236	56.700	8.01	2.14	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.07
0.06																			
237	56.600	8.01	2.14	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.07
0.06																			
238	56.500	8.01	2.14	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.07
0.06																			
239	56.400	8.01	2.14	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.07
0.06																			
240	56.300	8.01	2.13	0.14	0.12	0.00	2.84	2.84	2.84	0.08	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.07
0.06																			
20 DEG C RATE				0.10		0.00	1.86			0.05		0.00	0.00	0.00	0.00			0.00	0.05
AVG 20 DEG C RATE			1.89		0.10						0.05								
0.05																			

* g/m²/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 *
214	58.900	26.70	0.00	32.33	13.58	3.97	11.89	12.20	1.52	0.66	0.50	2.68	0.00	2.06	0.00	0.00	1.51
215	58.800	26.70	0.00	32.33	13.58	3.96	11.85	12.18	1.52	0.66	0.50	2.68	0.00	2.21	0.00	0.00	1.53
216	58.700	26.70	0.00	32.33	13.57	3.96	11.81	12.17	1.52	0.66	0.50	2.68	0.00	2.37	0.00	0.00	1.54
217	58.600	26.70	0.00	32.32	13.56	3.95	11.77	12.15	1.52	0.66	0.50	2.67	0.00	2.52	0.00	0.00	1.56
218	58.500	26.70	0.00	32.32	13.55	3.94	11.74	12.14	1.51	0.66	0.50	2.67	0.00	2.68	0.00	0.00	1.57
219	58.400	26.70	0.00	32.32	13.55	3.93	11.70	12.12	1.51	0.66	0.50	2.67	0.00	2.83	0.00	0.00	1.59
220	58.300	26.70	0.00	32.32	13.54	3.92	11.66	12.11	1.51	0.66	0.50	2.67	0.00	2.99	0.00	0.00	1.60
221	58.200	26.70	0.00	32.31	13.53	3.92	11.62	12.09	1.51	0.66	0.50	2.66	0.00	3.14	0.00	0.00	1.61
222	58.100	26.70	0.00	32.31	13.52	3.91	11.58	12.08	1.51	0.66	0.50	2.66	0.00	3.30	0.00	0.00	1.63
223	58.000	26.70	0.00	32.31	13.52	3.90	11.55	12.06	1.51	0.66	0.49	2.66	0.00	3.46	0.00	0.00	1.64
224	57.900	26.70	0.00	32.30	13.51	3.90	11.51	12.05	1.50	0.66	0.49	2.66	0.00	3.61	0.00	0.00	1.66
225	57.800	26.70	0.00	32.30	13.50	3.89	11.47	12.04	1.50	0.66	0.49	2.66	0.00	3.77	0.00	0.00	1.67
226	57.700	26.70	0.00	32.30	13.50	3.89	11.43	12.02	1.50	0.66	0.49	2.65	0.00	3.92	0.00	0.00	1.68
227	57.600	26.70	0.00	32.30	13.49	3.88	11.40	12.01	1.50	0.66	0.49	2.65	0.00	4.08	0.00	0.00	1.70
228	57.500	26.70	0.00	32.29	13.48	3.88	11.36	12.00	1.50	0.66	0.49	2.65	0.00	4.23	0.00	0.00	1.71
229	57.400	26.70	0.00	32.29	13.47	3.87	11.32	11.98	1.49	0.66	0.49	2.65	0.00	4.39	0.00	0.00	1.73
230	57.300	26.70	0.00	32.29	13.47	3.87	11.29	11.97	1.49	0.66	0.49	2.65	0.00	4.54	0.00	0.00	1.74
231	57.200	26.70	0.00	32.29	13.46	3.86	11.25	11.96	1.49	0.66	0.49	2.64	0.00	4.70	0.00	0.00	1.75
232	57.100	26.70	0.00	32.28	13.45	3.86	11.22	11.94	1.49	0.66	0.49	2.64	0.00	4.86	0.00	0.00	1.77
233	57.000	26.70	0.00	32.28	13.44	3.85	11.18	11.93	1.49	0.66	0.49	2.64	0.00	5.01	0.00	0.00	1.78
234	56.900	26.70	0.00	32.28	13.44	3.85	11.14	11.92	1.49	0.66	0.49	2.64	0.00	5.17	0.00	0.00	1.79

235	56.800	26.70	0.00	32.27	13.43	3.85	11.11	11.91	1.48	0.66	0.49	2.63	0.00	5.32	0.00	0.00	1.81
236	56.700	26.70	0.00	32.27	13.42	3.84	11.07	11.90	1.48	0.66	0.49	2.63	0.00	5.48	0.00	0.00	1.82
237	56.600	26.70	0.00	32.27	13.42	3.84	11.04	11.88	1.48	0.66	0.49	2.63	0.00	5.63	0.00	0.00	1.83
238	56.500	26.70	0.00	32.27	13.41	3.84	11.00	11.87	1.48	0.66	0.49	2.63	0.00	5.79	0.00	0.00	1.85
239	56.400	26.70	0.00	32.26	13.40	3.83	10.97	11.86	1.48	0.66	0.49	2.63	0.00	5.94	0.00	0.00	1.86
240	56.300	26.70	0.00	32.26	13.39	3.83	10.93	11.85	1.48	0.66	0.48	2.62	0.00	6.10	0.00	0.00	1.87

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 6 SITE 6 - LITTLE CANEY CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m³/	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 *
241	UPR RCH	0.16485	26.70	0.00	32.26	13.39	3.83	10.93	11.85	1.48	0.66	0.48	0.00	6.10	0.00	1.87
EACH	INCR	-0.0002														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s	MEAN VELO m/s
241	56.30	56.20	0.16465	76.83	0.04733	0.02	0.55	6.30	347.85	630.07	3.48	0.00	0.000	0.014	0.047
242	56.20	56.10	0.16446	76.83	0.04729	0.02	0.55	6.30	347.74	630.01	3.48	0.00	0.000	0.014	0.047
243	56.10	56.00	0.16426	76.83	0.04725	0.02	0.55	6.30	347.64	629.96	3.48	0.00	0.000	0.014	0.047
244	56.00	55.90	0.16407	76.83	0.04721	0.02	0.55	6.30	347.53	629.90	3.48	0.00	0.000	0.014	0.047
245	55.90	55.80	0.16387	76.83	0.04717	0.02	0.55	6.30	347.42	629.85	3.47	0.00	0.000	0.014	0.047
246	55.80	55.70	0.16368	76.83	0.04713	0.02	0.55	6.30	347.32	629.79	3.47	0.00	0.000	0.014	0.047
247	55.70	55.60	0.16348	76.83	0.04708	0.02	0.55	6.30	347.21	629.73	3.47	0.00	0.000	0.014	0.047
248	55.60	55.50	0.16328	76.83	0.04704	0.02	0.55	6.30	347.10	629.68	3.47	0.00	0.000	0.014	0.047
249	55.50	55.40	0.16309	76.83	0.04700	0.02	0.55	6.30	346.99	629.62	3.47	0.00	0.000	0.014	0.047
250	55.40	55.30	0.16289	76.83	0.04696	0.02	0.55	6.30	346.89	629.57	3.47	0.00	0.000	0.014	0.047
251	55.30	55.20	0.16270	76.83	0.04692	0.02	0.55	6.30	346.78	629.51	3.47	0.00	0.000	0.014	0.047
252	55.20	55.10	0.16250	76.83	0.04687	0.02	0.55	6.29	346.67	629.46	3.47	0.00	0.000	0.014	0.047
253	55.10	55.00	0.16230	76.83	0.04683	0.02	0.55	6.29	346.57	629.40	3.47	0.00	0.000	0.014	0.047
254	55.00	54.90	0.16211	76.83	0.04679	0.02	0.55	6.29	346.46	629.35	3.46	0.00	0.000	0.014	0.047
255	54.90	54.80	0.16191	76.83	0.04675	0.02	0.55	6.29	346.35	629.29	3.46	0.00	0.000	0.014	0.047
256	54.80	54.70	0.16172	76.83	0.04671	0.02	0.55	6.29	346.25	629.24	3.46	0.00	0.000	0.014	0.047
257	54.70	54.60	0.16152	76.83	0.04666	0.02	0.55	6.29	346.14	629.18	3.46	0.00	0.000	0.014	0.047
258	54.60	54.50	0.16132	76.83	0.04662	0.02	0.55	6.29	346.03	629.12	3.46	0.00	0.000	0.014	0.047
259	54.50	54.40	0.16113	76.83	0.04658	0.02	0.55	6.29	345.92	629.07	3.46	0.00	0.000	0.014	0.047

260	54.40	54.30	0.16093	76.83	0.04654	0.02	0.55	6.29	345.82	629.01	3.46	0.00	0.000	0.014	0.047
261	54.30	54.20	0.16074	76.83	0.04649	0.02	0.55	6.29	345.71	628.96	3.46	0.00	0.000	0.014	0.046
262	54.20	54.10	0.16054	76.83	0.04645	0.02	0.55	6.29	345.60	628.90	3.46	0.00	0.000	0.014	0.046
263	54.10	54.00	0.16034	76.83	0.04641	0.02	0.55	6.29	345.50	628.85	3.45	0.00	0.000	0.014	0.046
264	54.00	53.90	0.16015	76.83	0.04637	0.02	0.55	6.29	345.39	628.79	3.45	0.00	0.000	0.014	0.046
265	53.90	53.80	0.15995	76.83	0.04633	0.02	0.55	6.29	345.28	628.74	3.45	0.00	0.000	0.014	0.046
266	53.80	53.70	0.15976	76.83	0.04628	0.03	0.55	6.29	345.18	628.68	3.45	0.00	0.000	0.014	0.046
267	53.70	53.60	0.15956	76.83	0.04624	0.03	0.55	6.29	345.07	628.62	3.45	0.00	0.000	0.014	0.046
268	53.60	53.50	0.15936	76.83	0.04620	0.03	0.55	6.29	344.96	628.57	3.45	0.00	0.000	0.014	0.046
269	53.50	53.40	0.15917	76.83	0.04616	0.03	0.55	6.29	344.86	628.51	3.45	0.00	0.000	0.014	0.046
270	53.40	53.30	0.15897	76.83	0.04611	0.03	0.55	6.28	344.75	628.46	3.45	0.00	0.000	0.014	0.046
271	53.30	53.20	0.15878	76.83	0.04607	0.03	0.55	6.28	344.64	628.40	3.45	0.00	0.000	0.014	0.046
272	53.20	53.10	0.15858	76.83	0.04603	0.03	0.55	6.28	344.54	628.35	3.45	0.00	0.000	0.014	0.046
273	53.10	53.00	0.15839	76.83	0.04598	0.03	0.55	6.28	344.43	628.29	3.44	0.00	0.000	0.014	0.046
274	53.00	52.90	0.15819	76.83	0.04594	0.03	0.55	6.28	344.32	628.24	3.44	0.00	0.000	0.014	0.046
275	52.90	52.80	0.15799	76.83	0.04590	0.03	0.55	6.28	344.22	628.18	3.44	0.00	0.000	0.014	0.046
276	52.80	52.70	0.15780	76.83	0.04586	0.03	0.55	6.28	344.11	628.12	3.44	0.00	0.000	0.014	0.046
277	52.70	52.60	0.15760	76.83	0.04581	0.03	0.55	6.28	344.00	628.07	3.44	0.00	0.000	0.014	0.046
278	52.60	52.50	0.15741	76.83	0.04577	0.03	0.55	6.28	343.89	628.01	3.44	0.00	0.000	0.014	0.046
279	52.50	52.40	0.15721	76.83	0.04573	0.03	0.55	6.28	343.79	627.96	3.44	0.00	0.000	0.014	0.046
280	52.40	52.30	0.15701	76.83	0.04569	0.03	0.55	6.28	343.68	627.90	3.44	0.00	0.000	0.014	0.046
281	52.30	52.20	0.15682	76.83	0.04564	0.03	0.55	6.28	343.57	627.85	3.44	0.00	0.000	0.014	0.046
282	52.20	52.10	0.15662	76.83	0.04560	0.03	0.55	6.28	343.47	627.79	3.43	0.00	0.000	0.014	0.046
283	52.10	52.00	0.15643	76.83	0.04556	0.03	0.55	6.28	343.36	627.74	3.43	0.00	0.000	0.014	0.046
284	52.00	51.90	0.15623	76.83	0.04551	0.03	0.55	6.28	343.25	627.68	3.43	0.00	0.000	0.014	0.046
285	51.90	51.80	0.15603	76.83	0.04547	0.03	0.55	6.28	343.15	627.62	3.43	0.00	0.000	0.014	0.045
286	51.80	51.70	0.15584	76.83	0.04543	0.03	0.55	6.28	343.04	627.57	3.43	0.00	0.000	0.014	0.045
287	51.70	51.60	0.15564	76.83	0.04539	0.03	0.55	6.28	342.93	627.51	3.43	0.00	0.000	0.014	0.045
288	51.60	51.50	0.15545	76.83	0.04534	0.03	0.55	6.27	342.83	627.46	3.43	0.00	0.000	0.014	0.045
289	51.50	51.40	0.15525	76.83	0.04530	0.03	0.55	6.27	342.72	627.40	3.43	0.00	0.000	0.014	0.045
TOT						1.22			16918.93	30808.03					
AVG			0.04631			0.55	6.29				3.45				
CUM						3.31									

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
241	56.200	8.01	1.44	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
242	56.100	8.01	1.44	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
243	56.000	8.01	1.44	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05

0.06																			
269	53.400	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
270	53.300	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
271	53.200	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
272	53.100	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
273	53.000	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
274	52.900	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
275	52.800	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
276	52.700	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
277	52.600	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
278	52.500	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
279	52.400	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
280	52.300	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
281	52.200	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
282	52.100	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
283	52.000	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
284	51.900	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
285	51.800	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
286	51.700	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
287	51.600	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
288	51.500	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
289	51.400	8.01	1.45	0.18	0.12	0.00	2.10	2.10	2.10	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
20 DEG C RATE				0.13		0.00	1.38			0.04		0.00	0.00	0.00	0.00			0.00	0.04
AVG 20 DEG C RATE			1.27		0.10						0.05								
0.05																			

* g/m²/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 *
241	56.200	26.70	0.00	32.26	13.39	3.84	10.88	11.79	1.47	0.67	0.48	2.62	0.00	6.10	0.00	0.00	1.87
242	56.100	26.70	0.00	32.26	13.39	3.85	10.82	11.73	1.47	0.67	0.48	2.62	0.00	6.10	0.00	0.00	1.87
243	56.000	26.70	0.00	32.26	13.39	3.87	10.76	11.68	1.47	0.67	0.48	2.62	0.00	6.10	0.00	0.00	1.87
244	55.900	26.70	0.00	32.26	13.39	3.88	10.70	11.62	1.47	0.67	0.48	2.62	0.00	6.10	0.00	0.00	1.87
245	55.800	26.70	0.00	32.26	13.39	3.89	10.65	11.56	1.46	0.67	0.48	2.62	0.00	6.10	0.00	0.00	1.87
246	55.700	26.70	0.00	32.26	13.39	3.90	10.59	11.50	1.46	0.68	0.48	2.62	0.00	6.10	0.00	0.00	1.87
247	55.600	26.70	0.00	32.26	13.39	3.91	10.53	11.45	1.46	0.68	0.48	2.62	0.00	6.10	0.00	0.00	1.87
248	55.500	26.70	0.00	32.26	13.39	3.92	10.48	11.39	1.46	0.68	0.48	2.62	0.00	6.10	0.00	0.00	1.86
249	55.400	26.70	0.00	32.26	13.39	3.93	10.42	11.34	1.45	0.68	0.48	2.62	0.00	6.10	0.00	0.00	1.86
250	55.300	26.70	0.00	32.26	13.39	3.94	10.37	11.28	1.45	0.68	0.48	2.62	0.00	6.10	0.00	0.00	1.86
251	55.200	26.70	0.00	32.26	13.39	3.95	10.31	11.23	1.45	0.69	0.48	2.62	0.00	6.10	0.00	0.00	1.86
252	55.100	26.70	0.00	32.26	13.39	3.96	10.26	11.17	1.45	0.69	0.48	2.62	0.00	6.10	0.00	0.00	1.86
253	55.000	26.70	0.00	32.26	13.39	3.98	10.20	11.12	1.44	0.69	0.48	2.62	0.00	6.10	0.00	0.00	1.86
254	54.900	26.70	0.00	32.26	13.39	3.99	10.15	11.06	1.44	0.69	0.48	2.61	0.00	6.10	0.00	0.00	1.86
255	54.800	26.70	0.00	32.26	13.39	4.00	10.10	11.01	1.44	0.69	0.48	2.61	0.00	6.10	0.00	0.00	1.86
256	54.700	26.70	0.00	32.26	13.39	4.01	10.04	10.96	1.44	0.70	0.48	2.61	0.00	6.10	0.00	0.00	1.85
257	54.600	26.70	0.00	32.26	13.39	4.02	9.99	10.91	1.44	0.70	0.48	2.61	0.00	6.10	0.00	0.00	1.85
258	54.500	26.70	0.00	32.26	13.39	4.03	9.94	10.85	1.43	0.70	0.48	2.61	0.00	6.10	0.00	0.00	1.85
259	54.400	26.70	0.00	32.26	13.39	4.04	9.89	10.80	1.43	0.70	0.48	2.61	0.00	6.10	0.00	0.00	1.85
260	54.300	26.70	0.00	32.26	13.39	4.04	9.83	10.75	1.43	0.70	0.48	2.61	0.00	6.10	0.00	0.00	1.85
261	54.200	26.70	0.00	32.26	13.39	4.05	9.78	10.70	1.43	0.71	0.48	2.61	0.00	6.10	0.00	0.00	1.85
262	54.100	26.70	0.00	32.26	13.39	4.06	9.73	10.65	1.42	0.71	0.48	2.61	0.00	6.10	0.00	0.00	1.85
263	54.000	26.70	0.00	32.26	13.39	4.07	9.68	10.60	1.42	0.71	0.48	2.61	0.00	6.10	0.00	0.00	1.85
264	53.900	26.70	0.00	32.26	13.39	4.08	9.63	10.55	1.42	0.71	0.48	2.61	0.00	6.10	0.00	0.00	1.85
265	53.800	26.70	0.00	32.26	13.39	4.09	9.58	10.50	1.42	0.71	0.48	2.61	0.00	6.10	0.00	0.00	1.84
266	53.700	26.70	0.00	32.26	13.39	4.10	9.53	10.45	1.41	0.72	0.48	2.61	0.00	6.10	0.00	0.00	1.84
267	53.600	26.70	0.00	32.26	13.39	4.11	9.48	10.40	1.41	0.72	0.48	2.61	0.00	6.10	0.00	0.00	1.84
268	53.500	26.70	0.00	32.26	13.39	4.12	9.43	10.35	1.41	0.72	0.48	2.61	0.00	6.10	0.00	0.00	1.84
269	53.400	26.70	0.00	32.26	13.39	4.13	9.38	10.30	1.41	0.72	0.48	2.61	0.00	6.10	0.00	0.00	1.84
270	53.300	26.70	0.00	32.26	13.39	4.14	9.34	10.25	1.41	0.72	0.48	2.61	0.00	6.10	0.00	0.00	1.84
271	53.200	26.70	0.00	32.26	13.39	4.15	9.29	10.20	1.40	0.73	0.47	2.61	0.00	6.10	0.00	0.00	1.84
272	53.100	26.70	0.00	32.26	13.39	4.15	9.24	10.15	1.40	0.73	0.47	2.60	0.00	6.10	0.00	0.00	1.84
273	53.000	26.70	0.00	32.26	13.39	4.16	9.19	10.11	1.40	0.73	0.47	2.60	0.00	6.10	0.00	0.00	1.83
274	52.900	26.70	0.00	32.26	13.39	4.17	9.15	10.06	1.40	0.73	0.47	2.60	0.00	6.10	0.00	0.00	1.83
275	52.800	26.70	0.00	32.26	13.39	4.18	9.10	10.01	1.39	0.73	0.47	2.60	0.00	6.10	0.00	0.00	1.83
276	52.700	26.70	0.00	32.26	13.39	4.19	9.05	9.97	1.39	0.74	0.47	2.60	0.00	6.10	0.00	0.00	1.83
277	52.600	26.70	0.00	32.26	13.39	4.20	9.01	9.92	1.39	0.74	0.47	2.60	0.00	6.10	0.00	0.00	1.83
278	52.500	26.70	0.00	32.26	13.39	4.20	8.96	9.87	1.39	0.74	0.47	2.60	0.00	6.10	0.00	0.00	1.83
279	52.400	26.70	0.00	32.26	13.39	4.21	8.91	9.83	1.39	0.74	0.47	2.60	0.00	6.10	0.00	0.00	1.83
280	52.300	26.70	0.00	32.26	13.39	4.22	8.87	9.78	1.38	0.74	0.47	2.60	0.00	6.10	0.00	0.00	1.83
281	52.200	26.70	0.00	32.26	13.39	4.23	8.82	9.74	1.38	0.75	0.47	2.60	0.00	6.10	0.00	0.00	1.83
282	52.100	26.70	0.00	32.26	13.39	4.24	8.78	9.69	1.38	0.75	0.47	2.60	0.00	6.10	0.00	0.00	1.82
283	52.000	26.70	0.00	32.26	13.39	4.24	8.73	9.65	1.38	0.75	0.47	2.60	0.00	6.10	0.00	0.00	1.82
284	51.900	26.70	0.00	32.26	13.39	4.25	8.69	9.61	1.37	0.75	0.47	2.60	0.00	6.10	0.00	0.00	1.82

285	51.800	26.70	0.00	32.26	13.39	4.26	8.65	9.56	1.37	0.75	0.47	2.60	0.00	6.10	0.00	0.00	1.82
286	51.700	26.70	0.00	32.26	13.39	4.27	8.60	9.52	1.37	0.76	0.47	2.60	0.00	6.10	0.00	0.00	1.82
287	51.600	26.70	0.00	32.26	13.39	4.27	8.56	9.47	1.37	0.76	0.47	2.60	0.00	6.10	0.00	0.00	1.82
288	51.500	26.70	0.00	32.26	13.39	4.28	8.52	9.43	1.37	0.76	0.47	2.60	0.00	6.10	0.00	0.00	1.82
289	51.400	26.70	0.00	32.26	13.39	4.29	8.47	9.39	1.36	0.76	0.47	2.60	0.00	6.10	0.00	0.00	1.82

* CM-I = CHLORIDES
MG/L
** g/m³

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

FINAL REPORT HEADWATER
REACH NO. 7 LITTLE CANEY CR - DAM

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
290	UPR RCH	0.15525	26.70	0.00	32.26	13.39	4.29	8.47	9.39	1.36	0.76	0.47	0.00	6.10	0.00	1.82
EACH	INCR	-0.0005														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
290	51.40	51.30	0.15477	76.83	0.04519	0.03	0.55	6.27	342.46	627.27	3.42	0.00	0.000	0.014	0.045
291	51.30	51.20	0.15429	76.83	0.04509	0.03	0.55	6.27	342.20	627.13	3.42	0.00	0.000	0.014	0.045
292	51.20	51.10	0.15381	76.83	0.04498	0.03	0.55	6.27	341.94	626.99	3.42	0.00	0.000	0.014	0.045
293	51.10	51.00	0.15333	76.83	0.04488	0.03	0.55	6.27	341.68	626.86	3.42	0.00	0.000	0.014	0.045
294	51.00	50.90	0.15285	76.83	0.04477	0.03	0.54	6.27	341.42	626.72	3.41	0.00	0.000	0.014	0.045
295	50.90	50.80	0.15237	76.83	0.04466	0.03	0.54	6.27	341.16	626.58	3.41	0.00	0.000	0.013	0.045
296	50.80	50.70	0.15189	76.83	0.04456	0.03	0.54	6.26	340.90	626.45	3.41	0.00	0.000	0.013	0.045
297	50.70	50.60	0.15141	76.83	0.04445	0.03	0.54	6.26	340.63	626.31	3.41	0.00	0.000	0.013	0.044
298	50.60	50.50	0.15093	76.83	0.04434	0.03	0.54	6.26	340.37	626.17	3.40	0.00	0.000	0.013	0.044
299	50.50	50.40	0.15045	76.83	0.04424	0.03	0.54	6.26	340.11	626.04	3.40	0.00	0.000	0.013	0.044
300	50.40	50.30	0.14997	76.83	0.04413	0.03	0.54	6.26	339.85	625.90	3.40	0.00	0.000	0.013	0.044
301	50.30	50.20	0.14949	76.83	0.04402	0.03	0.54	6.26	339.59	625.76	3.40	0.00	0.000	0.013	0.044
302	50.20	50.10	0.14901	76.83	0.04391	0.03	0.54	6.26	339.33	625.63	3.39	0.00	0.000	0.013	0.044
303	50.10	50.00	0.14853	76.83	0.04381	0.03	0.54	6.25	339.07	625.49	3.39	0.00	0.000	0.013	0.044
304	50.00	49.90	0.14805	76.83	0.04370	0.03	0.54	6.25	338.81	625.35	3.39	0.00	0.000	0.013	0.044
305	49.90	49.80	0.14757	76.83	0.04359	0.03	0.54	6.25	338.55	625.22	3.39	0.00	0.000	0.013	0.044
306	49.80	49.70	0.14709	76.83	0.04348	0.03	0.54	6.25	338.29	625.08	3.38	0.00	0.000	0.013	0.043
307	49.70	49.60	0.14661	76.83	0.04337	0.03	0.54	6.25	338.03	624.94	3.38	0.00	0.000	0.013	0.043
308	49.60	49.50	0.14613	76.83	0.04326	0.03	0.54	6.25	337.77	624.81	3.38	0.00	0.000	0.013	0.043
309	49.50	49.40	0.14565	76.83	0.04315	0.03	0.54	6.25	337.51	624.67	3.38	0.00	0.000	0.013	0.043

TOT 0.52 6799.68 12519.37
 AVG 0.04417 0.54 6.26 3.40
 CUM 3.84

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
290	51.300	8.01	1.46	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.05
291	51.200	8.01	1.46	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.05
292	51.100	8.01	1.46	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.05
293	51.000	8.01	1.46	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.05
294	50.900	8.01	1.46	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.05
295	50.800	8.01	1.46	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.05
296	50.700	8.01	1.46	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.05
297	50.600	8.01	1.46	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.05
298	50.500	8.01	1.46	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.05
299	50.400	8.01	1.46	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.05
300	50.300	8.01	1.46	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.05
301	50.200	8.01	1.46	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.05
302	50.100	8.01	1.46	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.05
303	50.000	8.01	1.47	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.05
304	49.900	8.01	1.47	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.05
305	49.800	8.01	1.47	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.05
306	49.700	8.01	1.47	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.05
307	49.600	8.01	1.47	0.18	0.12	0.00	2.00	2.00	2.00	0.06	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.05

0.06
 308 49.500 8.01 1.47 0.18 0.12 0.00 2.00 2.00 2.00 0.06 0.06 0.00 0.00 0.00 0.00 0.09 0.00 0.00 0.05
 0.06
 309 49.400 8.01 1.47 0.18 0.12 0.00 2.00 2.00 2.00 0.06 0.06 0.00 0.00 0.00 0.00 0.07 0.00 0.00 0.05
 0.06
 20 DEG C RATE 0.13 0.00 1.31 0.04 0.00 0.00 0.00 0.00
 AVG 20 DEG C RATE 1.29 0.10 0.05
 0.05

* g/m²/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 *
290	51.300	26.70	0.00	32.26	13.39	4.30	8.45	9.32	1.36	0.76	0.47	2.60	0.00	5.84	0.00	0.00	1.82
291	51.200	26.70	0.00	32.26	13.39	4.31	8.42	9.26	1.36	0.77	0.47	2.59	0.00	5.59	0.00	0.00	1.82
292	51.100	26.70	0.00	32.26	13.39	4.32	8.39	9.19	1.36	0.77	0.47	2.59	0.00	5.34	0.00	0.00	1.82
293	51.000	26.70	0.00	32.26	13.39	4.33	8.36	9.13	1.35	0.77	0.47	2.59	0.00	5.08	0.00	0.00	1.82
294	50.900	26.70	0.00	32.26	13.39	4.34	8.34	9.06	1.35	0.77	0.47	2.59	0.00	4.82	0.00	0.00	1.82
295	50.800	26.70	0.00	32.26	13.39	4.35	8.31	9.00	1.35	0.77	0.47	2.59	0.00	4.57	0.00	0.00	1.82
296	50.700	26.70	0.00	32.26	13.39	4.36	8.28	8.93	1.35	0.78	0.47	2.59	0.00	4.32	0.00	0.00	1.82
297	50.600	26.70	0.00	32.26	13.39	4.37	8.26	8.87	1.34	0.78	0.47	2.59	0.00	4.06	0.00	0.00	1.82
298	50.500	26.70	0.00	32.26	13.39	4.37	8.23	8.80	1.34	0.78	0.47	2.59	0.00	3.80	0.00	0.00	1.82
299	50.400	26.70	0.00	32.26	13.39	4.38	8.21	8.74	1.34	0.78	0.47	2.59	0.00	3.55	0.00	0.00	1.82
300	50.300	26.70	0.00	32.26	13.39	4.38	8.18	8.67	1.33	0.79	0.47	2.59	0.00	3.30	0.00	0.00	1.82
301	50.200	26.70	0.00	32.26	13.39	4.39	8.15	8.61	1.33	0.79	0.47	2.59	0.00	3.04	0.00	0.00	1.82
302	50.100	26.70	0.00	32.26	13.39	4.39	8.13	8.55	1.33	0.79	0.47	2.58	0.00	2.78	0.00	0.00	1.82
303	50.000	26.70	0.00	32.26	13.39	4.40	8.10	8.48	1.33	0.79	0.47	2.58	0.00	2.53	0.00	0.00	1.82
304	49.900	26.70	0.00	32.26	13.39	4.40	8.08	8.42	1.32	0.79	0.47	2.58	0.00	2.28	0.00	0.00	1.82
305	49.800	26.70	0.00	32.26	13.39	4.41	8.05	8.36	1.32	0.80	0.47	2.58	0.00	2.02	0.00	0.00	1.82
306	49.700	26.70	0.00	32.26	13.39	4.41	8.03	8.29	1.32	0.80	0.47	2.58	0.00	1.76	0.00	0.00	1.82
307	49.600	26.70	0.00	32.26	13.39	4.41	8.00	8.23	1.32	0.80	0.47	2.58	0.00	1.51	0.00	0.00	1.82
308	49.500	26.70	0.00	32.26	13.39	4.41	7.98	8.17	1.31	0.80	0.47	2.58	0.00	1.25	0.00	0.00	1.82
309	49.400	26.70	0.00	32.26	13.39	4.42	7.95	8.10	1.31	0.80	0.47	2.58	0.00	1.00	0.00	0.00	1.82

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = CBOD2
 mg/L

** g/m³

FINAL REPORT HEADWATER
 REACH NO. 8 DAM - CANEY CREEK

BARNES CREEK WATERSHED MODEL
 BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
310	UPR RCH	0.14565	26.70	0.00	32.26	13.39	4.42	7.95	8.10	1.31	0.80	0.47	0.00	1.00	0.00	1.82
310	DAM	DAM AT SITE 7 ADDS 2.18 MG/L DISSOLVED OXYGEN GIVING 6.59 MG/L D.O. FOR THE UPR RCH INPUT														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
310	49.40	49.30	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
311	49.30	49.20	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
312	49.20	49.10	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
313	49.10	49.00	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
314	49.00	48.90	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
315	48.90	48.80	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
316	48.80	48.70	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
317	48.70	48.60	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
318	48.60	48.50	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
319	48.50	48.40	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
320	48.40	48.30	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
321	48.30	48.20	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
322	48.20	48.10	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
323	48.10	48.00	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
324	48.00	47.90	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
325	47.90	47.80	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
326	47.80	47.70	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
327	47.70	47.60	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
328	47.60	47.50	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
329	47.50	47.40	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
330	47.40	47.30	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
331	47.30	47.20	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
332	47.20	47.10	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
333	47.10	47.00	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
334	47.00	46.90	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
335	46.90	46.80	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
336	46.80	46.70	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
337	46.70	46.60	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
338	46.60	46.50	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
TOT						0.85			10728.43	24015.68					
AVG					0.03937		0.45	8.28			3.70				
CUM						4.69									

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
310	49.300	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.03
0.06																			
311	49.200	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.03
0.06																			
312	49.100	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.03
0.06																			
313	49.000	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
314	48.900	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
315	48.800	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
316	48.700	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
317	48.600	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
318	48.500	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
319	48.400	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
320	48.300	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
321	48.200	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
322	48.100	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
323	48.000	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
324	47.900	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
325	47.800	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
326	47.700	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
327	47.600	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
328	47.500	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
329	47.400	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
330	47.300	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
331	47.200	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03

0.06																				
332	47.100	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03	
0.06																				
333	47.000	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03	
0.06																				
334	46.900	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03	
0.06																				
335	46.800	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03	
0.06																				
336	46.700	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03	
0.06																				
337	46.600	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03	
0.06																				
338	46.500	8.01	1.78	0.07	0.12	0.00	2.62	2.62	2.62	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03	
0.06																				
20 DEG C RATE				0.05		0.00	1.72			0.02		0.00	0.00	0.00	0.00			0.00	0.02	
AVG 20 DEG C RATE			1.57		0.10						0.05									
0.05																				

* g/m²/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 *
310	49.300	26.70	0.00	32.26	13.39	6.48	7.92	8.07	1.31	0.81	0.47	2.58	0.00	0.99	0.00	0.00	1.82
311	49.200	26.70	0.00	32.26	13.39	6.38	7.89	8.04	1.31	0.81	0.47	2.58	0.00	0.97	0.00	0.00	1.82
312	49.100	26.70	0.00	32.26	13.39	6.28	7.86	8.00	1.30	0.81	0.47	2.58	0.00	0.96	0.00	0.00	1.82
313	49.000	26.70	0.00	32.26	13.39	6.19	7.83	7.97	1.30	0.81	0.47	2.58	0.00	0.94	0.00	0.00	1.82
314	48.900	26.70	0.00	32.26	13.39	6.10	7.80	7.94	1.30	0.81	0.47	2.57	0.00	0.93	0.00	0.00	1.82
315	48.800	26.70	0.00	32.26	13.39	6.01	7.77	7.90	1.30	0.81	0.47	2.57	0.00	0.92	0.00	0.00	1.82
316	48.700	26.70	0.00	32.26	13.39	5.93	7.74	7.87	1.29	0.81	0.47	2.57	0.00	0.90	0.00	0.00	1.82
317	48.600	26.70	0.00	32.26	13.39	5.86	7.70	7.84	1.29	0.81	0.47	2.57	0.00	0.89	0.00	0.00	1.82
318	48.500	26.70	0.00	32.26	13.39	5.79	7.67	7.81	1.29	0.81	0.47	2.57	0.00	0.88	0.00	0.00	1.83
319	48.400	26.70	0.00	32.26	13.39	5.72	7.64	7.77	1.29	0.82	0.46	2.57	0.00	0.86	0.00	0.00	1.83
320	48.300	26.70	0.00	32.26	13.39	5.65	7.61	7.74	1.28	0.82	0.46	2.57	0.00	0.85	0.00	0.00	1.83
321	48.200	26.70	0.00	32.26	13.39	5.59	7.58	7.71	1.28	0.82	0.46	2.56	0.00	0.83	0.00	0.00	1.83
322	48.100	26.70	0.00	32.26	13.39	5.53	7.55	7.68	1.28	0.82	0.46	2.56	0.00	0.82	0.00	0.00	1.83
323	48.000	26.70	0.00	32.26	13.39	5.47	7.52	7.65	1.28	0.82	0.46	2.56	0.00	0.81	0.00	0.00	1.83
324	47.900	26.70	0.00	32.26	13.39	5.42	7.49	7.61	1.27	0.82	0.46	2.56	0.00	0.79	0.00	0.00	1.83
325	47.800	26.70	0.00	32.26	13.39	5.37	7.47	7.58	1.27	0.82	0.46	2.56	0.00	0.78	0.00	0.00	1.83
326	47.700	26.70	0.00	32.26	13.39	5.32	7.44	7.55	1.27	0.82	0.46	2.56	0.00	0.77	0.00	0.00	1.83
327	47.600	26.70	0.00	32.26	13.39	5.28	7.41	7.52	1.27	0.83	0.46	2.56	0.00	0.75	0.00	0.00	1.83
328	47.500	26.70	0.00	32.26	13.39	5.23	7.38	7.49	1.26	0.83	0.46	2.55	0.00	0.74	0.00	0.00	1.84
329	47.400	26.70	0.00	32.26	13.39	5.19	7.35	7.46	1.26	0.83	0.46	2.55	0.00	0.72	0.00	0.00	1.84
330	47.300	26.70	0.00	32.26	13.39	5.15	7.32	7.43	1.26	0.83	0.46	2.55	0.00	0.71	0.00	0.00	1.84
331	47.200	26.70	0.00	32.26	13.39	5.12	7.29	7.40	1.26	0.83	0.46	2.55	0.00	0.70	0.00	0.00	1.84

332	47.100	26.70	0.00	32.26	13.39	5.08	7.26	7.37	1.25	0.83	0.46	2.55	0.00	0.68	0.00	0.00	1.84
333	47.000	26.70	0.00	32.26	13.39	5.05	7.24	7.34	1.25	0.83	0.46	2.55	0.00	0.67	0.00	0.00	1.84
334	46.900	26.70	0.00	32.26	13.39	5.02	7.21	7.31	1.25	0.83	0.46	2.55	0.00	0.66	0.00	0.00	1.84
335	46.800	26.70	0.00	32.26	13.39	4.99	7.18	7.28	1.25	0.83	0.46	2.55	0.00	0.64	0.00	0.00	1.84
336	46.700	26.70	0.00	32.26	13.39	4.96	7.15	7.25	1.25	0.84	0.46	2.54	0.00	0.63	0.00	0.00	1.84
337	46.600	26.70	0.00	32.26	13.39	4.93	7.13	7.22	1.24	0.84	0.46	2.54	0.00	0.61	0.00	0.00	1.84
338	46.500	26.70	0.00	32.26	13.39	4.90	7.10	7.19	1.24	0.84	0.46	2.54	0.00	0.60	0.00	0.00	1.85

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 9 CANEY CR - HURRICANE CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
339	UPR RCH	0.14565	26.70	0.00	32.26	13.39	4.90	7.10	7.19	1.24	0.84	0.46	0.00	0.60	0.00	1.85

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
339	46.50	46.40	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
340	46.40	46.30	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
341	46.30	46.20	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
342	46.20	46.10	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
343	46.10	46.00	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
344	46.00	45.90	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
345	45.90	45.80	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
346	45.80	45.70	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
347	45.70	45.60	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
348	45.60	45.50	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
349	45.50	45.40	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
350	45.40	45.30	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
351	45.30	45.20	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
352	45.20	45.10	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
353	45.10	45.00	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
354	45.00	44.90	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
355	44.90	44.80	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
356	44.80	44.70	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
357	44.70	44.60	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090

401	40.200	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
402	40.100	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
403	40.000	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
404	39.900	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
405	39.800	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
406	39.700	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
407	39.600	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
408	39.500	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
409	39.400	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
410	39.300	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
411	39.200	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
412	39.100	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
413	39.000	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
414	38.900	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
415	38.800	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
416	38.700	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
417	38.600	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
418	38.500	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			

20 DEG C RATE 0.05 0.05 0.00 2.06 0.03 0.00 0.00 0.00 0.00
 AVG 20 DEG C RATE 1.76 0.10 0.05

* g/m²/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 *
339	46.400	26.70	0.00	32.26	13.39	4.88	7.08	7.17	1.24	0.84	0.46	2.54	0.00	0.60	0.00	0.00	1.85

340	46.300	26.70	0.00	32.26	13.39	4.85	7.07	7.16	1.24	0.84	0.46	2.54	0.00	0.60	0.00	0.00	1.85
341	46.200	26.70	0.00	32.26	13.39	4.82	7.05	7.14	1.24	0.84	0.46	2.54	0.00	0.60	0.00	0.00	1.86
342	46.100	26.70	0.00	32.26	13.39	4.79	7.04	7.13	1.24	0.84	0.46	2.54	0.00	0.60	0.00	0.00	1.86
343	46.000	26.70	0.00	32.26	13.39	4.77	7.02	7.11	1.23	0.84	0.46	2.54	0.00	0.60	0.00	0.00	1.86
344	45.900	26.70	0.00	32.26	13.39	4.74	7.01	7.10	1.23	0.84	0.46	2.54	0.00	0.60	0.00	0.00	1.87
345	45.800	26.70	0.00	32.26	13.39	4.72	6.99	7.08	1.23	0.84	0.46	2.54	0.00	0.60	0.00	0.00	1.87
346	45.700	26.70	0.00	32.26	13.39	4.70	6.98	7.07	1.23	0.84	0.46	2.54	0.00	0.60	0.00	0.00	1.88
347	45.600	26.70	0.00	32.26	13.39	4.67	6.96	7.05	1.23	0.84	0.46	2.54	0.00	0.60	0.00	0.00	1.88
348	45.500	26.70	0.00	32.26	13.39	4.65	6.94	7.03	1.23	0.84	0.46	2.54	0.00	0.60	0.00	0.00	1.88
349	45.400	26.70	0.00	32.26	13.39	4.63	6.93	7.02	1.23	0.85	0.46	2.54	0.00	0.60	0.00	0.00	1.89
350	45.300	26.70	0.00	32.26	13.39	4.61	6.91	7.00	1.22	0.85	0.46	2.53	0.00	0.60	0.00	0.00	1.89
351	45.200	26.70	0.00	32.26	13.39	4.59	6.90	6.99	1.22	0.85	0.46	2.53	0.00	0.60	0.00	0.00	1.89
352	45.100	26.70	0.00	32.26	13.39	4.57	6.88	6.97	1.22	0.85	0.46	2.53	0.00	0.60	0.00	0.00	1.90
353	45.000	26.70	0.00	32.26	13.39	4.55	6.87	6.96	1.22	0.85	0.46	2.53	0.00	0.60	0.00	0.00	1.90
354	44.900	26.70	0.00	32.26	13.39	4.53	6.85	6.94	1.22	0.85	0.46	2.53	0.00	0.60	0.00	0.00	1.91
355	44.800	26.70	0.00	32.26	13.39	4.51	6.84	6.93	1.22	0.85	0.46	2.53	0.00	0.60	0.00	0.00	1.91
356	44.700	26.70	0.00	32.26	13.39	4.49	6.82	6.91	1.22	0.85	0.46	2.53	0.00	0.60	0.00	0.00	1.91
357	44.600	26.70	0.00	32.26	13.39	4.47	6.81	6.90	1.22	0.85	0.46	2.53	0.00	0.60	0.00	0.00	1.92
358	44.500	26.70	0.00	32.26	13.39	4.45	6.79	6.88	1.21	0.85	0.46	2.53	0.00	0.60	0.00	0.00	1.92
359	44.400	26.70	0.00	32.26	13.39	4.44	6.78	6.87	1.21	0.85	0.46	2.53	0.00	0.60	0.00	0.00	1.92
360	44.300	26.70	0.00	32.26	13.39	4.42	6.77	6.86	1.21	0.85	0.46	2.53	0.00	0.60	0.00	0.00	1.93
361	44.200	26.70	0.00	32.26	13.39	4.40	6.75	6.84	1.21	0.85	0.46	2.53	0.00	0.60	0.00	0.00	1.93
362	44.100	26.70	0.00	32.26	13.39	4.39	6.74	6.83	1.21	0.86	0.46	2.53	0.00	0.60	0.00	0.00	1.94
363	44.000	26.70	0.00	32.26	13.39	4.37	6.72	6.81	1.21	0.86	0.46	2.53	0.00	0.60	0.00	0.00	1.94
364	43.900	26.70	0.00	32.26	13.39	4.36	6.71	6.80	1.21	0.86	0.46	2.53	0.00	0.60	0.00	0.00	1.94
365	43.800	26.70	0.00	32.26	13.39	4.34	6.69	6.78	1.20	0.86	0.46	2.53	0.00	0.60	0.00	0.00	1.95
366	43.700	26.70	0.00	32.26	13.39	4.33	6.68	6.77	1.20	0.86	0.46	2.53	0.00	0.60	0.00	0.00	1.95
367	43.600	26.70	0.00	32.26	13.39	4.32	6.66	6.75	1.20	0.86	0.46	2.52	0.00	0.60	0.00	0.00	1.95
368	43.500	26.70	0.00	32.26	13.39	4.30	6.65	6.74	1.20	0.86	0.46	2.52	0.00	0.60	0.00	0.00	1.96
369	43.400	26.70	0.00	32.26	13.39	4.29	6.63	6.72	1.20	0.86	0.46	2.52	0.00	0.60	0.00	0.00	1.96
370	43.300	26.70	0.00	32.26	13.39	4.28	6.62	6.71	1.20	0.86	0.46	2.52	0.00	0.60	0.00	0.00	1.96
371	43.200	26.70	0.00	32.26	13.39	4.26	6.61	6.70	1.20	0.86	0.46	2.52	0.00	0.60	0.00	0.00	1.97
372	43.100	26.70	0.00	32.26	13.39	4.25	6.59	6.68	1.20	0.86	0.46	2.52	0.00	0.60	0.00	0.00	1.97
373	43.000	26.70	0.00	32.26	13.39	4.24	6.58	6.67	1.19	0.86	0.46	2.52	0.00	0.60	0.00	0.00	1.98
374	42.900	26.70	0.00	32.26	13.39	4.23	6.56	6.65	1.19	0.86	0.46	2.52	0.00	0.60	0.00	0.00	1.98
375	42.800	26.70	0.00	32.26	13.39	4.22	6.55	6.64	1.19	0.86	0.46	2.52	0.00	0.60	0.00	0.00	1.98
376	42.700	26.70	0.00	32.26	13.39	4.21	6.53	6.62	1.19	0.87	0.46	2.52	0.00	0.60	0.00	0.00	1.99
377	42.600	26.70	0.00	32.26	13.39	4.20	6.52	6.61	1.19	0.87	0.46	2.52	0.00	0.60	0.00	0.00	1.99
378	42.500	26.70	0.00	32.26	13.39	4.19	6.51	6.60	1.19	0.87	0.46	2.52	0.00	0.60	0.00	0.00	1.99
379	42.400	26.70	0.00	32.26	13.39	4.18	6.49	6.58	1.19	0.87	0.46	2.52	0.00	0.60	0.00	0.00	2.00
380	42.300	26.70	0.00	32.26	13.39	4.17	6.48	6.57	1.19	0.87	0.46	2.52	0.00	0.60	0.00	0.00	2.00
381	42.200	26.70	0.00	32.26	13.39	4.16	6.46	6.55	1.18	0.87	0.46	2.52	0.00	0.60	0.00	0.00	2.00
382	42.100	26.70	0.00	32.26	13.39	4.15	6.45	6.54	1.18	0.87	0.46	2.52	0.00	0.60	0.00	0.00	2.01
383	42.000	26.70	0.00	32.26	13.39	4.14	6.44	6.53	1.18	0.87	0.46	2.52	0.00	0.60	0.00	0.00	2.01
384	41.900	26.70	0.00	32.26	13.39	4.13	6.42	6.51	1.18	0.87	0.46	2.51	0.00	0.60	0.00	0.00	2.01
385	41.800	26.70	0.00	32.26	13.39	4.12	6.41	6.50	1.18	0.87	0.46	2.51	0.00	0.60	0.00	0.00	2.02
386	41.700	26.70	0.00	32.26	13.39	4.11	6.39	6.48	1.18	0.87	0.46	2.51	0.00	0.60	0.00	0.00	2.02
387	41.600	26.70	0.00	32.26	13.39	4.11	6.38	6.47	1.18	0.87	0.46	2.51	0.00	0.60	0.00	0.00	2.03
388	41.500	26.70	0.00	32.26	13.39	4.10	6.37	6.46	1.18	0.87	0.46	2.51	0.00	0.60	0.00	0.00	2.03
389	41.400	26.70	0.00	32.26	13.39	4.09	6.35	6.44	1.17	0.87	0.46	2.51	0.00	0.60	0.00	0.00	2.03

390	41.300	26.70	0.00	32.26	13.39	4.08	6.34	6.43	1.17	0.88	0.46	2.51	0.00	0.60	0.00	0.00	2.04
391	41.200	26.70	0.00	32.26	13.39	4.08	6.32	6.41	1.17	0.88	0.46	2.51	0.00	0.60	0.00	0.00	2.04
392	41.100	26.70	0.00	32.26	13.39	4.07	6.31	6.40	1.17	0.88	0.46	2.51	0.00	0.60	0.00	0.00	2.04
393	41.000	26.70	0.00	32.26	13.39	4.06	6.30	6.39	1.17	0.88	0.46	2.51	0.00	0.60	0.00	0.00	2.05
394	40.900	26.70	0.00	32.26	13.39	4.05	6.28	6.37	1.17	0.88	0.46	2.51	0.00	0.60	0.00	0.00	2.05
395	40.800	26.70	0.00	32.26	13.39	4.05	6.27	6.36	1.17	0.88	0.46	2.51	0.00	0.60	0.00	0.00	2.05
396	40.700	26.70	0.00	32.26	13.39	4.04	6.26	6.35	1.17	0.88	0.46	2.51	0.00	0.60	0.00	0.00	2.06
397	40.600	26.70	0.00	32.26	13.39	4.04	6.24	6.33	1.16	0.88	0.46	2.51	0.00	0.60	0.00	0.00	2.06
398	40.500	26.70	0.00	32.26	13.39	4.03	6.23	6.32	1.16	0.88	0.46	2.51	0.00	0.60	0.00	0.00	2.06
399	40.400	26.70	0.00	32.26	13.39	4.02	6.22	6.31	1.16	0.88	0.46	2.51	0.00	0.60	0.00	0.00	2.07
400	40.300	26.70	0.00	32.26	13.39	4.02	6.20	6.29	1.16	0.88	0.46	2.51	0.00	0.60	0.00	0.00	2.07
401	40.200	26.70	0.00	32.26	13.39	4.01	6.19	6.28	1.16	0.88	0.46	2.51	0.00	0.60	0.00	0.00	2.07
402	40.100	26.70	0.00	32.26	13.39	4.01	6.18	6.27	1.16	0.88	0.46	2.50	0.00	0.60	0.00	0.00	2.08
403	40.000	26.70	0.00	32.26	13.39	4.00	6.16	6.25	1.16	0.88	0.46	2.50	0.00	0.60	0.00	0.00	2.08
404	39.900	26.70	0.00	32.26	13.39	4.00	6.15	6.24	1.16	0.88	0.46	2.50	0.00	0.60	0.00	0.00	2.09
405	39.800	26.70	0.00	32.26	13.39	3.99	6.14	6.23	1.15	0.89	0.46	2.50	0.00	0.60	0.00	0.00	2.09
406	39.700	26.70	0.00	32.26	13.39	3.99	6.12	6.21	1.15	0.89	0.46	2.50	0.00	0.60	0.00	0.00	2.09
407	39.600	26.70	0.00	32.26	13.39	3.98	6.11	6.20	1.15	0.89	0.46	2.50	0.00	0.60	0.00	0.00	2.10
408	39.500	26.70	0.00	32.26	13.39	3.98	6.10	6.19	1.15	0.89	0.46	2.50	0.00	0.60	0.00	0.00	2.10
409	39.400	26.70	0.00	32.26	13.39	3.97	6.08	6.17	1.15	0.89	0.46	2.50	0.00	0.60	0.00	0.00	2.10
410	39.300	26.70	0.00	32.26	13.39	3.97	6.07	6.16	1.15	0.89	0.46	2.50	0.00	0.60	0.00	0.00	2.11
411	39.200	26.70	0.00	32.26	13.39	3.96	6.06	6.15	1.15	0.89	0.46	2.50	0.00	0.60	0.00	0.00	2.11
412	39.100	26.70	0.00	32.26	13.39	3.96	6.04	6.13	1.15	0.89	0.46	2.50	0.00	0.60	0.00	0.00	2.11
413	39.000	26.70	0.00	32.26	13.39	3.96	6.03	6.12	1.14	0.89	0.46	2.50	0.00	0.60	0.00	0.00	2.12
414	38.900	26.70	0.00	32.26	13.39	3.95	6.02	6.11	1.14	0.89	0.46	2.50	0.00	0.60	0.00	0.00	2.12
415	38.800	26.70	0.00	32.26	13.39	3.95	6.01	6.10	1.14	0.89	0.46	2.50	0.00	0.60	0.00	0.00	2.12
416	38.700	26.70	0.00	32.26	13.39	3.95	5.99	6.08	1.14	0.89	0.46	2.50	0.00	0.60	0.00	0.00	2.13
417	38.600	26.70	0.00	32.26	13.39	3.94	5.98	6.07	1.14	0.89	0.46	2.50	0.00	0.60	0.00	0.00	2.13
418	38.500	26.70	0.00	32.26	13.39	3.94	5.97	6.06	1.14	0.89	0.46	2.50	0.00	0.60	0.00	0.00	2.13

* CM-I = CHLORIDES
MG/L
** g/m³

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

FINAL REPORT HEADWATER
REACH NO. 10 HURRICANE CR - SITE 10

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
419	UPR RCH	0.14565	26.70	0.00	32.26	13.39	3.94	5.97	6.06	1.14	0.89	0.46	0.00	0.60	0.00	2.13
EACH	INCR	0.0003	26.70	0.00	6.90	2.70	2.00	4.95	4.95	0.53	0.00	0.09	0.00		0.00	4.52

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
419	38.50	38.40	0.14599	76.65	0.09015	0.01	0.40	4.08	161.93	408.14	1.62	0.00	0.000	0.021	0.090
420	38.40	38.30	0.14633	76.47	0.09035	0.01	0.40	4.08	161.95	408.15	1.62	0.00	0.000	0.021	0.090
421	38.30	38.20	0.14666	76.30	0.09055	0.01	0.40	4.08	161.97	408.16	1.62	0.00	0.000	0.021	0.091
422	38.20	38.10	0.14700	76.12	0.09075	0.01	0.40	4.08	161.98	408.17	1.62	0.00	0.000	0.021	0.091
423	38.10	38.00	0.14734	75.95	0.09095	0.01	0.40	4.08	162.00	408.18	1.62	0.00	0.000	0.021	0.091
424	38.00	37.90	0.14768	75.77	0.09115	0.01	0.40	4.08	162.02	408.19	1.62	0.00	0.000	0.021	0.091
425	37.90	37.80	0.14802	75.60	0.09135	0.01	0.40	4.08	162.04	408.20	1.62	0.00	0.000	0.021	0.091
426	37.80	37.70	0.14836	75.43	0.09155	0.01	0.40	4.08	162.05	408.21	1.62	0.00	0.000	0.021	0.092
427	37.70	37.60	0.14869	75.26	0.09175	0.01	0.40	4.08	162.07	408.22	1.62	0.00	0.000	0.021	0.092
428	37.60	37.50	0.14903	75.09	0.09195	0.01	0.40	4.08	162.09	408.23	1.62	0.00	0.000	0.021	0.092
429	37.50	37.40	0.14937	74.92	0.09214	0.01	0.40	4.08	162.10	408.24	1.62	0.00	0.000	0.021	0.092
430	37.40	37.30	0.14971	74.75	0.09234	0.01	0.40	4.08	162.12	408.25	1.62	0.00	0.000	0.021	0.092
431	37.30	37.20	0.15005	74.58	0.09254	0.01	0.40	4.08	162.14	408.26	1.62	0.00	0.000	0.021	0.093
432	37.20	37.10	0.15038	74.41	0.09274	0.01	0.40	4.08	162.15	408.27	1.62	0.00	0.000	0.022	0.093
433	37.10	37.00	0.15072	74.24	0.09294	0.01	0.40	4.08	162.17	408.28	1.62	0.00	0.000	0.022	0.093
434	37.00	36.90	0.15106	74.08	0.09314	0.01	0.40	4.08	162.19	408.29	1.62	0.00	0.000	0.022	0.093
435	36.90	36.80	0.15140	73.91	0.09334	0.01	0.40	4.08	162.20	408.30	1.62	0.00	0.000	0.022	0.093
436	36.80	36.70	0.15174	73.75	0.09354	0.01	0.40	4.08	162.22	408.31	1.62	0.00	0.000	0.022	0.094
437	36.70	36.60	0.15207	73.58	0.09374	0.01	0.40	4.08	162.24	408.32	1.62	0.00	0.000	0.022	0.094
438	36.60	36.50	0.15241	73.42	0.09393	0.01	0.40	4.08	162.26	408.33	1.62	0.00	0.000	0.022	0.094
439	36.50	36.40	0.15275	73.26	0.09413	0.01	0.40	4.08	162.27	408.34	1.62	0.00	0.000	0.022	0.094
TOT						0.26			3404.16	8573.00					
AVG					0.09213		0.40	4.08			1.62				
CUM						5.98									

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
1/da		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
419	38.400	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
420	38.300	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
421	38.200	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
422	38.100	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
423	38.000	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04

424	37.900	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
425	37.800	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
426	37.700	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
427	37.600	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
428	37.500	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
429	37.400	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
430	37.300	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
431	37.200	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
432	37.100	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
433	37.000	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
434	36.900	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
435	36.800	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
436	36.700	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
437	36.600	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
438	36.500	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
439	36.400	8.01	2.00	0.07	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
20 DEG C RATE				0.05		0.00	2.06			0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG 20 DEG C RATE			1.76		0.10						0.05								
0.05																			

* g/m²/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 *
419	38.400	26.70	0.00	32.20	13.37	3.93	5.96	6.05	1.14	0.89	0.46	2.49	0.00	0.62	0.00	0.00	2.14
420	38.300	26.70	0.00	32.14	13.35	3.92	5.94	6.04	1.14	0.89	0.46	2.49	0.00	0.65	0.00	0.00	2.15
421	38.200	26.70	0.00	32.09	13.32	3.92	5.93	6.03	1.13	0.89	0.46	2.48	0.00	0.67	0.00	0.00	2.17
422	38.100	26.70	0.00	32.03	13.30	3.91	5.92	6.03	1.13	0.89	0.46	2.48	0.00	0.70	0.00	0.00	2.18
423	38.000	26.70	0.00	31.97	13.27	3.90	5.91	6.02	1.13	0.89	0.46	2.48	0.00	0.72	0.00	0.00	2.19

424	37.900	26.70	0.00	31.91	13.25	3.90	5.90	6.01	1.13	0.89	0.46	2.47	0.00	0.74	0.00	0.00	2.20
425	37.800	26.70	0.00	31.86	13.22	3.89	5.89	6.00	1.13	0.88	0.46	2.47	0.00	0.77	0.00	0.00	2.21
426	37.700	26.70	0.00	31.80	13.20	3.88	5.88	6.00	1.13	0.88	0.46	2.46	0.00	0.79	0.00	0.00	2.22
427	37.600	26.70	0.00	31.74	13.18	3.88	5.87	5.99	1.12	0.88	0.46	2.46	0.00	0.81	0.00	0.00	2.23
428	37.500	26.70	0.00	31.69	13.15	3.87	5.86	5.98	1.12	0.88	0.45	2.46	0.00	0.84	0.00	0.00	2.24
429	37.400	26.70	0.00	31.63	13.13	3.87	5.85	5.98	1.12	0.88	0.45	2.45	0.00	0.86	0.00	0.00	2.25
430	37.300	26.70	0.00	31.57	13.11	3.86	5.84	5.97	1.12	0.88	0.45	2.45	0.00	0.89	0.00	0.00	2.26
431	37.200	26.70	0.00	31.52	13.08	3.86	5.83	5.96	1.12	0.88	0.45	2.45	0.00	0.91	0.00	0.00	2.27
432	37.100	26.70	0.00	31.46	13.06	3.85	5.81	5.95	1.12	0.88	0.45	2.44	0.00	0.93	0.00	0.00	2.28
433	37.000	26.70	0.00	31.41	13.03	3.85	5.80	5.95	1.11	0.87	0.45	2.44	0.00	0.96	0.00	0.00	2.29
434	36.900	26.70	0.00	31.35	13.01	3.84	5.79	5.94	1.11	0.87	0.45	2.43	0.00	0.98	0.00	0.00	2.30
435	36.800	26.70	0.00	31.30	12.99	3.84	5.78	5.93	1.11	0.87	0.45	2.43	0.00	1.00	0.00	0.00	2.31
436	36.700	26.70	0.00	31.24	12.97	3.83	5.77	5.93	1.11	0.87	0.45	2.43	0.00	1.03	0.00	0.00	2.31
437	36.600	26.70	0.00	31.19	12.94	3.83	5.76	5.92	1.11	0.87	0.45	2.42	0.00	1.05	0.00	0.00	2.32
438	36.500	26.70	0.00	31.14	12.92	3.82	5.75	5.92	1.11	0.87	0.45	2.42	0.00	1.08	0.00	0.00	2.33
439	36.400	26.70	0.00	31.08	12.90	3.82	5.74	5.91	1.11	0.87	0.45	2.42	0.00	1.10	0.00	0.00	2.34

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 11 SITE 10 - MAGNOLIA CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
440	UPR RCH	0.15275	26.70	0.00	31.08	12.90	3.82	5.74	5.91	1.11	0.87	0.45	0.00	1.10	0.00	2.34
EACH	INCR	0.0001	26.70	0.00	9.20	3.40	2.00	5.24	5.24	0.54	0.00	0.08	0.00	0.00	0.00	5.18

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
440	36.40	36.30	0.15289	73.19	0.06226	0.02	0.42	5.88	245.58	588.34	2.46	0.00	0.000	0.015	0.062
441	36.30	36.20	0.15304	73.12	0.06231	0.02	0.42	5.88	245.59	588.35	2.46	0.00	0.000	0.015	0.062
442	36.20	36.10	0.15318	73.05	0.06237	0.02	0.42	5.88	245.60	588.35	2.46	0.00	0.000	0.015	0.062
443	36.10	36.00	0.15332	72.98	0.06243	0.02	0.42	5.88	245.61	588.36	2.46	0.00	0.000	0.015	0.062
444	36.00	35.90	0.15347	72.91	0.06248	0.02	0.42	5.88	245.62	588.36	2.46	0.00	0.000	0.015	0.062
445	35.90	35.80	0.15361	72.85	0.06254	0.02	0.42	5.88	245.63	588.36	2.46	0.00	0.000	0.015	0.063
446	35.80	35.70	0.15376	72.78	0.06259	0.02	0.42	5.88	245.64	588.37	2.46	0.00	0.000	0.015	0.063
447	35.70	35.60	0.15390	72.71	0.06265	0.02	0.42	5.88	245.65	588.37	2.46	0.00	0.000	0.015	0.063
448	35.60	35.50	0.15404	72.64	0.06271	0.02	0.42	5.88	245.66	588.38	2.46	0.00	0.000	0.015	0.063

449	35.50	35.40	0.15419	72.58	0.06276	0.02	0.42	5.88	245.67	588.38	2.46	0.00	0.000	0.015	0.063
450	35.40	35.30	0.15433	72.51	0.06282	0.02	0.42	5.88	245.68	588.38	2.46	0.00	0.000	0.015	0.063
451	35.30	35.20	0.15447	72.44	0.06287	0.02	0.42	5.88	245.68	588.39	2.46	0.00	0.000	0.015	0.063
452	35.20	35.10	0.15462	72.37	0.06293	0.02	0.42	5.88	245.69	588.39	2.46	0.00	0.000	0.015	0.063
453	35.10	35.00	0.15476	72.31	0.06299	0.02	0.42	5.88	245.70	588.40	2.46	0.00	0.000	0.015	0.063
454	35.00	34.90	0.15490	72.24	0.06304	0.02	0.42	5.88	245.71	588.40	2.46	0.00	0.000	0.015	0.063
455	34.90	34.80	0.15505	72.17	0.06310	0.02	0.42	5.88	245.72	588.41	2.46	0.00	0.000	0.015	0.063
456	34.80	34.70	0.15519	72.11	0.06315	0.02	0.42	5.88	245.73	588.41	2.46	0.00	0.000	0.015	0.063
457	34.70	34.60	0.15533	72.04	0.06321	0.02	0.42	5.88	245.74	588.41	2.46	0.00	0.000	0.015	0.063
458	34.60	34.50	0.15548	71.97	0.06327	0.02	0.42	5.88	245.75	588.42	2.46	0.00	0.000	0.015	0.063
459	34.50	34.40	0.15562	71.91	0.06332	0.02	0.42	5.88	245.76	588.42	2.46	0.00	0.000	0.015	0.063
460	34.40	34.30	0.15576	71.84	0.06338	0.02	0.42	5.88	245.77	588.43	2.46	0.00	0.000	0.015	0.063
461	34.30	34.20	0.15591	71.77	0.06343	0.02	0.42	5.88	245.78	588.43	2.46	0.00	0.000	0.015	0.063
462	34.20	34.10	0.15605	71.71	0.06349	0.02	0.42	5.88	245.79	588.44	2.46	0.00	0.000	0.015	0.063

TOT 0.42 5650.75 13532.95
AVG 0.06287 0.42 5.88 2.46
CUM 6.41

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

ELEM NCM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
440	36.300	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
441	36.200	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
442	36.100	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
443	36.000	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
444	35.900	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
445	35.800	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
446	35.700	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
447	35.600	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
448	35.500	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
449	35.400	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
450	35.300	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04

0.06																				
451	35.200	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
452	35.100	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
453	35.000	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
454	34.900	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
455	34.800	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
456	34.700	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
457	34.600	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
458	34.500	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
459	34.400	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
460	34.300	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
461	34.200	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
462	34.100	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
20 DEG C RATE				0.09		0.00	2.06			0.03		0.00	0.00	0.00	0.00			0.00	0.03	
AVG 20 DEG C RATE			1.68		0.10						0.05									
0.05																				

* g/m²/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 *
440	36.300	26.70	0.00	31.06	12.89	3.81	5.73	5.89	1.10	0.87	0.44	2.42	0.00	1.10	0.00	0.00	2.34
441	36.200	26.70	0.00	31.04	12.88	3.81	5.71	5.88	1.10	0.87	0.44	2.41	0.00	1.10	0.00	0.00	2.34
442	36.100	26.70	0.00	31.02	12.87	3.80	5.70	5.87	1.10	0.87	0.44	2.41	0.00	1.10	0.00	0.00	2.34
443	36.000	26.70	0.00	31.00	12.86	3.79	5.69	5.85	1.10	0.87	0.44	2.41	0.00	1.10	0.00	0.00	2.34
444	35.900	26.70	0.00	30.98	12.85	3.79	5.67	5.84	1.10	0.87	0.44	2.41	0.00	1.10	0.00	0.00	2.33
445	35.800	26.70	0.00	30.96	12.84	3.78	5.66	5.82	1.10	0.87	0.44	2.41	0.00	1.10	0.00	0.00	2.33
446	35.700	26.70	0.00	30.94	12.84	3.77	5.64	5.81	1.09	0.87	0.44	2.40	0.00	1.10	0.00	0.00	2.33
447	35.600	26.70	0.00	30.92	12.83	3.77	5.63	5.79	1.09	0.87	0.44	2.40	0.00	1.10	0.00	0.00	2.33
448	35.500	26.70	0.00	30.90	12.82	3.76	5.62	5.78	1.09	0.87	0.44	2.40	0.00	1.10	0.00	0.00	2.33
449	35.400	26.70	0.00	30.88	12.81	3.76	5.60	5.77	1.09	0.87	0.44	2.40	0.00	1.10	0.00	0.00	2.33
450	35.300	26.70	0.00	30.86	12.80	3.75	5.59	5.75	1.09	0.87	0.44	2.40	0.00	1.10	0.00	0.00	2.33
451	35.200	26.70	0.00	30.84	12.79	3.75	5.57	5.74	1.09	0.87	0.44	2.40	0.00	1.10	0.00	0.00	2.32

452	35.100	26.70	0.00	30.82	12.78	3.74	5.56	5.73	1.09	0.87	0.44	2.39	0.00	1.10	0.00	0.00	2.32
453	35.000	26.70	0.00	30.80	12.77	3.74	5.55	5.71	1.08	0.87	0.44	2.39	0.00	1.10	0.00	0.00	2.32
454	34.900	26.70	0.00	30.78	12.77	3.74	5.53	5.70	1.08	0.87	0.44	2.39	0.00	1.10	0.00	0.00	2.32
455	34.800	26.70	0.00	30.76	12.76	3.73	5.52	5.68	1.08	0.87	0.44	2.39	0.00	1.10	0.00	0.00	2.32
456	34.700	26.70	0.00	30.74	12.75	3.73	5.51	5.67	1.08	0.87	0.44	2.39	0.00	1.10	0.00	0.00	2.32
457	34.600	26.70	0.00	30.72	12.74	3.72	5.49	5.66	1.08	0.87	0.44	2.38	0.00	1.10	0.00	0.00	2.31
458	34.500	26.70	0.00	30.70	12.73	3.72	5.48	5.65	1.08	0.87	0.44	2.38	0.00	1.10	0.00	0.00	2.31
459	34.400	26.70	0.00	30.68	12.72	3.72	5.47	5.63	1.08	0.87	0.44	2.38	0.00	1.10	0.00	0.00	2.31
460	34.300	26.70	0.00	30.66	12.71	3.71	5.45	5.62	1.07	0.87	0.44	2.38	0.00	1.10	0.00	0.00	2.31
461	34.200	26.70	0.00	30.64	12.71	3.71	5.44	5.61	1.07	0.87	0.44	2.38	0.00	1.10	0.00	0.00	2.31
462	34.100	26.70	0.00	30.62	12.70	3.71	5.43	5.59	1.07	0.87	0.44	2.38	0.00	1.10	0.00	0.00	2.31

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 12 MAGNOLIA CR - BRUSHY CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
463	UPR RCH	0.15605	26.70	0.00	30.62	12.70	3.71	5.43	5.59	1.07	0.87	0.44	0.00	1.10	0.00	2.31
EACH	INCR	0.0002	26.70	0.00	9.20	3.40	2.00	5.24	5.24	0.54	0.00	0.08	0.00		0.00	5.18

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
463	34.10	34.00	0.15624	71.62	0.06357	0.02	0.42	5.88	245.80	588.44	2.46	0.00	0.000	0.015	0.064
464	34.00	33.90	0.15644	71.53	0.06364	0.02	0.42	5.88	245.81	588.45	2.46	0.00	0.000	0.015	0.064
465	33.90	33.80	0.15663	71.44	0.06372	0.02	0.42	5.88	245.83	588.45	2.46	0.00	0.000	0.015	0.064
466	33.80	33.70	0.15683	71.35	0.06379	0.02	0.42	5.88	245.84	588.46	2.46	0.00	0.000	0.015	0.064
467	33.70	33.60	0.15702	71.26	0.06387	0.02	0.42	5.88	245.85	588.46	2.46	0.00	0.000	0.015	0.064
468	33.60	33.50	0.15722	71.18	0.06394	0.02	0.42	5.88	245.87	588.47	2.46	0.00	0.000	0.015	0.064
469	33.50	33.40	0.15741	71.09	0.06402	0.02	0.42	5.88	245.88	588.47	2.46	0.00	0.000	0.015	0.064
470	33.40	33.30	0.15760	71.00	0.06409	0.02	0.42	5.88	245.89	588.48	2.46	0.00	0.000	0.016	0.064
471	33.30	33.20	0.15780	70.91	0.06417	0.02	0.42	5.88	245.90	588.49	2.46	0.00	0.000	0.016	0.064
472	33.20	33.10	0.15799	70.83	0.06425	0.02	0.42	5.88	245.92	588.49	2.46	0.00	0.000	0.016	0.064
473	33.10	33.00	0.15819	70.74	0.06432	0.02	0.42	5.88	245.93	588.50	2.46	0.00	0.000	0.016	0.064
474	33.00	32.90	0.15838	70.65	0.06440	0.02	0.42	5.89	245.94	588.50	2.46	0.00	0.000	0.016	0.064
475	32.90	32.80	0.15857	70.57	0.06447	0.02	0.42	5.89	245.95	588.51	2.46	0.00	0.000	0.016	0.064
476	32.80	32.70	0.15877	70.48	0.06455	0.02	0.42	5.89	245.97	588.51	2.46	0.00	0.000	0.016	0.065

479 32.400 8.01 1.90 0.12 0.12 0.00 3.14 3.14 3.14 0.05 0.06 0.00 0.00 0.00 0.00 0.07 0.00 0.00 0.04
0.06
20 DEG C RATE 0.09 0.00 2.06 0.03 0.00 0.00 0.00 0.00
AVG 20 DEG C RATE 1.68 0.10 0.05 0.00 0.03
0.05

* g/m²/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 *
463	34.000	26.70	0.00	30.59	12.69	3.71	5.41	5.58	1.07	0.87	0.44	2.37	0.00	1.10	0.00	0.00	2.31
464	33.900	26.70	0.00	30.57	12.67	3.70	5.40	5.56	1.07	0.87	0.44	2.37	0.00	1.10	0.00	0.00	2.31
465	33.800	26.70	0.00	30.54	12.66	3.70	5.38	5.55	1.06	0.87	0.44	2.37	0.00	1.10	0.00	0.00	2.30
466	33.700	26.70	0.00	30.51	12.65	3.70	5.37	5.53	1.06	0.87	0.43	2.36	0.00	1.10	0.00	0.00	2.30
467	33.600	26.70	0.00	30.49	12.64	3.69	5.36	5.52	1.06	0.87	0.43	2.36	0.00	1.10	0.00	0.00	2.30
468	33.500	26.70	0.00	30.46	12.63	3.69	5.34	5.51	1.05	0.87	0.43	2.36	0.00	1.10	0.00	0.00	2.30
469	33.400	26.70	0.00	30.43	12.62	3.69	5.33	5.49	1.05	0.87	0.43	2.35	0.00	1.10	0.00	0.00	2.30
470	33.300	26.70	0.00	30.41	12.61	3.69	5.31	5.48	1.05	0.87	0.43	2.35	0.00	1.10	0.00	0.00	2.30
471	33.200	26.70	0.00	30.38	12.59	3.68	5.30	5.46	1.05	0.87	0.43	2.35	0.00	1.10	0.00	0.00	2.30
472	33.100	26.70	0.00	30.36	12.58	3.68	5.28	5.45	1.04	0.87	0.43	2.34	0.00	1.10	0.00	0.00	2.30
473	33.000	26.70	0.00	30.33	12.57	3.68	5.27	5.44	1.04	0.87	0.43	2.34	0.00	1.10	0.00	0.00	2.30
474	32.900	26.70	0.00	30.30	12.56	3.68	5.26	5.42	1.04	0.87	0.43	2.34	0.00	1.10	0.00	0.00	2.30
475	32.800	26.70	0.00	30.28	12.55	3.68	5.24	5.41	1.04	0.87	0.43	2.33	0.00	1.10	0.00	0.00	2.30
476	32.700	26.70	0.00	30.25	12.54	3.67	5.23	5.39	1.03	0.87	0.43	2.33	0.00	1.10	0.00	0.00	2.30
477	32.600	26.70	0.00	30.23	12.53	3.67	5.22	5.38	1.03	0.87	0.43	2.33	0.00	1.10	0.00	0.00	2.30
478	32.500	26.70	0.00	30.20	12.52	3.67	5.20	5.37	1.03	0.87	0.43	2.32	0.00	1.10	0.00	0.00	2.30
479	32.400	26.70	0.00	30.18	12.50	3.67	5.19	5.35	1.03	0.87	0.43	2.32	0.00	1.10	0.00	0.00	2.30

* CM-I = CHLORIDES MG/L CM-II = SULFATES MG/L NCM = CBOD2 mg/L
** g/m³

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
REACH NO. 13 BRUSHY CR - RIGHTHAND CR BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
480	UPR RCH	0.15935	26.70	0.00	30.18	12.50	3.67	5.19	5.35	1.03	0.87	0.43	0.00	1.10	0.00	2.30
EACH	INCR	0.0002	26.70	0.00	9.20	3.40	2.00	5.24	5.24	0.54	0.00	0.08	0.00		0.00	5.18

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
480	32.40	32.30	0.15952	70.15	0.06484	0.02	0.42	5.89	246.02	588.54	2.46	0.00	0.000	0.016	0.065
481	32.30	32.20	0.15970	70.07	0.06491	0.02	0.42	5.89	246.03	588.54	2.46	0.00	0.000	0.016	0.065
482	32.20	32.10	0.15987	69.99	0.06498	0.02	0.42	5.89	246.04	588.55	2.46	0.00	0.000	0.016	0.065
483	32.10	32.00	0.16005	69.92	0.06505	0.02	0.42	5.89	246.05	588.55	2.46	0.00	0.000	0.016	0.065
484	32.00	31.90	0.16022	69.84	0.06511	0.02	0.42	5.89	246.06	588.56	2.46	0.00	0.000	0.016	0.065
485	31.90	31.80	0.16039	69.77	0.06518	0.02	0.42	5.89	246.07	588.56	2.46	0.00	0.000	0.016	0.065
486	31.80	31.70	0.16057	69.69	0.06525	0.02	0.42	5.89	246.08	588.57	2.46	0.00	0.000	0.016	0.065
487	31.70	31.60	0.16074	69.62	0.06532	0.02	0.42	5.89	246.09	588.57	2.46	0.00	0.000	0.016	0.065
488	31.60	31.50	0.16091	69.54	0.06538	0.02	0.42	5.89	246.11	588.58	2.46	0.00	0.000	0.016	0.065
489	31.50	31.40	0.16109	69.47	0.06545	0.02	0.42	5.89	246.12	588.58	2.46	0.00	0.000	0.016	0.065
490	31.40	31.30	0.16126	69.39	0.06552	0.02	0.42	5.89	246.13	588.59	2.46	0.00	0.000	0.016	0.066
491	31.30	31.20	0.16144	69.32	0.06559	0.02	0.42	5.89	246.14	588.59	2.46	0.00	0.000	0.016	0.066
492	31.20	31.10	0.16161	69.24	0.06565	0.02	0.42	5.89	246.15	588.60	2.46	0.00	0.000	0.016	0.066
493	31.10	31.00	0.16178	69.17	0.06572	0.02	0.42	5.89	246.16	588.60	2.46	0.00	0.000	0.016	0.066
494	31.00	30.90	0.16196	69.09	0.06579	0.02	0.42	5.89	246.17	588.61	2.46	0.00	0.000	0.016	0.066
495	30.90	30.80	0.16213	69.02	0.06586	0.02	0.42	5.89	246.18	588.61	2.46	0.00	0.000	0.016	0.066
496	30.80	30.70	0.16230	68.95	0.06592	0.02	0.42	5.89	246.19	588.62	2.46	0.00	0.000	0.016	0.066
497	30.70	30.60	0.16248	68.87	0.06599	0.02	0.42	5.89	246.21	588.62	2.46	0.00	0.000	0.016	0.066
498	30.60	30.50	0.16265	68.80	0.06606	0.02	0.42	5.89	246.22	588.63	2.46	0.00	0.000	0.016	0.066
TOT						0.34			4676.22	11183.04					
AVG					0.06545		0.42	5.89			2.46				
CUM						7.05									

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

ELEM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECA	CBOD SETT	ANBOD DECA	BKGD SOD	FULL SOD	CORR SOD	ORGN DECA	ORGN SETT	NH3 DECA	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECA	NCM DECA
SETT		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
480	32.300	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
481	32.200	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
482	32.100	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
483	32.000	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
484	31.900	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04

0.06																			
485	31.800	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
486	31.700	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
487	31.600	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
488	31.500	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
489	31.400	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
490	31.300	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
491	31.200	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
492	31.100	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
493	31.000	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
494	30.900	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
495	30.800	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
496	30.700	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
497	30.600	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
498	30.500	8.01	1.90	0.12	0.12	0.00	3.14	3.14	3.14	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
20 DEG C RATE				0.09		0.00	2.06			0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG 20 DEG C RATE	1.67			0.10						0.05									
0.05																			

* g/m²/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 *
480	32.300	26.70	0.00	30.15	12.49	3.67	5.18	5.34	1.02	0.87	0.43	2.32	0.00	1.10	0.00	0.00	2.30
481	32.200	26.70	0.00	30.13	12.48	3.67	5.17	5.34	1.02	0.87	0.43	2.31	0.00	1.10	0.00	0.00	2.29
482	32.100	26.70	0.00	30.11	12.47	3.67	5.16	5.33	1.02	0.87	0.43	2.31	0.00	1.10	0.00	0.00	2.29
483	32.000	26.70	0.00	30.08	12.46	3.67	5.15	5.32	1.02	0.86	0.43	2.31	0.00	1.10	0.00	0.00	2.29
484	31.900	26.70	0.00	30.06	12.46	3.66	5.14	5.31	1.01	0.86	0.43	2.31	0.00	1.10	0.00	0.00	2.29
485	31.800	26.70	0.00	30.04	12.45	3.66	5.14	5.30	1.01	0.86	0.43	2.30	0.00	1.10	0.00	0.00	2.29
486	31.700	26.70	0.00	30.02	12.44	3.66	5.13	5.29	1.01	0.86	0.43	2.30	0.00	1.10	0.00	0.00	2.29
487	31.600	26.70	0.00	29.99	12.43	3.66	5.12	5.28	1.01	0.86	0.43	2.30	0.00	1.10	0.00	0.00	2.29

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
499	30.400	8.01	1.90	0.12	0.12	0.00	2.73	2.73	2.73	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
500	30.300	8.01	1.90	0.12	0.12	0.00	2.73	2.73	2.73	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
501	30.200	8.01	1.90	0.12	0.12	0.00	2.73	2.73	2.73	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
502	30.100	8.01	1.90	0.12	0.12	0.00	2.73	2.73	2.73	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
503	30.000	8.01	1.90	0.12	0.12	0.00	2.73	2.73	2.73	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
504	29.900	8.01	1.90	0.12	0.12	0.00	2.73	2.73	2.73	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
505	29.800	8.01	1.90	0.12	0.12	0.00	2.73	2.73	2.73	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
506	29.700	8.01	1.90	0.12	0.12	0.00	2.73	2.73	2.73	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
507	29.600	8.01	1.90	0.12	0.12	0.00	2.73	2.73	2.73	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
508	29.500	8.01	1.90	0.12	0.12	0.00	2.73	2.73	2.73	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
20 DEG C RATE				0.09		0.00	1.79			0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG 20 DEG C RATE			1.67		0.10						0.05								
0.05																			

* g/m²/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 *
499	30.400	26.70	0.00	29.71	12.30	3.67	5.03	5.19	0.98	0.86	0.42	2.26	0.00	1.08	0.00	0.00	2.28
500	30.300	26.70	0.00	29.67	12.28	3.69	5.03	5.18	0.98	0.86	0.42	2.26	0.00	1.06	0.00	0.00	2.28
501	30.200	26.70	0.00	29.63	12.27	3.70	5.02	5.18	0.97	0.86	0.42	2.25	0.00	1.04	0.00	0.00	2.28
502	30.100	26.70	0.00	29.58	12.25	3.71	5.02	5.18	0.97	0.86	0.42	2.25	0.00	1.02	0.00	0.00	2.29
503	30.000	26.70	0.00	29.54	12.23	3.72	5.02	5.17	0.97	0.86	0.42	2.24	0.00	1.00	0.00	0.00	2.29
504	29.900	26.70	0.00	29.50	12.21	3.74	5.02	5.17	0.97	0.86	0.42	2.24	0.00	0.98	0.00	0.00	2.29

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
509	29.400	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
510	29.300	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
511	29.200	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
512	29.100	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
513	29.000	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
514	28.900	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
515	28.800	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
516	28.700	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
517	28.600	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
518	28.500	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
519	28.400	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
520	28.300	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
521	28.200	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
522	28.100	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
523	28.000	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
524	27.900	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
525	27.800	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
526	27.700	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
527	27.600	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
528	27.500	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
529	27.400	8.01	2.96	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05

0.06																			
555	24.800	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
556	24.700	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
557	24.600	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
558	24.500	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
559	24.400	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
560	24.300	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
561	24.200	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
562	24.100	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
563	24.000	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
564	23.900	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
565	23.800	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
566	23.700	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
567	23.600	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
568	23.500	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
569	23.400	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
570	23.300	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
571	23.200	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
572	23.100	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
573	23.000	8.01	2.95	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
20	DEG C RATE				0.06		0.00	1.72		0.04		0.00	0.00	0.00	0.00			0.00	0.04
AVG	20 DEG C RATE			2.60		0.10					0.05								
0.05																			

* g/m²/d

** mg/L/day

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

ELEM	ENDING	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	TOTN	PHOS	CHL A	MACRO	COLI	NCM
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NO.	DIST	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	**	#/100mL	*
509	29.400	26.70	0.00	29.33	12.14	3.80	5.01	5.15	0.95	0.85	0.41	2.22	0.00	0.90	0.00	0.00	2.30
510	29.300	26.70	0.00	29.32	12.13	3.81	5.01	5.14	0.95	0.85	0.41	2.22	0.00	0.90	0.00	0.00	2.29
511	29.200	26.70	0.00	29.31	12.12	3.83	5.00	5.14	0.95	0.85	0.41	2.22	0.00	0.90	0.00	0.00	2.29
512	29.100	26.70	0.00	29.30	12.12	3.84	5.00	5.13	0.95	0.85	0.41	2.22	0.00	0.90	0.00	0.00	2.29
513	29.000	26.70	0.00	29.28	12.11	3.85	4.99	5.13	0.95	0.85	0.41	2.21	0.00	0.90	0.00	0.00	2.29
514	28.900	26.70	0.00	29.27	12.11	3.87	4.99	5.12	0.95	0.85	0.41	2.21	0.00	0.90	0.00	0.00	2.28
515	28.800	26.70	0.00	29.26	12.10	3.88	4.98	5.12	0.95	0.85	0.41	2.21	0.00	0.90	0.00	0.00	2.28
516	28.700	26.70	0.00	29.25	12.10	3.89	4.98	5.11	0.95	0.85	0.41	2.21	0.00	0.90	0.00	0.00	2.28
517	28.600	26.70	0.00	29.24	12.09	3.91	4.97	5.11	0.95	0.85	0.41	2.21	0.00	0.90	0.00	0.00	2.28
518	28.500	26.70	0.00	29.23	12.08	3.92	4.97	5.10	0.95	0.85	0.41	2.21	0.00	0.90	0.00	0.00	2.28
519	28.400	26.70	0.00	29.22	12.08	3.93	4.96	5.10	0.94	0.85	0.41	2.21	0.00	0.90	0.00	0.00	2.27
520	28.300	26.70	0.00	29.20	12.07	3.94	4.96	5.09	0.94	0.85	0.41	2.21	0.00	0.90	0.00	0.00	2.27
521	28.200	26.70	0.00	29.19	12.07	3.95	4.95	5.09	0.94	0.85	0.41	2.20	0.00	0.90	0.00	0.00	2.27
522	28.100	26.70	0.00	29.18	12.06	3.97	4.95	5.08	0.94	0.85	0.41	2.20	0.00	0.90	0.00	0.00	2.27
523	28.000	26.70	0.00	29.17	12.05	3.98	4.94	5.08	0.94	0.85	0.41	2.20	0.00	0.90	0.00	0.00	2.26
524	27.900	26.70	0.00	29.16	12.05	3.99	4.94	5.07	0.94	0.85	0.41	2.20	0.00	0.90	0.00	0.00	2.26
525	27.800	26.70	0.00	29.15	12.04	4.00	4.93	5.07	0.94	0.85	0.41	2.20	0.00	0.90	0.00	0.00	2.26
526	27.700	26.70	0.00	29.14	12.04	4.01	4.93	5.06	0.94	0.85	0.41	2.20	0.00	0.90	0.00	0.00	2.26
527	27.600	26.70	0.00	29.13	12.03	4.02	4.92	5.06	0.94	0.85	0.41	2.20	0.00	0.90	0.00	0.00	2.26
528	27.500	26.70	0.00	29.11	12.03	4.03	4.92	5.05	0.94	0.85	0.41	2.19	0.00	0.90	0.00	0.00	2.25
529	27.400	26.70	0.00	29.10	12.02	4.04	4.91	5.05	0.94	0.85	0.41	2.19	0.00	0.90	0.00	0.00	2.25
530	27.300	26.70	0.00	29.09	12.01	4.05	4.91	5.04	0.93	0.85	0.41	2.19	0.00	0.90	0.00	0.00	2.25
531	27.200	26.70	0.00	29.08	12.01	4.06	4.91	5.04	0.93	0.85	0.41	2.19	0.00	0.90	0.00	0.00	2.25
532	27.100	26.70	0.00	29.07	12.00	4.07	4.90	5.04	0.93	0.85	0.41	2.19	0.00	0.90	0.00	0.00	2.25
533	27.000	26.70	0.00	29.06	12.00	4.07	4.90	5.03	0.93	0.85	0.41	2.19	0.00	0.90	0.00	0.00	2.24
534	26.900	26.70	0.00	29.05	11.99	4.08	4.89	5.03	0.93	0.85	0.41	2.19	0.00	0.90	0.00	0.00	2.24
535	26.800	26.70	0.00	29.04	11.99	4.09	4.89	5.02	0.93	0.85	0.41	2.19	0.00	0.90	0.00	0.00	2.24
536	26.700	26.70	0.00	29.03	11.98	4.10	4.88	5.02	0.93	0.85	0.41	2.18	0.00	0.90	0.00	0.00	2.24
537	26.600	26.70	0.00	29.01	11.98	4.11	4.88	5.01	0.93	0.85	0.41	2.18	0.00	0.90	0.00	0.00	2.24
538	26.500	26.70	0.00	29.00	11.97	4.12	4.87	5.01	0.93	0.85	0.41	2.18	0.00	0.90	0.00	0.00	2.23
539	26.400	26.70	0.00	28.99	11.96	4.12	4.87	5.00	0.93	0.85	0.41	2.18	0.00	0.90	0.00	0.00	2.23
540	26.300	26.70	0.00	28.98	11.96	4.13	4.86	5.00	0.93	0.85	0.41	2.18	0.00	0.90	0.00	0.00	2.23
541	26.200	26.70	0.00	28.97	11.95	4.14	4.86	4.99	0.93	0.85	0.41	2.18	0.00	0.90	0.00	0.00	2.23
542	26.100	26.70	0.00	28.96	11.95	4.14	4.85	4.99	0.92	0.85	0.40	2.18	0.00	0.90	0.00	0.00	2.22
543	26.000	26.70	0.00	28.95	11.94	4.15	4.85	4.98	0.92	0.85	0.40	2.18	0.00	0.90	0.00	0.00	2.22
544	25.900	26.70	0.00	28.94	11.94	4.16	4.85	4.98	0.92	0.85	0.40	2.17	0.00	0.90	0.00	0.00	2.22
545	25.800	26.70	0.00	28.93	11.93	4.16	4.84	4.98	0.92	0.85	0.40	2.17	0.00	0.90	0.00	0.00	2.22
546	25.700	26.70	0.00	28.92	11.92	4.17	4.84	4.97	0.92	0.85	0.40	2.17	0.00	0.90	0.00	0.00	2.22
547	25.600	26.70	0.00	28.90	11.92	4.18	4.83	4.97	0.92	0.85	0.40	2.17	0.00	0.90	0.00	0.00	2.21
548	25.500	26.70	0.00	28.89	11.91	4.18	4.83	4.96	0.92	0.85	0.40	2.17	0.00	0.90	0.00	0.00	2.21
549	25.400	26.70	0.00	28.88	11.91	4.19	4.82	4.96	0.92	0.85	0.40	2.17	0.00	0.90	0.00	0.00	2.21
550	25.300	26.70	0.00	28.87	11.90	4.20	4.82	4.95	0.92	0.85	0.40	2.17	0.00	0.90	0.00	0.00	2.21
551	25.200	26.70	0.00	28.86	11.90	4.20	4.81	4.95	0.92	0.85	0.40	2.17	0.00	0.90	0.00	0.00	2.21
552	25.100	26.70	0.00	28.85	11.89	4.21	4.81	4.94	0.92	0.85	0.40	2.16	0.00	0.90	0.00	0.00	2.20
553	25.000	26.70	0.00	28.84	11.89	4.21	4.81	4.94	0.91	0.85	0.40	2.16	0.00	0.90	0.00	0.00	2.20
554	24.900	26.70	0.00	28.83	11.88	4.22	4.80	4.94	0.91	0.85	0.40	2.16	0.00	0.90	0.00	0.00	2.20
555	24.800	26.70	0.00	28.82	11.87	4.22	4.80	4.93	0.91	0.85	0.40	2.16	0.00	0.90	0.00	0.00	2.20
556	24.700	26.70	0.00	28.81	11.87	4.23	4.79	4.93	0.91	0.84	0.40	2.16	0.00	0.90	0.00	0.00	2.20

557	24.600	26.70	0.00	28.80	11.86	4.23	4.79	4.92	0.91	0.84	0.40	2.16	0.00	0.90	0.00	0.00	2.19
558	24.500	26.70	0.00	28.79	11.86	4.24	4.78	4.92	0.91	0.84	0.40	2.16	0.00	0.90	0.00	0.00	2.19
559	24.400	26.70	0.00	28.78	11.85	4.24	4.78	4.91	0.91	0.84	0.40	2.16	0.00	0.90	0.00	0.00	2.19
560	24.300	26.70	0.00	28.76	11.85	4.25	4.77	4.91	0.91	0.84	0.40	2.15	0.00	0.90	0.00	0.00	2.19
561	24.200	26.70	0.00	28.75	11.84	4.25	4.77	4.91	0.91	0.84	0.40	2.15	0.00	0.90	0.00	0.00	2.19
562	24.100	26.70	0.00	28.74	11.84	4.26	4.77	4.90	0.91	0.84	0.40	2.15	0.00	0.90	0.00	0.00	2.18
563	24.000	26.70	0.00	28.73	11.83	4.26	4.76	4.90	0.91	0.84	0.40	2.15	0.00	0.90	0.00	0.00	2.18
564	23.900	26.70	0.00	28.72	11.83	4.27	4.76	4.89	0.91	0.84	0.40	2.15	0.00	0.90	0.00	0.00	2.18
565	23.800	26.70	0.00	28.71	11.82	4.27	4.75	4.89	0.90	0.84	0.40	2.15	0.00	0.90	0.00	0.00	2.18
566	23.700	26.70	0.00	28.70	11.81	4.27	4.75	4.88	0.90	0.84	0.40	2.15	0.00	0.90	0.00	0.00	2.18
567	23.600	26.70	0.00	28.69	11.81	4.28	4.74	4.88	0.90	0.84	0.40	2.15	0.00	0.90	0.00	0.00	2.17
568	23.500	26.70	0.00	28.68	11.80	4.28	4.74	4.88	0.90	0.84	0.40	2.14	0.00	0.90	0.00	0.00	2.17
569	23.400	26.70	0.00	28.67	11.80	4.29	4.74	4.87	0.90	0.84	0.40	2.14	0.00	0.90	0.00	0.00	2.17
570	23.300	26.70	0.00	28.66	11.79	4.29	4.73	4.87	0.90	0.84	0.40	2.14	0.00	0.90	0.00	0.00	2.17
571	23.200	26.70	0.00	28.65	11.79	4.29	4.73	4.86	0.90	0.84	0.40	2.14	0.00	0.90	0.00	0.00	2.17
572	23.100	26.70	0.00	28.64	11.78	4.30	4.72	4.86	0.90	0.84	0.40	2.14	0.00	0.90	0.00	0.00	2.16
573	23.000	26.70	0.00	28.63	11.78	4.30	4.72	4.85	0.90	0.84	0.40	2.14	0.00	0.90	0.00	0.00	2.16

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 16 BOGGY CR - WOLF CREEK

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
574	UPR RCH	0.17385	26.70	0.00	28.63	11.78	4.30	4.72	4.85	0.90	0.84	0.40	0.00	0.90	0.00	2.16
EACH	INCR	0.0079	26.70	0.00	13.60	4.10	2.00	3.55	3.55	0.39	0.00	0.08	0.00		0.00	1.96

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
574	23.00	22.90	0.18175	61.57	0.16458	0.01	0.27	4.09	110.43	409.16	1.10	0.00	0.000	0.028	0.165
TOT						0.01			110.43	409.16					
AVG					0.16458		0.27	4.09			1.10				
CUM						7.72									

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

ELEM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
574	22.900	8.01	2.94	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
20 DEG C RATE				0.06	0.00	1.72					0.04	0.00	0.00	0.00	0.00				
AVG 20 DEG C RATE				2.59	0.10					0.05									
* g/m ² /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 *
574	22.900	26.70	0.00	27.97	11.44	4.21	4.66	4.80	0.90	0.81	0.38	2.09	0.00	0.90	0.00	0.00	2.15
* CM-I = CHLORIDES MG/L				CM-II = SULFATES MG/L				NCM = CBOD2 mg/L									
** g/m ³																	

FINAL REPORT HEADWATER
 REACH NO. 17 WOLF CR - UNNAMED CREEK

BARNES CREEK WATERSHED MODEL
 BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
575	UPR RCH	0.18175	26.70	0.00	27.97	11.44	4.21	4.66	4.80	0.90	0.81	0.38	0.00	0.90	0.00	2.15
EACH	INCR	0.0005	26.70	0.00	13.60	4.10	2.00	3.55	3.55	0.39	0.00	0.08	0.00	0.00		1.96

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
575	22.90	22.80	0.18224	61.40	0.16500	0.01	0.27	4.09	110.45	409.17	1.10	0.00	0.000	0.028	0.165

585	21.800	8.01	2.94	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
586	21.700	8.01	2.94	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
587	21.600	8.01	2.94	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
588	21.500	8.01	2.94	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
589	21.400	8.01	2.94	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
590	21.300	8.01	2.94	0.08	0.12	0.00	2.62	2.62	2.62	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
20 DEG C RATE				0.06		0.00	1.72			0.04		0.00	0.00	0.00	0.00			0.00	0.04
AVG 20 DEG C RATE			2.59		0.10						0.05								
0.05																			

* g/m²/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 *
575	22.800	26.70	0.00	27.93	11.42	4.21	4.66	4.80	0.90	0.80	0.38	2.08	0.00	0.90	0.00	0.00	2.16
576	22.700	26.70	0.00	27.90	11.40	4.21	4.66	4.79	0.90	0.80	0.38	2.08	0.00	0.90	0.00	0.00	2.16
577	22.600	26.70	0.00	27.86	11.38	4.21	4.66	4.79	0.90	0.80	0.38	2.08	0.00	0.90	0.00	0.00	2.16
578	22.500	26.70	0.00	27.82	11.36	4.21	4.66	4.79	0.89	0.80	0.38	2.07	0.00	0.90	0.00	0.00	2.16
579	22.400	26.70	0.00	27.78	11.34	4.21	4.66	4.79	0.89	0.80	0.38	2.07	0.00	0.90	0.00	0.00	2.17
580	22.300	26.70	0.00	27.74	11.33	4.21	4.65	4.79	0.89	0.79	0.38	2.07	0.00	0.90	0.00	0.00	2.17
581	22.200	26.70	0.00	27.71	11.31	4.21	4.65	4.79	0.89	0.79	0.38	2.06	0.00	0.90	0.00	0.00	2.17
582	22.100	26.70	0.00	27.67	11.29	4.22	4.65	4.79	0.89	0.79	0.38	2.06	0.00	0.90	0.00	0.00	2.18
583	22.000	26.70	0.00	27.63	11.27	4.22	4.65	4.79	0.89	0.79	0.38	2.06	0.00	0.90	0.00	0.00	2.18
584	21.900	26.70	0.00	27.59	11.25	4.22	4.65	4.78	0.89	0.79	0.38	2.05	0.00	0.90	0.00	0.00	2.18
585	21.800	26.70	0.00	27.56	11.23	4.22	4.65	4.78	0.89	0.79	0.37	2.05	0.00	0.90	0.00	0.00	2.19
586	21.700	26.70	0.00	27.52	11.21	4.22	4.65	4.78	0.89	0.78	0.37	2.05	0.00	0.90	0.00	0.00	2.19
587	21.600	26.70	0.00	27.48	11.19	4.22	4.65	4.78	0.89	0.78	0.37	2.04	0.00	0.90	0.00	0.00	2.19
588	21.500	26.70	0.00	27.45	11.17	4.22	4.64	4.78	0.89	0.78	0.37	2.04	0.00	0.90	0.00	0.00	2.20
589	21.400	26.70	0.00	27.41	11.16	4.22	4.64	4.78	0.89	0.78	0.37	2.04	0.00	0.90	0.00	0.00	2.20
590	21.300	26.70	0.00	27.37	11.14	4.22	4.64	4.78	0.89	0.78	0.37	2.03	0.00	0.90	0.00	0.00	2.20

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 18 UNNAMED CR - SITE 12

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
591	UPR RCH	0.18965	26.70	0.00	27.37	11.14	4.22	4.64	4.78	0.89	0.78	0.37	0.00	0.90	0.00	2.20
EACH	INCR	0.0002	26.70	0.00	13.60	4.10	2.00	3.55	3.55	0.39	0.00	0.08	0.00		0.00	1.96

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
591	21.30	21.20	0.18984	58.94	0.17141	0.01	0.27	4.09	110.75	409.38	1.11	0.00	0.000	0.029	0.171
592	21.20	21.10	0.19004	58.88	0.17157	0.01	0.27	4.09	110.76	409.38	1.11	0.00	0.000	0.029	0.172
593	21.10	21.00	0.19023	58.82	0.17173	0.01	0.27	4.09	110.77	409.39	1.11	0.00	0.000	0.029	0.172
594	21.00	20.90	0.19042	58.76	0.17190	0.01	0.27	4.09	110.78	409.39	1.11	0.00	0.000	0.029	0.172
595	20.90	20.80	0.19061	58.71	0.17206	0.01	0.27	4.09	110.78	409.40	1.11	0.00	0.000	0.029	0.172
596	20.80	20.70	0.19081	58.65	0.17222	0.01	0.27	4.09	110.79	409.40	1.11	0.00	0.000	0.029	0.172
597	20.70	20.60	0.19100	58.59	0.17238	0.01	0.27	4.09	110.80	409.41	1.11	0.00	0.000	0.029	0.172
598	20.60	20.50	0.19119	58.53	0.17254	0.01	0.27	4.09	110.81	409.41	1.11	0.00	0.000	0.029	0.173
599	20.50	20.40	0.19138	58.47	0.17271	0.01	0.27	4.09	110.81	409.42	1.11	0.00	0.000	0.029	0.173
600	20.40	20.30	0.19158	58.41	0.17287	0.01	0.27	4.09	110.82	409.42	1.11	0.00	0.000	0.029	0.173
601	20.30	20.20	0.19177	58.35	0.17303	0.01	0.27	4.09	110.83	409.43	1.11	0.00	0.000	0.029	0.173
602	20.20	20.10	0.19196	58.29	0.17319	0.01	0.27	4.09	110.84	409.43	1.11	0.00	0.000	0.029	0.173
603	20.10	20.00	0.19216	58.23	0.17336	0.01	0.27	4.09	110.84	409.44	1.11	0.00	0.000	0.029	0.173
604	20.00	19.90	0.19235	58.18	0.17352	0.01	0.27	4.09	110.85	409.44	1.11	0.00	0.000	0.029	0.174
605	19.90	19.80	0.19254	58.12	0.17368	0.01	0.27	4.09	110.86	409.45	1.11	0.00	0.000	0.029	0.174
606	19.80	19.70	0.19273	58.06	0.17384	0.01	0.27	4.09	110.87	409.45	1.11	0.00	0.000	0.029	0.174
607	19.70	19.60	0.19293	58.00	0.17400	0.01	0.27	4.09	110.87	409.46	1.11	0.00	0.000	0.029	0.174
608	19.60	19.50	0.19312	57.94	0.17417	0.01	0.27	4.09	110.88	409.46	1.11	0.00	0.000	0.029	0.174
609	19.50	19.40	0.19331	57.89	0.17433	0.01	0.27	4.09	110.89	409.47	1.11	0.00	0.000	0.029	0.174
610	19.40	19.30	0.19350	57.83	0.17449	0.01	0.27	4.09	110.90	409.47	1.11	0.00	0.000	0.029	0.174
611	19.30	19.20	0.19370	57.77	0.17465	0.01	0.27	4.09	110.90	409.48	1.11	0.00	0.000	0.029	0.175
612	19.20	19.10	0.19389	57.71	0.17481	0.01	0.27	4.09	110.91	409.48	1.11	0.00	0.000	0.029	0.175
613	19.10	19.00	0.19408	57.66	0.17498	0.01	0.27	4.09	110.92	409.49	1.11	0.00	0.000	0.029	0.175
614	19.00	18.90	0.19428	57.60	0.17514	0.01	0.27	4.09	110.93	409.49	1.11	0.00	0.000	0.030	0.175
615	18.90	18.80	0.19447	57.54	0.17530	0.01	0.27	4.09	110.93	409.50	1.11	0.00	0.000	0.030	0.175
616	18.80	18.70	0.19466	57.49	0.17546	0.01	0.27	4.10	110.94	409.50	1.11	0.00	0.000	0.030	0.175
617	18.70	18.60	0.19485	57.43	0.17562	0.01	0.27	4.10	110.95	409.51	1.11	0.00	0.000	0.030	0.176
618	18.60	18.50	0.19505	57.37	0.17579	0.01	0.27	4.10	110.96	409.51	1.11	0.00	0.000	0.030	0.176
619	18.50	18.40	0.19524	57.32	0.17595	0.01	0.27	4.10	110.96	409.52	1.11	0.00	0.000	0.030	0.176
620	18.40	18.30	0.19543	57.26	0.17611	0.01	0.27	4.10	110.97	409.52	1.11	0.00	0.000	0.030	0.176
621	18.30	18.20	0.19562	57.20	0.17627	0.01	0.27	4.10	110.98	409.53	1.11	0.00	0.000	0.030	0.176
622	18.20	18.10	0.19582	57.15	0.17643	0.01	0.27	4.10	110.99	409.54	1.11	0.00	0.000	0.030	0.176
623	18.10	18.00	0.19601	57.09	0.17660	0.01	0.27	4.10	110.99	409.54	1.11	0.00	0.000	0.030	0.177
624	18.00	17.90	0.19620	57.03	0.17676	0.01	0.27	4.10	111.00	409.55	1.11	0.00	0.000	0.030	0.177

630	17.300	8.01	2.93	0.08	0.12	0.00	2.36	2.36	2.36	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
631	17.200	8.01	2.93	0.08	0.12	0.00	2.36	2.36	2.36	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
20 DEG C RATE				0.06		0.00	1.55			0.04		0.00	0.00	0.00	0.00			0.00	0.04
AVG 20 DEG C RATE		2.58			0.10						0.05								
0.05																			

* g/m²/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 *
591	21.200	26.70	0.00	27.36	11.13	4.23	4.64	4.77	0.89	0.78	0.37	2.03	0.00	0.90	0.00	0.00	2.20
592	21.100	26.70	0.00	27.35	11.12	4.24	4.64	4.77	0.88	0.78	0.37	2.03	0.00	0.90	0.00	0.00	2.20
593	21.000	26.70	0.00	27.33	11.12	4.25	4.63	4.77	0.88	0.78	0.37	2.03	0.00	0.90	0.00	0.00	2.20
594	20.900	26.70	0.00	27.32	11.11	4.26	4.63	4.77	0.88	0.78	0.37	2.03	0.00	0.90	0.00	0.00	2.20
595	20.800	26.70	0.00	27.31	11.10	4.27	4.63	4.77	0.88	0.78	0.37	2.03	0.00	0.90	0.00	0.00	2.20
596	20.700	26.70	0.00	27.29	11.09	4.28	4.63	4.76	0.88	0.78	0.37	2.03	0.00	0.90	0.00	0.00	2.20
597	20.600	26.70	0.00	27.28	11.09	4.29	4.63	4.76	0.88	0.78	0.37	2.03	0.00	0.90	0.00	0.00	2.20
598	20.500	26.70	0.00	27.26	11.08	4.30	4.62	4.76	0.88	0.77	0.37	2.03	0.00	0.90	0.00	0.00	2.20
599	20.400	26.70	0.00	27.25	11.07	4.31	4.62	4.76	0.88	0.77	0.37	2.02	0.00	0.90	0.00	0.00	2.20
600	20.300	26.70	0.00	27.24	11.07	4.31	4.62	4.75	0.88	0.77	0.37	2.02	0.00	0.90	0.00	0.00	2.20
601	20.200	26.70	0.00	27.22	11.06	4.32	4.62	4.75	0.88	0.77	0.37	2.02	0.00	0.90	0.00	0.00	2.20
602	20.100	26.70	0.00	27.21	11.05	4.33	4.62	4.75	0.88	0.77	0.37	2.02	0.00	0.90	0.00	0.00	2.20
603	20.000	26.70	0.00	27.20	11.05	4.34	4.61	4.75	0.88	0.77	0.37	2.02	0.00	0.90	0.00	0.00	2.20
604	19.900	26.70	0.00	27.18	11.04	4.35	4.61	4.75	0.88	0.77	0.37	2.02	0.00	0.90	0.00	0.00	2.20
605	19.800	26.70	0.00	27.17	11.03	4.35	4.61	4.74	0.88	0.77	0.37	2.02	0.00	0.90	0.00	0.00	2.20
606	19.700	26.70	0.00	27.15	11.02	4.36	4.61	4.74	0.88	0.77	0.37	2.02	0.00	0.90	0.00	0.00	2.20
607	19.600	26.70	0.00	27.14	11.02	4.37	4.60	4.74	0.88	0.77	0.37	2.02	0.00	0.90	0.00	0.00	2.20
608	19.500	26.70	0.00	27.13	11.01	4.38	4.60	4.74	0.88	0.77	0.37	2.02	0.00	0.90	0.00	0.00	2.20
609	19.400	26.70	0.00	27.11	11.00	4.38	4.60	4.74	0.88	0.77	0.37	2.01	0.00	0.90	0.00	0.00	2.20
610	19.300	26.70	0.00	27.10	11.00	4.39	4.60	4.73	0.88	0.77	0.36	2.01	0.00	0.90	0.00	0.00	2.20
611	19.200	26.70	0.00	27.09	10.99	4.40	4.60	4.73	0.88	0.77	0.36	2.01	0.00	0.90	0.00	0.00	2.20
612	19.100	26.70	0.00	27.07	10.98	4.40	4.59	4.73	0.88	0.77	0.36	2.01	0.00	0.90	0.00	0.00	2.20
613	19.000	26.70	0.00	27.06	10.98	4.41	4.59	4.73	0.88	0.77	0.36	2.01	0.00	0.90	0.00	0.00	2.20
614	18.900	26.70	0.00	27.05	10.97	4.42	4.59	4.73	0.88	0.77	0.36	2.01	0.00	0.90	0.00	0.00	2.20
615	18.800	26.70	0.00	27.03	10.96	4.42	4.59	4.72	0.88	0.77	0.36	2.01	0.00	0.90	0.00	0.00	2.20
616	18.700	26.70	0.00	27.02	10.96	4.43	4.59	4.72	0.88	0.77	0.36	2.01	0.00	0.90	0.00	0.00	2.20
617	18.600	26.70	0.00	27.01	10.95	4.44	4.58	4.72	0.88	0.77	0.36	2.01	0.00	0.90	0.00	0.00	2.20
618	18.500	26.70	0.00	26.99	10.94	4.44	4.58	4.72	0.88	0.77	0.36	2.00	0.00	0.90	0.00	0.00	2.21
619	18.400	26.70	0.00	26.98	10.94	4.45	4.58	4.71	0.88	0.77	0.36	2.00	0.00	0.90	0.00	0.00	2.21
620	18.300	26.70	0.00	26.97	10.93	4.45	4.58	4.71	0.88	0.77	0.36	2.00	0.00	0.90	0.00	0.00	2.21
621	18.200	26.70	0.00	26.95	10.92	4.46	4.58	4.71	0.87	0.77	0.36	2.00	0.00	0.90	0.00	0.00	2.21
622	18.100	26.70	0.00	26.94	10.92	4.46	4.57	4.71	0.87	0.76	0.36	2.00	0.00	0.90	0.00	0.00	2.21
623	18.000	26.70	0.00	26.93	10.91	4.47	4.57	4.71	0.87	0.76	0.36	2.00	0.00	0.90	0.00	0.00	2.21

624	17.900	26.70	0.00	26.91	10.90	4.47	4.57	4.70	0.87	0.76	0.36	2.00	0.00	0.90	0.00	0.00	2.21
625	17.800	26.70	0.00	26.90	10.90	4.48	4.57	4.70	0.87	0.76	0.36	2.00	0.00	0.90	0.00	0.00	2.21
626	17.700	26.70	0.00	26.89	10.89	4.48	4.57	4.70	0.87	0.76	0.36	2.00	0.00	0.90	0.00	0.00	2.21
627	17.600	26.70	0.00	26.88	10.88	4.49	4.56	4.70	0.87	0.76	0.36	2.00	0.00	0.90	0.00	0.00	2.21
628	17.500	26.70	0.00	26.86	10.88	4.49	4.56	4.70	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.21
629	17.400	26.70	0.00	26.85	10.87	4.50	4.56	4.69	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.21
630	17.300	26.70	0.00	26.84	10.86	4.50	4.56	4.69	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.21
631	17.200	26.70	0.00	26.82	10.86	4.51	4.56	4.69	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.21

* CM-I = CHLORIDES

CM-II = SULFATES

NCM = CBOD2

MG/L

MG/L

mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 19 SITE 12 - CLEAR CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
632	UPR RCH	0.19755	26.70	0.00	26.82	10.86	4.51	4.56	4.69	0.87	0.76	0.36	0.00	0.90	0.00	2.21

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
632	17.20	17.10	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
633	17.10	17.00	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
634	17.00	16.90	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
635	16.90	16.80	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
636	16.80	16.70	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
637	16.70	16.60	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
638	16.60	16.50	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
639	16.50	16.40	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
640	16.40	16.30	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
641	16.30	16.20	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
642	16.20	16.10	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
643	16.10	16.00	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
644	16.00	15.90	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
645	15.90	15.80	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
646	15.80	15.70	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
647	15.70	15.60	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
648	15.60	15.50	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113
649	15.50	15.40	0.19755	56.64	0.11341	0.01	0.28	6.20	174.19	619.58	1.74	0.00	0.000	0.020	0.113

698	10.500	8.01	2.83	0.10	0.12	0.00	3.03	3.03	3.03	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
699	10.400	8.01	2.83	0.10	0.12	0.00	3.03	3.03	3.03	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
700	10.300	8.01	2.83	0.10	0.12	0.00	3.03	3.03	3.03	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
701	10.200	8.01	2.83	0.10	0.12	0.00	3.03	3.03	3.03	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
702	10.100	8.01	2.83	0.10	0.12	0.00	3.03	3.03	3.03	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
20 DEG C RATE				0.07		0.00	1.99			0.02		0.00	0.00	0.00	0.00			0.00	0.02
AVG 20 DEG C RATE			2.49		0.10						0.05								
0.05																			

* g/m²/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 *
632	17.100	26.70	0.00	26.82	10.86	4.49	4.55	4.69	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.21
633	17.000	26.70	0.00	26.82	10.86	4.48	4.55	4.69	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.20
634	16.900	26.70	0.00	26.82	10.86	4.47	4.55	4.69	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.20
635	16.800	26.70	0.00	26.82	10.86	4.46	4.55	4.69	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.20
636	16.700	26.70	0.00	26.82	10.86	4.44	4.55	4.68	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.20
637	16.600	26.70	0.00	26.82	10.86	4.43	4.55	4.68	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.20
638	16.500	26.70	0.00	26.82	10.86	4.42	4.55	4.68	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.20
639	16.400	26.70	0.00	26.82	10.86	4.41	4.55	4.68	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.20
640	16.300	26.70	0.00	26.82	10.86	4.40	4.54	4.68	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.19
641	16.200	26.70	0.00	26.82	10.86	4.39	4.54	4.68	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.19
642	16.100	26.70	0.00	26.82	10.86	4.38	4.54	4.68	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.19
643	16.000	26.70	0.00	26.82	10.86	4.37	4.54	4.67	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.19
644	15.900	26.70	0.00	26.82	10.86	4.36	4.54	4.67	0.87	0.76	0.36	1.99	0.00	0.90	0.00	0.00	2.19
645	15.800	26.70	0.00	26.82	10.86	4.35	4.54	4.67	0.87	0.77	0.36	1.99	0.00	0.90	0.00	0.00	2.19
646	15.700	26.70	0.00	26.82	10.86	4.34	4.54	4.67	0.87	0.77	0.36	1.99	0.00	0.90	0.00	0.00	2.19
647	15.600	26.70	0.00	26.82	10.86	4.33	4.53	4.67	0.87	0.77	0.36	1.99	0.00	0.90	0.00	0.00	2.18
648	15.500	26.70	0.00	26.82	10.86	4.32	4.53	4.67	0.87	0.77	0.36	1.99	0.00	0.90	0.00	0.00	2.18
649	15.400	26.70	0.00	26.82	10.86	4.32	4.53	4.67	0.87	0.77	0.36	1.99	0.00	0.90	0.00	0.00	2.18
650	15.300	26.70	0.00	26.82	10.86	4.31	4.53	4.67	0.87	0.77	0.36	1.99	0.00	0.90	0.00	0.00	2.18
651	15.200	26.70	0.00	26.82	10.86	4.30	4.53	4.66	0.87	0.77	0.36	1.99	0.00	0.90	0.00	0.00	2.18
652	15.100	26.70	0.00	26.82	10.86	4.29	4.53	4.66	0.86	0.77	0.36	1.99	0.00	0.90	0.00	0.00	2.18
653	15.000	26.70	0.00	26.82	10.86	4.29	4.53	4.66	0.86	0.77	0.36	1.99	0.00	0.90	0.00	0.00	2.18
654	14.900	26.70	0.00	26.82	10.86	4.28	4.53	4.66	0.86	0.77	0.36	1.99	0.00	0.90	0.00	0.00	2.18
655	14.800	26.70	0.00	26.82	10.86	4.27	4.52	4.66	0.86	0.77	0.36	1.99	0.00	0.90	0.00	0.00	2.17
656	14.700	26.70	0.00	26.82	10.86	4.26	4.52	4.66	0.86	0.77	0.36	1.99	0.00	0.90	0.00	0.00	2.17
657	14.600	26.70	0.00	26.82	10.86	4.26	4.52	4.66	0.86	0.77	0.36	1.99	0.00	0.90	0.00	0.00	2.17
658	14.500	26.70	0.00	26.82	10.86	4.25	4.52	4.66	0.86	0.77	0.36	1.99	0.00	0.90	0.00	0.00	2.17

FINAL REPORT HEADWATER
 REACH NO. 20 CLEAR CR - BEAR CR

BARNES CREEK WATERSHED MODEL
 BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
703	UPR RCH	0.19755	26.70	0.00	26.82	10.86	4.09	4.47	4.60	0.85	0.78	0.36	0.00	0.90	0.00	2.11
703	WSTLD	0.00280	26.70	0.00	5.50	1.30	7.20	5.55	5.55	0.75	0.00	0.06	0.00	4.30	0.00	3.76

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
703	10.10	10.00	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
704	10.00	9.90	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
705	9.90	9.80	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
706	9.80	9.70	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
707	9.70	9.60	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
708	9.60	9.50	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
709	9.50	9.40	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
710	9.40	9.30	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
711	9.30	9.20	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
712	9.20	9.10	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
713	9.10	9.00	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
714	9.00	8.90	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
715	8.90	8.80	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
716	8.80	8.70	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
717	8.70	8.60	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
718	8.60	8.50	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
719	8.50	8.40	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
720	8.40	8.30	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
721	8.30	8.20	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
722	8.20	8.10	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
723	8.10	8.00	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
724	8.00	7.90	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
725	7.90	7.80	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
726	7.80	7.70	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
TOT						0.24			4184.10	14871.69					
AVG					0.11492		0.28	6.20			1.74				
CUM						9.07									

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

724	7.900	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
725	7.800	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
726	7.700	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
20 DEG C RATE				0.07		0.00	2.27			0.02		0.00	0.00	0.00	0.00			0.00	0.02
AVG 20 DEG C RATE			2.49		0.10						0.05								
0.05																			

* g/m²/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 *
703	10.000	26.70	0.00	26.53	10.72	4.12	4.48	4.61	0.85	0.77	0.35	1.97	0.00	0.90	0.00	0.00	2.13
704	9.900	26.70	0.00	26.53	10.72	4.10	4.48	4.61	0.85	0.77	0.35	1.97	0.00	0.90	0.00	0.00	2.13
705	9.800	26.70	0.00	26.53	10.72	4.09	4.48	4.61	0.85	0.77	0.35	1.97	0.00	0.90	0.00	0.00	2.13
706	9.700	26.70	0.00	26.53	10.72	4.07	4.48	4.61	0.85	0.77	0.35	1.97	0.00	0.90	0.00	0.00	2.13
707	9.600	26.70	0.00	26.53	10.72	4.05	4.47	4.61	0.85	0.77	0.35	1.97	0.00	0.90	0.00	0.00	2.13
708	9.500	26.70	0.00	26.53	10.72	4.04	4.47	4.61	0.85	0.77	0.35	1.97	0.00	0.90	0.00	0.00	2.12
709	9.400	26.70	0.00	26.53	10.72	4.02	4.47	4.61	0.85	0.77	0.35	1.97	0.00	0.90	0.00	0.00	2.12
710	9.300	26.70	0.00	26.53	10.72	4.01	4.47	4.61	0.85	0.77	0.35	1.97	0.00	0.90	0.00	0.00	2.12
711	9.200	26.70	0.00	26.53	10.72	3.99	4.47	4.60	0.85	0.77	0.35	1.97	0.00	0.90	0.00	0.00	2.12
712	9.100	26.70	0.00	26.53	10.72	3.98	4.47	4.60	0.85	0.77	0.35	1.97	0.00	0.90	0.00	0.00	2.12
713	9.000	26.70	0.00	26.53	10.72	3.97	4.47	4.60	0.85	0.77	0.35	1.97	0.00	0.90	0.00	0.00	2.12
714	8.900	26.70	0.00	26.53	10.72	3.95	4.47	4.60	0.85	0.77	0.35	1.97	0.00	0.90	0.00	0.00	2.11
715	8.800	26.70	0.00	26.53	10.72	3.94	4.46	4.60	0.85	0.77	0.35	1.97	0.00	0.90	0.00	0.00	2.11
716	8.700	26.70	0.00	26.53	10.72	3.93	4.46	4.60	0.85	0.77	0.35	1.97	0.00	0.90	0.00	0.00	2.11
717	8.600	26.70	0.00	26.53	10.72	3.92	4.46	4.60	0.85	0.77	0.35	1.98	0.00	0.90	0.00	0.00	2.11
718	8.500	26.70	0.00	26.53	10.72	3.91	4.46	4.60	0.85	0.77	0.35	1.98	0.00	0.90	0.00	0.00	2.11
719	8.400	26.70	0.00	26.53	10.72	3.89	4.46	4.59	0.85	0.77	0.35	1.98	0.00	0.90	0.00	0.00	2.10
720	8.300	26.70	0.00	26.53	10.72	3.88	4.46	4.59	0.85	0.77	0.35	1.98	0.00	0.90	0.00	0.00	2.10
721	8.200	26.70	0.00	26.53	10.72	3.87	4.46	4.59	0.85	0.77	0.35	1.98	0.00	0.90	0.00	0.00	2.10
722	8.100	26.70	0.00	26.53	10.72	3.86	4.46	4.59	0.85	0.77	0.35	1.98	0.00	0.90	0.00	0.00	2.10
723	8.000	26.70	0.00	26.53	10.72	3.85	4.45	4.59	0.85	0.77	0.35	1.98	0.00	0.90	0.00	0.00	2.10
724	7.900	26.70	0.00	26.53	10.72	3.84	4.45	4.59	0.85	0.77	0.35	1.98	0.00	0.90	0.00	0.00	2.10
725	7.800	26.70	0.00	26.53	10.72	3.83	4.45	4.59	0.85	0.78	0.35	1.98	0.00	0.90	0.00	0.00	2.09
726	7.700	26.70	0.00	26.53	10.72	3.82	4.45	4.59	0.85	0.78	0.35	1.98	0.00	0.90	0.00	0.00	2.09

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
727	UPR RCH	0.20035	26.70	0.00	26.53	10.72	3.82	4.45	4.59	0.85	0.78	0.35	0.00	0.90	0.00	2.09

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
727	7.70	7.60	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
728	7.60	7.50	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
729	7.50	7.40	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
730	7.40	7.30	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
731	7.30	7.20	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
732	7.20	7.10	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
733	7.10	7.00	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
734	7.00	6.90	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
735	6.90	6.80	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
736	6.80	6.70	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
737	6.70	6.60	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
738	6.60	6.50	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
739	6.50	6.40	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
740	6.40	6.30	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
741	6.30	6.20	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
742	6.20	6.10	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
743	6.10	6.00	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
744	6.00	5.90	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
TOT						0.18			3138.08	11153.77					
AVG					0.11492		0.28	6.20			1.74				
CUM						9.25									

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

ELEM NCM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da

727	7.600	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
728	7.500	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.03
0.06																			
729	7.400	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.03
0.06																			
730	7.300	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.03
0.06																			
731	7.200	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.03
0.06																			
732	7.100	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.03
0.06																			
733	7.000	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.03
0.06																			
734	6.900	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.03
0.06																			
735	6.800	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.03
0.06																			
736	6.700	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.03
0.06																			
737	6.600	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.03
0.06																			
738	6.500	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.03
0.06																			
739	6.400	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.03
0.06																			
740	6.300	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.03
0.06																			
741	6.200	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.03
0.06																			
742	6.100	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.03
0.06																			
743	6.000	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
744	5.900	8.01	2.82	0.10	0.12	0.00	3.46	3.46	3.46	0.03	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
20 DEG C RATE				0.07		0.00	2.27			0.02		0.00	0.00	0.00	0.00			0.00	0.02
AVG 20 DEG C RATE			2.49		0.10						0.05								
0.05																			

* g/m²/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 *
727	7.600	26.70	0.00	26.53	10.72	3.81	4.45	4.59	0.85	0.78	0.35	1.98	0.00	0.96	0.00	0.00	2.09

728	7.500	26.70	0.00	26.53	10.72	3.81	4.44	4.60	0.85	0.78	0.35	1.98	0.00	1.01	0.00	0.00	2.09
729	7.400	26.70	0.00	26.53	10.72	3.80	4.44	4.60	0.85	0.78	0.35	1.98	0.00	1.07	0.00	0.00	2.09
730	7.300	26.70	0.00	26.53	10.72	3.79	4.44	4.61	0.85	0.78	0.35	1.98	0.00	1.12	0.00	0.00	2.08
731	7.200	26.70	0.00	26.53	10.72	3.78	4.44	4.61	0.85	0.78	0.35	1.98	0.00	1.18	0.00	0.00	2.08
732	7.100	26.70	0.00	26.53	10.72	3.77	4.43	4.62	0.85	0.78	0.35	1.98	0.00	1.23	0.00	0.00	2.08
733	7.000	26.70	0.00	26.53	10.72	3.77	4.43	4.62	0.85	0.78	0.35	1.98	0.00	1.29	0.00	0.00	2.08
734	6.900	26.70	0.00	26.53	10.72	3.76	4.43	4.63	0.85	0.78	0.35	1.98	0.00	1.34	0.00	0.00	2.08
735	6.800	26.70	0.00	26.53	10.72	3.75	4.42	4.63	0.85	0.78	0.35	1.98	0.00	1.40	0.00	0.00	2.08
736	6.700	26.70	0.00	26.53	10.72	3.75	4.42	4.64	0.85	0.78	0.35	1.98	0.00	1.46	0.00	0.00	2.07
737	6.600	26.70	0.00	26.53	10.72	3.74	4.42	4.65	0.85	0.78	0.35	1.98	0.00	1.51	0.00	0.00	2.07
738	6.500	26.70	0.00	26.53	10.72	3.73	4.42	4.65	0.85	0.78	0.35	1.98	0.00	1.57	0.00	0.00	2.07
739	6.400	26.70	0.00	26.53	10.72	3.73	4.41	4.66	0.85	0.78	0.35	1.98	0.00	1.62	0.00	0.00	2.07
740	6.300	26.70	0.00	26.53	10.72	3.72	4.41	4.66	0.85	0.78	0.35	1.99	0.00	1.68	0.00	0.00	2.07
741	6.200	26.70	0.00	26.53	10.72	3.72	4.41	4.67	0.85	0.78	0.35	1.99	0.00	1.73	0.00	0.00	2.07
742	6.100	26.70	0.00	26.53	10.72	3.71	4.40	4.67	0.85	0.78	0.35	1.99	0.00	1.79	0.00	0.00	2.06
743	6.000	26.70	0.00	26.53	10.72	3.70	4.40	4.68	0.86	0.78	0.35	1.99	0.00	1.84	0.00	0.00	2.06
744	5.900	26.70	0.00	26.53	10.72	3.70	4.40	4.68	0.86	0.78	0.35	1.99	0.00	1.90	0.00	0.00	2.06

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 22 SITE 13 - CALCASIEU RIVER

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
745	UPR RCH	0.20035	26.70	0.00	26.53	10.72	3.70	4.40	4.68	0.86	0.78	0.35	0.00	1.90	0.00	2.06

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
745	5.90	5.80	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
746	5.80	5.70	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
747	5.70	5.60	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
748	5.60	5.50	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
749	5.50	5.40	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
750	5.40	5.30	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
751	5.30	5.20	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
752	5.20	5.10	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
753	5.10	5.00	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004

TOT				19.23						332925.34	140989.62								
AVG			0.00355					2.36	23.90										56.43
CUM																			

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
745	5.800	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.04
746	5.700	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.04
747	5.600	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.04
748	5.500	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.04
749	5.400	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.04
750	5.300	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.04
751	5.200	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.04
752	5.100	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.04
753	5.000	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.04
754	4.900	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.04
755	4.800	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.04
756	4.700	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.04
757	4.600	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.04
758	4.500	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.04
759	4.400	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.04
760	4.300	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.04
761	4.200	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.04
762	4.100	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.04

0.06																			
788	1.500	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04
0.06																			
789	1.400	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04
0.06																			
790	1.300	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04
0.06																			
791	1.200	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04
0.06																			
792	1.100	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.04
0.06																			
793	1.000	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.04
0.06																			
794	0.900	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.04
0.06																			
795	0.800	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.04
0.06																			
796	0.700	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.04
0.06																			
797	0.600	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.04
0.06																			
798	0.500	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.04
0.06																			
799	0.400	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.04
0.06																			
800	0.300	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.04
0.06																			
801	0.200	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
0.06																			
802	0.100	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
0.06																			
803	0.000	8.01	0.34	0.08	0.12	0.00	3.03	3.03	3.03	0.05	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
0.06																			
20 DEG C RATE					0.06		0.00	1.99		0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG 20 DEG C RATE			0.30		0.10						0.05								
0.05																			

* g/m²/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 *
745	5.800	26.70	0.00	26.53	10.72	3.64	4.34	4.62	0.84	0.79	0.35	1.99	0.00	1.87	0.00	0.00	2.06
746	5.700	26.70	0.00	26.53	10.72	3.60	4.28	4.56	0.83	0.80	0.35	1.99	0.00	1.84	0.00	0.00	2.06
747	5.600	26.70	0.00	26.53	10.72	3.55	4.23	4.50	0.82	0.82	0.35	1.99	0.00	1.80	0.00	0.00	2.06
748	5.500	26.70	0.00	26.53	10.72	3.52	4.18	4.45	0.81	0.83	0.35	1.99	0.00	1.77	0.00	0.00	2.06

749	5.400	26.70	0.00	26.53	10.72	3.48	4.14	4.40	0.80	0.84	0.35	1.99	0.00	1.74	0.00	0.00	2.06
750	5.300	26.70	0.00	26.53	10.72	3.45	4.09	4.35	0.80	0.85	0.35	1.99	0.00	1.71	0.00	0.00	2.06
751	5.200	26.70	0.00	26.53	10.72	3.43	4.05	4.30	0.79	0.86	0.34	1.99	0.00	1.67	0.00	0.00	2.06
752	5.100	26.70	0.00	26.53	10.72	3.40	4.02	4.26	0.78	0.87	0.34	1.99	0.00	1.64	0.00	0.00	2.06
753	5.000	26.70	0.00	26.53	10.72	3.38	3.98	4.22	0.77	0.88	0.34	2.00	0.00	1.61	0.00	0.00	2.06
754	4.900	26.70	0.00	26.53	10.72	3.36	3.95	4.18	0.76	0.90	0.34	2.00	0.00	1.58	0.00	0.00	2.06
755	4.800	26.70	0.00	26.53	10.72	3.35	3.91	4.15	0.75	0.91	0.34	2.00	0.00	1.55	0.00	0.00	2.06
756	4.700	26.70	0.00	26.53	10.72	3.33	3.88	4.11	0.75	0.92	0.34	2.00	0.00	1.51	0.00	0.00	2.06
757	4.600	26.70	0.00	26.53	10.72	3.32	3.86	4.08	0.74	0.93	0.34	2.00	0.00	1.48	0.00	0.00	2.06
758	4.500	26.70	0.00	26.53	10.72	3.31	3.83	4.05	0.73	0.94	0.34	2.01	0.00	1.45	0.00	0.00	2.06
759	4.400	26.70	0.00	26.53	10.72	3.30	3.81	4.02	0.72	0.95	0.34	2.01	0.00	1.42	0.00	0.00	2.06
760	4.300	26.70	0.00	26.53	10.72	3.29	3.78	3.99	0.72	0.96	0.33	2.01	0.00	1.38	0.00	0.00	2.06
761	4.200	26.70	0.00	26.53	10.72	3.28	3.76	3.96	0.71	0.97	0.33	2.02	0.00	1.35	0.00	0.00	2.06
762	4.100	26.70	0.00	26.53	10.72	3.27	3.74	3.94	0.71	0.98	0.33	2.02	0.00	1.32	0.00	0.00	2.06
763	4.000	26.70	0.00	26.53	10.72	3.27	3.72	3.92	0.70	0.99	0.33	2.02	0.00	1.29	0.00	0.00	2.06
764	3.900	26.70	0.00	26.53	10.72	3.26	3.70	3.89	0.69	1.00	0.33	2.03	0.00	1.26	0.00	0.00	2.06
765	3.800	26.70	0.00	26.53	10.72	3.25	3.69	3.87	0.69	1.01	0.33	2.03	0.00	1.22	0.00	0.00	2.06
766	3.700	26.70	0.00	26.53	10.72	3.25	3.67	3.85	0.68	1.02	0.33	2.03	0.00	1.19	0.00	0.00	2.06
767	3.600	26.70	0.00	26.53	10.72	3.24	3.66	3.83	0.68	1.03	0.33	2.04	0.00	1.16	0.00	0.00	2.06
768	3.500	26.70	0.00	26.53	10.72	3.24	3.64	3.81	0.67	1.04	0.33	2.04	0.00	1.13	0.00	0.00	2.06
769	3.400	26.70	0.00	26.53	10.72	3.23	3.63	3.79	0.67	1.05	0.33	2.05	0.00	1.09	0.00	0.00	2.06
770	3.300	26.70	0.00	26.53	10.72	3.23	3.62	3.78	0.66	1.06	0.33	2.05	0.00	1.06	0.00	0.00	2.06
771	3.200	26.70	0.00	26.53	10.72	3.22	3.61	3.76	0.66	1.07	0.33	2.05	0.00	1.03	0.00	0.00	2.06
772	3.100	26.70	0.00	26.53	10.72	3.22	3.59	3.74	0.65	1.08	0.33	2.06	0.00	1.00	0.00	0.00	2.06
773	3.000	26.70	0.00	26.53	10.72	3.21	3.58	3.73	0.65	1.09	0.32	2.06	0.00	0.97	0.00	0.00	2.06
774	2.900	26.70	0.00	26.53	10.72	3.21	3.57	3.72	0.65	1.10	0.32	2.07	0.00	0.93	0.00	0.00	2.06
775	2.800	26.70	0.00	26.53	10.72	3.21	3.57	3.70	0.64	1.11	0.32	2.07	0.00	0.90	0.00	0.00	2.06
776	2.700	26.70	0.00	26.53	10.72	3.20	3.56	3.69	0.64	1.12	0.32	2.08	0.00	0.87	0.00	0.00	2.06
777	2.600	26.70	0.00	26.53	10.72	3.20	3.55	3.68	0.63	1.13	0.32	2.08	0.00	0.84	0.00	0.00	2.06
778	2.500	26.70	0.00	26.53	10.72	3.19	3.54	3.66	0.63	1.14	0.32	2.09	0.00	0.81	0.00	0.00	2.06
779	2.400	26.70	0.00	26.53	10.72	3.19	3.54	3.65	0.63	1.15	0.32	2.09	0.00	0.77	0.00	0.00	2.07
780	2.300	26.70	0.00	26.53	10.72	3.19	3.53	3.64	0.62	1.15	0.32	2.10	0.00	0.74	0.00	0.00	2.07
781	2.200	26.70	0.00	26.53	10.72	3.18	3.52	3.63	0.62	1.16	0.32	2.10	0.00	0.71	0.00	0.00	2.07
782	2.100	26.70	0.00	26.53	10.72	3.18	3.52	3.62	0.62	1.17	0.32	2.11	0.00	0.68	0.00	0.00	2.07
783	2.000	26.70	0.00	26.53	10.72	3.17	3.51	3.61	0.61	1.18	0.32	2.12	0.00	0.64	0.00	0.00	2.07
784	1.900	26.70	0.00	26.53	10.72	3.17	3.51	3.60	0.61	1.19	0.32	2.12	0.00	0.61	0.00	0.00	2.07
785	1.800	26.70	0.00	26.53	10.72	3.16	3.50	3.59	0.61	1.20	0.32	2.13	0.00	0.58	0.00	0.00	2.07
786	1.700	26.70	0.00	26.53	10.72	3.16	3.50	3.58	0.61	1.21	0.32	2.13	0.00	0.55	0.00	0.00	2.07
787	1.600	26.70	0.00	26.53	10.72	3.15	3.49	3.57	0.60	1.22	0.32	2.14	0.00	0.52	0.00	0.00	2.07
788	1.500	26.70	0.00	26.53	10.72	3.15	3.49	3.56	0.60	1.23	0.32	2.15	0.00	0.48	0.00	0.00	2.07
789	1.400	26.70	0.00	26.53	10.72	3.15	3.49	3.55	0.60	1.24	0.32	2.15	0.00	0.45	0.00	0.00	2.07
790	1.300	26.70	0.00	26.53	10.72	3.14	3.48	3.55	0.60	1.25	0.32	2.16	0.00	0.42	0.00	0.00	2.07
791	1.200	26.70	0.00	26.53	10.72	3.14	3.48	3.54	0.59	1.25	0.32	2.16	0.00	0.39	0.00	0.00	2.07
792	1.100	26.70	0.00	26.53	10.72	3.13	3.48	3.53	0.59	1.26	0.32	2.17	0.00	0.35	0.00	0.00	2.07
793	1.000	26.70	0.00	26.53	10.72	3.13	3.48	3.52	0.59	1.27	0.32	2.18	0.00	0.32	0.00	0.00	2.07
794	0.900	26.70	0.00	26.53	10.72	3.13	3.47	3.52	0.59	1.28	0.32	2.18	0.00	0.29	0.00	0.00	2.07
795	0.800	26.70	0.00	26.53	10.72	3.12	3.47	3.51	0.59	1.29	0.32	2.19	0.00	0.26	0.00	0.00	2.07
796	0.700	26.70	0.00	26.53	10.72	3.12	3.47	3.51	0.58	1.30	0.32	2.20	0.00	0.23	0.00	0.00	2.07
797	0.600	26.70	0.00	26.53	10.72	3.12	3.47	3.50	0.58	1.31	0.32	2.20	0.00	0.19	0.00	0.00	2.07
798	0.500	26.70	0.00	26.53	10.72	3.11	3.47	3.50	0.58	1.32	0.32	2.21	0.00	0.16	0.00	0.00	2.07

799	0.400	26.70	0.00	26.53	10.72	3.11	3.47	3.49	0.58	1.33	0.32	2.22	0.00	0.13	0.00	0.00	2.07
800	0.300	26.70	0.00	26.53	10.72	3.11	3.47	3.49	0.58	1.33	0.32	2.23	0.00	0.10	0.00	0.00	2.07
801	0.200	26.70	0.00	26.53	10.72	3.10	3.47	3.48	0.57	1.34	0.32	2.23	0.00	0.06	0.00	0.00	2.07
802	0.100	26.70	0.00	26.53	10.72	3.10	3.47	3.48	0.57	1.35	0.32	2.24	0.00	0.03	0.00	0.00	2.07
803	0.000	26.70	0.00	26.53	10.72	3.10	3.48	3.48	0.57	1.36	0.32	2.25	0.00	0.00	0.00	0.00	2.07

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

STREAM SUMMARY
HEADWATER

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 3.0 MG/L RUN

TRAVEL TIME = 28.48 DAYS

MAXIMUM EFFLUENT = 82.54 PERCENT

FLOW = 0.03511 TO 0.20105 m³/s
DISPERSION = 0.0036 TO 0.0379 m²/s
VELOCITY = 0.00355 TO 0.26300 m/s
DEPTH = 0.12 TO 2.36 m
WIDTH = 2.92 TO 23.90 m

BOD DECAY = 0.07 TO 0.24 per day
NH3 DECAY = 0.00 TO 0.00 per day
SDMNT OXYGEN DMND= 1.81 TO 3.46 g/m²/d
NH3 SOURCE = 0.00 TO 0.00 g/m²/d
REAERATION = 0.34 TO 6.44 per day
BOD SETTLING = 0.12 TO 0.12 per day
ORGN DECAY = 0.03 TO 0.20 per day
ORGN SETTLING = 0.06 TO 0.23 per day

TEMPERATURE = 26.00 TO 26.70 deg C
DISSOLVED OXYGEN = 3.10 TO 7.14 mg/L

.....EXECUTION COMPLETED

APPENDIX B8 - Proposed 3.0 summer projection justifications

Barnes Creek Summer Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 3, Program Constants

Description of Constant	Value	Result	Source/Justification
Maximum iteration limit	1000.0		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.
Settled rate units.	2.0	Sets the settled rate to a velocity (m/day).	By making the settling rate a velocity the rate becomes dependent upon the depth.
K2 Max	25.0	Max K2 at 20 C allowed for any computational element	EPA Policy in the absence of a measured value.
Effective BOD due to algae	0.2		
NCM Oxygen Uptake	1.0	Oxygen Uptake Rate per Unit of NBOD decay.	Standard LA modeling procedure

Barnes Creek Summer Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 9, Advection Hydraulic Coefficients					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	2.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.1	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
2	Site 2 to Site 3	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	2.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.1	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
3	Site 3 to Little Barnes Creek	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.10	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.31	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
4	Little Barnes Creek to Redhead Branch	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.27	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
5	Redhead Branch to Site 6	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.27	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
6	Site 6 to Little Caney Creek	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.45	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
7	Little Caney Creek to dam	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.45	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
8	dam to Caney Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	8.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.38	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
9	Caney Creek to Hurricane Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.33	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
10	Hurricane Creek to Site 10	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.33	Zero flow cross section
		Mannings - N	Unitless	0.27	Value determined by considering sluggish stream.
11	Site 10 to Magnolia Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	4.08	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
12	Magnolia Creek to Brushy Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
13	Brushy Creek to Righthand Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.

Barnes Creek Summer Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 11, INITIAL CONDITIONS					
Reach #	REACH DESCRIPTION	Initial Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Temperature	°Celsius	26	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2
		Chlorophyll a	mg/l	2.6	Site 2
2	Site 2 to Site 3	Temperature	°Celsius	26	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2
		Chlorophyll a	mg/l	2.6	Site 2
3	Site 3 to Little Barnes Creek	Temperature	°Celsius	26	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 3
		Nitrate Nitrite	mg/l	0.37	Site 3
		Chlorophyll a	mg/l	2	Site 3
4	Little Barnes Creek to Redhead Branch	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 4
		Nitrate Nitrite	mg/l	0.09	Site 4
		Chlorophyll a	mg/l	1.9	Site 4
5	Redhead Branch to Site 6	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 4
		Nitrate Nitrite	mg/l	0.09	Site 4
		Chlorophyll a	mg/l	1.9	Site 4
6	Site 6 to Little Caney Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 6
		Nitrate Nitrite	mg/l	0.1	Site 6
		Chlorophyll a	mg/l	6.1	Site 6
7	Little Caney Creek to dam	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 6
		Nitrate Nitrite	mg/l	0.1	Site 6
		Chlorophyll a	mg/l	6.1	Site 6
8	dam to Caney Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 7
		Nitrate Nitrite	mg/l	0.07	Site 7
		Chlorophyll a	mg/l	0.7	Site 7
9	Caney Creek to Hurricane Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 8
		Nitrate Nitrite	mg/l	0.09	Site 8
		Chlorophyll a	mg/l	0.6	Site 8
10	Hurricane Creek to Site 10	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 8
		Nitrate Nitrite	mg/l	0.09	Site 8
		Chlorophyll a	mg/l	0.6	Site 8
11	Site 10 to Magnolia Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
12	Magnolia Creek to Brushy Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
13	Brushy Creek to Righthand Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
14	Righthand Creek to Site 11	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
15	Site 11 to Boggy Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
16	Boggy Creek to Wolf Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
17	Wolf Creek to Unnamed Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
18	Unnamed Creek to Site 12	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
19	Site 12 to Clear Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
20	Clear Creek to Bear Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
21	Bear Creek to Site 13	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
22	Site 13 to Calcasieu River	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 13
		Nitrate Nitrite	mg/l	0.06	Site 13
		Chlorophyll a	mg/l	1.9	Site 13

Barnes Creek Summer Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 12, Recaeration, Sediment Oxygen Demand and BOD Coeff.					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.51	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.18	Bottle Rate for Site 2
		BOD Settling rate	m/day	0.1	Calibration
2	Site 2 to Site 3	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.24	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.18	Bottle Rate for Site 2
		BOD Settling rate	m/day	0.1	Calibration
3	Site 3 to Little Barnes Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.24	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 3
		BOD Settling rate	m/day	0.1	Calibration
4	Little Barnes Creek to Redhead Branch	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.72	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.1	Bottle Rate for Site 4
		BOD Settling rate	m/day	0.1	Calibration
5	Redhead Branch to Site 6	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.86	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.1	Bottle Rate for Site 4
		BOD Settling rate	m/day	0.1	Calibration
6	Site 6 to Little Caney Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.38	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 6
		BOD Settling rate	m/day	0.1	Calibration
7	Little Caney Creek to dam	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.31	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 6
		BOD Settling rate	m/day	0.1	Calibration
8	dam to Caney Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.72	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 7
		BOD Settling rate	m/day	0.1	Calibration
9	Caney Creek to Hurricane Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	2.06	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 8
		BOD Settling rate	m/day	0.1	Calibration
10	Hurricane Creek to Site 10	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	2.06	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 8
		BOD Settling rate	m/day	0.1	Calibration
11	Site 10 to Magnolia Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	2.06	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
12	Magnolia Creek to Brushy Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	2.06	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
13	Brushy Creek to Righthand Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	2.06	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
14	Righthand Creek to Site 11	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.79	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
15	Site 11 to Boggy Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.72	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
16	Boggy Creek to Wolf Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.72	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
17	Wolf Creek to Unnamed Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.72	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
18	Unnamed Creek to Site 12	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.55	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
19	Site 12 to Clear Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.99	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
20	Clear Creek to Bear Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	2.27	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
21	Bear Creek to Site 13	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	2.27	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
22	Site 13 to Calcasieu River	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	g/m ² -day	1.99	45% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 13
		BOD Settling rate	m/day	0.1	Calibration

Barnes Creek Summer Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 13, Nitrogen and Phosphorus

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 2
		Org-N Settling rate	m/day	0.20	Calibration
2	Site 2 to Site 3	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 2
		Org-N Settling rate	m/day	0.2	Calibration
3	Site 3 to Little Barnes Creek	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 3
		Org-N Settling rate	m/day	0.2	Calibration
4	Little Barnes Creek to Redhead Branch	Org-N Decay	1/day	0.05	NBOD Bottle Rate Site 4
		Org-N Settling rate	m/day	0.05	Calibration
5	Redhead Branch to Site 6	Org-N Decay	1/day	0.05	NBOD Bottle Rate Site 4
		Org-N Settling rate	m/day	0.05	Calibration
6	Site 6 to Little Caney Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 6
		Org-N Settling rate	m/day	0.05	Calibration
7	Little Caney Creek to dam	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 6
		Org-N Settling rate	m/day	0.05	Calibration
8	dam to Caney Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 7
		Org-N Settling rate	m/day	0.05	Calibration
9	Caney Creek to Hurricane Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 8
		Org-N Settling rate	m/day	0.05	Calibration
10	Hurricane Creek to Site 10	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 8
		Org-N Settling rate	m/day	0.05	Calibration
11	Site 10 to Magnolia Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
12	Magnolia Creek to Brushy Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
13	Brushy Creek to Righthand Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
14	Righthand Creek to Site 11	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
15	Site 11 to Boggy Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
16	Boggy Creek to Wolf Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
17	Wolf Creek to Unnamed Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
18	Unnamed Creek to Site 12	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
19	Site 12 to Clear Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
20	Clear Creek to Bear Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
21	Bear Creek to Site 13	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
22	Site 13 to Calcasieu River	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 13
		Org-N Settling rate	m/day	0.05	Calibration

Barnes Creek Summer Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 15, Coliform and Nonconservative Coefficients

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	NCM Decay	1/day	0.13	Bottle Rate Site 2
		NCM Settling Rate	m/day	0.05	Calibration
2	Site 2 to Site 3	NCM Decay	1/day	0.13	Bottle Rate Site 2
		NCM Settling Rate	m/day	0.05	Calibration
3	Site 3 to Little Barnes Creek	NCM Decay	1/day	0.13	Bottle Rate Site 3
		NCM Settling Rate	m/day	0.05	Calibration
4	Little Barnes Creek to Redhead Branch	NCM Decay	1/day	0.05	Bottle Rate Site 4
		NCM Settling Rate	m/day	0.05	Calibration
5	Redhead Branch to Site 6	NCM Decay	1/day	0.05	Bottle Rate Site 4
		NCM Settling Rate	m/day	0.05	Calibration
6	Site 6 to Little Caney Creek	NCM Decay	1/day	0.04	Bottle Rate Site 6
		NCM Settling Rate	m/day	0.05	Calibration
7	Little Caney Creek to dam	NCM Decay	1/day	0.04	Bottle Rate Site 6
		NCM Settling Rate	m/day	0.05	Calibration
8	dam to Caney Creek	NCM Decay	1/day	0.02	Bottle Rate Site 7
		NCM Settling Rate	m/day	0.05	Calibration
9	Caney Creek to Hurricane Creek	NCM Decay	1/day	0.03	Bottle Rate Site 8
		NCM Settling Rate	m/day	0.05	Calibration
10	Hurricane Creek to Site 10	NCM Decay	1/day	0.03	Bottle Rate Site 8
		NCM Settling Rate	m/day	0.05	Calibration
11	Site 10 to Magnolia Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
12	Magnolia Creek to Brushy Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
13	Brushy Creek to Righthand Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
14	Righthand Creek to Site 11	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
15	Site 11 to Boggy Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
16	Boggy Creek to Wolf Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
17	Wolf Creek to Unnamed Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
18	Unnamed Creek to Site 12	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
19	Site 12 to Clear Creek	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
20	Clear Creek to Bear Creek	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
21	Bear Creek to Site 13	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
22	Site 13 to Calcasieu River	NCM Decay	1/day	0.03	Bottle Rate Site 13
		NCM Settling Rate	m/day	0.05	Calibration

Barnes Creek Summer Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 16, Incremental Data for Flow, Temperature, Salinity, and Conservatives					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Incremental Outflow	m ³ /s	-0.0272	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26	90th percentile Temperature from Ambient Site 0837
		Salinity	ppt		
		Conservative Mast. I	mg/l	13.9	Site 2
3	Site 3 to Little Barnes Creek	Conservative Mast. II	mg/l	12.4	Site 2
		Incremental Outflow	m ³ /s	-0.0204	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26	90th percentile Temperature from Ambient Site 0837
		Salinity	ppt		
4	Little Barnes Creek to Redhead Branch	Conservative Mast. I	mg/l	33.6	Site 3
		Conservative Mast. II	mg/l	11	Site 3
		Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0057	
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
5	Redhead Branch to Site 6	Salinity	ppt		
		Conservative Mast. I	mg/l	30.2	Site 4
		Conservative Mast. II	mg/l	7.9	Site 4
		Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0057	
6	Site 6 to Little Casey Creek	Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Mast. I	mg/l	23.6	Site 6
		Conservative Mast. II	mg/l	6	Site 6
		Incremental Outflow	m ³ /s	-0.0317	
7	Little Casey Creek to dam	Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Mast. I	mg/l	23.6	Site 6
		Conservative Mast. II	mg/l	6	Site 6
8	dam to Casey Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0442	
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Mast. I	mg/l	8.8	Site 7
9	Casey Creek to Site 10	Conservative Mast. II	mg/l	3.2	Site 7
		Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0071	
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
10	Hurricane Creek to Site 10	Conservative Mast. I	mg/l	6.9	Site 8
		Conservative Mast. II	mg/l	2.7	Site 8
		Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
11	Site 10 to Magnolia Creek	Salinity	ppt		
		Conservative Mast. I	mg/l	9.2	Site 10
		Conservative Mast. II	mg/l	3.4	Site 10
		Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
12	Magnolia Creek to Brushy Creek	Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Mast. I	mg/l	9.2	Site 10
		Conservative Mast. II	mg/l	3.4	Site 10
		Incremental Outflow	m ³ /s		
13	Brushy Creek to Righthand Creek	Incremental Inflow	m ³ /s	0.0033	
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Mast. I	mg/l	9.2	Site 10
		Conservative Mast. II	mg/l	3.4	Site 10
14	Righthand Creek to Site 11	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Mast. I	mg/l	9.2	Site 10
15	Site 11 to Boggy Creek	Conservative Mast. II	mg/l	3.4	Site 10
		Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
16	Boggy Creek to Wolf Creek	Conservative Mast. I	mg/l	13.6	Site 11
		Conservative Mast. II	mg/l	4.1	Site 11
		Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
17	Wolf Creek to Unnamed Creek	Salinity	ppt		
		Conservative Mast. I	mg/l	13.6	Site 11
		Conservative Mast. II	mg/l	4.1	Site 11
		Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
18	Unnamed Creek to Site 12	Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Mast. I	mg/l	13.6	Site 11
		Conservative Mast. II	mg/l	4.1	Site 11
		Incremental Outflow	m ³ /s		

Barnes Creek Summer Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 17, Incremental Data for DO, BOD, Nitrogen					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.16	45% reduction in total nonpoint
		Org.-N	mg/l	0.89	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 2
		NO ₂₊₃ -N	mg/l	0.56	Site 2
3	Site 3 to Little Barnes Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.08	45% reduction in total nonpoint
		Org.-N	mg/l	0.48	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 3
		NO ₂₊₃ -N	mg/l	0.37	Site 3
4	Little Barnes Creek to Redhead Branch	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.82	45% reduction in total nonpoint
		Org.-N	mg/l	0.28	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 4
		NO ₂₊₃ -N	mg/l	0.09	Site 4
5	Redhead Branch to Site 6	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.82	45% reduction in total nonpoint
		Org.-N	mg/l	0.28	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 4
		NO ₂₊₃ -N	mg/l	0.09	Site 4
6	Site 6 to Little Caney Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.88	45% reduction in total nonpoint
		Org.-N	mg/l	0.48	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 6
		NO ₂₊₃ -N	mg/l	0.1	Site 6
7	Little Caney Creek to dam	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.88	45% reduction in total nonpoint
		Org.-N	mg/l	0.48	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 6
		NO ₂₊₃ -N	mg/l	0.1	Site 6
8	dam to Caney Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.54	45% reduction in total nonpoint
		Org.-N	mg/l	0.07	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 7
		NO ₂₊₃ -N	mg/l	0.07	Site 7
10	Hurricane Creek to Site 10	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.95	45% reduction in total nonpoint
		Org.-N	mg/l	0.53	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 8
		NO ₂₊₃ -N	mg/l	0.09	Site 8
11	Site 10 to Magnolia Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.24	45% reduction in total nonpoint
		Org.-N	mg/l	0.54	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ -N	mg/l	0.08	Site 10
12	Magnolia Creek to Brushy Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.24	45% reduction in total nonpoint
		Org.-N	mg/l	0.54	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ -N	mg/l	0.08	Site 10
13	Brushy Creek to Righthand Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.24	45% reduction in total nonpoint
		Org.-N	mg/l	0.54	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ -N	mg/l	0.08	Site 10
14	Righthand Creek to Site 11	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.24	45% reduction in total nonpoint
		Org.-N	mg/l	0.54	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ -N	mg/l	0.08	Site 10
15	Site 11 to Boggy Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	3.55	45% reduction in total nonpoint
		Org.-N	mg/l	0.39	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ -N	mg/l	0.08	Site 11
16	Boggy Creek to Wolf Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	3.55	45% reduction in total nonpoint
		Org.-N	mg/l	0.39	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ -N	mg/l	0.08	Site 11
17	Wolf Creek to Unnamed Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	3.55	45% reduction in total nonpoint
		Org.-N	mg/l	0.39	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ -N	mg/l	0.08	Site 11
18	Unnamed Creek to Site 12	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	3.55	45% reduction in total nonpoint
		Org.-N	mg/l	0.39	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ -N	mg/l	0.08	Site 11

Barnes Creek Summer Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 18, Incremental Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Chlorophyll a	ug/l	4.3	Site 2
		CBOD2	mg/l	3.4	Site 2
3	Site 3 to Little Barnes Creek	Chlorophyll a	ug/l	4.46	Site 3
		NCM	mg/l	3.45	Site 3
4	Little Barnes Creek to Redhead Branch	Chlorophyll a	ug/l	4.23	Site 4
		NCM	mg/l	3.48	Site 4
5	Redhead Branch to Site 6	Chlorophyll a	ug/l	4.23	Site 4
		NCM	mg/l	3.48	Site 4
6	Site 6 to Little Caney Creek	Chlorophyll a	ug/l	3.01	Site 6
		NCM	mg/l	5.05	Site 6
7	Little Caney Creek to dam	Chlorophyll a	ug/l	3.01	Site 6
		NCM	mg/l	5.05	Site 6
8	dam to Caney Creek	Chlorophyll a	ug/l	3.72	Site 7
		NCM	mg/l	4.03	Site 7
10	Hurricane Creek to Site 10	Chlorophyll a	ug/l	2.68	Site 8
		NCM	mg/l	4.52	Site 8
11	Site 10 to Magnolia Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
12	Magnolia Creek to Brushy Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
13	Brushy Creek to Righthand Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
14	Righthand Creek to Site 11	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
15	Site 11 to Boggy Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
16	Boggy Creek to Wolf Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
17	Wolf Creek to Unnamed Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
18	Unnamed Creek to Site 12	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11

Barnes Creek Summer Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 19, Nonpoint Source Data					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	CBOD1	kg/day	2.06	45% reduction in total nonpoint
		CBOD2	kg/day	6.88	45% reduction in total nonpoint
		O-N	kg/day	2.06	45% reduction in total nonpoint
2	Site 2 to Site 3	CBOD1	kg/day	0	45% reduction in total nonpoint
		CBOD2	kg/day	2.06	45% reduction in total nonpoint
		O-N	kg/day	0	45% reduction in total nonpoint
3	Site 3 to Little Barnes Creek	CBOD1	kg/day	11	45% reduction in total nonpoint
		CBOD2	kg/day	6.88	45% reduction in total nonpoint
		O-N	kg/day	0	45% reduction in total nonpoint
4	Little Barnes Creek to Redhead Branch	CBOD1	kg/day	2.06	45% reduction in total nonpoint
		CBOD2	kg/day	3.44	45% reduction in total nonpoint
		O-N	kg/day	0.69	45% reduction in total nonpoint
5	Redhead Branch to Site 6	CBOD1	kg/day	0	45% reduction in total nonpoint
		CBOD2	kg/day	5.16	45% reduction in total nonpoint
		O-N	kg/day	0.69	45% reduction in total nonpoint
6	Site 6 to Little Caney Creek	CBOD1	kg/day	13.75	45% reduction in total nonpoint
		CBOD2	kg/day	2.75	45% reduction in total nonpoint
		O-N	kg/day	1.38	45% reduction in total nonpoint
7	Little Caney Creek to dam	CBOD1	kg/day	9.62	45% reduction in total nonpoint
		CBOD2	kg/day	1.38	45% reduction in total nonpoint
		O-N	kg/day	0.41	45% reduction in total nonpoint
8	dam to Caney Creek	CBOD1	kg/day	4.12	45% reduction in total nonpoint
		CBOD2	kg/day	2.06	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
9	Caney Creek to Hurricane Creek	CBOD1	kg/day	1.38	45% reduction in total nonpoint
		CBOD2	kg/day	6.19	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
10	Hurricane Creek to Site 10	CBOD1	kg/day	1.38	45% reduction in total nonpoint
		CBOD2	kg/day	2.06	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
11	Site 10 to Magnolia Creek	CBOD1	kg/day	3.44	45% reduction in total nonpoint
		CBOD2	kg/day	0	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
12	Magnolia Creek to Brushy Creek	CBOD1	kg/day	2.06	45% reduction in total nonpoint
		CBOD2	kg/day	0	45% reduction in total nonpoint
		O-N	kg/day	0	45% reduction in total nonpoint
13	Brushy Creek to Righthand Creek	CBOD1	kg/day	3.44	45% reduction in total nonpoint
		CBOD2	kg/day	0	45% reduction in total nonpoint
		O-N	kg/day	0	45% reduction in total nonpoint
14	Righthand Creek to Site 11	CBOD1	kg/day	2.75	45% reduction in total nonpoint
		CBOD2	kg/day	0	45% reduction in total nonpoint
		O-N	kg/day	0	45% reduction in total nonpoint
15	Site 11 to Boggy Creek	CBOD1	kg/day	3.44	45% reduction in total nonpoint
		CBOD2	kg/day	0	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
16	Boggy Creek to Wolf Creek	CBOD1	kg/day	0	45% reduction in total nonpoint
		CBOD2	kg/day	0	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
17	Wolf Creek to Unnamed Creek	CBOD1	kg/day	2.06	45% reduction in total nonpoint
		CBOD2	kg/day	1.38	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
18	Unnamed Creek to Site 12	CBOD1	kg/day	3.44	45% reduction in total nonpoint
		CBOD2	kg/day	1.38	45% reduction in total nonpoint
		O-N	kg/day	0.58	45% reduction in total nonpoint
19	Site 12 to Clear Creek	CBOD1	kg/day	10.31	45% reduction in total nonpoint
		CBOD2	kg/day	0.69	45% reduction in total nonpoint
		O-N	kg/day	0.58	45% reduction in total nonpoint
20	Clear Creek to Bear Creek	CBOD1	kg/day	3.44	45% reduction in total nonpoint
		CBOD2	kg/day	0	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
21	Bear Creek to Site 13	CBOD1	kg/day	2.06	45% reduction in total nonpoint
		CBOD2	kg/day	0	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
22	Site 13 to Calcasieu River	CBOD1	kg/day	226.88	45% reduction in total nonpoint
		CBOD2	kg/day	68.44	45% reduction in total nonpoint
		O-N	kg/day	18.56	45% reduction in total nonpoint

Barnes Creek Summer Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 20, Headwater Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	
		Headwater name		Barnes Creek	
		Headwater flow	cms	0.0351	Projected flow for summer critical
		Temperature	°Celcius	26.00	90th percentile Temperature from Ambient Site 0837
		Conservative Matl. I	mg/l	33.90	Site 2
		Conservative Matl. II	mg/l	12.40	Site 2

Barnes Creek Summer Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 21, Headwater Data for DO, BOD, and Nitrogen

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	Site 2
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		BOD	mg/l	2.43	45% reduction in total nonpoint
		O-N	mg/l	0.96	45% reduction in total nonpoint
		NH ₃	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2

Barnes Creek Summer Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 22, Headwater Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	
		Chlorophyll a	mg/l	2.6	Site 2
		CBOD 2	mg/l	3.4	Site 2

Barnes Creek Summer Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 27, Lower Boundary Conditions

Reach #	NAME	Parameter	Units	Value	Source/Justification
36	Sandy Creek - Hwy 124	Temperature	°Celcius	26	90th percentile Temperature from Ambient Site 0837
		Salinity	ppt		
		Conservative Matl. I	mg/l		
		Conservative Matl. II			
		Dissolved O ₂	mg/l		
		BOD	mg/l		
		Org.- N	mg/l		
		NH ₃ -N	mg/l		
		NO ₂₊₃ -N	mg/l		
		Chlorophyll a	ug/l	1.9	Site 13
		Nonconservative	mg/l		

APPENDIX B9 - Proposed 3.0 summer loading calculations

Proposed 3.0 DO Standard Summer TMDL calculations and Projection model calculations for Incremental loads:

Barnes Creek - 030601 and 030602

Shaded cells are input values for calculations.
Values to be used in the projection models.

Reach Description and #	Incremental Load Determinations:																				
	Calibration Load determinations:										Percentage Reduction calculations:			Projection Model Input determinations:				Projection Model Input determinations:			
	Projection Flow (cms)	Calb. UCBOD conc. (mg/l)	Unadjusted UCBOD (kg/day)	Calb. UNBOD conc. (mg/l)	Unadjusted UNBOD (kg/day)	Background Conc. UCBOD (mg/l)	Background Conc. UNBOD (mg/l)	Background % Reduction	Background Load UCBOD (kg/day)	Background Load UNBOD (kg/day)	Actual % Reduction of Man Made Loads	Increm. UCBOD Load Adjusted For % Reduction (LA load)	Increm. UNBOD Load Adjusted For % Reduction (LA load)	Increm. UCBOD Adjusted for MOS (kg/day) (1)	Increm. UNBOD Adjusted for MOS (kg/day) (1)	Projection UCBOD conc. (mg/l)	Projection UNBOD conc. (mg/l)	Proj. UCBOD MOS load (kg/day)	Proj. UNBOD MOS load (kg/day)	Sub-total MOS load (kg/day)	Sub-total LA load (kg/day)
A	B	C = (86.4)(A)(B)	D	E = (86.4)(A)(D)	F	G	H1	H = (1-H1)(86.4)(A)(F)	I = (1-H1)(86.4)(A)(G)	J, Note 1	K = (C-H)(1-J) + H	L = (E-I)(1-J) + I	M = (K-H) / (1-MOS) + H	N = (L-I) / (1-MOS) + I	M / [(A)(86.4)]	N / [(A)(86.4)]	O = M - K	P = N - L	O + P	K + L	
1								0%			45%										
2	-0.0272	6.05	-14.22	1.30	-3.06			0%	0.00	0.00	45%	-7.82	-1.68	-10	-2	4.16	0.89	-2	0	-2	-10
3	-0.0204	5.94	-10.47	0.70	-1.23			0%	0.00	0.00	45%	-5.76	-0.68	-7	-1	4.08	0.48	-1	0	-2	-6
4	0.0057	7.01	3.45	0.41	0.20			0%	0.00	0.00	45%	1.90	0.11	2	0	4.82	0.28	0	0	1	2
5	0.0057	7.01	3.45	0.41	0.20			0%	0.00	0.00	45%	1.90	0.11	2	0	4.82	0.28	0	0	1	2
6	-0.0096	8.55	-7.09	0.70	-0.58			0%	0.00	0.00	45%	-3.90	-0.32	-5	0	5.88	0.48	-1	0	-1	-4
7	-0.0096	8.55	-7.09	0.70	-0.58			0%	0.00	0.00	45%	-3.90	-0.32	-5	0	5.88	0.48	-1	0	-1	-4
8								0%			45%										
9								0%			45%										
10	0.0071	7.20	4.42	0.77	0.47			0%	0.00	0.00	45%	2.43	0.26	3	0	4.95	0.53	1	0	1	3
11	0.0033	7.62	2.17	0.78	0.22			0%	0.00	0.00	45%	1.19	0.12	1	0	5.24	0.54	0	0	0	1
12	0.0033	7.62	2.17	0.78	0.22			0%	0.00	0.00	45%	1.19	0.12	1	0	5.24	0.54	0	0	0	1
13	0.0033	7.62	2.17	0.78	0.22			0%	0.00	0.00	45%	1.19	0.12	1	0	5.24	0.54	0	0	0	1
14	0.0033	7.62	2.17	0.78	0.22			0%	0.00	0.00	45%	1.19	0.12	1	0	5.24	0.54	0	0	0	1
15	0.0079	5.16	3.52	0.57	0.39			0%	0.00	0.00	45%	1.94	0.21	2	0	3.55	0.39	0	0	1	2
16	0.0079	5.16	3.52	0.57	0.39			0%	0.00	0.00	45%	1.94	0.21	2	0	3.55	0.39	0	0	1	2
17	0.0079	5.16	3.52	0.57	0.39			0%	0.00	0.00	45%	1.94	0.21	2	0	3.55	0.39	0	0	1	2
18	0.0079	5.16	3.52	0.57	0.39			0%	0.00	0.00	45%	1.94	0.21	2	0	3.55	0.39	0	0	1	2
19								0%			45%										
20								0%			45%										
21								0%			45%										
22								0%			45%										
Sub-Total benthic loading									0	0		-3	-1	-3	-1			-1	0	-1	-4

Note 1: The percentage reduction values are taken from the "Non-Point Benthic Load Input and TMDL Calculations" worksheet.

EXPLICIT MARGINS:
MARGIN OF SAFETY (MOS) (%) = **20%**

Proposed 3.0 DO Standard Summer TMDL calculations and Projection model calculations for Headwater / Tributary loads:

Barnes Creek - 030601 and 030602

Shaded cells are input values for calculations.

Values to be used in the projection models.

Headwater / Tributary load determinations

Headwater / Tributary Description and Reach #	Seasonal Critical flow (cms)	UCBOD (mg/l)	UNBOD (mg/l)	UCBOD (kg/day)	UNBOD (kg/day)	Background UCBOD conc. (mg/l)	Background UNBOD conc. (mg/l)	Background % Reduction	Background UCBOD Load (kg/day)	Background UNBOD Load (kg/day)	Percent reduction of Man-Made loads	UCBOD load adjusted for % Reduction (kg/day)	UNBOD load adjusted for % Reduction (kg/day)	Reduced UCBOD load adjusted for MOS (kg/day)	Reduced UNBOD load adjusted for MOS (kg/day)	Projection UCBOD input conc. (mg/l)	Projection UNBOD input conc. (mg/l)
	A	B	C	D = (86.4)(A)(B)	E = (86.4)(A)(C)	F	G	H1	H = (1-H1)(86.4)(A)(F)	I = (1-H1)(86.4)(A)(G)	J	K = (D-H)(1-J) + H	L = (D-I)(1-J) + I	M = (K - H) / (1 - MOS) + H	N = (L - I) / (1 - MOS) + I	(M)/[(A)(86.4)]	(N)/[(A)(86.4)]
Barnes Creek	0.0351	6.05	1.30	18.35	3.94	5.33	0.22	0%	16.17	0.67	45%	17.37	2.47	17.67	2.92	5.83	0.96
Clear Creek	0.0028	5.55	0.00	1.34	0.00	5.33	0.22	0%	1.29	0.05	45%	1.32	0.00	1.33	0.00	5.48	0.00
SUB-TOTAL TMDL LOADING				20	4				17	1		19	2	19	3		

5.06 5.31
4.87 0.95 0.21

EXPLICIT MARGINS:
 MARGIN OF SAFETY (MOS) (%) = **20%**

Proposed 3.0 DO Standard Summer TMDL Calculations for Point Source loads:

Barnes Creek - 030601 and 030602

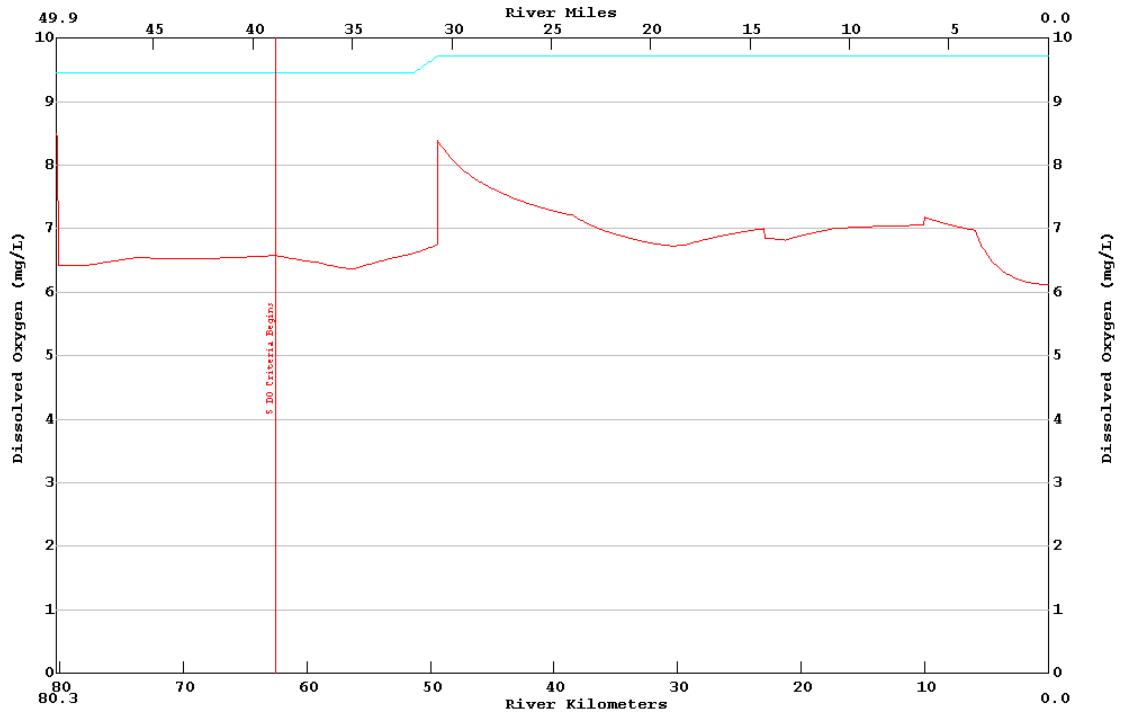
Input data into the shaded cells.

Point Source Loading Calculations																		
Pt. Source / Facility Description and Reach #	Receiving Stream	Included in the Projection Model (Yes/No)	Anticipated/ design flow (cms)	Flow with MOS (cms)	Proposed Permit Limits			UCBOD				UNBOD				Sub-total of Point Source Loads		
					CBOD ₅ (mg/l)	NH ₃ N (mg/l)	MOS (%)	Ultimate Conc. (mg/l) (2)	Loads (kg/day) (1)	WLA (kg/day)	Reserve/ MOS Load (kg/day)	Ultimate Conc. (mg/l) (2)	Loads (kg/day) (1)	WLA (kg/day)	Reserve/ MOS Load (kg/day)	Loads (kg/day)	WLA (kg/day)	Reserve/ MOS (kg/day)
			A	A1 = A/(1-D)	B	C	D	E = 2.3 x B	F = (86.4)(A1)(E)	G = (1-D) x F	H = (D)(F)	I = 4.3 x B	J = (86.4)(A1)(I)	K = (1-D) x J	L = (D)(J)	F + J	G + K	H + L
City of DeRidder	Unnamed Ditch to Barnes Creek	Yes	0.132752	0.165940	10.00	5.00	0.20	23.00	329.76	263.81	65.95	21.50	308.25	246.60	61.65	638.01	510.41	127.60
Evergreen Mobile Home Park	Unnamed ditch to Little Barnes Creek to Barnes Creek	No	0.000700	0.000875	30.00	15.00	0.20	69.00	5.22	4.17	1.04	64.50	4.88	3.90	0.98	10.09	8.07	2.02
Beauregard Fire Prot Dist #2	Unnamed ditch to unnamed trib to Barnes Creek	No	0.000020	0.000025	30.00	15.00	0.20	69.00	0.15	0.12	0.03	64.50	0.14	0.11	0.03	0.29	0.23	0.06
Broadlands Fire Dept Station #1	Unnamed ditch to Little Barnes Creek to Barnes Creek	No	0.000020	0.000025	30.00	15.00	0.20	69.00	0.15	0.12	0.03	64.50	0.14	0.11	0.03	0.29	0.23	0.06
SUB-TOTAL Loads			0.133492						335.27	268.22	67.05		313.41	250.72	62.68	648.68	518.94	129.74

(1) - Load(kg/day) = 86.4 x Ultimate Conc.(mg/l) x Modeled Flow(cms)
 (2) - [UCBOD conc. = CBOD5(mg/l) x 2.3] and [UNBOD conc. = NH3N(mg/l) x 4.3]

APPENDIX B10 - Proposed 3.0 winter projection model input/output and graphs

LA-QUAL Version 5.02 Run at 11:00 on 02/19/2002 File D:\Barnes Creek\Input Files\barnswin3.0.txt
BARNES CREEK WINTER 3.0 MG/L RUN min= 6.12 max= 8.50
:MAINSTEM



LA-QUAL Version 5.02
Louisiana Department of Environmental Quality

Input file is D:\Barnes Creek\Input Files\barnswin3.0.txt
Output produced at 11:00 on 02/19/2002

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

CARD TYPE	CONTROL TITLES
TITLE01	BARNES CREEK WATERSHED MODEL
TITLE02	BARNES CREEK WINTER 3.0 MG/L RUN
CNTROL04 YES	METRIC UNITS
CNTROL05 YES	OXYGEN DEPENDENT RATES
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 YES	CONSERVATIVE MATERIAL II = SULFATES	IN MG/L
MODOPT05 YES	DISSOLVED OXYGEN	
MODOPT06 YES	BIOCHEMICAL OXYGEN DEMAND	
MODOPT07 YES	NITROGEN	
MODOPT08 NO	PHOSPHORUS	
MODOPT09 NO	CHLOROPHYLL A	
MODOPT10 NO	MACROPHYTES	
MODOPT11 NO	COLIFORM	
MODOPT12 YES	NONCONSERVATIVE MATERIAL = CBOD2	IN mg/L
ENDATA02		

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
PROGRAM	MAXIMUM ITERATION LIMIT	= 1000.00000
PROGRAM	PLOT TYPE	= 3.00000
PROGRAM	FINAL REPORT TYPE	= 1.00000
PROGRAM	SPECIAL REPORT TYPE	= 3.00000
PROGRAM	KL MINIMUM	= 0.70000 meters/day
PROGRAM	NCM OXYGEN UPTAKE RATE	= 1.00000 mg O/mg NCM
PROGRAM	INHIBITION CONTROL VALUE	= 3.00000
PROGRAM	NH3 OXYGEN UPTAKE RATE	= 0.00000 mg O/mg N
PROGRAM	K2 MAXIMUM	= 25.00000 per day
PROGRAM	HYDRAULIC CALCULATION METHOD	= 2.00000 (widths and depths)
PROGRAM	SETTLING RATE UNITS	= 2.00000 (per day)
PROGRAM	OCEAN EXCHANGE RATIO	= 0.00000
PROGRAM	EFFECTIVE BOD DUE TO ALGAE	= 0.15000 mg/L BOD per ug/L chl a
PROGRAM	ORGN OXYGEN UPTAKE RATE	= 1.00000 mg O/mg N
PROGRAM	ALGAE OXYGEN PROD	= 0.05000 mg O/ug chl a/day
PROGRAM	N MACROPHYTE UPTAKE	= 0.00300 mg N/mg macrophyte/day

PROGRAM MACROPHYTE OXYGEN PROD = 0.00000 mg O/mg macrophyte/day
PROGRAM N PREFERENCE = 0.60000 (0.0=NH3 1.0=NO3)
ENDATA03

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

CARD TYPE	RATE CODE	THETA VALUE
THETA	NCM DECA	1.04700
THETA	ORGN DEC	1.07000

ENDATA04

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
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ENDATA05

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
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ENDATA06

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
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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	BC	HEADWATER - SITE 2	80.30	TO 78.10	0.1000	2.20	22	1	22
REACH ID	2	BC	SITE 2 - SITE 3	78.10	TO 73.70	0.1000	4.40	44	23	66
REACH ID	3	BC	SITE 3 - LITTLE BARNES CR	73.70	TO 62.50	0.1000	11.20	112	67	178
REACH ID	4	BC	LITTLE BARNES - REDHEAD CR	62.50	TO 59.00	0.1000	3.50	35	179	213
REACH ID	5	BC	REDHEAD CR - SITE 6	59.00	TO 56.30	0.1000	2.70	27	214	240
REACH ID	6	BC	SITE 6 - LITTLE CANEY CR	56.30	TO 51.40	0.1000	4.90	49	241	289
REACH ID	7	BC	LITTLE CANEY CR - DAM	51.40	TO 49.40	0.1000	2.00	20	290	309
REACH ID	8	BC	DAM - CANEY CREEK	49.40	TO 46.50	0.1000	2.90	29	310	338
REACH ID	9	BC	CANEY CR - HURRICANE CR	46.50	TO 38.50	0.1000	8.00	80	339	418
REACH ID	10	BC	HURRICANE CR - SITE 10	38.50	TO 36.40	0.1000	2.10	21	419	439
REACH ID	11	BC	SITE 10 - MAGNOLIA CR	36.40	TO 34.10	0.1000	2.30	23	440	462
REACH ID	12	BC	MAGNOLIA CR - BRUSHY CR	34.10	TO 32.40	0.1000	1.70	17	463	479
REACH ID	13	BC	BRUSHY CR - RIGHTHAND CR	32.40	TO 30.50	0.1000	1.90	19	480	498
REACH ID	14	BC	RIGHTHAND CR - SITE 11	30.50	TO 29.50	0.1000	1.00	10	499	508
REACH ID	15	BC	SITE 11 - BOGGY CR	29.50	TO 23.00	0.1000	6.50	65	509	573
REACH ID	16	BC	BOGGY CR - WOLF CREEK	23.00	TO 22.90	0.1000	0.10	1	574	574
REACH ID	17	BC	WOLF CR - UNNAMED CREEK	22.90	TO 21.30	0.1000	1.60	16	575	590
REACH ID	18	BC	UNNAMED CR - SITE 12	21.30	TO 17.20	0.1000	4.10	41	591	631
REACH ID	19	BC	SITE 12 - CLEAR CR	17.20	TO 10.10	0.1000	7.10	71	632	702

REACH ID	20	BC	CLEAR CR - BEAR CR	10.10	TO	7.70	0.1000	2.40	24	703	726
REACH ID	21	BC	BEAR CR - SITE 13	7.70	TO	5.90	0.1000	1.80	18	727	744
REACH ID	22	BC	SITE 13 - CALCASIEU RIVER	5.90	TO	0.00	0.1000	5.90	59	745	803

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"
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 1										
HYDR-1	1	BC	2.680	0.930	2.800	0.620	1.000	0.100	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 2										
HYDR-1	2	BC	2.680	0.930	2.800	0.620	1.000	0.100	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 3										
HYDR-1	3	BC	2.680	0.930	3.100	0.620	1.000	0.310	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 4										
HYDR-1	4	BC	2.680	0.930	3.200	0.620	1.000	0.270	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 5										
HYDR-1	5	BC	2.680	0.930	3.200	0.620	1.000	0.270	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 6										
HYDR-1	6	BC	2.680	0.930	5.800	0.620	1.000	0.450	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 7										
HYDR-1	7	BC	2.680	0.930	5.800	0.620	1.000	0.450	0.00000	0.027
HYDR-1	8	BC	0.230	0.540	8.200	0.100	0.210	0.380	0.00000	0.027
HYDR-1	9	BC	0.230	0.540	4.000	0.100	0.210	0.330	0.00000	0.027
HYDR-1	10	BC	0.230	0.540	4.000	0.100	0.210	0.330	0.00000	0.027
HYDR-1	11	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	12	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	13	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	14	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	15	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	16	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	17	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	18	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	19	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	20	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	21	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	22	BC	0.230	0.540	23.800	0.100	0.210	2.290	0.00000	0.027

ENDATA09

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

CARD TYPE	REACH	ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"
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ENDATA10

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

CARD TYPE	REACH	ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
INITIAL	1	BC	18.10	0.00	5.00	0.00	0.56	0.00	2.60	0.00
INITIAL	2	BC	18.10	0.00	5.00	0.00	0.56	0.00	2.60	0.00

INITIAL	3	BC	18.10	0.00	5.00	0.00	0.37	0.00	2.00	0.00
INITIAL	4	BC	18.10	0.00	5.00	0.00	0.09	0.00	1.90	0.00
INITIAL	5	BC	18.10	0.00	5.00	0.00	0.09	0.00	1.90	0.00
INITIAL	6	BC	18.10	0.00	5.00	0.00	0.10	0.00	6.10	0.00
INITIAL	7	BC	18.10	0.00	5.00	0.00	0.10	0.00	6.10	0.00
INITIAL	8	BC	16.70	0.00	5.00	0.00	0.07	0.00	1.00	0.00
INITIAL	9	BC	16.70	0.00	5.00	0.00	0.09	0.00	0.60	0.00
INITIAL	10	BC	16.70	0.00	5.00	0.00	0.09	0.00	0.60	0.00
INITIAL	11	BC	16.70	0.00	5.00	0.00	0.08	0.00	1.10	0.00
INITIAL	12	BC	16.70	0.00	5.00	0.00	0.08	0.00	1.10	0.00
INITIAL	13	BC	16.70	0.00	5.00	0.00	0.08	0.00	1.10	0.00
INITIAL	14	BC	16.70	0.00	5.00	0.00	0.08	0.00	1.10	0.00
INITIAL	15	BC	16.70	0.00	5.00	0.00	0.08	0.00	0.90	0.00
INITIAL	16	BC	16.70	0.00	5.00	0.00	0.08	0.00	0.90	0.00
INITIAL	17	BC	16.70	0.00	5.00	0.00	0.08	0.00	0.90	0.00
INITIAL	18	BC	16.70	0.00	5.00	0.00	0.08	0.00	0.90	0.00
INITIAL	19	BC	16.70	0.00	5.00	0.00	0.10	0.00	0.90	0.00
INITIAL	20	BC	16.70	0.00	5.00	0.00	0.10	0.00	0.90	0.00
INITIAL	21	BC	16.70	0.00	5.00	0.00	0.10	0.00	0.90	0.00
INITIAL	22	BC	16.70	0.00	5.00	0.00	0.06	0.00	1.90	0.00

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

CARD	TYPE	REACH	ID	K2 OPT	K2 "A"	K2 "B"	K2 "C"	BKGRND SOD g/m ² /d	AEROB	BOD SETT m/d	BOD CONV TO SOD	ANAER
									BOD DECAY per day			BOD DECAY
COEF-1	1	BC	20	K2=a/D	0.700	0.000	0.000	1.510	0.180	0.100	0.000	0.000
COEF-1	2	BC	20	K2=a/D	0.700	0.000	0.000	1.240	0.180	0.100	0.000	0.000
COEF-1	3	BC	20	K2=a/D	0.700	0.000	0.000	1.240	0.130	0.100	0.000	0.000
COEF-1	4	BC	20	K2=a/D	0.700	0.000	0.000	1.720	0.100	0.100	0.000	0.000
COEF-1	5	BC	20	K2=a/D	0.700	0.000	0.000	1.860	0.100	0.100	0.000	0.000
COEF-1	6	BC	20	K2=a/D	0.700	0.000	0.000	1.380	0.130	0.100	0.000	0.000
COEF-1	7	BC	20	K2=a/D	0.700	0.000	0.000	1.310	0.130	0.100	0.000	0.000
COEF-1	8	BC	20	K2=a/D	0.700	0.000	0.000	1.720	0.050	0.100	0.000	0.000
COEF-1	9	BC	20	K2=a/D	0.700	0.000	0.000	2.060	0.050	0.100	0.000	0.000
COEF-1	10	BC	20	K2=a/D	0.700	0.000	0.000	2.060	0.050	0.100	0.000	0.000
COEF-1	11	BC	20	K2=a/D	0.700	0.000	0.000	2.060	0.090	0.100	0.000	0.000
COEF-1	12	BC	20	K2=a/D	0.700	0.000	0.000	2.060	0.090	0.100	0.000	0.000
COEF-1	13	BC	20	K2=a/D	0.700	0.000	0.000	2.060	0.090	0.100	0.000	0.000
COEF-1	14	BC	20	K2=a/D	0.700	0.000	0.000	1.790	0.090	0.100	0.000	0.000
COEF-1	15	BC	20	K2=a/D	0.700	0.000	0.000	1.720	0.060	0.100	0.000	0.000
COEF-1	16	BC	20	K2=a/D	0.700	0.000	0.000	1.720	0.060	0.100	0.000	0.000
COEF-1	17	BC	20	K2=a/D	0.700	0.000	0.000	1.720	0.060	0.100	0.000	0.000
COEF-1	18	BC	20	K2=a/D	0.700	0.000	0.000	1.550	0.060	0.100	0.000	0.000
COEF-1	19	BC	20	K2=a/D	0.700	0.000	0.000	1.990	0.070	0.100	0.000	0.000
COEF-1	20	BC	20	K2=a/D	0.700	0.000	0.000	2.270	0.070	0.100	0.000	0.000
COEF-1	21	BC	20	K2=a/D	0.700	0.000	0.000	2.270	0.070	0.100	0.000	0.000
COEF-1	22	BC	20	K2=a/D	0.700	0.000	0.000	1.990	0.060	0.100	0.000	0.000

\$\$\$ 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
COEF-2	1	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	2	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	3	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	4	BC	0.050	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	5	BC	0.050	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	6	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	7	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	8	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	9	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	10	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	11	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	12	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	13	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	14	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	15	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	16	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	17	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	18	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	19	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	20	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	21	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	22	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000

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	BC	0.00	0.13	0.05	0.00
COEF-4	2	BC	0.00	0.13	0.05	0.00
COEF-4	3	BC	0.00	0.13	0.05	0.00
COEF-4	4	BC	0.00	0.05	0.05	0.00
COEF-4	5	BC	0.00	0.05	0.05	0.00
COEF-4	6	BC	0.00	0.04	0.05	0.00
COEF-4	7	BC	0.00	0.04	0.05	0.00
COEF-4	8	BC	0.00	0.02	0.05	0.00
COEF-4	9	BC	0.00	0.03	0.05	0.00
COEF-4	10	BC	0.00	0.03	0.05	0.00
COEF-4	11	BC	0.00	0.03	0.05	0.00
COEF-4	12	BC	0.00	0.03	0.05	0.00
COEF-4	13	BC	0.00	0.03	0.05	0.00
COEF-4	14	BC	0.00	0.03	0.05	0.00
COEF-4	15	BC	0.00	0.04	0.05	0.00

COEF-4	16	BC	0.00	0.04	0.05	0.00
COEF-4	17	BC	0.00	0.04	0.05	0.00
COEF-4	18	BC	0.00	0.04	0.05	0.00
COEF-4	19	BC	0.00	0.02	0.05	0.00
COEF-4	20	BC	0.00	0.02	0.05	0.00
COEF-4	21	BC	0.00	0.02	0.05	0.00
COEF-4	22	BC	0.00	0.03	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	IN/DIST	OUT/DIST
INCR-1	1	BC	0.00000	0.00000	18.10	0.00	33.90	12.40	0.00000	0.00000
INCR-1	2	BC	-0.02720	0.00000	18.10	0.00	33.90	12.40	0.00000	-0.00618
INCR-1	3	BC	-0.02040	0.00000	18.10	0.00	33.60	11.00	0.00000	-0.00182
INCR-1	4	BC	0.00000	0.00570	18.10	0.00	30.20	7.90	0.00163	0.00000
INCR-1	5	BC	0.00000	0.00570	18.10	0.00	30.20	7.90	0.00211	0.00000
INCR-1	6	BC	-0.00960	0.00000	18.10	0.00	23.60	6.00	0.00000	-0.00196
INCR-1	7	BC	-0.00960	0.00000	18.10	0.00	23.60	6.00	0.00000	-0.00480
INCR-1	8	BC	0.00000	0.00000	16.70	0.00	8.80	3.20	0.00000	0.00000
INCR-1	9	BC	0.00000	0.00000	16.70	0.00	6.90	2.70	0.00000	0.00000
INCR-1	10	BC	0.00000	0.00710	16.70	0.00	6.90	2.70	0.00338	0.00000
INCR-1	11	BC	0.00000	0.00330	16.70	0.00	9.20	3.40	0.00143	0.00000
INCR-1	12	BC	0.00000	0.00330	16.70	0.00	9.20	3.40	0.00194	0.00000
INCR-1	13	BC	0.00000	0.00330	16.70	0.00	9.20	3.40	0.00174	0.00000
INCR-1	14	BC	0.00000	0.00330	16.70	0.00	9.20	3.40	0.00330	0.00000
INCR-1	15	BC	0.00000	0.00790	16.70	0.00	13.60	4.10	0.00122	0.00000
INCR-1	16	BC	0.00000	0.00790	16.70	0.00	13.60	4.10	0.07900	0.00000
INCR-1	17	BC	0.00000	0.00790	16.70	0.00	13.60	4.10	0.00494	0.00000
INCR-1	18	BC	0.00000	0.00790	16.70	0.00	13.60	4.10	0.00193	0.00000
INCR-1	19	BC	0.00000	0.00000	16.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	20	BC	0.00000	0.00000	16.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	21	BC	0.00000	0.00000	16.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	22	BC	0.00000	0.00000	16.70	0.00	9.30	2.70	0.00000	0.00000

ENDATA16

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

CARD TYPE	REACH	ID	DO	BOD	ORG-N	NH3	NO3+2
INCR-2	1	BC	2.00	2.65	0.89	0.00	0.56
INCR-2	2	BC	2.00	4.16	0.89	0.00	0.56
INCR-2	3	BC	2.00	4.08	0.48	0.00	0.37
INCR-2	4	BC	2.00	4.82	0.28	0.00	0.09
INCR-2	5	BC	2.00	4.82	0.28	0.00	0.09
INCR-2	6	BC	2.00	5.88	0.48	0.00	0.10
INCR-2	7	BC	2.00	5.88	0.48	0.00	0.10
INCR-2	8	BC	2.00	5.54	0.07	0.00	0.07
INCR-2	9	BC	2.00	4.38	0.09	0.00	0.09
INCR-2	10	BC	2.00	4.95	0.53	0.00	0.09
INCR-2	11	BC	2.00	5.24	0.54	0.00	0.08
INCR-2	12	BC	2.00	5.24	0.54	0.00	0.08
INCR-2	13	BC	2.00	5.24	0.54	0.00	0.08

INCR-2	14	BC	2.00	5.24	0.54	0.00	0.08
INCR-2	15	BC	2.00	3.55	0.39	0.00	0.08
INCR-2	16	BC	2.00	3.55	0.39	0.00	0.08
INCR-2	17	BC	2.00	3.55	0.39	0.00	0.08
INCR-2	18	BC	2.00	3.55	0.39	0.00	0.08
INCR-2	19	BC	2.00	4.32	0.10	0.00	0.10
INCR-2	20	BC	2.00	4.32	0.10	0.00	0.10
INCR-2	21	BC	2.00	4.32	0.10	0.00	0.10
INCR-2	22	BC	2.00	5.12	0.06	0.00	0.06

ENDATA17

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

CARD TYPE	REACH	ID	PHOS	CHL A	COLI	NCM
INCR-3	1	BC	0.00	4.30	0.00	3.40
INCR-3	2	BC	0.00	4.30	0.00	3.40
INCR-3	3	BC	0.00	4.46	0.00	3.45
INCR-3	4	BC	0.00	4.23	0.00	3.48
INCR-3	5	BC	0.00	4.23	0.00	3.48
INCR-3	6	BC	0.00	3.01	0.00	5.05
INCR-3	7	BC	0.00	3.01	0.00	5.05
INCR-3	8	BC	0.00	3.72	0.00	4.03
INCR-3	9	BC	0.00	2.68	0.00	4.52
INCR-3	10	BC	0.00	2.68	0.00	4.52
INCR-3	11	BC	0.00	2.44	0.00	5.18
INCR-3	12	BC	0.00	2.44	0.00	5.18
INCR-3	13	BC	0.00	2.44	0.00	5.18
INCR-3	14	BC	0.00	2.44	0.00	5.18
INCR-3	15	BC	0.00	2.58	0.00	1.96
INCR-3	16	BC	0.00	2.58	0.00	1.96
INCR-3	17	BC	0.00	2.58	0.00	1.96
INCR-3	18	BC	0.00	2.58	0.00	1.96
INCR-3	19	BC	0.00	3.20	0.00	3.07
INCR-3	20	BC	0.00	3.20	0.00	3.07
INCR-3	21	BC	0.00	3.20	0.00	3.07
INCR-3	22	BC	0.00	1.34	0.00	2.73

ENDATA18

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

CARD TYPE	REACH	ID	BOD	ORG-N	COLI	NCM	DO
NONPOINT	1	BC	2.06	2.06	0.00	6.88	0.00
NONPOINT	2	BC	0.00	0.00	0.00	2.06	0.00
NONPOINT	3	BC	11.00	0.00	0.00	6.88	0.00
NONPOINT	4	BC	2.06	0.69	0.00	3.44	0.00
NONPOINT	5	BC	0.00	0.69	0.00	5.16	0.00
NONPOINT	6	BC	13.75	1.38	0.00	2.75	0.00
NONPOINT	7	BC	9.62	0.41	0.00	1.38	0.00
NONPOINT	8	BC	4.12	0.34	0.00	2.06	0.00
NONPOINT	9	BC	1.38	0.34	0.00	6.19	0.00
NONPOINT	10	BC	1.38	0.34	0.00	2.06	0.00
NONPOINT	11	BC	3.44	0.34	0.00	0.00	0.00

NONPOINT	12	BC	2.06	0.00	0.00	0.00	0.00
NONPOINT	13	BC	3.44	0.00	0.00	0.00	0.00
NONPOINT	14	BC	2.75	0.00	0.00	0.00	0.00
NONPOINT	15	BC	3.44	0.34	0.00	0.00	0.00
NONPOINT	16	BC	0.00	0.34	0.00	0.00	0.00
NONPOINT	17	BC	2.06	0.34	0.00	1.38	0.00
NONPOINT	18	BC	3.44	0.58	0.00	1.38	0.00
NONPOINT	19	BC	10.31	0.58	0.00	0.69	0.00
NONPOINT	20	BC	3.44	0.34	0.00	0.00	0.00
NONPOINT	21	BC	2.06	0.34	0.00	0.00	0.00
NONPOINT	22	BC	226.88	18.56	0.00	68.44	0.00

ENDATA19

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

CARD TYPE	ELEMENT	NAME	UNIT	FLOW m ³ /s	FLOW cfs	TEMP deg C	SALIN ppt	CM-I MG/L	CM-II MG/L
HDWTR-1	1	HEADWATER	0	0.11560	4.082	18.10	0.00	33.900	12.400

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	HEADWATER	8.50	2.43	0.96	0.00	0.56

ENDATA21

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

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
HDWTR-3	1	HEADWATER	0.00	2.60	0.00	3.40

ENDATA22

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

CARD TYPE	JUNCTION ELEMENT	UPSTRM ELEMENT	RIVER KILOM	NAME
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ENDATA23

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

CARD TYPE	ELEMENT	RKILO	NAME	FLOW m ³ /s	FLOW cfs	FLOW MGD	TEMP deg C	SALIN ppt	CM-I MG/L	CM-II MG/L
WSTLD-1	2	80.20	CITY OF DERIDDER	0.16590	5.85805	3.787	18.10	0.00	32.100	14.100
WSTLD-1	179	62.50	LITTLE BARNES CR	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	214	59.00	REDHEAD BRANCH	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	290	51.40	LITTLE CANEY CR	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	339	46.50	CANEY CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	419	38.50	HURRICANE CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	463	34.10	MAGNOLIA CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000

WSTLD-1	480	32.40	BRUSHY CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	499	30.50	RIGHTHAND CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	574	23.00	BOGGY CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	575	22.90	WOLF CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	591	21.30	UNNAMED CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	703	10.10	CLEAR CREEK	0.02800	0.98870	0.639	16.70	0.00	5.500	1.300
WSTLD-1	727	7.70	BEAR CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000

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
WSTLD-2	2	CITY OF DERIDDER	5.00	23.00	0.00	3.33	0.00	1.70	0.46
WSTLD-2	179	LITTLE BARNES CR	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	214	REDHEAD BRANCH	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	290	LITTLE CANEY CR	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	339	CANEY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	419	HURRICANE CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	463	MAGNOLIA CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	480	BRUSHY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	499	RIGHTHAND CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	574	BOGGY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	575	WOLF CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	591	UNNAMED CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	703	CLEAR CREEK	8.50	5.55	0.00	0.75	0.00	0.00	0.06
WSTLD-2	727	BEAR CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ENDATA25

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

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
WSTLD-3	2	CITY OF DERIDDER	0.00	0.90	0.00	0.00
WSTLD-3	179	LITTLE BARNES CR	0.00	0.00	0.00	0.00
WSTLD-3	214	REDHEAD BRANCH	0.00	0.00	0.00	0.00
WSTLD-3	290	LITTLE CANEY CR	0.00	0.00	0.00	0.00
WSTLD-3	339	CANEY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	419	HURRICANE CREEK	0.00	0.00	0.00	0.00
WSTLD-3	463	MAGNOLIA CREEK	0.00	0.00	0.00	0.00
WSTLD-3	480	BRUSHY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	499	RIGHTHAND CREEK	0.00	0.00	0.00	0.00
WSTLD-3	574	BOGGY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	575	WOLF CREEK	0.00	0.00	0.00	0.00
WSTLD-3	591	UNNAMED CREEK	0.00	0.00	0.00	0.00
WSTLD-3	703	CLEAR CREEK	0.00	4.30	0.00	3.76
WSTLD-3	727	BEAR CREEK	0.00	0.00	0.00	0.00

ENDATA26

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

CARD TYPE	CONSTITUENT	CONCENTRATION
LOWER BC	TEMPERATURE	= 16.700 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 = 0.000 mg/L
 LOWER BC BIOCHEMICAL OXYGEN DEMAND = 0.000 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 = 0.000 mg/L
 ENDATA27

\$\$\$ DATA TYPE 28 (DAM DATA) \$\$\$

CARD TYPE	ELEMENT	NAME	EQN	"A"	"B"	"H"
DAM DATA	310	DAM AT SITE 7	1	1.000	0.800	4.740

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 = 22
 PLOT RCH 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
 ENDATA30

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

OVERLAY 1 bcprojovl.txt :MAINSTEM
 ENDATA31

.....NO ERRORS DETECTED IN INPUT DATA
HYDRAULIC CALCULATIONS COMPLETED
TRIDIAGONAL MATRIX TERMS INITIALIZED
OXYGEN DEPENDENT RATES CONVERGENT IN 8 ITERATIONS
CONSTITUENT CALCULATIONS COMPLETED
GRAPHICS DATA FOR PLOT 1 WRITTEN TO UNIT 11

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
 REACH NO. 1 HEADWATER - SITE 2 BARNES CREEK WINTER 3.0 MG/L RUN

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

ELEM NCM NO.	TYPE	FLOW m ³ /	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
1	HDWTR	0.11560	18.10	0.00	33.90	12.40	8.50	2.04	2.43	0.96	0.00	0.56	0.00	2.60	0.00
2	WSTLD	0.16590	18.10	0.00	32.10	14.10	5.00	23.00	23.00	3.27	0.00	0.52	0.00	0.90	0.00

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

ELEM MEAN NO. VELO	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
1	80.30	80.20	0.11560	0.00	0.21307	0.01	0.17	3.16	54.25	316.03	0.54	0.00	0.000	0.025
2	80.20	80.10	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
3	80.10	80.00	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
4	80.00	79.90	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
5	79.90	79.80	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
6	79.80	79.70	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
7	79.70	79.60	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
8	79.60	79.50	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
9	79.50	79.40	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
10	79.40	79.30	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
11	79.30	79.20	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
12	79.20	79.10	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
13	79.10	79.00	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
14	79.00	78.90	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
15	78.90	78.80	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048

0.283	16	78.80	78.70	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283	17	78.70	78.60	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283	18	78.60	78.50	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283	19	78.50	78.40	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283	20	78.40	78.30	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283	21	78.30	78.20	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
0.283	22	78.20	78.10	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
TOT							0.09			2143.78	7927.32				
AVG				0.27876				0.27	3.60				0.97		
CUM							0.09								

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
1	80.200	9.45	3.92	0.16	0.10	0.00	1.34	1.34	1.34	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
2	80.100	9.45	2.45	0.16	0.10	0.00	1.34	1.34	1.34	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
3	80.000	9.45	2.45	0.16	0.10	0.00	1.34	1.34	1.34	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
4	79.900	9.45	2.45	0.16	0.10	0.00	1.34	1.34	1.34	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
5	79.800	9.45	2.45	0.16	0.10	0.00	1.34	1.34	1.34	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
6	79.700	9.45	2.45	0.16	0.10	0.00	1.34	1.34	1.34	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
7	79.600	9.45	2.45	0.16	0.10	0.00	1.34	1.34	1.34	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
8	79.500	9.45	2.45	0.16	0.10	0.00	1.34	1.34	1.34	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
9	79.400	9.45	2.45	0.16	0.10	0.00	1.34	1.34	1.34	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
10	79.300	9.45	2.45	0.16	0.10	0.00	1.34	1.34	1.34	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
11	79.200	9.45	2.45	0.16	0.10	0.00	1.34	1.34	1.34	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
12	79.100	9.45	2.45	0.16	0.10	0.00	1.34	1.34	1.34	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00

9	79.400	18.10	0.00	32.84	13.40	6.42	14.30	14.69	2.33	0.01	0.53	2.88	0.00	2.60	0.00	0.00
1.50																
10	79.300	18.10	0.00	32.84	13.40	6.42	14.29	14.68	2.34	0.01	0.53	2.88	0.00	2.60	0.00	0.00
1.51																
11	79.200	18.10	0.00	32.84	13.40	6.42	14.28	14.67	2.34	0.01	0.53	2.88	0.00	2.60	0.00	0.00
1.53																
12	79.100	18.10	0.00	32.84	13.40	6.42	14.27	14.66	2.34	0.01	0.53	2.88	0.00	2.60	0.00	0.00
1.54																
13	79.000	18.10	0.00	32.84	13.40	6.42	14.26	14.65	2.34	0.01	0.53	2.89	0.00	2.60	0.00	0.00
1.55																
14	78.900	18.10	0.00	32.84	13.40	6.42	14.25	14.64	2.34	0.01	0.53	2.89	0.00	2.60	0.00	0.00
1.56																
15	78.800	18.10	0.00	32.84	13.40	6.42	14.24	14.63	2.34	0.02	0.53	2.89	0.00	2.60	0.00	0.00
1.57																
16	78.700	18.10	0.00	32.84	13.40	6.42	14.22	14.61	2.34	0.02	0.53	2.89	0.00	2.60	0.00	0.00
1.59																
17	78.600	18.10	0.00	32.84	13.40	6.42	14.21	14.60	2.34	0.02	0.53	2.89	0.00	2.60	0.00	0.00
1.60																
18	78.500	18.10	0.00	32.84	13.40	6.42	14.20	14.59	2.34	0.02	0.53	2.90	0.00	2.60	0.00	0.00
1.61																
19	78.400	18.10	0.00	32.84	13.40	6.42	14.19	14.58	2.34	0.02	0.53	2.90	0.00	2.60	0.00	0.00
1.62																
20	78.300	18.10	0.00	32.84	13.40	6.42	14.18	14.57	2.34	0.02	0.53	2.90	0.00	2.60	0.00	0.00
1.63																
21	78.200	18.10	0.00	32.84	13.40	6.42	14.17	14.56	2.35	0.02	0.53	2.90	0.00	2.60	0.00	0.00
1.64																
22	78.100	18.10	0.00	32.84	13.40	6.41	14.16	14.55	2.35	0.02	0.53	2.90	0.00	2.60	0.00	0.00
1.66																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 2 SITE 2 - SITE 3

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 3.0 MG/L RUN

***** REACH INPUTS

ELEM	TYPE	FLOW	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	PHOS	CHL A	COLI
NCM		m ³ /	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	#/100mL
NO.															
23	UPR RCH	0.28150	18.10	0.00	32.84	13.40	6.41	14.16	14.55	2.35	0.02	0.53	0.00	2.60	0.00
1.66	EACH INCR	-0.0006													

***** HYDRAULIC PARAMETER VALUES

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
23	78.10	78.00	0.28088	58.93	0.28282	0.00	0.27	3.62	99.32	362.27	0.99	0.00	0.000	0.048
0.283														
24	78.00	77.90	0.28026	58.93	0.28272	0.00	0.27	3.62	99.13	362.11	0.99	0.00	0.000	0.048
0.283														
25	77.90	77.80	0.27965	58.93	0.28262	0.00	0.27	3.62	98.95	361.94	0.99	0.00	0.000	0.048
0.283														
26	77.80	77.70	0.27903	58.93	0.28253	0.00	0.27	3.62	98.76	361.77	0.99	0.00	0.000	0.048
0.283														
27	77.70	77.60	0.27841	58.93	0.28243	0.00	0.27	3.62	98.58	361.60	0.99	0.00	0.000	0.048
0.282														
28	77.60	77.50	0.27779	58.93	0.28233	0.00	0.27	3.61	98.39	361.43	0.98	0.00	0.000	0.048
0.282														
29	77.50	77.40	0.27717	58.93	0.28223	0.00	0.27	3.61	98.21	361.26	0.98	0.00	0.000	0.048
0.282														
30	77.40	77.30	0.27655	58.93	0.28213	0.00	0.27	3.61	98.02	361.09	0.98	0.00	0.000	0.048
0.282														
31	77.30	77.20	0.27594	58.93	0.28203	0.00	0.27	3.61	97.84	360.93	0.98	0.00	0.000	0.048
0.282														
32	77.20	77.10	0.27532	58.93	0.28193	0.00	0.27	3.61	97.66	360.76	0.98	0.00	0.000	0.047
0.282														
33	77.10	77.00	0.27470	58.93	0.28182	0.00	0.27	3.61	97.47	360.59	0.97	0.00	0.000	0.047
0.282														
34	77.00	76.90	0.27408	58.93	0.28172	0.00	0.27	3.60	97.29	360.42	0.97	0.00	0.000	0.047
0.282														
35	76.90	76.80	0.27346	58.93	0.28162	0.00	0.27	3.60	97.10	360.25	0.97	0.00	0.000	0.047
0.282														
36	76.80	76.70	0.27285	58.93	0.28151	0.00	0.27	3.60	96.92	360.08	0.97	0.00	0.000	0.047
0.282														
37	76.70	76.60	0.27223	58.93	0.28141	0.00	0.27	3.60	96.74	359.91	0.97	0.00	0.000	0.047
0.281														
38	76.60	76.50	0.27161	58.93	0.28130	0.00	0.27	3.60	96.55	359.74	0.97	0.00	0.000	0.047
0.281														
39	76.50	76.40	0.27099	58.93	0.28119	0.00	0.27	3.60	96.37	359.58	0.96	0.00	0.000	0.047
0.281														
40	76.40	76.30	0.27037	58.93	0.28109	0.00	0.27	3.59	96.19	359.41	0.96	0.00	0.000	0.047
0.281														
41	76.30	76.20	0.26975	58.93	0.28098	0.00	0.27	3.59	96.01	359.24	0.96	0.00	0.000	0.047
0.281														
42	76.20	76.10	0.26914	58.93	0.28087	0.00	0.27	3.59	95.82	359.07	0.96	0.00	0.000	0.047
0.281														
43	76.10	76.00	0.26852	58.93	0.28076	0.00	0.27	3.59	95.64	358.90	0.96	0.00	0.000	0.047
0.281														
44	76.00	75.90	0.26790	58.93	0.28065	0.00	0.27	3.59	95.46	358.73	0.95	0.00	0.000	0.047
0.281														
45	75.90	75.80	0.26728	58.93	0.28054	0.00	0.27	3.59	95.28	358.56	0.95	0.00	0.000	0.047
0.281														
46	75.80	75.70	0.26666	58.93	0.28042	0.00	0.27	3.58	95.09	358.39	0.95	0.00	0.000	0.046

EACH INCR -0.0002

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
67	73.70	73.60	0.25412	58.93	0.14119	0.01	0.47	3.85	179.99	384.96	1.80	0.00	0.000	0.037
0.141														
68	73.60	73.50	0.25394	58.93	0.14114	0.01	0.47	3.85	179.92	384.91	1.80	0.00	0.000	0.037
0.141														
69	73.50	73.40	0.25375	58.93	0.14109	0.01	0.47	3.85	179.85	384.86	1.80	0.00	0.000	0.037
0.141														
70	73.40	73.30	0.25357	58.93	0.14104	0.01	0.47	3.85	179.79	384.81	1.80	0.00	0.000	0.037
0.141														
71	73.30	73.20	0.25339	58.93	0.14099	0.01	0.47	3.85	179.72	384.76	1.80	0.00	0.000	0.037
0.141														
72	73.20	73.10	0.25321	58.93	0.14094	0.01	0.47	3.85	179.65	384.71	1.80	0.00	0.000	0.037
0.141														
73	73.10	73.00	0.25302	58.93	0.14089	0.01	0.47	3.85	179.59	384.66	1.80	0.00	0.000	0.037
0.141														
74	73.00	72.90	0.25284	58.93	0.14084	0.01	0.47	3.85	179.52	384.61	1.80	0.00	0.000	0.037
0.141														
75	72.90	72.80	0.25266	58.93	0.14079	0.01	0.47	3.85	179.45	384.56	1.79	0.00	0.000	0.037
0.141														
76	72.80	72.70	0.25248	58.93	0.14074	0.01	0.47	3.85	179.39	384.51	1.79	0.00	0.000	0.037
0.141														
77	72.70	72.60	0.25230	58.93	0.14070	0.01	0.47	3.84	179.32	384.46	1.79	0.00	0.000	0.037
0.141														
78	72.60	72.50	0.25211	58.93	0.14065	0.01	0.47	3.84	179.25	384.41	1.79	0.00	0.000	0.037
0.141														
79	72.50	72.40	0.25193	58.93	0.14060	0.01	0.47	3.84	179.19	384.36	1.79	0.00	0.000	0.037
0.141														
80	72.40	72.30	0.25175	58.93	0.14055	0.01	0.47	3.84	179.12	384.31	1.79	0.00	0.000	0.037
0.141														
81	72.30	72.20	0.25157	58.93	0.14050	0.01	0.47	3.84	179.05	384.26	1.79	0.00	0.000	0.037
0.140														
82	72.20	72.10	0.25139	58.93	0.14045	0.01	0.47	3.84	178.99	384.21	1.79	0.00	0.000	0.037
0.140														
83	72.10	72.00	0.25120	58.93	0.14040	0.01	0.47	3.84	178.92	384.16	1.79	0.00	0.000	0.037
0.140														
84	72.00	71.90	0.25102	58.93	0.14035	0.01	0.47	3.84	178.85	384.11	1.79	0.00	0.000	0.037
0.140														
85	71.90	71.80	0.25084	58.93	0.14030	0.01	0.47	3.84	178.79	384.06	1.79	0.00	0.000	0.037
0.140														
86	71.80	71.70	0.25066	58.93	0.14025	0.01	0.47	3.84	178.72	384.01	1.79	0.00	0.000	0.037
0.140														
87	71.70	71.60	0.25047	58.93	0.14020	0.01	0.47	3.84	178.65	383.96	1.79	0.00	0.000	0.037

0.140														
88	71.60	71.50	0.25029	58.93	0.14015	0.01	0.47	3.84	178.59	383.91	1.79	0.00	0.000	0.037
0.140														
89	71.50	71.40	0.25011	58.93	0.14010	0.01	0.47	3.84	178.52	383.86	1.79	0.00	0.000	0.037
0.140														
90	71.40	71.30	0.24993	58.93	0.14005	0.01	0.46	3.84	178.45	383.81	1.78	0.00	0.000	0.037
0.140														
91	71.30	71.20	0.24975	58.93	0.14000	0.01	0.46	3.84	178.39	383.76	1.78	0.00	0.000	0.037
0.140														
92	71.20	71.10	0.24956	58.93	0.13995	0.01	0.46	3.84	178.32	383.71	1.78	0.00	0.000	0.037
0.140														
93	71.10	71.00	0.24938	58.93	0.13990	0.01	0.46	3.84	178.25	383.66	1.78	0.00	0.000	0.037
0.140														
94	71.00	70.90	0.24920	58.93	0.13985	0.01	0.46	3.84	178.19	383.61	1.78	0.00	0.000	0.037
0.140														
95	70.90	70.80	0.24902	58.93	0.13980	0.01	0.46	3.84	178.12	383.56	1.78	0.00	0.000	0.037
0.140														
96	70.80	70.70	0.24884	58.93	0.13975	0.01	0.46	3.84	178.05	383.51	1.78	0.00	0.000	0.037
0.140														
97	70.70	70.60	0.24865	58.93	0.13970	0.01	0.46	3.83	177.99	383.46	1.78	0.00	0.000	0.037
0.140														
98	70.60	70.50	0.24847	58.93	0.13965	0.01	0.46	3.83	177.92	383.41	1.78	0.00	0.000	0.037
0.140														
99	70.50	70.40	0.24829	58.93	0.13960	0.01	0.46	3.83	177.85	383.36	1.78	0.00	0.000	0.037
0.140														
100	70.40	70.30	0.24811	58.93	0.13955	0.01	0.46	3.83	177.79	383.31	1.78	0.00	0.000	0.037
0.140														
101	70.30	70.20	0.24792	58.93	0.13950	0.01	0.46	3.83	177.72	383.26	1.78	0.00	0.000	0.037
0.140														
102	70.20	70.10	0.24774	58.93	0.13945	0.01	0.46	3.83	177.66	383.21	1.78	0.00	0.000	0.037
0.139														
103	70.10	70.00	0.24756	58.93	0.13940	0.01	0.46	3.83	177.59	383.16	1.78	0.00	0.000	0.037
0.139														
104	70.00	69.90	0.24738	58.93	0.13935	0.01	0.46	3.83	177.52	383.11	1.78	0.00	0.000	0.037
0.139														
105	69.90	69.80	0.24720	58.93	0.13930	0.01	0.46	3.83	177.46	383.06	1.77	0.00	0.000	0.037
0.139														
106	69.80	69.70	0.24701	58.93	0.13925	0.01	0.46	3.83	177.39	383.01	1.77	0.00	0.000	0.037
0.139														
107	69.70	69.60	0.24683	58.93	0.13920	0.01	0.46	3.83	177.32	382.96	1.77	0.00	0.000	0.037
0.139														
108	69.60	69.50	0.24665	58.93	0.13915	0.01	0.46	3.83	177.26	382.91	1.77	0.00	0.000	0.037
0.139														
109	69.50	69.40	0.24647	58.93	0.13910	0.01	0.46	3.83	177.19	382.86	1.77	0.00	0.000	0.037
0.139														
110	69.40	69.30	0.24629	58.93	0.13905	0.01	0.46	3.83	177.12	382.81	1.77	0.00	0.000	0.037
0.139														
111	69.30	69.20	0.24610	58.93	0.13900	0.01	0.46	3.83	177.06	382.76	1.77	0.00	0.000	0.037
0.139														
112	69.20	69.10	0.24592	58.93	0.13895	0.01	0.46	3.83	176.99	382.71	1.77	0.00	0.000	0.037
0.139														
113	69.10	69.00	0.24574	58.93	0.13889	0.01	0.46	3.83	176.92	382.66	1.77	0.00	0.000	0.037
0.139														
114	69.00	68.90	0.24556	58.93	0.13884	0.01	0.46	3.83	176.86	382.61	1.77	0.00	0.000	0.037

0.139														
115	68.90	68.80	0.24537	58.93	0.13879	0.01	0.46	3.83	176.79	382.56	1.77	0.00	0.000	0.037
0.139														
116	68.80	68.70	0.24519	58.93	0.13874	0.01	0.46	3.83	176.73	382.51	1.77	0.00	0.000	0.036
0.139														
117	68.70	68.60	0.24501	58.93	0.13869	0.01	0.46	3.82	176.66	382.46	1.77	0.00	0.000	0.036
0.139														
118	68.60	68.50	0.24483	58.93	0.13864	0.01	0.46	3.82	176.59	382.41	1.77	0.00	0.000	0.036
0.139														
119	68.50	68.40	0.24465	58.93	0.13859	0.01	0.46	3.82	176.53	382.36	1.77	0.00	0.000	0.036
0.139														
120	68.40	68.30	0.24446	58.93	0.13854	0.01	0.46	3.82	176.46	382.31	1.76	0.00	0.000	0.036
0.139														
121	68.30	68.20	0.24428	58.93	0.13849	0.01	0.46	3.82	176.39	382.26	1.76	0.00	0.000	0.036
0.138														
122	68.20	68.10	0.24410	58.93	0.13844	0.01	0.46	3.82	176.33	382.21	1.76	0.00	0.000	0.036
0.138														
123	68.10	68.00	0.24392	58.93	0.13838	0.01	0.46	3.82	176.26	382.16	1.76	0.00	0.000	0.036
0.138														
124	68.00	67.90	0.24374	58.93	0.13833	0.01	0.46	3.82	176.19	382.11	1.76	0.00	0.000	0.036
0.138														
125	67.90	67.80	0.24355	58.93	0.13828	0.01	0.46	3.82	176.13	382.06	1.76	0.00	0.000	0.036
0.138														
126	67.80	67.70	0.24337	58.93	0.13823	0.01	0.46	3.82	176.06	382.01	1.76	0.00	0.000	0.036
0.138														
127	67.70	67.60	0.24319	58.93	0.13818	0.01	0.46	3.82	176.00	381.96	1.76	0.00	0.000	0.036
0.138														
128	67.60	67.50	0.24301	58.93	0.13813	0.01	0.46	3.82	175.93	381.91	1.76	0.00	0.000	0.036
0.138														
129	67.50	67.40	0.24282	58.93	0.13808	0.01	0.46	3.82	175.86	381.86	1.76	0.00	0.000	0.036
0.138														
130	67.40	67.30	0.24264	58.93	0.13802	0.01	0.46	3.82	175.80	381.80	1.76	0.00	0.000	0.036
0.138														
131	67.30	67.20	0.24246	58.93	0.13797	0.01	0.46	3.82	175.73	381.75	1.76	0.00	0.000	0.036
0.138														
132	67.20	67.10	0.24228	58.93	0.13792	0.01	0.46	3.82	175.67	381.70	1.76	0.00	0.000	0.036
0.138														
133	67.10	67.00	0.24210	58.93	0.13787	0.01	0.46	3.82	175.60	381.65	1.76	0.00	0.000	0.036
0.138														
134	67.00	66.90	0.24191	58.93	0.13782	0.01	0.46	3.82	175.53	381.60	1.76	0.00	0.000	0.036
0.138														
135	66.90	66.80	0.24173	58.93	0.13777	0.01	0.46	3.82	175.47	381.55	1.75	0.00	0.000	0.036
0.138														
136	66.80	66.70	0.24155	58.93	0.13771	0.01	0.46	3.82	175.40	381.50	1.75	0.00	0.000	0.036
0.138														
137	66.70	66.60	0.24137	58.93	0.13766	0.01	0.46	3.81	175.33	381.45	1.75	0.00	0.000	0.036
0.138														
138	66.60	66.50	0.24119	58.93	0.13761	0.01	0.46	3.81	175.27	381.40	1.75	0.00	0.000	0.036
0.138														
139	66.50	66.40	0.24100	58.93	0.13756	0.01	0.46	3.81	175.20	381.35	1.75	0.00	0.000	0.036
0.138														
140	66.40	66.30	0.24082	58.93	0.13751	0.01	0.46	3.81	175.14	381.30	1.75	0.00	0.000	0.036
0.138														
141	66.30	66.20	0.24064	58.93	0.13745	0.01	0.46	3.81	175.07	381.25	1.75	0.00	0.000	0.036

0.137														
142	66.20	66.10	0.24046	58.93	0.13740	0.01	0.46	3.81	175.00	381.20	1.75	0.00	0.000	0.036
0.137														
143	66.10	66.00	0.24027	58.93	0.13735	0.01	0.46	3.81	174.94	381.15	1.75	0.00	0.000	0.036
0.137														
144	66.00	65.90	0.24009	58.93	0.13730	0.01	0.46	3.81	174.87	381.10	1.75	0.00	0.000	0.036
0.137														
145	65.90	65.80	0.23991	58.93	0.13724	0.01	0.46	3.81	174.81	381.05	1.75	0.00	0.000	0.036
0.137														
146	65.80	65.70	0.23973	58.93	0.13719	0.01	0.46	3.81	174.74	381.00	1.75	0.00	0.000	0.036
0.137														
147	65.70	65.60	0.23955	58.93	0.13714	0.01	0.46	3.81	174.67	380.95	1.75	0.00	0.000	0.036
0.137														
148	65.60	65.50	0.23936	58.93	0.13709	0.01	0.46	3.81	174.61	380.90	1.75	0.00	0.000	0.036
0.137														
149	65.50	65.40	0.23918	58.93	0.13703	0.01	0.46	3.81	174.54	380.85	1.75	0.00	0.000	0.036
0.137														
150	65.40	65.30	0.23900	58.93	0.13698	0.01	0.46	3.81	174.48	380.80	1.74	0.00	0.000	0.036
0.137														
151	65.30	65.20	0.23882	58.93	0.13693	0.01	0.46	3.81	174.41	380.75	1.74	0.00	0.000	0.036
0.137														
152	65.20	65.10	0.23864	58.93	0.13688	0.01	0.46	3.81	174.34	380.70	1.74	0.00	0.000	0.036
0.137														
153	65.10	65.00	0.23845	58.93	0.13682	0.01	0.46	3.81	174.28	380.65	1.74	0.00	0.000	0.036
0.137														
154	65.00	64.90	0.23827	58.93	0.13677	0.01	0.46	3.81	174.21	380.60	1.74	0.00	0.000	0.036
0.137														
155	64.90	64.80	0.23809	58.93	0.13672	0.01	0.46	3.81	174.15	380.55	1.74	0.00	0.000	0.036
0.137														
156	64.80	64.70	0.23791	58.93	0.13667	0.01	0.46	3.81	174.08	380.50	1.74	0.00	0.000	0.036
0.137														
157	64.70	64.60	0.23772	58.93	0.13661	0.01	0.46	3.80	174.01	380.45	1.74	0.00	0.000	0.036
0.137														
158	64.60	64.50	0.23754	58.93	0.13656	0.01	0.46	3.80	173.95	380.40	1.74	0.00	0.000	0.036
0.137														
159	64.50	64.40	0.23736	58.93	0.13651	0.01	0.46	3.80	173.88	380.35	1.74	0.00	0.000	0.036
0.137														
160	64.40	64.30	0.23718	58.93	0.13645	0.01	0.46	3.80	173.82	380.30	1.74	0.00	0.000	0.036
0.136														
161	64.30	64.20	0.23700	58.93	0.13640	0.01	0.46	3.80	173.75	380.25	1.74	0.00	0.000	0.036
0.136														
162	64.20	64.10	0.23681	58.93	0.13635	0.01	0.46	3.80	173.68	380.20	1.74	0.00	0.000	0.036
0.136														
163	64.10	64.00	0.23663	58.93	0.13629	0.01	0.46	3.80	173.62	380.15	1.74	0.00	0.000	0.035
0.136														
164	64.00	63.90	0.23645	58.93	0.13624	0.01	0.46	3.80	173.55	380.10	1.74	0.00	0.000	0.035
0.136														
165	63.90	63.80	0.23627	58.93	0.13619	0.01	0.46	3.80	173.49	380.05	1.73	0.00	0.000	0.035
0.136														
166	63.80	63.70	0.23609	58.93	0.13613	0.01	0.46	3.80	173.42	380.00	1.73	0.00	0.000	0.035
0.136														
167	63.70	63.60	0.23590	58.93	0.13608	0.01	0.46	3.80	173.36	379.95	1.73	0.00	0.000	0.035
0.136														
168	63.60	63.50	0.23572	58.93	0.13603	0.01	0.46	3.80	173.29	379.90	1.73	0.00	0.000	0.035

0.136																		
169	63.50	63.40	0.23554	58.93	0.13597	0.01	0.46	3.80	173.22	379.85	1.73	0.00	0.000	0.035				
0.136																		
170	63.40	63.30	0.23536	58.93	0.13592	0.01	0.46	3.80	173.16	379.80	1.73	0.00	0.000	0.035				
0.136																		
171	63.30	63.20	0.23517	58.93	0.13587	0.01	0.46	3.80	173.09	379.75	1.73	0.00	0.000	0.035				
0.136																		
172	63.20	63.10	0.23499	58.93	0.13581	0.01	0.46	3.80	173.03	379.70	1.73	0.00	0.000	0.035				
0.136																		
173	63.10	63.00	0.23481	58.93	0.13576	0.01	0.46	3.80	172.96	379.65	1.73	0.00	0.000	0.035				
0.136																		
174	63.00	62.90	0.23463	58.93	0.13571	0.01	0.46	3.80	172.89	379.60	1.73	0.00	0.000	0.035				
0.136																		
175	62.90	62.80	0.23445	58.93	0.13565	0.01	0.46	3.80	172.83	379.55	1.73	0.00	0.000	0.035				
0.136																		
176	62.80	62.70	0.23426	58.93	0.13560	0.01	0.46	3.79	172.76	379.50	1.73	0.00	0.000	0.035				
0.136																		
177	62.70	62.60	0.23408	58.93	0.13554	0.01	0.46	3.79	172.70	379.45	1.73	0.00	0.000	0.035				
0.136																		
178	62.60	62.50	0.23390	58.93	0.13549	0.01	0.46	3.79	172.63	379.40	1.73	0.00	0.000	0.035				
0.135																		
TOT																		
AVG					0.13837		0.94			19745.56	42804.09							
CUM							1.21	0.46	3.82			1.76						

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
67	73.600	9.45	1.44	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
68	73.500	9.45	1.44	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
69	73.400	9.45	1.44	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
70	73.300	9.45	1.44	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
71	73.200	9.45	1.44	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
72	73.100	9.45	1.44	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
73	73.000	9.45	1.44	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
74	72.900	9.45	1.44	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
75	72.800	9.45	1.44	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00

0.12	0.05																	
157	64.600	9.45	1.47	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
158	64.500	9.45	1.47	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
159	64.400	9.45	1.47	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
160	64.300	9.45	1.47	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
161	64.200	9.45	1.47	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
162	64.100	9.45	1.47	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
163	64.000	9.45	1.48	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
164	63.900	9.45	1.48	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
165	63.800	9.45	1.48	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
166	63.700	9.45	1.48	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
167	63.600	9.45	1.48	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
168	63.500	9.45	1.48	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
169	63.400	9.45	1.48	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
170	63.300	9.45	1.48	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
171	63.200	9.45	1.48	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
172	63.100	9.45	1.48	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
173	63.000	9.45	1.48	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
174	62.900	9.45	1.48	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
175	62.800	9.45	1.48	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
176	62.700	9.45	1.48	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
177	62.600	9.45	1.48	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
178	62.500	9.45	1.48	0.12	0.10	0.00	1.10	1.10	1.10	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
20	DEG C RATE			0.13		0.00	1.24			0.13		0.00	0.00	0.00	0.00			0.00
0.13																		
AVG	20 DEG C RATE		1.52		0.10						0.20							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
1.69 67	73.600	18.10	0.00	32.84	13.40	6.55	13.49	13.79	2.21	0.07	0.53	2.82	0.00	2.00	0.00	0.00
1.69 68	73.500	18.10	0.00	32.84	13.40	6.55	13.47	13.77	2.21	0.07	0.53	2.82	0.00	2.00	0.00	0.00
1.70 69	73.400	18.10	0.00	32.84	13.40	6.54	13.45	13.75	2.20	0.08	0.53	2.81	0.00	2.00	0.00	0.00
1.70 70	73.300	18.10	0.00	32.84	13.40	6.54	13.43	13.73	2.20	0.08	0.53	2.81	0.00	2.00	0.00	0.00
1.70 71	73.200	18.10	0.00	32.84	13.40	6.54	13.41	13.71	2.19	0.08	0.53	2.81	0.00	2.00	0.00	0.00
1.70 72	73.100	18.10	0.00	32.84	13.40	6.54	13.39	13.69	2.19	0.08	0.53	2.80	0.00	1.99	0.00	0.00
1.70 73	73.000	18.10	0.00	32.84	13.40	6.54	13.37	13.67	2.18	0.08	0.53	2.80	0.00	1.99	0.00	0.00
1.70 74	72.900	18.10	0.00	32.84	13.40	6.54	13.35	13.65	2.18	0.09	0.53	2.80	0.00	1.99	0.00	0.00
1.70 75	72.800	18.10	0.00	32.84	13.40	6.54	13.33	13.63	2.17	0.09	0.53	2.79	0.00	1.99	0.00	0.00
1.70 76	72.700	18.10	0.00	32.84	13.40	6.54	13.31	13.61	2.17	0.09	0.53	2.79	0.00	1.99	0.00	0.00
1.70 77	72.600	18.10	0.00	32.84	13.40	6.54	13.29	13.59	2.16	0.09	0.53	2.79	0.00	1.99	0.00	0.00
1.70 78	72.500	18.10	0.00	32.84	13.40	6.54	13.28	13.57	2.15	0.09	0.53	2.78	0.00	1.99	0.00	0.00
1.70 79	72.400	18.10	0.00	32.84	13.40	6.54	13.26	13.55	2.15	0.10	0.53	2.78	0.00	1.99	0.00	0.00
1.70 80	72.300	18.10	0.00	32.84	13.40	6.54	13.24	13.54	2.14	0.10	0.53	2.77	0.00	1.99	0.00	0.00
1.70 81	72.200	18.10	0.00	32.84	13.40	6.53	13.22	13.52	2.14	0.10	0.53	2.77	0.00	1.99	0.00	0.00
1.70 82	72.100	18.10	0.00	32.84	13.40	6.53	13.20	13.50	2.13	0.10	0.53	2.77	0.00	1.99	0.00	0.00
1.70 83	72.000	18.10	0.00	32.84	13.40	6.53	13.18	13.48	2.13	0.10	0.53	2.76	0.00	1.98	0.00	0.00
1.70 84	71.900	18.10	0.00	32.84	13.40	6.53	13.16	13.46	2.12	0.11	0.53	2.76	0.00	1.98	0.00	0.00
1.70 85	71.800	18.10	0.00	32.84	13.40	6.53	13.14	13.44	2.12	0.11	0.53	2.76	0.00	1.98	0.00	0.00
1.70 86	71.700	18.10	0.00	32.84	13.40	6.53	13.12	13.42	2.11	0.11	0.53	2.75	0.00	1.98	0.00	0.00
1.70 87	71.600	18.10	0.00	32.84	13.40	6.53	13.11	13.40	2.11	0.11	0.53	2.75	0.00	1.98	0.00	0.00
1.70 88	71.500	18.10	0.00	32.84	13.40	6.53	13.09	13.38	2.10	0.11	0.53	2.75	0.00	1.98	0.00	0.00
1.71 89	71.400	18.10	0.00	32.84	13.40	6.53	13.07	13.37	2.10	0.12	0.53	2.74	0.00	1.98	0.00	0.00

171	63.200	18.10	0.00	32.84	13.40	6.57	11.63	11.92	1.70	0.26	0.53	2.49	0.00	1.91	0.00	0.00
1.75																
172	63.100	18.10	0.00	32.84	13.40	6.57	11.62	11.90	1.69	0.26	0.53	2.49	0.00	1.91	0.00	0.00
1.75																
173	63.000	18.10	0.00	32.84	13.40	6.57	11.60	11.89	1.69	0.27	0.53	2.49	0.00	1.90	0.00	0.00
1.75																
174	62.900	18.10	0.00	32.84	13.40	6.58	11.59	11.87	1.69	0.27	0.53	2.49	0.00	1.90	0.00	0.00
1.75																
175	62.800	18.10	0.00	32.84	13.40	6.58	11.57	11.85	1.68	0.27	0.53	2.48	0.00	1.90	0.00	0.00
1.75																
176	62.700	18.10	0.00	32.84	13.40	6.58	11.55	11.84	1.68	0.27	0.53	2.48	0.00	1.90	0.00	0.00
1.75																
177	62.600	18.10	0.00	32.84	13.40	6.58	11.54	11.82	1.67	0.27	0.53	2.48	0.00	1.90	0.00	0.00
1.75																
178	62.500	18.10	0.00	32.84	13.40	6.58	11.52	11.80	1.67	0.27	0.53	2.47	0.00	1.90	0.00	0.00
1.75																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 4 LITTLE BARNES - REDHEAD CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 3.0 MG/L RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
179 1.75 EACH 3.48	UPR RCH INCR	0.23390 0.0002	18.10 18.10	0.00 0.00	32.84 30.20	13.40 7.90	6.58 2.00	11.52 4.82	11.80 4.82	1.67 0.28	0.27 0.00	0.53 0.09	0.00 0.00	1.90 1.90	0.00 0.00

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
179 0.145	62.50	62.40	0.23406	58.89	0.14478	0.01	0.42	3.89	161.66	389.44	1.62	0.00	0.000	0.035
180 0.145	62.40	62.30	0.23423	58.85	0.14483	0.01	0.42	3.89	161.72	389.49	1.62	0.00	0.000	0.035

192	61.100	9.45	1.62	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
193	61.000	9.45	1.62	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
194	60.900	9.45	1.62	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
195	60.800	9.45	1.62	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
196	60.700	9.45	1.62	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
197	60.600	9.45	1.62	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
198	60.500	9.45	1.62	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
199	60.400	9.45	1.61	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
200	60.300	9.45	1.61	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
201	60.200	9.45	1.61	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
202	60.100	9.45	1.61	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
203	60.000	9.45	1.61	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
204	59.900	9.45	1.61	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
205	59.800	9.45	1.61	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
206	59.700	9.45	1.61	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
207	59.600	9.45	1.61	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
208	59.500	9.45	1.61	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
209	59.400	9.45	1.61	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
210	59.300	9.45	1.61	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
211	59.200	9.45	1.61	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
212	59.100	9.45	1.61	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
213	59.000	9.45	1.61	0.09	0.10	0.00	1.53	1.53	1.53	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
20	DEG C RATE			0.10		0.00	1.72			0.05		0.00	0.00	0.00	0.00			0.00
0.05																		
AVG	20 DEG C RATE		1.68		0.10						0.05							
0.05																		

* g/m²/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES

ELEM NCM 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
179	62.400	18.10	0.00	32.84	13.40	6.58	11.50	11.79	1.67	0.27	0.53	2.47	0.00	1.90	0.00	0.00
1.76																
180	62.300	18.10	0.00	32.84	13.39	6.57	11.48	11.77	1.67	0.28	0.53	2.47	0.00	1.90	0.00	0.00
1.76																
181	62.200	18.10	0.00	32.83	13.39	6.57	11.46	11.75	1.66	0.28	0.53	2.47	0.00	1.90	0.00	0.00
1.77																
182	62.100	18.10	0.00	32.83	13.39	6.56	11.44	11.73	1.66	0.28	0.53	2.47	0.00	1.90	0.00	0.00
1.77																
183	62.000	18.10	0.00	32.83	13.38	6.56	11.43	11.71	1.66	0.28	0.53	2.47	0.00	1.90	0.00	0.00
1.77																
184	61.900	18.10	0.00	32.83	13.38	6.56	11.41	11.69	1.66	0.28	0.53	2.47	0.00	1.90	0.00	0.00
1.78																
185	61.800	18.10	0.00	32.83	13.38	6.55	11.39	11.67	1.66	0.28	0.53	2.47	0.00	1.90	0.00	0.00
1.78																
186	61.700	18.10	0.00	32.82	13.37	6.55	11.37	11.65	1.66	0.28	0.53	2.46	0.00	1.90	0.00	0.00
1.79																
187	61.600	18.10	0.00	32.82	13.37	6.54	11.35	11.64	1.66	0.28	0.53	2.46	0.00	1.90	0.00	0.00
1.79																
188	61.500	18.10	0.00	32.82	13.36	6.54	11.33	11.62	1.66	0.28	0.53	2.46	0.00	1.90	0.00	0.00
1.80																
189	61.400	18.10	0.00	32.82	13.36	6.54	11.31	11.60	1.66	0.28	0.53	2.46	0.00	1.90	0.00	0.00
1.80																
190	61.300	18.10	0.00	32.82	13.36	6.53	11.30	11.58	1.65	0.28	0.53	2.46	0.00	1.90	0.00	0.00
1.81																
191	61.200	18.10	0.00	32.82	13.35	6.53	11.28	11.56	1.65	0.28	0.53	2.46	0.00	1.90	0.00	0.00
1.81																
192	61.100	18.10	0.00	32.81	13.35	6.53	11.26	11.54	1.65	0.28	0.53	2.46	0.00	1.90	0.00	0.00
1.82																
193	61.000	18.10	0.00	32.81	13.35	6.52	11.24	11.53	1.65	0.28	0.53	2.46	0.00	1.90	0.00	0.00
1.82																
194	60.900	18.10	0.00	32.81	13.34	6.52	11.22	11.51	1.65	0.28	0.53	2.46	0.00	1.90	0.00	0.00
1.83																
195	60.800	18.10	0.00	32.81	13.34	6.52	11.20	11.49	1.65	0.28	0.53	2.45	0.00	1.90	0.00	0.00
1.83																
196	60.700	18.10	0.00	32.81	13.33	6.51	11.19	11.47	1.65	0.28	0.53	2.45	0.00	1.90	0.00	0.00
1.83																
197	60.600	18.10	0.00	32.80	13.33	6.51	11.17	11.45	1.65	0.28	0.52	2.45	0.00	1.90	0.00	0.00
1.84																
198	60.500	18.10	0.00	32.80	13.33	6.51	11.15	11.43	1.64	0.28	0.52	2.45	0.00	1.90	0.00	0.00
1.84																
199	60.400	18.10	0.00	32.80	13.32	6.50	11.13	11.42	1.64	0.28	0.52	2.45	0.00	1.90	0.00	0.00
1.85																
200	60.300	18.10	0.00	32.80	13.32	6.50	11.11	11.40	1.64	0.28	0.52	2.45	0.00	1.90	0.00	0.00
1.85																
201	60.200	18.10	0.00	32.80	13.32	6.50	11.10	11.38	1.64	0.28	0.52	2.45	0.00	1.90	0.00	0.00
1.86																
202	60.100	18.10	0.00	32.80	13.31	6.50	11.08	11.36	1.64	0.28	0.52	2.45	0.00	1.90	0.00	0.00

1.86																
203	60.000	18.10	0.00	32.79	13.31	6.49	11.06	11.35	1.64	0.28	0.52	2.45	0.00	1.90	0.00	0.00
1.87																
204	59.900	18.10	0.00	32.79	13.30	6.49	11.04	11.33	1.64	0.28	0.52	2.44	0.00	1.90	0.00	0.00
1.87																
205	59.800	18.10	0.00	32.79	13.30	6.49	11.02	11.31	1.64	0.28	0.52	2.44	0.00	1.90	0.00	0.00
1.88																
206	59.700	18.10	0.00	32.79	13.30	6.48	11.01	11.29	1.64	0.28	0.52	2.44	0.00	1.90	0.00	0.00
1.88																
207	59.600	18.10	0.00	32.79	13.29	6.48	10.99	11.27	1.63	0.29	0.52	2.44	0.00	1.90	0.00	0.00
1.88																
208	59.500	18.10	0.00	32.79	13.29	6.48	10.97	11.26	1.63	0.29	0.52	2.44	0.00	1.90	0.00	0.00
1.89																
209	59.400	18.10	0.00	32.78	13.29	6.48	10.95	11.24	1.63	0.29	0.52	2.44	0.00	1.90	0.00	0.00
1.89																
210	59.300	18.10	0.00	32.78	13.28	6.47	10.94	11.22	1.63	0.29	0.52	2.44	0.00	1.90	0.00	0.00
1.90																
211	59.200	18.10	0.00	32.78	13.28	6.47	10.92	11.20	1.63	0.29	0.52	2.44	0.00	1.90	0.00	0.00
1.90																
212	59.100	18.10	0.00	32.78	13.27	6.47	10.90	11.19	1.63	0.29	0.52	2.44	0.00	1.90	0.00	0.00
1.91																
213	59.000	18.10	0.00	32.78	13.27	6.47	10.88	11.17	1.63	0.29	0.52	2.43	0.00	1.90	0.00	0.00
1.91																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 5 REDHEAD CR - SITE 6

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 3.0 MG/L RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
214 1.91	UPR RCH	0.23960	18.10	0.00	32.78	13.27	6.47	10.88	11.17	1.63	0.29	0.52	0.00	1.90	0.00
EACH 3.48	INCR	0.0002	18.10	0.00	30.20	7.90	2.00	4.82	4.82	0.28	0.00	0.09	0.00		0.00

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

ELEM MEAN NO. VELO	BEGIN DIST	ENDING DIST	FLOW PCT EFF	ADVCTV VELO	TRAVEL TIME	DEPTH	WIDTH	VOLUME	SURFACE AREA	X-SECT AREA	TIDAL PRISM	TIDAL VELO	DISPRSN
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m/s	km	km	m ³ /	m/s	days	m	m	m ³	m ²	m ²	m ³	m/s	m ² /s		
0.146	214	59.00	58.90	0.23981	57.48	0.14648	0.01	0.42	3.91	163.72	391.03	1.64	0.00	0.000	0.035
0.147	215	58.90	58.80	0.24002	57.43	0.14654	0.01	0.42	3.91	163.79	391.08	1.64	0.00	0.000	0.036
0.147	216	58.80	58.70	0.24023	57.38	0.14660	0.01	0.42	3.91	163.87	391.14	1.64	0.00	0.000	0.036
0.147	217	58.70	58.60	0.24044	57.33	0.14666	0.01	0.42	3.91	163.94	391.20	1.64	0.00	0.000	0.036
0.147	218	58.60	58.50	0.24066	57.28	0.14673	0.01	0.42	3.91	164.02	391.26	1.64	0.00	0.000	0.036
0.147	219	58.50	58.40	0.24087	57.23	0.14679	0.01	0.42	3.91	164.09	391.32	1.64	0.00	0.000	0.036
0.147	220	58.40	58.30	0.24108	57.18	0.14685	0.01	0.42	3.91	164.17	391.37	1.64	0.00	0.000	0.036
0.147	221	58.30	58.20	0.24129	57.13	0.14691	0.01	0.42	3.91	164.24	391.43	1.64	0.00	0.000	0.036
0.147	222	58.20	58.10	0.24150	57.08	0.14697	0.01	0.42	3.91	164.32	391.49	1.64	0.00	0.000	0.036
0.147	223	58.10	58.00	0.24171	57.03	0.14703	0.01	0.42	3.92	164.40	391.55	1.64	0.00	0.000	0.036
0.147	224	58.00	57.90	0.24192	56.98	0.14709	0.01	0.42	3.92	164.47	391.61	1.64	0.00	0.000	0.036
0.147	225	57.90	57.80	0.24213	56.93	0.14715	0.01	0.42	3.92	164.55	391.66	1.65	0.00	0.000	0.036
0.147	226	57.80	57.70	0.24234	56.88	0.14721	0.01	0.42	3.92	164.62	391.72	1.65	0.00	0.000	0.036
0.147	227	57.70	57.60	0.24256	56.83	0.14727	0.01	0.42	3.92	164.70	391.78	1.65	0.00	0.000	0.036
0.147	228	57.60	57.50	0.24277	56.78	0.14733	0.01	0.42	3.92	164.77	391.84	1.65	0.00	0.000	0.036
0.147	229	57.50	57.40	0.24298	56.73	0.14739	0.01	0.42	3.92	164.85	391.90	1.65	0.00	0.000	0.036
0.147	230	57.40	57.30	0.24319	56.68	0.14745	0.01	0.42	3.92	164.93	391.96	1.65	0.00	0.000	0.036
0.148	231	57.30	57.20	0.24340	56.63	0.14751	0.01	0.42	3.92	165.00	392.01	1.65	0.00	0.000	0.036
0.148	232	57.20	57.10	0.24361	56.58	0.14757	0.01	0.42	3.92	165.08	392.07	1.65	0.00	0.000	0.036
0.148	233	57.10	57.00	0.24382	56.54	0.14763	0.01	0.42	3.92	165.15	392.13	1.65	0.00	0.000	0.036
0.148	234	57.00	56.90	0.24403	56.49	0.14769	0.01	0.42	3.92	165.23	392.19	1.65	0.00	0.000	0.036
0.148	235	56.90	56.80	0.24424	56.44	0.14775	0.01	0.42	3.92	165.30	392.25	1.65	0.00	0.000	0.036
0.148	236	56.80	56.70	0.24446	56.39	0.14781	0.01	0.42	3.92	165.38	392.30	1.65	0.00	0.000	0.036
0.148	237	56.70	56.60	0.24467	56.34	0.14787	0.01	0.42	3.92	165.46	392.36	1.65	0.00	0.000	0.036
0.148	238	56.60	56.50	0.24488	56.29	0.14793	0.01	0.42	3.92	165.53	392.42	1.66	0.00	0.000	0.036
0.148	239	56.50	56.40	0.24509	56.24	0.14799	0.01	0.42	3.92	165.61	392.48	1.66	0.00	0.000	0.036

0.148																			
240	56.40	56.30	0.24530	56.20	0.14805	0.01	0.42	3.93	165.68	392.54	1.66	0.00	0.000	0.036					
0.148																			
TOT						0.21			4446.87	10578.08									
AVG					0.14727		0.42	3.92						1.65					
CUM						1.70													

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
214	58.900	9.45	1.61	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
215	58.800	9.45	1.61	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.10	0.00	0.00
0.05	0.05																	
216	58.700	9.45	1.61	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.11	0.00	0.00
0.05	0.05																	
217	58.600	9.45	1.61	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.05	0.05																	
218	58.500	9.45	1.61	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.05	0.05																	
219	58.400	9.45	1.61	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.13	0.00	0.00
0.05	0.05																	
220	58.300	9.45	1.61	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.14	0.00	0.00
0.05	0.05																	
221	58.200	9.45	1.61	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.14	0.00	0.00
0.05	0.05																	
222	58.100	9.45	1.61	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.15	0.00	0.00
0.05	0.05																	
223	58.000	9.45	1.60	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.16	0.00	0.00
0.05	0.05																	
224	57.900	9.45	1.60	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.17	0.00	0.00
0.05	0.05																	
225	57.800	9.45	1.60	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.17	0.00	0.00
0.05	0.05																	
226	57.700	9.45	1.60	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.18	0.00	0.00
0.05	0.05																	
227	57.600	9.45	1.60	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.19	0.00	0.00
0.05	0.05																	
228	57.500	9.45	1.60	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.19	0.00	0.00
0.05	0.05																	
229	57.400	9.45	1.60	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.20	0.00	0.00
0.05	0.05																	
230	57.300	9.45	1.60	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.21	0.00	0.00
0.05	0.05																	
231	57.200	9.45	1.60	0.09	0.10	0.00	1.65	1.65	1.65	0.04	0.05	0.00	0.00	0.00	0.00	0.22	0.00	0.00

2.00	223	58.000	18.10	0.00	32.75	13.22	6.42	10.67	11.19	1.62	0.29	0.52	2.42	0.00	3.46	0.00	0.00
2.01	224	57.900	18.10	0.00	32.75	13.22	6.41	10.65	11.19	1.61	0.29	0.52	2.42	0.00	3.61	0.00	0.00
2.02	225	57.800	18.10	0.00	32.75	13.21	6.41	10.63	11.20	1.61	0.29	0.51	2.42	0.00	3.77	0.00	0.00
2.03	226	57.700	18.10	0.00	32.75	13.21	6.41	10.61	11.20	1.61	0.29	0.51	2.42	0.00	3.92	0.00	0.00
2.04	227	57.600	18.10	0.00	32.75	13.21	6.40	10.59	11.20	1.61	0.29	0.51	2.42	0.00	4.08	0.00	0.00
2.05	228	57.500	18.10	0.00	32.74	13.20	6.40	10.57	11.20	1.61	0.29	0.51	2.42	0.00	4.23	0.00	0.00
2.05	229	57.400	18.10	0.00	32.74	13.20	6.39	10.55	11.21	1.61	0.29	0.51	2.41	0.00	4.39	0.00	0.00
2.06	230	57.300	18.10	0.00	32.74	13.19	6.39	10.53	11.21	1.61	0.29	0.51	2.41	0.00	4.54	0.00	0.00
2.07	231	57.200	18.10	0.00	32.74	13.19	6.39	10.51	11.21	1.61	0.29	0.51	2.41	0.00	4.70	0.00	0.00
2.08	232	57.100	18.10	0.00	32.73	13.18	6.38	10.49	11.22	1.61	0.29	0.51	2.41	0.00	4.86	0.00	0.00
2.09	233	57.000	18.10	0.00	32.73	13.18	6.38	10.47	11.22	1.60	0.29	0.51	2.41	0.00	5.01	0.00	0.00
2.10	234	56.900	18.10	0.00	32.73	13.17	6.38	10.45	11.22	1.60	0.29	0.51	2.41	0.00	5.17	0.00	0.00
2.11	235	56.800	18.10	0.00	32.73	13.17	6.38	10.43	11.23	1.60	0.29	0.51	2.41	0.00	5.32	0.00	0.00
2.12	236	56.700	18.10	0.00	32.73	13.16	6.37	10.41	11.23	1.60	0.29	0.51	2.41	0.00	5.48	0.00	0.00
2.12	237	56.600	18.10	0.00	32.72	13.16	6.37	10.39	11.23	1.60	0.29	0.51	2.40	0.00	5.63	0.00	0.00
2.13	238	56.500	18.10	0.00	32.72	13.16	6.37	10.37	11.24	1.60	0.29	0.51	2.40	0.00	5.79	0.00	0.00
2.14	239	56.400	18.10	0.00	32.72	13.15	6.37	10.35	11.24	1.60	0.29	0.51	2.40	0.00	5.94	0.00	0.00
2.15	240	56.300	18.10	0.00	32.72	13.15	6.36	10.33	11.24	1.60	0.29	0.51	2.40	0.00	6.10	0.00	0.00

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 6 SITE 6 - LITTLE CANEY CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 3.0 MG/L RUN

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

ELEM	TYPE	FLOW	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	PHOS	CHL A	COLI
NCM															
NO.		m ³ /	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	#/100mL

*

241 UPR RCH 0.24530 18.10 0.00 32.72 13.15 6.36 10.33 11.24 1.60 0.29 0.51 0.00 6.10 0.00
 2.15
 EACH INCR -0.0002

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
241	56.30	56.20	0.24510	56.20	0.06240	0.02	0.60	6.52	392.77	652.48	3.93	0.00	0.000	0.020
0.062														
242	56.20	56.10	0.24491	56.20	0.06237	0.02	0.60	6.52	392.66	652.43	3.93	0.00	0.000	0.020
0.062														
243	56.10	56.00	0.24471	56.20	0.06234	0.02	0.60	6.52	392.55	652.37	3.93	0.00	0.000	0.020
0.062														
244	56.00	55.90	0.24452	56.20	0.06231	0.02	0.60	6.52	392.44	652.32	3.92	0.00	0.000	0.020
0.062														
245	55.90	55.80	0.24432	56.20	0.06228	0.02	0.60	6.52	392.32	652.27	3.92	0.00	0.000	0.020
0.062														
246	55.80	55.70	0.24412	56.20	0.06224	0.02	0.60	6.52	392.21	652.21	3.92	0.00	0.000	0.020
0.062														
247	55.70	55.60	0.24393	56.20	0.06221	0.02	0.60	6.52	392.10	652.16	3.92	0.00	0.000	0.020
0.062														
248	55.60	55.50	0.24373	56.20	0.06218	0.02	0.60	6.52	391.99	652.10	3.92	0.00	0.000	0.020
0.062														
249	55.50	55.40	0.24354	56.20	0.06215	0.02	0.60	6.52	391.88	652.05	3.92	0.00	0.000	0.020
0.062														
250	55.40	55.30	0.24334	56.20	0.06211	0.02	0.60	6.52	391.77	652.00	3.92	0.00	0.000	0.020
0.062														
251	55.30	55.20	0.24314	56.20	0.06208	0.02	0.60	6.52	391.65	651.94	3.92	0.00	0.000	0.020
0.062														
252	55.20	55.10	0.24295	56.20	0.06205	0.02	0.60	6.52	391.54	651.89	3.92	0.00	0.000	0.020
0.062														
253	55.10	55.00	0.24275	56.20	0.06202	0.02	0.60	6.52	391.43	651.84	3.91	0.00	0.000	0.020
0.062														
254	55.00	54.90	0.24256	56.20	0.06198	0.02	0.60	6.52	391.32	651.78	3.91	0.00	0.000	0.020
0.062														
255	54.90	54.80	0.24236	56.20	0.06195	0.02	0.60	6.52	391.21	651.73	3.91	0.00	0.000	0.020
0.062														
256	54.80	54.70	0.24217	56.20	0.06192	0.02	0.60	6.52	391.10	651.67	3.91	0.00	0.000	0.020
0.062														
257	54.70	54.60	0.24197	56.20	0.06189	0.02	0.60	6.52	390.99	651.62	3.91	0.00	0.000	0.020
0.062														
258	54.60	54.50	0.24177	56.20	0.06185	0.02	0.60	6.52	390.87	651.57	3.91	0.00	0.000	0.020
0.062														
259	54.50	54.40	0.24158	56.20	0.06182	0.02	0.60	6.52	390.76	651.51	3.91	0.00	0.000	0.020
0.062														
260	54.40	54.30	0.24138	56.20	0.06179	0.02	0.60	6.51	390.65	651.46	3.91	0.00	0.000	0.020

0.062														
261	54.30	54.20	0.24119	56.20	0.06176	0.02	0.60	6.51	390.54	651.40	3.91	0.00	0.000	0.020
0.062														
262	54.20	54.10	0.24099	56.20	0.06172	0.02	0.60	6.51	390.43	651.35	3.90	0.00	0.000	0.020
0.062														
263	54.10	54.00	0.24079	56.20	0.06169	0.02	0.60	6.51	390.32	651.30	3.90	0.00	0.000	0.020
0.062														
264	54.00	53.90	0.24060	56.20	0.06166	0.02	0.60	6.51	390.20	651.24	3.90	0.00	0.000	0.020
0.062														
265	53.90	53.80	0.24040	56.20	0.06163	0.02	0.60	6.51	390.09	651.19	3.90	0.00	0.000	0.020
0.062														
266	53.80	53.70	0.24021	56.20	0.06159	0.02	0.60	6.51	389.98	651.13	3.90	0.00	0.000	0.020
0.062														
267	53.70	53.60	0.24001	56.20	0.06156	0.02	0.60	6.51	389.87	651.08	3.90	0.00	0.000	0.020
0.062														
268	53.60	53.50	0.23981	56.20	0.06153	0.02	0.60	6.51	389.76	651.03	3.90	0.00	0.000	0.020
0.062														
269	53.50	53.40	0.23962	56.20	0.06150	0.02	0.60	6.51	389.65	650.97	3.90	0.00	0.000	0.020
0.061														
270	53.40	53.30	0.23942	56.20	0.06146	0.02	0.60	6.51	389.54	650.92	3.90	0.00	0.000	0.020
0.061														
271	53.30	53.20	0.23923	56.20	0.06143	0.02	0.60	6.51	389.43	650.86	3.89	0.00	0.000	0.020
0.061														
272	53.20	53.10	0.23903	56.20	0.06140	0.02	0.60	6.51	389.31	650.81	3.89	0.00	0.000	0.020
0.061														
273	53.10	53.00	0.23883	56.20	0.06137	0.02	0.60	6.51	389.20	650.76	3.89	0.00	0.000	0.020
0.061														
274	53.00	52.90	0.23864	56.20	0.06133	0.02	0.60	6.51	389.09	650.70	3.89	0.00	0.000	0.020
0.061														
275	52.90	52.80	0.23844	56.20	0.06130	0.02	0.60	6.51	388.98	650.65	3.89	0.00	0.000	0.020
0.061														
276	52.80	52.70	0.23825	56.20	0.06127	0.02	0.60	6.51	388.87	650.59	3.89	0.00	0.000	0.020
0.061														
277	52.70	52.60	0.23805	56.20	0.06123	0.02	0.60	6.51	388.76	650.54	3.89	0.00	0.000	0.020
0.061														
278	52.60	52.50	0.23785	56.20	0.06120	0.02	0.60	6.50	388.65	650.49	3.89	0.00	0.000	0.020
0.061														
279	52.50	52.40	0.23766	56.20	0.06117	0.02	0.60	6.50	388.53	650.43	3.89	0.00	0.000	0.020
0.061														
280	52.40	52.30	0.23746	56.20	0.06114	0.02	0.60	6.50	388.42	650.38	3.88	0.00	0.000	0.020
0.061														
281	52.30	52.20	0.23727	56.20	0.06110	0.02	0.60	6.50	388.31	650.32	3.88	0.00	0.000	0.020
0.061														
282	52.20	52.10	0.23707	56.20	0.06107	0.02	0.60	6.50	388.20	650.27	3.88	0.00	0.000	0.020
0.061														
283	52.10	52.00	0.23688	56.20	0.06104	0.02	0.60	6.50	388.09	650.22	3.88	0.00	0.000	0.020
0.061														
284	52.00	51.90	0.23668	56.20	0.06100	0.02	0.60	6.50	387.98	650.16	3.88	0.00	0.000	0.020
0.061														
285	51.90	51.80	0.23648	56.20	0.06097	0.02	0.60	6.50	387.87	650.11	3.88	0.00	0.000	0.020
0.061														
286	51.80	51.70	0.23629	56.20	0.06094	0.02	0.60	6.50	387.76	650.05	3.88	0.00	0.000	0.020
0.061														
287	51.70	51.60	0.23609	56.20	0.06090	0.02	0.60	6.50	387.65	650.00	3.88	0.00	0.000	0.020

0.061	288	51.60	51.50	0.23590	56.20	0.06087	0.02	0.60	6.50	387.53	649.95	3.88	0.00	0.000	0.020
0.061	289	51.50	51.40	0.23570	56.20	0.06084	0.02	0.60	6.50	387.42	649.89	3.87	0.00	0.000	0.020
0.061	TOT						0.92			19114.64	31908.20				
	AVG					0.06162		0.60	6.51			3.90			
	CUM						2.62								

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

ELEM NCM	ENDING NCM	SAT D.O.	REAER RATE	CBOD DECA	CBOD SETT	ANBOD DECA	BKGD SOD	FULL SOD	CORR SOD	ORGN DECA	ORGN SETT	NH3 DECA	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECA
NO.	DIST	D.O.	RATE	DECA	SETT	DECA	SOD	SOD	SOD	DECA	SETT	DECA	SRCE	RATE	SRCE	PROD	PROD	DECA
DECAY	SETT	mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da
241	56.200	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
242	56.100	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
243	56.000	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
244	55.900	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
245	55.800	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
246	55.700	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
247	55.600	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
248	55.500	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
249	55.400	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
250	55.300	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
251	55.200	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
252	55.100	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
253	55.000	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
254	54.900	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
255	54.800	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
256	54.700	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
257	54.600	9.45	1.12	0.12	0.10	0.00	1.22	1.22	1.22	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00

281	52.200	18.10	0.00	32.72	13.15	6.58	9.27	10.18	1.55	0.33	0.50	2.39	0.00	6.10	0.00	0.00
2.12																
282	52.100	18.10	0.00	32.72	13.15	6.58	9.24	10.16	1.55	0.33	0.50	2.39	0.00	6.10	0.00	0.00
2.12																
283	52.000	18.10	0.00	32.72	13.15	6.58	9.22	10.14	1.55	0.33	0.50	2.39	0.00	6.10	0.00	0.00
2.12																
284	51.900	18.10	0.00	32.72	13.15	6.59	9.20	10.11	1.55	0.34	0.50	2.39	0.00	6.10	0.00	0.00
2.12																
285	51.800	18.10	0.00	32.72	13.15	6.59	9.17	10.09	1.55	0.34	0.50	2.39	0.00	6.10	0.00	0.00
2.12																
286	51.700	18.10	0.00	32.72	13.15	6.60	9.15	10.06	1.55	0.34	0.50	2.39	0.00	6.10	0.00	0.00
2.12																
287	51.600	18.10	0.00	32.72	13.15	6.60	9.13	10.04	1.55	0.34	0.50	2.39	0.00	6.10	0.00	0.00
2.12																
288	51.500	18.10	0.00	32.72	13.15	6.61	9.10	10.02	1.54	0.34	0.50	2.39	0.00	6.10	0.00	0.00
2.12																
289	51.400	18.10	0.00	32.72	13.15	6.61	9.08	9.99	1.54	0.34	0.50	2.38	0.00	6.10	0.00	0.00
2.12																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 7 LITTLE CANEY CR - DAM

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 3.0 MG/L RUN

***** REACH INPUTS

ELEM NCM NO.	TYPE	FLOW m ³ /	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
290	UPR RCH	0.23570	18.10	0.00	32.72	13.15	6.61	9.08	9.99	1.54	0.34	0.50	0.00	6.10	0.00
2.12	EACH INCR	-0.0005													

***** HYDRAULIC PARAMETER VALUES

ELEM MEAN NO.	BEGIN DIST	ENDING DIST	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
290	51.40	51.30	0.23522	56.20	0.06076	0.02	0.60	6.50	387.15	649.76	3.87	0.00	0.000	0.020
0.061														
291	51.30	51.20	0.23474	56.20	0.06068	0.02	0.60	6.50	386.88	649.63	3.87	0.00	0.000	0.020

0.061																		
292	51.20	51.10	0.23426	56.20	0.06059	0.02	0.60	6.49	386.61	649.49	3.87	0.00	0.000	0.020				
0.061																		
293	51.10	51.00	0.23378	56.20	0.06051	0.02	0.59	6.49	386.33	649.36	3.86	0.00	0.000	0.020				
0.061																		
294	51.00	50.90	0.23330	56.20	0.06043	0.02	0.59	6.49	386.06	649.23	3.86	0.00	0.000	0.020				
0.060																		
295	50.90	50.80	0.23282	56.20	0.06035	0.02	0.59	6.49	385.79	649.10	3.86	0.00	0.000	0.020				
0.060																		
296	50.80	50.70	0.23234	56.20	0.06027	0.02	0.59	6.49	385.52	648.97	3.86	0.00	0.000	0.020				
0.060																		
297	50.70	50.60	0.23186	56.20	0.06018	0.02	0.59	6.49	385.25	648.83	3.85	0.00	0.000	0.020				
0.060																		
298	50.60	50.50	0.23138	56.20	0.06010	0.02	0.59	6.49	384.97	648.70	3.85	0.00	0.000	0.019				
0.060																		
299	50.50	50.40	0.23090	56.20	0.06002	0.02	0.59	6.49	384.70	648.57	3.85	0.00	0.000	0.019				
0.060																		
300	50.40	50.30	0.23042	56.20	0.05994	0.02	0.59	6.48	384.43	648.43	3.84	0.00	0.000	0.019				
0.060																		
301	50.30	50.20	0.22994	56.20	0.05986	0.02	0.59	6.48	384.16	648.30	3.84	0.00	0.000	0.019				
0.060																		
302	50.20	50.10	0.22946	56.20	0.05977	0.02	0.59	6.48	383.89	648.17	3.84	0.00	0.000	0.019				
0.060																		
303	50.10	50.00	0.22898	56.20	0.05969	0.02	0.59	6.48	383.62	648.04	3.84	0.00	0.000	0.019				
0.060																		
304	50.00	49.90	0.22850	56.20	0.05961	0.02	0.59	6.48	383.35	647.90	3.83	0.00	0.000	0.019				
0.060																		
305	49.90	49.80	0.22802	56.20	0.05952	0.02	0.59	6.48	383.07	647.77	3.83	0.00	0.000	0.019				
0.060																		
306	49.80	49.70	0.22754	56.20	0.05944	0.02	0.59	6.48	382.80	647.64	3.83	0.00	0.000	0.019				
0.059																		
307	49.70	49.60	0.22706	56.20	0.05936	0.02	0.59	6.48	382.53	647.51	3.83	0.00	0.000	0.019				
0.059																		
308	49.60	49.50	0.22658	56.20	0.05927	0.02	0.59	6.47	382.26	647.37	3.82	0.00	0.000	0.019				
0.059																		
309	49.50	49.40	0.22610	56.20	0.05919	0.02	0.59	6.47	381.99	647.24	3.82	0.00	0.000	0.019				
0.059																		
TOT						0.39				7691.36	12970.02							
AVG					0.05997			0.59	6.49									3.85
CUM						3.01												

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI
NCM	NCM																	
NO.	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY
DECAY	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																	
290	51.300	9.46	1.13	0.12	0.10	0.00	1.16	1.16	1.16	0.04	0.05	0.00	0.00	0.00	0.00	0.27	0.00	0.00

*

290	51.300	18.03	0.00	32.72	13.15	6.62	9.07	9.94	1.54	0.34	0.50	2.38	0.00	5.84	0.00	0.00
2.12																
291	51.200	17.96	0.00	32.72	13.15	6.62	9.05	9.89	1.54	0.34	0.50	2.38	0.00	5.59	0.00	0.00
2.12																
292	51.100	17.89	0.00	32.72	13.15	6.63	9.04	9.84	1.54	0.34	0.50	2.38	0.00	5.34	0.00	0.00
2.12																
293	51.000	17.82	0.00	32.72	13.15	6.64	9.03	9.79	1.54	0.34	0.50	2.38	0.00	5.08	0.00	0.00
2.12																
294	50.900	17.75	0.00	32.72	13.15	6.64	9.01	9.74	1.54	0.35	0.50	2.38	0.00	4.82	0.00	0.00
2.12																
295	50.800	17.68	0.00	32.72	13.15	6.65	9.00	9.69	1.54	0.35	0.50	2.38	0.00	4.57	0.00	0.00
2.12																
296	50.700	17.61	0.00	32.72	13.15	6.66	8.99	9.64	1.53	0.35	0.50	2.38	0.00	4.32	0.00	0.00
2.12																
297	50.600	17.54	0.00	32.72	13.15	6.66	8.98	9.59	1.53	0.35	0.50	2.38	0.00	4.06	0.00	0.00
2.12																
298	50.500	17.47	0.00	32.72	13.15	6.67	8.96	9.54	1.53	0.35	0.50	2.38	0.00	3.80	0.00	0.00
2.12																
299	50.400	17.40	0.00	32.72	13.15	6.68	8.95	9.49	1.53	0.35	0.50	2.38	0.00	3.55	0.00	0.00
2.12																
300	50.300	17.33	0.00	32.72	13.15	6.68	8.94	9.44	1.53	0.35	0.50	2.38	0.00	3.30	0.00	0.00
2.12																
301	50.200	17.26	0.00	32.72	13.15	6.69	8.93	9.39	1.53	0.35	0.50	2.38	0.00	3.04	0.00	0.00
2.12																
302	50.100	17.19	0.00	32.72	13.15	6.70	8.92	9.34	1.53	0.35	0.50	2.38	0.00	2.78	0.00	0.00
2.12																
303	50.000	17.12	0.00	32.72	13.15	6.71	8.91	9.29	1.52	0.35	0.50	2.38	0.00	2.53	0.00	0.00
2.12																
304	49.900	17.05	0.00	32.72	13.15	6.71	8.89	9.24	1.52	0.35	0.50	2.38	0.00	2.28	0.00	0.00
2.12																
305	49.800	16.98	0.00	32.72	13.15	6.72	8.88	9.19	1.52	0.36	0.50	2.38	0.00	2.02	0.00	0.00
2.12																
306	49.700	16.91	0.00	32.72	13.15	6.73	8.87	9.14	1.52	0.36	0.50	2.38	0.00	1.76	0.00	0.00
2.12																
307	49.600	16.84	0.00	32.72	13.15	6.74	8.86	9.09	1.52	0.36	0.50	2.38	0.00	1.51	0.00	0.00
2.12																
308	49.500	16.77	0.00	32.72	13.15	6.75	8.85	9.04	1.52	0.36	0.50	2.38	0.00	1.25	0.00	0.00
2.12																
309	49.400	16.70	0.00	32.72	13.15	6.76	8.84	8.99	1.52	0.36	0.50	2.38	0.00	1.00	0.00	0.00
2.12																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 8 DAM - CANEY CREEK

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 3.0 MG/L RUN

***** REACH INPUTS

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
310	UPR RCH	0.22610	16.70	0.00	32.72	13.15	6.76	8.84	8.99	1.52	0.36	0.50	0.00	1.00	0.00
2.12	310	DAM	DAM AT SITE 7 ADDS 1.63 MG/L DISSOLVED OXYGEN GIVING 8.39 MG/L D.O. FOR THE UPR RCH INPUT												

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
310	49.40	49.30	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
311	49.30	49.20	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
312	49.20	49.10	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
313	49.10	49.00	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
314	49.00	48.90	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
315	48.90	48.80	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
316	48.80	48.70	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
317	48.70	48.60	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
318	48.60	48.50	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
319	48.50	48.40	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
320	48.40	48.30	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
321	48.30	48.20	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
322	48.20	48.10	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
323	48.10	48.00	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
324	48.00	47.90	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
325	47.90	47.80	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
326	47.80	47.70	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016

0.060																		
327	47.70	47.60	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
328	47.60	47.50	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
329	47.50	47.40	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
330	47.40	47.30	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
331	47.30	47.20	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
332	47.20	47.10	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
333	47.10	47.00	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
334	47.00	46.90	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
335	46.90	46.80	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
336	46.80	46.70	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
337	46.70	46.60	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
338	46.60	46.50	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
TOT																		
AVG					0.06009		0.56			10912.10	24078.84							
CUM							3.57	0.45	8.30			3.76						

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
310	49.300	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
311	49.200	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
312	49.100	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
313	49.000	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
314	48.900	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
315	48.800	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
316	48.700	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00

0.02	0.05																	
317	48.600	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
318	48.500	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
319	48.400	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
320	48.300	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
321	48.200	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
322	48.100	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
323	48.000	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
324	47.900	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
325	47.800	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
326	47.700	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
327	47.600	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
328	47.500	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
329	47.400	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
330	47.300	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
331	47.200	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
332	47.100	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
333	47.000	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
334	46.900	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
335	46.800	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
336	46.700	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
337	46.600	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
338	46.500	9.73	1.44	0.04	0.09	0.00	1.40	1.40	1.40	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
20	DEG C RATE			0.05		0.00	1.72			0.02		0.00	0.00	0.00	0.00			0.00
0.02																		
AVG	20 DEG C RATE		1.54		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
310 2.12	49.300	16.70	0.00	32.72	13.15	8.36	8.82	8.97	1.52	0.36	0.50	2.37	0.00	0.99	0.00	0.00
311 2.12	49.200	16.70	0.00	32.72	13.15	8.33	8.81	8.95	1.51	0.36	0.50	2.37	0.00	0.97	0.00	0.00
312 2.12	49.100	16.70	0.00	32.72	13.15	8.30	8.79	8.94	1.51	0.36	0.50	2.37	0.00	0.96	0.00	0.00
313 2.12	49.000	16.70	0.00	32.72	13.15	8.28	8.78	8.92	1.51	0.36	0.50	2.37	0.00	0.94	0.00	0.00
314 2.12	48.900	16.70	0.00	32.72	13.15	8.25	8.76	8.90	1.51	0.36	0.50	2.37	0.00	0.93	0.00	0.00
315 2.13	48.800	16.70	0.00	32.72	13.15	8.22	8.75	8.88	1.51	0.36	0.50	2.37	0.00	0.92	0.00	0.00
316 2.13	48.700	16.70	0.00	32.72	13.15	8.20	8.73	8.87	1.51	0.36	0.50	2.37	0.00	0.90	0.00	0.00
317 2.13	48.600	16.70	0.00	32.72	13.15	8.18	8.72	8.85	1.51	0.36	0.50	2.37	0.00	0.89	0.00	0.00
318 2.13	48.500	16.70	0.00	32.72	13.15	8.15	8.70	8.83	1.51	0.36	0.50	2.37	0.00	0.88	0.00	0.00
319 2.13	48.400	16.70	0.00	32.72	13.15	8.13	8.68	8.81	1.50	0.36	0.50	2.37	0.00	0.86	0.00	0.00
320 2.13	48.300	16.70	0.00	32.72	13.15	8.11	8.67	8.80	1.50	0.36	0.50	2.37	0.00	0.85	0.00	0.00
321 2.13	48.200	16.70	0.00	32.72	13.15	8.09	8.65	8.78	1.50	0.36	0.50	2.37	0.00	0.83	0.00	0.00
322 2.13	48.100	16.70	0.00	32.72	13.15	8.07	8.64	8.76	1.50	0.36	0.50	2.36	0.00	0.82	0.00	0.00
323 2.13	48.000	16.70	0.00	32.72	13.15	8.05	8.62	8.74	1.50	0.37	0.50	2.36	0.00	0.81	0.00	0.00
324 2.13	47.900	16.70	0.00	32.72	13.15	8.03	8.61	8.73	1.50	0.37	0.50	2.36	0.00	0.79	0.00	0.00
325 2.14	47.800	16.70	0.00	32.72	13.15	8.01	8.59	8.71	1.50	0.37	0.50	2.36	0.00	0.78	0.00	0.00
326 2.14	47.700	16.70	0.00	32.72	13.15	7.99	8.58	8.69	1.50	0.37	0.50	2.36	0.00	0.77	0.00	0.00
327 2.14	47.600	16.70	0.00	32.72	13.15	7.97	8.56	8.68	1.50	0.37	0.50	2.36	0.00	0.75	0.00	0.00
328 2.14	47.500	16.70	0.00	32.72	13.15	7.95	8.55	8.66	1.49	0.37	0.50	2.36	0.00	0.74	0.00	0.00
329 2.14	47.400	16.70	0.00	32.72	13.15	7.93	8.53	8.64	1.49	0.37	0.50	2.36	0.00	0.72	0.00	0.00
330 2.14	47.300	16.70	0.00	32.72	13.15	7.92	8.52	8.62	1.49	0.37	0.50	2.36	0.00	0.71	0.00	0.00
331 2.14	47.200	16.70	0.00	32.72	13.15	7.90	8.50	8.61	1.49	0.37	0.50	2.36	0.00	0.70	0.00	0.00
332 2.14	47.100	16.70	0.00	32.72	13.15	7.89	8.49	8.59	1.49	0.37	0.50	2.36	0.00	0.68	0.00	0.00

333	47.000	16.70	0.00	32.72	13.15	7.87	8.47	8.57	1.49	0.37	0.50	2.36	0.00	0.67	0.00	0.00
2.14																
334	46.900	16.70	0.00	32.72	13.15	7.86	8.46	8.56	1.49	0.37	0.50	2.36	0.00	0.66	0.00	0.00
2.14																
335	46.800	16.70	0.00	32.72	13.15	7.84	8.44	8.54	1.49	0.37	0.50	2.36	0.00	0.64	0.00	0.00
2.15																
336	46.700	16.70	0.00	32.72	13.15	7.83	8.43	8.52	1.48	0.37	0.50	2.35	0.00	0.63	0.00	0.00
2.15																
337	46.600	16.70	0.00	32.72	13.15	7.81	8.41	8.51	1.48	0.37	0.50	2.35	0.00	0.61	0.00	0.00
2.15																
338	46.500	16.70	0.00	32.72	13.15	7.80	8.40	8.49	1.48	0.37	0.50	2.35	0.00	0.60	0.00	0.00
2.15																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 9 CANEY CR - HURRICANE CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 3.0 MG/L RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
339 2.15	UPR RCH	0.22610	16.70	0.00	32.72	13.15	7.80	8.40	8.49	1.48	0.37	0.50	0.00	0.60	0.00

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / m/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
339 0.137	46.50	46.40	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
340 0.137	46.40	46.30	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
341 0.137	46.30	46.20	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
342 0.137	46.20	46.10	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
343 0.137	46.10	46.00	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032

398	40.60	40.50	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
399	40.50	40.40	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
400	40.40	40.30	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
401	40.30	40.20	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
402	40.20	40.10	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
403	40.10	40.00	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
404	40.00	39.90	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
405	39.90	39.80	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
406	39.80	39.70	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
407	39.70	39.60	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
408	39.60	39.50	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
409	39.50	39.40	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
410	39.40	39.30	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
411	39.30	39.20	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
412	39.20	39.10	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
413	39.10	39.00	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
414	39.00	38.90	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
415	38.90	38.80	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
416	38.80	38.70	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
417	38.70	38.60	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
418	38.60	38.50	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
TOT														
AVG					0.13668		0.68			13234.21	32824.38			
CUM							4.24		0.40	4.10		1.65		

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI
NCM	NCM																	
NO.	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY

418	38.500	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
20	DEG C RATE			0.05		0.00	2.06			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG	20	DEG C RATE		1.74		0.10					0.05							
0.05																		

* g/m²/d ** mg/L/day

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

ELEM NCM 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
339	46.400	16.70	0.00	32.72	13.15	7.79	8.39	8.48	1.48	0.37	0.50	2.35	0.00	0.60	0.00	0.00
2.15																
340	46.300	16.70	0.00	32.72	13.15	7.78	8.38	8.47	1.48	0.37	0.50	2.35	0.00	0.60	0.00	0.00
2.15																
341	46.200	16.70	0.00	32.72	13.15	7.76	8.37	8.46	1.48	0.37	0.50	2.35	0.00	0.60	0.00	0.00
2.16																
342	46.100	16.70	0.00	32.72	13.15	7.75	8.37	8.46	1.48	0.37	0.50	2.35	0.00	0.60	0.00	0.00
2.16																
343	46.000	16.70	0.00	32.72	13.15	7.74	8.36	8.45	1.48	0.37	0.50	2.35	0.00	0.60	0.00	0.00
2.16																
344	45.900	16.70	0.00	32.72	13.15	7.73	8.35	8.44	1.48	0.37	0.50	2.35	0.00	0.60	0.00	0.00
2.16																
345	45.800	16.70	0.00	32.72	13.15	7.72	8.34	8.43	1.48	0.37	0.50	2.35	0.00	0.60	0.00	0.00
2.17																
346	45.700	16.70	0.00	32.72	13.15	7.71	8.33	8.42	1.48	0.37	0.50	2.35	0.00	0.60	0.00	0.00
2.17																
347	45.600	16.70	0.00	32.72	13.15	7.70	8.32	8.41	1.48	0.37	0.50	2.35	0.00	0.60	0.00	0.00
2.17																
348	45.500	16.70	0.00	32.72	13.15	7.69	8.31	8.40	1.48	0.38	0.50	2.35	0.00	0.60	0.00	0.00
2.18																
349	45.400	16.70	0.00	32.72	13.15	7.67	8.30	8.39	1.48	0.38	0.50	2.35	0.00	0.60	0.00	0.00
2.18																
350	45.300	16.70	0.00	32.72	13.15	7.66	8.30	8.39	1.47	0.38	0.50	2.35	0.00	0.60	0.00	0.00
2.18																
351	45.200	16.70	0.00	32.72	13.15	7.65	8.29	8.38	1.47	0.38	0.50	2.35	0.00	0.60	0.00	0.00
2.18																
352	45.100	16.70	0.00	32.72	13.15	7.64	8.28	8.37	1.47	0.38	0.50	2.35	0.00	0.60	0.00	0.00
2.19																
353	45.000	16.70	0.00	32.72	13.15	7.63	8.27	8.36	1.47	0.38	0.50	2.35	0.00	0.60	0.00	0.00
2.19																
354	44.900	16.70	0.00	32.72	13.15	7.62	8.26	8.35	1.47	0.38	0.50	2.35	0.00	0.60	0.00	0.00
2.19																
355	44.800	16.70	0.00	32.72	13.15	7.61	8.25	8.34	1.47	0.38	0.50	2.35	0.00	0.60	0.00	0.00
2.19																
356	44.700	16.70	0.00	32.72	13.15	7.60	8.24	8.33	1.47	0.38	0.50	2.35	0.00	0.60	0.00	0.00

2.20																	
357	44.600	16.70	0.00	32.72	13.15	7.60	8.24	8.33	1.47	0.38	0.50	2.35	0.00	0.60	0.00	0.00	
2.20																	
358	44.500	16.70	0.00	32.72	13.15	7.59	8.23	8.32	1.47	0.38	0.50	2.35	0.00	0.60	0.00	0.00	
2.20																	
359	44.400	16.70	0.00	32.72	13.15	7.58	8.22	8.31	1.47	0.38	0.50	2.35	0.00	0.60	0.00	0.00	
2.20																	
360	44.300	16.70	0.00	32.72	13.15	7.57	8.21	8.30	1.47	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.21																	
361	44.200	16.70	0.00	32.72	13.15	7.56	8.20	8.29	1.47	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.21																	
362	44.100	16.70	0.00	32.72	13.15	7.55	8.19	8.28	1.47	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.21																	
363	44.000	16.70	0.00	32.72	13.15	7.54	8.18	8.27	1.47	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.21																	
364	43.900	16.70	0.00	32.72	13.15	7.53	8.18	8.27	1.47	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.22																	
365	43.800	16.70	0.00	32.72	13.15	7.52	8.17	8.26	1.46	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.22																	
366	43.700	16.70	0.00	32.72	13.15	7.52	8.16	8.25	1.46	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.22																	
367	43.600	16.70	0.00	32.72	13.15	7.51	8.15	8.24	1.46	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.23																	
368	43.500	16.70	0.00	32.72	13.15	7.50	8.14	8.23	1.46	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.23																	
369	43.400	16.70	0.00	32.72	13.15	7.49	8.13	8.22	1.46	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.23																	
370	43.300	16.70	0.00	32.72	13.15	7.48	8.13	8.22	1.46	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.23																	
371	43.200	16.70	0.00	32.72	13.15	7.48	8.12	8.21	1.46	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.24																	
372	43.100	16.70	0.00	32.72	13.15	7.47	8.11	8.20	1.46	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.24																	
373	43.000	16.70	0.00	32.72	13.15	7.46	8.10	8.19	1.46	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.24																	
374	42.900	16.70	0.00	32.72	13.15	7.45	8.09	8.18	1.46	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.24																	
375	42.800	16.70	0.00	32.72	13.15	7.45	8.08	8.17	1.46	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.25																	
376	42.700	16.70	0.00	32.72	13.15	7.44	8.07	8.16	1.46	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.25																	
377	42.600	16.70	0.00	32.72	13.15	7.43	8.07	8.16	1.46	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.25																	
378	42.500	16.70	0.00	32.72	13.15	7.43	8.06	8.15	1.46	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.25																	
379	42.400	16.70	0.00	32.72	13.15	7.42	8.05	8.14	1.46	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.26																	
380	42.300	16.70	0.00	32.72	13.15	7.41	8.04	8.13	1.45	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.26																	
381	42.200	16.70	0.00	32.72	13.15	7.40	8.03	8.12	1.45	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.26																	
382	42.100	16.70	0.00	32.72	13.15	7.40	8.02	8.11	1.45	0.38	0.50	2.34	0.00	0.60	0.00	0.00	
2.26																	
383	42.000	16.70	0.00	32.72	13.15	7.39	8.02	8.11	1.45	0.39	0.50	2.34	0.00	0.60	0.00	0.00	

2.27																	
384	41.900	16.70	0.00	32.72	13.15	7.38	8.01	8.10	1.45	0.39	0.50	2.34	0.00	0.60	0.00	0.00	
2.27																	
385	41.800	16.70	0.00	32.72	13.15	7.38	8.00	8.09	1.45	0.39	0.50	2.34	0.00	0.60	0.00	0.00	
2.27																	
386	41.700	16.70	0.00	32.72	13.15	7.37	7.99	8.08	1.45	0.39	0.50	2.34	0.00	0.60	0.00	0.00	
2.27																	
387	41.600	16.70	0.00	32.72	13.15	7.37	7.98	8.07	1.45	0.39	0.50	2.34	0.00	0.60	0.00	0.00	
2.28																	
388	41.500	16.70	0.00	32.72	13.15	7.36	7.98	8.07	1.45	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.28																	
389	41.400	16.70	0.00	32.72	13.15	7.35	7.97	8.06	1.45	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.28																	
390	41.300	16.70	0.00	32.72	13.15	7.35	7.96	8.05	1.45	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.28																	
391	41.200	16.70	0.00	32.72	13.15	7.34	7.95	8.04	1.45	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.29																	
392	41.100	16.70	0.00	32.72	13.15	7.34	7.94	8.03	1.45	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.29																	
393	41.000	16.70	0.00	32.72	13.15	7.33	7.93	8.02	1.45	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.29																	
394	40.900	16.70	0.00	32.72	13.15	7.32	7.93	8.02	1.45	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.29																	
395	40.800	16.70	0.00	32.72	13.15	7.32	7.92	8.01	1.45	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.30																	
396	40.700	16.70	0.00	32.72	13.15	7.31	7.91	8.00	1.44	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.30																	
397	40.600	16.70	0.00	32.72	13.15	7.31	7.90	7.99	1.44	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.30																	
398	40.500	16.70	0.00	32.72	13.15	7.30	7.89	7.98	1.44	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.30																	
399	40.400	16.70	0.00	32.72	13.15	7.30	7.88	7.97	1.44	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.31																	
400	40.300	16.70	0.00	32.72	13.15	7.29	7.88	7.97	1.44	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.31																	
401	40.200	16.70	0.00	32.72	13.15	7.29	7.87	7.96	1.44	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.31																	
402	40.100	16.70	0.00	32.72	13.15	7.28	7.86	7.95	1.44	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.32																	
403	40.000	16.70	0.00	32.72	13.15	7.28	7.85	7.94	1.44	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.32																	
404	39.900	16.70	0.00	32.72	13.15	7.27	7.84	7.93	1.44	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.32																	
405	39.800	16.70	0.00	32.72	13.15	7.27	7.84	7.93	1.44	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.32																	
406	39.700	16.70	0.00	32.72	13.15	7.26	7.83	7.92	1.44	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.33																	
407	39.600	16.70	0.00	32.72	13.15	7.26	7.82	7.91	1.44	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.33																	
408	39.500	16.70	0.00	32.72	13.15	7.25	7.81	7.90	1.44	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.33																	
409	39.400	16.70	0.00	32.72	13.15	7.25	7.80	7.89	1.44	0.39	0.50	2.33	0.00	0.60	0.00	0.00	
2.33																	
410	39.300	16.70	0.00	32.72	13.15	7.25	7.80	7.89	1.44	0.39	0.50	2.33	0.00	0.60	0.00	0.00	

2.34	411	39.200	16.70	0.00	32.72	13.15	7.24	7.79	7.88	1.44	0.39	0.50	2.33	0.00	0.60	0.00	0.00
2.34	412	39.100	16.70	0.00	32.72	13.15	7.24	7.78	7.87	1.43	0.39	0.50	2.33	0.00	0.60	0.00	0.00
2.34	413	39.000	16.70	0.00	32.72	13.15	7.23	7.77	7.86	1.43	0.39	0.50	2.33	0.00	0.60	0.00	0.00
2.34	414	38.900	16.70	0.00	32.72	13.15	7.23	7.76	7.85	1.43	0.39	0.50	2.33	0.00	0.60	0.00	0.00
2.35	415	38.800	16.70	0.00	32.72	13.15	7.22	7.76	7.85	1.43	0.39	0.50	2.33	0.00	0.60	0.00	0.00
2.35	416	38.700	16.70	0.00	32.72	13.15	7.22	7.75	7.84	1.43	0.39	0.50	2.32	0.00	0.60	0.00	0.00
2.35	417	38.600	16.70	0.00	32.72	13.15	7.22	7.74	7.83	1.43	0.40	0.50	2.32	0.00	0.60	0.00	0.00
2.35	418	38.500	16.70	0.00	32.72	13.15	7.21	7.73	7.82	1.43	0.40	0.50	2.32	0.00	0.60	0.00	0.00
2.36																	

* CM-I = CHLORIDES
MG/L
** g/m³

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

FINAL REPORT HEADWATER
REACH NO. 10 HURRICANE CR - SITE 10

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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
419	UPR RCH	0.22610	16.70	0.00	32.72	13.15	7.21	7.73	7.82	1.43	0.40	0.50	0.00	0.60	0.00
2.36 EACH	INCR	0.0003	16.70	0.00	6.90	2.70	2.00	4.95	4.95	0.53	0.00	0.09	0.00		0.00
4.52															

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

ELEM MEAN NO.	BEGIN DIST	ENDING DIST	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
419	38.50	38.40	0.22644	56.11	0.13687	0.01	0.40	4.10	165.44	410.31	1.65	0.00	0.000	0.032
0.137														
420	38.40	38.30	0.22678	56.03	0.13706	0.01	0.40	4.10	165.45	410.32	1.65	0.00	0.000	0.032

419	38.400	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
420	38.300	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
421	38.200	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
422	38.100	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
423	38.000	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
424	37.900	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
425	37.800	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
426	37.700	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
427	37.600	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
428	37.500	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
429	37.400	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
430	37.300	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
431	37.200	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
432	37.100	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
433	37.000	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
434	36.900	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
435	36.800	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
436	36.700	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
437	36.600	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
438	36.500	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
439	36.400	9.73	1.62	0.04	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	

20 DEG C RATE				0.05		0.00	2.06			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG 20 DEG C RATE			1.74		0.10						0.05							
0.05																		

* g/m²/d ** mg/L/day

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

ELEM NCM 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
419	38.400	16.70	0.00	32.68	13.13	7.20	7.72	7.82	1.43	0.40	0.50	2.32	0.00	0.62	0.00	0.00
2.36																
420	38.300	16.70	0.00	32.64	13.12	7.19	7.71	7.81	1.43	0.39	0.50	2.32	0.00	0.65	0.00	0.00
2.37																
421	38.200	16.70	0.00	32.60	13.10	7.18	7.70	7.80	1.43	0.39	0.50	2.32	0.00	0.67	0.00	0.00
2.38																
422	38.100	16.70	0.00	32.56	13.08	7.17	7.69	7.80	1.43	0.39	0.50	2.32	0.00	0.70	0.00	0.00
2.38																
423	38.000	16.70	0.00	32.52	13.07	7.16	7.68	7.79	1.42	0.39	0.50	2.31	0.00	0.72	0.00	0.00
2.39																
424	37.900	16.70	0.00	32.49	13.05	7.14	7.67	7.79	1.42	0.39	0.49	2.31	0.00	0.74	0.00	0.00
2.40																
425	37.800	16.70	0.00	32.45	13.04	7.13	7.66	7.78	1.42	0.39	0.49	2.31	0.00	0.77	0.00	0.00
2.40																
426	37.700	16.70	0.00	32.41	13.02	7.12	7.66	7.77	1.42	0.39	0.49	2.31	0.00	0.79	0.00	0.00
2.41																
427	37.600	16.70	0.00	32.37	13.01	7.11	7.65	7.77	1.42	0.39	0.49	2.30	0.00	0.81	0.00	0.00
2.42																
428	37.500	16.70	0.00	32.34	12.99	7.10	7.64	7.76	1.42	0.39	0.49	2.30	0.00	0.84	0.00	0.00
2.42																
429	37.400	16.70	0.00	32.30	12.98	7.09	7.63	7.76	1.42	0.39	0.49	2.30	0.00	0.86	0.00	0.00
2.43																
430	37.300	16.70	0.00	32.26	12.96	7.08	7.62	7.75	1.41	0.39	0.49	2.30	0.00	0.89	0.00	0.00
2.44																
431	37.200	16.70	0.00	32.22	12.95	7.08	7.61	7.75	1.41	0.39	0.49	2.30	0.00	0.91	0.00	0.00
2.44																
432	37.100	16.70	0.00	32.19	12.93	7.07	7.60	7.74	1.41	0.39	0.49	2.29	0.00	0.93	0.00	0.00
2.45																
433	37.000	16.70	0.00	32.15	12.92	7.06	7.59	7.73	1.41	0.39	0.49	2.29	0.00	0.96	0.00	0.00
2.46																
434	36.900	16.70	0.00	32.11	12.90	7.05	7.58	7.73	1.41	0.39	0.49	2.29	0.00	0.98	0.00	0.00
2.46																
435	36.800	16.70	0.00	32.08	12.89	7.04	7.57	7.72	1.41	0.39	0.49	2.29	0.00	1.00	0.00	0.00
2.47																
436	36.700	16.70	0.00	32.04	12.87	7.03	7.56	7.72	1.41	0.39	0.49	2.28	0.00	1.03	0.00	0.00
2.47																
437	36.600	16.70	0.00	32.00	12.86	7.02	7.55	7.71	1.41	0.39	0.49	2.28	0.00	1.05	0.00	0.00
2.48																
438	36.500	16.70	0.00	31.97	12.84	7.01	7.55	7.71	1.40	0.39	0.49	2.28	0.00	1.08	0.00	0.00
2.49																
439	36.400	16.70	0.00	31.93	12.83	7.01	7.54	7.70	1.40	0.39	0.49	2.28	0.00	1.10	0.00	0.00
2.49																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

449	35.400	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
450	35.300	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
451	35.200	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
452	35.100	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
453	35.000	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
454	34.900	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
455	34.800	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
456	34.700	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
457	34.600	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
458	34.500	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
459	34.400	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
460	34.300	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
461	34.200	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
462	34.100	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
20 DEG C RATE				0.09		0.00	2.06			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG 20 DEG C RATE			1.65		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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	
440	36.300	16.70	0.00	31.92	12.82	7.00	7.53	7.69	1.40	0.39	0.49	2.28	0.00	1.10	0.00	0.00	
2.49																	
441	36.200	16.70	0.00	31.90	12.82	6.99	7.52	7.68	1.40	0.39	0.48	2.28	0.00	1.10	0.00	0.00	
2.49																	
442	36.100	16.70	0.00	31.89	12.81	6.98	7.51	7.67	1.40	0.39	0.48	2.27	0.00	1.10	0.00	0.00	
2.49																	
443	36.000	16.70	0.00	31.87	12.81	6.98	7.50	7.66	1.40	0.39	0.48	2.27	0.00	1.10	0.00	0.00	
2.49																	
444	35.900	16.70	0.00	31.86	12.80	6.97	7.49	7.65	1.40	0.39	0.48	2.27	0.00	1.10	0.00	0.00	

2.49																	
445	35.800	16.70	0.00	31.85	12.79	6.96	7.48	7.64	1.40	0.39	0.48	2.27	0.00	1.10	0.00	0.00	
2.49																	
446	35.700	16.70	0.00	31.83	12.79	6.96	7.47	7.63	1.40	0.39	0.48	2.27	0.00	1.10	0.00	0.00	
2.49																	
447	35.600	16.70	0.00	31.82	12.78	6.95	7.46	7.62	1.40	0.39	0.48	2.27	0.00	1.10	0.00	0.00	
2.49																	
448	35.500	16.70	0.00	31.81	12.78	6.94	7.45	7.61	1.39	0.39	0.48	2.27	0.00	1.10	0.00	0.00	
2.49																	
449	35.400	16.70	0.00	31.79	12.77	6.94	7.44	7.60	1.39	0.39	0.48	2.27	0.00	1.10	0.00	0.00	
2.49																	
450	35.300	16.70	0.00	31.78	12.76	6.93	7.43	7.60	1.39	0.39	0.48	2.27	0.00	1.10	0.00	0.00	
2.49																	
451	35.200	16.70	0.00	31.76	12.76	6.92	7.42	7.59	1.39	0.39	0.48	2.26	0.00	1.10	0.00	0.00	
2.49																	
452	35.100	16.70	0.00	31.75	12.75	6.92	7.41	7.58	1.39	0.39	0.48	2.26	0.00	1.10	0.00	0.00	
2.49																	
453	35.000	16.70	0.00	31.74	12.75	6.91	7.40	7.57	1.39	0.39	0.48	2.26	0.00	1.10	0.00	0.00	
2.49																	
454	34.900	16.70	0.00	31.72	12.74	6.91	7.39	7.56	1.39	0.39	0.48	2.26	0.00	1.10	0.00	0.00	
2.49																	
455	34.800	16.70	0.00	31.71	12.74	6.90	7.38	7.55	1.39	0.39	0.48	2.26	0.00	1.10	0.00	0.00	
2.48																	
456	34.700	16.70	0.00	31.70	12.73	6.90	7.37	7.54	1.39	0.39	0.48	2.26	0.00	1.10	0.00	0.00	
2.48																	
457	34.600	16.70	0.00	31.68	12.72	6.89	7.36	7.53	1.39	0.39	0.48	2.26	0.00	1.10	0.00	0.00	
2.48																	
458	34.500	16.70	0.00	31.67	12.72	6.88	7.35	7.52	1.38	0.39	0.48	2.26	0.00	1.10	0.00	0.00	
2.48																	
459	34.400	16.70	0.00	31.65	12.71	6.88	7.35	7.51	1.38	0.39	0.48	2.26	0.00	1.10	0.00	0.00	
2.48																	
460	34.300	16.70	0.00	31.64	12.71	6.87	7.34	7.50	1.38	0.39	0.48	2.25	0.00	1.10	0.00	0.00	
2.48																	
461	34.200	16.70	0.00	31.63	12.70	6.87	7.33	7.49	1.38	0.39	0.48	2.25	0.00	1.10	0.00	0.00	
2.48																	
462	34.100	16.70	0.00	31.61	12.70	6.87	7.32	7.48	1.38	0.39	0.48	2.25	0.00	1.10	0.00	0.00	
2.48																	

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 12 MAGNOLIA CR - BRUSHY CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 3.0 MG/L RUN

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

ELEM NCM NO.	TYPE	FLOW m ³ /	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
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463	UPR RCH	0.23650	16.70	0.00	31.61	12.70	6.87	7.32	7.48	1.38	0.39	0.48	0.00	1.10	0.00
2.48															
EACH	INCR	0.0002	16.70	0.00	9.20	3.40	2.00	5.24	5.24	0.54	0.00	0.08	0.00		0.00
5.18															

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
463	34.10	34.00	0.23669	53.68	0.09455	0.01	0.42	5.91	250.33	590.56	2.50	0.00	0.000	0.023
0.095														
464	34.00	33.90	0.23689	53.64	0.09463	0.01	0.42	5.91	250.34	590.57	2.50	0.00	0.000	0.023
0.095														
465	33.90	33.80	0.23708	53.59	0.09470	0.01	0.42	5.91	250.35	590.57	2.50	0.00	0.000	0.023
0.095														
466	33.80	33.70	0.23728	53.55	0.09477	0.01	0.42	5.91	250.36	590.58	2.50	0.00	0.000	0.023
0.095														
467	33.70	33.60	0.23747	53.50	0.09485	0.01	0.42	5.91	250.37	590.58	2.50	0.00	0.000	0.023
0.095														
468	33.60	33.50	0.23766	53.46	0.09492	0.01	0.42	5.91	250.38	590.59	2.50	0.00	0.000	0.023
0.095														
469	33.50	33.40	0.23786	53.42	0.09500	0.01	0.42	5.91	250.39	590.59	2.50	0.00	0.000	0.023
0.095														
470	33.40	33.30	0.23805	53.37	0.09507	0.01	0.42	5.91	250.40	590.60	2.50	0.00	0.000	0.023
0.095														
471	33.30	33.20	0.23825	53.33	0.09514	0.01	0.42	5.91	250.41	590.60	2.50	0.00	0.000	0.023
0.095														
472	33.20	33.10	0.23844	53.29	0.09522	0.01	0.42	5.91	250.42	590.61	2.50	0.00	0.000	0.023
0.095														
473	33.10	33.00	0.23864	53.24	0.09529	0.01	0.42	5.91	250.43	590.61	2.50	0.00	0.000	0.023
0.095														
474	33.00	32.90	0.23883	53.20	0.09536	0.01	0.42	5.91	250.44	590.61	2.50	0.00	0.000	0.023
0.095														
475	32.90	32.80	0.23902	53.16	0.09544	0.01	0.42	5.91	250.45	590.62	2.50	0.00	0.000	0.023
0.095														
476	32.80	32.70	0.23922	53.11	0.09551	0.01	0.42	5.91	250.46	590.62	2.50	0.00	0.000	0.023
0.096														
477	32.70	32.60	0.23941	53.07	0.09559	0.01	0.42	5.91	250.47	590.63	2.50	0.00	0.000	0.023
0.096														
478	32.60	32.50	0.23961	53.03	0.09566	0.01	0.42	5.91	250.47	590.63	2.50	0.00	0.000	0.023
0.096														
479	32.50	32.40	0.23980	52.98	0.09573	0.01	0.42	5.91	250.48	590.64	2.50	0.00	0.000	0.023
0.096														
TOT						0.21			4256.95	10040.21				
AVG					0.09514		0.42	5.91			2.50			

CUM

4.91

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

ELEM NCM NO.	ENDING NCM DIST SETT	SAT D.O.	REAER RATE	CBOD DECA	CBOD SETT	ANBOD DECA	BKGD SOD	FULL SOD	CORR SOD	ORGN DECA	ORGN SETT	NH3 DECA	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECA
1/da	1/da	mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da
463	34.000	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
464	33.900	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
465	33.800	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
466	33.700	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
467	33.600	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
468	33.500	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
469	33.400	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
470	33.300	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
471	33.200	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
472	33.100	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
473	33.000	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
474	32.900	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
475	32.800	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
476	32.700	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
477	32.600	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
478	32.500	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
479	32.400	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
20	DEG C RATE			0.09		0.00	2.06			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG	20 DEG C RATE		1.65		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
463	34.000	16.70	0.00	31.59	12.69	6.86	7.31	7.47	1.38	0.39	0.48	2.25	0.00	1.10	0.00	0.00
2.48																
464	33.900	16.70	0.00	31.58	12.68	6.85	7.30	7.46	1.38	0.39	0.48	2.25	0.00	1.10	0.00	0.00
2.48																
465	33.800	16.70	0.00	31.56	12.67	6.85	7.29	7.45	1.37	0.39	0.48	2.25	0.00	1.10	0.00	0.00
2.48																
466	33.700	16.70	0.00	31.54	12.67	6.84	7.27	7.44	1.37	0.39	0.48	2.24	0.00	1.10	0.00	0.00
2.48																
467	33.600	16.70	0.00	31.52	12.66	6.84	7.26	7.43	1.37	0.39	0.48	2.24	0.00	1.10	0.00	0.00
2.48																
468	33.500	16.70	0.00	31.50	12.65	6.83	7.25	7.42	1.37	0.39	0.48	2.24	0.00	1.10	0.00	0.00
2.48																
469	33.400	16.70	0.00	31.49	12.64	6.83	7.24	7.41	1.37	0.39	0.48	2.24	0.00	1.10	0.00	0.00
2.48																
470	33.300	16.70	0.00	31.47	12.64	6.82	7.23	7.40	1.37	0.39	0.48	2.24	0.00	1.10	0.00	0.00
2.48																
471	33.200	16.70	0.00	31.45	12.63	6.82	7.22	7.39	1.36	0.39	0.48	2.23	0.00	1.10	0.00	0.00
2.48																
472	33.100	16.70	0.00	31.43	12.62	6.81	7.21	7.38	1.36	0.39	0.48	2.23	0.00	1.10	0.00	0.00
2.48																
473	33.000	16.70	0.00	31.41	12.61	6.81	7.20	7.36	1.36	0.39	0.48	2.23	0.00	1.10	0.00	0.00
2.48																
474	32.900	16.70	0.00	31.39	12.61	6.80	7.19	7.35	1.36	0.39	0.48	2.23	0.00	1.10	0.00	0.00
2.48																
475	32.800	16.70	0.00	31.38	12.60	6.80	7.18	7.34	1.36	0.39	0.47	2.22	0.00	1.10	0.00	0.00
2.48																
476	32.700	16.70	0.00	31.36	12.59	6.80	7.17	7.33	1.35	0.39	0.47	2.22	0.00	1.10	0.00	0.00
2.48																
477	32.600	16.70	0.00	31.34	12.58	6.79	7.16	7.32	1.35	0.39	0.47	2.22	0.00	1.10	0.00	0.00
2.48																
478	32.500	16.70	0.00	31.32	12.58	6.79	7.15	7.31	1.35	0.39	0.47	2.22	0.00	1.10	0.00	0.00
2.48																
479	32.400	16.70	0.00	31.30	12.57	6.78	7.14	7.30	1.35	0.39	0.47	2.22	0.00	1.10	0.00	0.00
2.48																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 13 BRUSHY CR - RIGHTHAND CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 3.0 MG/L RUN

495	30.800	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
496	30.700	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
497	30.600	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
498	30.500	9.73	1.54	0.08	0.09	0.00	1.67	1.67	1.67	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	

20 DEG C RATE				0.09		0.00	2.06			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG 20 DEG C RATE			1.65		0.10						0.05							
0.05																		

* g/m²/d ** mg/L/day

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

ELEM NCM 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
480	32.300	16.70	0.00	31.29	12.56	6.78	7.13	7.29	1.35	0.39	0.47	2.21	0.00	1.10	0.00	0.00
2.48																
481	32.200	16.70	0.00	31.27	12.56	6.78	7.12	7.29	1.35	0.39	0.47	2.21	0.00	1.10	0.00	0.00
2.48																
482	32.100	16.70	0.00	31.26	12.55	6.77	7.12	7.28	1.34	0.39	0.47	2.21	0.00	1.10	0.00	0.00
2.48																
483	32.000	16.70	0.00	31.24	12.54	6.77	7.11	7.27	1.34	0.39	0.47	2.21	0.00	1.10	0.00	0.00
2.48																
484	31.900	16.70	0.00	31.23	12.54	6.77	7.10	7.27	1.34	0.39	0.47	2.21	0.00	1.10	0.00	0.00
2.48																
485	31.800	16.70	0.00	31.21	12.53	6.76	7.09	7.26	1.34	0.39	0.47	2.21	0.00	1.10	0.00	0.00
2.48																
486	31.700	16.70	0.00	31.19	12.52	6.76	7.09	7.25	1.34	0.39	0.47	2.20	0.00	1.10	0.00	0.00
2.48																
487	31.600	16.70	0.00	31.18	12.52	6.76	7.08	7.24	1.34	0.39	0.47	2.20	0.00	1.10	0.00	0.00
2.48																
488	31.500	16.70	0.00	31.16	12.51	6.76	7.07	7.24	1.33	0.39	0.47	2.20	0.00	1.10	0.00	0.00
2.48																
489	31.400	16.70	0.00	31.15	12.50	6.75	7.07	7.23	1.33	0.39	0.47	2.20	0.00	1.10	0.00	0.00
2.48																
490	31.300	16.70	0.00	31.13	12.50	6.75	7.06	7.22	1.33	0.39	0.47	2.20	0.00	1.10	0.00	0.00
2.48																
491	31.200	16.70	0.00	31.11	12.49	6.75	7.05	7.22	1.33	0.39	0.47	2.19	0.00	1.10	0.00	0.00
2.48																
492	31.100	16.70	0.00	31.10	12.48	6.74	7.04	7.21	1.33	0.40	0.47	2.19	0.00	1.10	0.00	0.00
2.48																
493	31.000	16.70	0.00	31.08	12.48	6.74	7.04	7.20	1.33	0.40	0.47	2.19	0.00	1.10	0.00	0.00
2.48																
494	30.900	16.70	0.00	31.07	12.47	6.74	7.03	7.20	1.32	0.40	0.47	2.19	0.00	1.10	0.00	0.00

2.48	495	30.800	16.70	0.00	31.05	12.46	6.74	7.02	7.19	1.32	0.40	0.47	2.19	0.00	1.10	0.00	0.00
2.48	496	30.700	16.70	0.00	31.04	12.46	6.73	7.02	7.18	1.32	0.40	0.47	2.18	0.00	1.10	0.00	0.00
2.48	497	30.600	16.70	0.00	31.02	12.45	6.73	7.01	7.17	1.32	0.40	0.47	2.18	0.00	1.10	0.00	0.00
2.48	498	30.500	16.70	0.00	31.00	12.44	6.73	7.00	7.17	1.32	0.40	0.47	2.18	0.00	1.10	0.00	0.00

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 14 RIGHTHAND CR - SITE 11

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 3.0 MG/L RUN

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

ELEM NCM NO.*	TYPE	FLOW m ³ /	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
499	UPR RCH	0.24310	16.70	0.00	31.00	12.44	6.73	7.00	7.17	1.32	0.40	0.47	0.00	1.10	0.00
EACH	INCR	0.0003	16.70	0.00	9.20	3.40	2.00	5.24	5.24	0.54	0.00	0.08	0.00		0.00

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

ELEM MEAN NO. VELO	BEGIN DIST	ENDING DIST	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
499	30.50	30.40	0.24343	52.19	0.09712	0.01	0.42	5.91	250.66	590.72	2.51	0.00	0.000	0.024
500	30.40	30.30	0.24376	52.12	0.09724	0.01	0.42	5.91	250.68	590.73	2.51	0.00	0.000	0.024
501	30.30	30.20	0.24409	52.05	0.09737	0.01	0.42	5.91	250.69	590.74	2.51	0.00	0.000	0.024
502	30.20	30.10	0.24442	51.98	0.09749	0.01	0.42	5.91	250.71	590.75	2.51	0.00	0.000	0.024
503	30.10	30.00	0.24475	51.91	0.09762	0.01	0.42	5.91	250.72	590.76	2.51	0.00	0.000	0.024
504	30.00	29.90	0.24508	51.84	0.09774	0.01	0.42	5.91	250.74	590.76	2.51	0.00	0.000	0.024

0.098	505	29.90	29.80	0.24541	51.77	0.09787	0.01	0.42	5.91	250.75	590.77	2.51	0.00	0.000	0.024
0.098	506	29.80	29.70	0.24574	51.70	0.09799	0.01	0.42	5.91	250.77	590.78	2.51	0.00	0.000	0.024
0.098	507	29.70	29.60	0.24607	51.63	0.09812	0.01	0.42	5.91	250.79	590.79	2.51	0.00	0.000	0.024
0.098	508	29.60	29.50	0.24640	51.57	0.09825	0.01	0.42	5.91	250.80	590.79	2.51	0.00	0.000	0.024
TOT							0.12			2507.30	5907.60				
AVG						0.09768		0.42	5.91				2.51		
CUM							5.25								

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
499	30.400	9.73	1.54	0.08	0.09	0.00	1.45	1.45	1.45	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
500	30.300	9.73	1.54	0.08	0.09	0.00	1.45	1.45	1.45	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
501	30.200	9.73	1.54	0.08	0.09	0.00	1.45	1.45	1.45	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
502	30.100	9.73	1.54	0.08	0.09	0.00	1.45	1.45	1.45	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
503	30.000	9.73	1.54	0.08	0.09	0.00	1.45	1.45	1.45	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
504	29.900	9.73	1.54	0.08	0.09	0.00	1.45	1.45	1.45	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
505	29.800	9.73	1.54	0.08	0.09	0.00	1.45	1.45	1.45	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
506	29.700	9.73	1.54	0.08	0.09	0.00	1.45	1.45	1.45	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
507	29.600	9.73	1.54	0.08	0.09	0.00	1.45	1.45	1.45	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
508	29.500	9.73	1.54	0.08	0.09	0.00	1.45	1.45	1.45	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
20	DEG C RATE			0.09		0.00	1.79			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG	20 DEG C RATE		1.65		0.10						0.05							
0.05																		

* g/m²/d ** mg/L/day

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

ELEM NCM 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
499 2.48	30.400	16.70	0.00	30.98	12.43	6.73	7.00	7.16	1.31	0.40	0.47	2.18	0.00	1.08	0.00	0.00
500 2.48	30.300	16.70	0.00	30.95	12.42	6.73	7.00	7.15	1.31	0.40	0.47	2.17	0.00	1.06	0.00	0.00
501 2.48	30.200	16.70	0.00	30.92	12.41	6.73	6.99	7.15	1.31	0.40	0.47	2.17	0.00	1.04	0.00	0.00
502 2.48	30.100	16.70	0.00	30.89	12.40	6.73	6.99	7.14	1.31	0.39	0.47	2.17	0.00	1.02	0.00	0.00
503 2.49	30.000	16.70	0.00	30.86	12.38	6.73	6.99	7.14	1.31	0.39	0.47	2.17	0.00	1.00	0.00	0.00
504 2.49	29.900	16.70	0.00	30.83	12.37	6.73	6.98	7.13	1.30	0.39	0.46	2.16	0.00	0.98	0.00	0.00
505 2.49	29.800	16.70	0.00	30.80	12.36	6.73	6.98	7.12	1.30	0.39	0.46	2.16	0.00	0.96	0.00	0.00
506 2.49	29.700	16.70	0.00	30.77	12.35	6.73	6.98	7.12	1.30	0.39	0.46	2.16	0.00	0.94	0.00	0.00
507 2.49	29.600	16.70	0.00	30.74	12.34	6.74	6.97	7.11	1.30	0.39	0.46	2.16	0.00	0.92	0.00	0.00
508 2.49	29.500	16.70	0.00	30.71	12.32	6.74	6.97	7.10	1.30	0.39	0.46	2.15	0.00	0.90	0.00	0.00

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 15 SITE 11 - BOGGY CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 3.0 MG/L RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ /	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
509 2.49	UPR RCH	0.24640	16.70	0.00	30.71	12.32	6.74	6.97	7.10	1.30	0.39	0.46	0.00	0.90	0.00
EACH 1.96	INCR	0.0001	16.70	0.00	13.60	4.10	2.00	3.55	3.55	0.39	0.00	0.08	0.00		0.00

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

567	23.600	9.73	2.38	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
568	23.500	9.73	2.38	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
569	23.400	9.73	2.38	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
570	23.300	9.73	2.38	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
571	23.200	9.73	2.38	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
572	23.100	9.73	2.38	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
573	23.000	9.73	2.38	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
20 DEG C RATE				0.06		0.00	1.72			0.04		0.00	0.00	0.00	0.00			0.00
0.04																		
AVG 20 DEG C RATE			2.55		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
509	29.400	16.70	0.00	30.70	12.32	6.74	6.96	7.10	1.29	0.39	0.46	2.15	0.00	0.90	0.00	0.00
2.49																
510	29.300	16.70	0.00	30.70	12.31	6.75	6.96	7.09	1.29	0.39	0.46	2.15	0.00	0.90	0.00	0.00
2.49																
511	29.200	16.70	0.00	30.69	12.31	6.75	6.96	7.09	1.29	0.39	0.46	2.15	0.00	0.90	0.00	0.00
2.49																
512	29.100	16.70	0.00	30.68	12.31	6.76	6.95	7.09	1.29	0.39	0.46	2.15	0.00	0.90	0.00	0.00
2.49																
513	29.000	16.70	0.00	30.67	12.30	6.77	6.95	7.08	1.29	0.39	0.46	2.15	0.00	0.90	0.00	0.00
2.49																
514	28.900	16.70	0.00	30.66	12.30	6.77	6.94	7.08	1.29	0.39	0.46	2.15	0.00	0.90	0.00	0.00
2.48																
515	28.800	16.70	0.00	30.65	12.29	6.78	6.94	7.07	1.29	0.39	0.46	2.15	0.00	0.90	0.00	0.00
2.48																
516	28.700	16.70	0.00	30.65	12.29	6.78	6.93	7.07	1.29	0.39	0.46	2.14	0.00	0.90	0.00	0.00
2.48																
517	28.600	16.70	0.00	30.64	12.29	6.79	6.93	7.06	1.29	0.39	0.46	2.14	0.00	0.90	0.00	0.00
2.48																
518	28.500	16.70	0.00	30.63	12.28	6.79	6.92	7.06	1.29	0.39	0.46	2.14	0.00	0.90	0.00	0.00
2.48																
519	28.400	16.70	0.00	30.62	12.28	6.80	6.92	7.05	1.29	0.39	0.46	2.14	0.00	0.90	0.00	0.00
2.48																
520	28.300	16.70	0.00	30.61	12.27	6.80	6.92	7.05	1.29	0.39	0.46	2.14	0.00	0.90	0.00	0.00

2.48																	
521	28.200	16.70	0.00	30.60	12.27	6.81	6.91	7.05	1.29	0.39	0.46	2.14	0.00	0.90	0.00	0.00	0.00
2.48																	
522	28.100	16.70	0.00	30.60	12.27	6.81	6.91	7.04	1.29	0.39	0.46	2.14	0.00	0.90	0.00	0.00	0.00
2.47																	
523	28.000	16.70	0.00	30.59	12.26	6.82	6.90	7.04	1.28	0.39	0.46	2.14	0.00	0.90	0.00	0.00	0.00
2.47																	
524	27.900	16.70	0.00	30.58	12.26	6.82	6.90	7.03	1.28	0.39	0.46	2.14	0.00	0.90	0.00	0.00	0.00
2.47																	
525	27.800	16.70	0.00	30.57	12.25	6.83	6.89	7.03	1.28	0.39	0.46	2.14	0.00	0.90	0.00	0.00	0.00
2.47																	
526	27.700	16.70	0.00	30.56	12.25	6.83	6.89	7.02	1.28	0.39	0.46	2.14	0.00	0.90	0.00	0.00	0.00
2.47																	
527	27.600	16.70	0.00	30.55	12.25	6.84	6.88	7.02	1.28	0.39	0.46	2.14	0.00	0.90	0.00	0.00	0.00
2.47																	
528	27.500	16.70	0.00	30.55	12.24	6.84	6.88	7.01	1.28	0.39	0.46	2.13	0.00	0.90	0.00	0.00	0.00
2.47																	
529	27.400	16.70	0.00	30.54	12.24	6.85	6.88	7.01	1.28	0.39	0.46	2.13	0.00	0.90	0.00	0.00	0.00
2.47																	
530	27.300	16.70	0.00	30.53	12.23	6.85	6.87	7.01	1.28	0.39	0.46	2.13	0.00	0.90	0.00	0.00	0.00
2.46																	
531	27.200	16.70	0.00	30.52	12.23	6.86	6.87	7.00	1.28	0.39	0.46	2.13	0.00	0.90	0.00	0.00	0.00
2.46																	
532	27.100	16.70	0.00	30.51	12.23	6.86	6.86	7.00	1.28	0.39	0.46	2.13	0.00	0.90	0.00	0.00	0.00
2.46																	
533	27.000	16.70	0.00	30.50	12.22	6.86	6.86	6.99	1.28	0.39	0.46	2.13	0.00	0.90	0.00	0.00	0.00
2.46																	
534	26.900	16.70	0.00	30.50	12.22	6.87	6.85	6.99	1.28	0.39	0.46	2.13	0.00	0.90	0.00	0.00	0.00
2.46																	
535	26.800	16.70	0.00	30.49	12.22	6.87	6.85	6.98	1.28	0.39	0.46	2.13	0.00	0.90	0.00	0.00	0.00
2.46																	
536	26.700	16.70	0.00	30.48	12.21	6.88	6.85	6.98	1.28	0.39	0.46	2.13	0.00	0.90	0.00	0.00	0.00
2.46																	
537	26.600	16.70	0.00	30.47	12.21	6.88	6.84	6.98	1.27	0.39	0.46	2.13	0.00	0.90	0.00	0.00	0.00
2.45																	
538	26.500	16.70	0.00	30.46	12.20	6.89	6.84	6.97	1.27	0.39	0.46	2.13	0.00	0.90	0.00	0.00	0.00
2.45																	
539	26.400	16.70	0.00	30.46	12.20	6.89	6.83	6.97	1.27	0.39	0.46	2.12	0.00	0.90	0.00	0.00	0.00
2.45																	
540	26.300	16.70	0.00	30.45	12.20	6.89	6.83	6.96	1.27	0.39	0.46	2.12	0.00	0.90	0.00	0.00	0.00
2.45																	
541	26.200	16.70	0.00	30.44	12.19	6.90	6.82	6.96	1.27	0.39	0.46	2.12	0.00	0.90	0.00	0.00	0.00
2.45																	
542	26.100	16.70	0.00	30.43	12.19	6.90	6.82	6.95	1.27	0.39	0.46	2.12	0.00	0.90	0.00	0.00	0.00
2.45																	
543	26.000	16.70	0.00	30.42	12.18	6.91	6.82	6.95	1.27	0.39	0.46	2.12	0.00	0.90	0.00	0.00	0.00
2.45																	
544	25.900	16.70	0.00	30.41	12.18	6.91	6.81	6.95	1.27	0.39	0.46	2.12	0.00	0.90	0.00	0.00	0.00
2.45																	
545	25.800	16.70	0.00	30.41	12.18	6.91	6.81	6.94	1.27	0.39	0.46	2.12	0.00	0.90	0.00	0.00	0.00
2.44																	
546	25.700	16.70	0.00	30.40	12.17	6.92	6.80	6.94	1.27	0.39	0.46	2.12	0.00	0.90	0.00	0.00	0.00
2.44																	
547	25.600	16.70	0.00	30.39	12.17	6.92	6.80	6.93	1.27	0.39	0.46	2.12	0.00	0.90	0.00	0.00	0.00

579	22.400	9.73	2.37	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
580	22.300	9.73	2.37	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
581	22.200	9.73	2.37	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
582	22.100	9.73	2.37	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
583	22.000	9.73	2.37	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
584	21.900	9.73	2.37	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
585	21.800	9.73	2.37	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
586	21.700	9.73	2.37	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
587	21.600	9.73	2.37	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
588	21.500	9.73	2.37	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
589	21.400	9.73	2.37	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
590	21.300	9.73	2.37	0.05	0.09	0.00	1.40	1.40	1.40	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
20	DEG C RATE			0.06		0.00	1.72			0.04		0.00	0.00	0.00	0.00			0.00
0.04																		
AVG	20 DEG C RATE		2.54		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
575	22.800	16.70	0.00	29.65	11.81	6.85	6.59	6.72	1.24	0.38	0.44	2.06	0.00	0.90	0.00	0.00
2.40																
576	22.700	16.70	0.00	29.62	11.80	6.85	6.58	6.72	1.24	0.38	0.44	2.06	0.00	0.90	0.00	0.00
2.40																
577	22.600	16.70	0.00	29.59	11.78	6.85	6.58	6.71	1.24	0.38	0.44	2.05	0.00	0.90	0.00	0.00
2.40																
578	22.500	16.70	0.00	29.56	11.77	6.85	6.57	6.71	1.23	0.38	0.44	2.05	0.00	0.90	0.00	0.00
2.40																
579	22.400	16.70	0.00	29.53	11.76	6.84	6.57	6.70	1.23	0.38	0.44	2.05	0.00	0.90	0.00	0.00
2.41																
580	22.300	16.70	0.00	29.50	11.74	6.84	6.56	6.70	1.23	0.38	0.44	2.05	0.00	0.90	0.00	0.00
2.41																
581	22.200	16.70	0.00	29.47	11.73	6.84	6.56	6.69	1.23	0.38	0.43	2.05	0.00	0.90	0.00	0.00

2.41																	
582	22.100	16.70	0.00	29.44	11.71	6.84	6.55	6.69	1.23	0.38	0.43	2.04	0.00	0.90	0.00	0.00	
2.41																	
583	22.000	16.70	0.00	29.41	11.70	6.84	6.55	6.68	1.23	0.38	0.43	2.04	0.00	0.90	0.00	0.00	
2.41																	
584	21.900	16.70	0.00	29.38	11.68	6.83	6.54	6.68	1.23	0.38	0.43	2.04	0.00	0.90	0.00	0.00	
2.42																	
585	21.800	16.70	0.00	29.36	11.67	6.83	6.54	6.67	1.23	0.38	0.43	2.04	0.00	0.90	0.00	0.00	
2.42																	
586	21.700	16.70	0.00	29.33	11.66	6.83	6.54	6.67	1.23	0.38	0.43	2.03	0.00	0.90	0.00	0.00	
2.42																	
587	21.600	16.70	0.00	29.30	11.64	6.83	6.53	6.67	1.22	0.38	0.43	2.03	0.00	0.90	0.00	0.00	
2.42																	
588	21.500	16.70	0.00	29.27	11.63	6.82	6.53	6.66	1.22	0.38	0.43	2.03	0.00	0.90	0.00	0.00	
2.42																	
589	21.400	16.70	0.00	29.24	11.62	6.82	6.52	6.66	1.22	0.38	0.43	2.03	0.00	0.90	0.00	0.00	
2.42																	
590	21.300	16.70	0.00	29.21	11.60	6.82	6.52	6.65	1.22	0.38	0.43	2.02	0.00	0.90	0.00	0.00	
2.43																	

* CM-I = CHLORIDES MG/L
 ** g/m³
 CM-II = SULFATES MG/L
 NCM = CBOD2 mg/L

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
 REACH NO. 18 UNNAMED CR - SITE 12 BARNES CREEK WINTER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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
591	UPR RCH	0.27010	16.70	0.00	29.21	11.60	6.82	6.52	6.65	1.22	0.38	0.43	0.00	0.90	0.00
2.43 EACH	INCR	0.0002	16.70	0.00	13.60	4.10	2.00	3.55	3.55	0.39	0.00	0.08	0.00		0.00
1.96															

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

ELEM MEAN NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
591	21.30	21.20	0.27029	47.01	0.23810	0.00	0.28	4.11	113.52	411.35	1.14	0.00	0.000	0.041

0.238														
592	21.20	21.10	0.27049	46.97	0.23825	0.00	0.28	4.11	113.53	411.35	1.14	0.00	0.000	0.041
0.238														
593	21.10	21.00	0.27068	46.94	0.23841	0.00	0.28	4.11	113.53	411.36	1.14	0.00	0.000	0.041
0.238														
594	21.00	20.90	0.27087	46.91	0.23857	0.00	0.28	4.11	113.54	411.36	1.14	0.00	0.000	0.041
0.239														
595	20.90	20.80	0.27106	46.87	0.23872	0.00	0.28	4.11	113.55	411.37	1.14	0.00	0.000	0.041
0.239														
596	20.80	20.70	0.27126	46.84	0.23888	0.00	0.28	4.11	113.55	411.37	1.14	0.00	0.000	0.041
0.239														
597	20.70	20.60	0.27145	46.81	0.23904	0.00	0.28	4.11	113.56	411.37	1.14	0.00	0.000	0.041
0.239														
598	20.60	20.50	0.27164	46.77	0.23920	0.00	0.28	4.11	113.56	411.38	1.14	0.00	0.000	0.041
0.239														
599	20.50	20.40	0.27183	46.74	0.23935	0.00	0.28	4.11	113.57	411.38	1.14	0.00	0.000	0.041
0.239														
600	20.40	20.30	0.27203	46.71	0.23951	0.00	0.28	4.11	113.58	411.39	1.14	0.00	0.000	0.041
0.240														
601	20.30	20.20	0.27222	46.67	0.23967	0.00	0.28	4.11	113.58	411.39	1.14	0.00	0.000	0.041
0.240														
602	20.20	20.10	0.27241	46.64	0.23983	0.00	0.28	4.11	113.59	411.40	1.14	0.00	0.000	0.041
0.240														
603	20.10	20.00	0.27260	46.61	0.23998	0.00	0.28	4.11	113.59	411.40	1.14	0.00	0.000	0.041
0.240														
604	20.00	19.90	0.27280	46.58	0.24014	0.00	0.28	4.11	113.60	411.40	1.14	0.00	0.000	0.041
0.240														
605	19.90	19.80	0.27299	46.54	0.24030	0.00	0.28	4.11	113.60	411.41	1.14	0.00	0.000	0.041
0.240														
606	19.80	19.70	0.27318	46.51	0.24045	0.00	0.28	4.11	113.61	411.41	1.14	0.00	0.000	0.041
0.240														
607	19.70	19.60	0.27338	46.48	0.24061	0.00	0.28	4.11	113.62	411.42	1.14	0.00	0.000	0.041
0.241														
608	19.60	19.50	0.27357	46.44	0.24077	0.00	0.28	4.11	113.62	411.42	1.14	0.00	0.000	0.041
0.241														
609	19.50	19.40	0.27376	46.41	0.24093	0.00	0.28	4.11	113.63	411.43	1.14	0.00	0.000	0.041
0.241														
610	19.40	19.30	0.27395	46.38	0.24108	0.00	0.28	4.11	113.63	411.43	1.14	0.00	0.000	0.041
0.241														
611	19.30	19.20	0.27415	46.35	0.24124	0.00	0.28	4.11	113.64	411.44	1.14	0.00	0.000	0.041
0.241														
612	19.20	19.10	0.27434	46.31	0.24140	0.00	0.28	4.11	113.65	411.44	1.14	0.00	0.000	0.041
0.241														
613	19.10	19.00	0.27453	46.28	0.24156	0.00	0.28	4.11	113.65	411.44	1.14	0.00	0.000	0.041
0.242														
614	19.00	18.90	0.27472	46.25	0.24171	0.00	0.28	4.11	113.66	411.45	1.14	0.00	0.000	0.041
0.242														
615	18.90	18.80	0.27492	46.22	0.24187	0.00	0.28	4.11	113.66	411.45	1.14	0.00	0.000	0.041
0.242														
616	18.80	18.70	0.27511	46.18	0.24203	0.00	0.28	4.11	113.67	411.46	1.14	0.00	0.000	0.041
0.242														
617	18.70	18.60	0.27530	46.15	0.24218	0.00	0.28	4.11	113.67	411.46	1.14	0.00	0.000	0.041
0.242														
618	18.60	18.50	0.27549	46.12	0.24234	0.00	0.28	4.11	113.68	411.47	1.14	0.00	0.000	0.042

0.242																		
619	18.50	18.40	0.27569	46.09	0.24250	0.00	0.28	4.11	113.69	411.47	1.14	0.00	0.000	0.042				
0.242																		
620	18.40	18.30	0.27588	46.06	0.24266	0.00	0.28	4.11	113.69	411.47	1.14	0.00	0.000	0.042				
0.243																		
621	18.30	18.20	0.27607	46.02	0.24281	0.00	0.28	4.11	113.70	411.48	1.14	0.00	0.000	0.042				
0.243																		
622	18.20	18.10	0.27627	45.99	0.24297	0.00	0.28	4.11	113.70	411.48	1.14	0.00	0.000	0.042				
0.243																		
623	18.10	18.00	0.27646	45.96	0.24313	0.00	0.28	4.11	113.71	411.49	1.14	0.00	0.000	0.042				
0.243																		
624	18.00	17.90	0.27665	45.93	0.24328	0.00	0.28	4.11	113.72	411.49	1.14	0.00	0.000	0.042				
0.243																		
625	17.90	17.80	0.27684	45.90	0.24344	0.00	0.28	4.11	113.72	411.50	1.14	0.00	0.000	0.042				
0.243																		
626	17.80	17.70	0.27704	45.86	0.24360	0.00	0.28	4.11	113.73	411.50	1.14	0.00	0.000	0.042				
0.244																		
627	17.70	17.60	0.27723	45.83	0.24375	0.00	0.28	4.12	113.73	411.50	1.14	0.00	0.000	0.042				
0.244																		
628	17.60	17.50	0.27742	45.80	0.24391	0.00	0.28	4.12	113.74	411.51	1.14	0.00	0.000	0.042				
0.244																		
629	17.50	17.40	0.27761	45.77	0.24407	0.00	0.28	4.12	113.74	411.51	1.14	0.00	0.000	0.042				
0.244																		
630	17.40	17.30	0.27781	45.74	0.24423	0.00	0.28	4.12	113.75	411.52	1.14	0.00	0.000	0.042				
0.244																		
631	17.30	17.20	0.27800	45.70	0.24438	0.00	0.28	4.12	113.76	411.52	1.14	0.00	0.000	0.042				
0.244																		
TOT																		
AVG					0.24123		0.20			4659.23		16868.83						
CUM							5.87	0.28	4.11					1.14				

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
591	21.200	9.73	2.37	0.05	0.09	0.00	1.26	1.26	1.26	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
592	21.100	9.73	2.37	0.05	0.09	0.00	1.26	1.26	1.26	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
593	21.000	9.73	2.37	0.05	0.09	0.00	1.26	1.26	1.26	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
594	20.900	9.73	2.37	0.05	0.09	0.00	1.26	1.26	1.26	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
595	20.800	9.73	2.37	0.05	0.09	0.00	1.26	1.26	1.26	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
596	20.700	9.73	2.37	0.05	0.09	0.00	1.26	1.26	1.26	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00

695	10.800	9.73	2.28	0.06	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
696	10.700	9.73	2.28	0.06	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
697	10.600	9.73	2.28	0.06	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
698	10.500	9.73	2.28	0.06	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
699	10.400	9.73	2.28	0.06	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
700	10.300	9.73	2.28	0.06	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
701	10.200	9.73	2.28	0.06	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
702	10.100	9.73	2.28	0.06	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
20	DEG C RATE				0.07		0.00	1.99		0.02		0.00	0.00	0.00	0.00			0.00
0.02																		
AVG	20 DEG C RATE			2.44		0.10					0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
632	17.100	16.70	0.00	28.77	11.39	7.01	6.39	6.53	1.20	0.37	0.42	1.99	0.00	0.90	0.00	0.00
2.43																
633	17.000	16.70	0.00	28.77	11.39	7.01	6.39	6.53	1.20	0.37	0.42	1.99	0.00	0.90	0.00	0.00
2.43																
634	16.900	16.70	0.00	28.77	11.39	7.01	6.39	6.53	1.20	0.37	0.42	1.99	0.00	0.90	0.00	0.00
2.43																
635	16.800	16.70	0.00	28.77	11.39	7.01	6.39	6.53	1.20	0.37	0.42	1.99	0.00	0.90	0.00	0.00
2.43																
636	16.700	16.70	0.00	28.77	11.39	7.01	6.39	6.53	1.20	0.37	0.42	1.99	0.00	0.90	0.00	0.00
2.43																
637	16.600	16.70	0.00	28.77	11.39	7.01	6.39	6.52	1.20	0.37	0.42	1.99	0.00	0.90	0.00	0.00
2.43																
638	16.500	16.70	0.00	28.77	11.39	7.01	6.39	6.52	1.20	0.37	0.42	1.99	0.00	0.90	0.00	0.00
2.43																
639	16.400	16.70	0.00	28.77	11.39	7.02	6.39	6.52	1.20	0.37	0.42	1.99	0.00	0.90	0.00	0.00
2.43																
640	16.300	16.70	0.00	28.77	11.39	7.02	6.39	6.52	1.20	0.37	0.42	1.99	0.00	0.90	0.00	0.00
2.43																
641	16.200	16.70	0.00	28.77	11.39	7.02	6.38	6.52	1.20	0.37	0.42	1.99	0.00	0.90	0.00	0.00
2.43																
642	16.100	16.70	0.00	28.77	11.39	7.02	6.38	6.52	1.20	0.37	0.42	1.99	0.00	0.90	0.00	0.00

2.39	697	10.600	16.70	0.00	28.77	11.39	7.05	6.32	6.46	1.19	0.38	0.42	1.99	0.00	0.90	0.00	0.00
2.38	698	10.500	16.70	0.00	28.77	11.39	7.05	6.32	6.45	1.19	0.38	0.42	1.99	0.00	0.90	0.00	0.00
2.38	699	10.400	16.70	0.00	28.77	11.39	7.06	6.32	6.45	1.19	0.38	0.42	1.99	0.00	0.90	0.00	0.00
2.38	700	10.300	16.70	0.00	28.77	11.39	7.06	6.32	6.45	1.19	0.38	0.42	1.99	0.00	0.90	0.00	0.00
2.38	701	10.200	16.70	0.00	28.77	11.39	7.06	6.32	6.45	1.19	0.38	0.42	1.99	0.00	0.90	0.00	0.00
2.38	702	10.100	16.70	0.00	28.76	11.39	7.06	6.31	6.45	1.19	0.38	0.42	1.99	0.00	0.90	0.00	0.00
2.38																	

* CM-I = CHLORIDES MG/L CM-II = SULFATES MG/L NCM = CBOD2 mg/L
 ** g/m³

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
 REACH NO. 20 CLEAR CR - BEAR CR BARNES CREEK WINTER 3.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m³/	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
703	UPR RCH	0.27800	16.70	0.00	28.76	11.39	7.06	6.31	6.45	1.19	0.38	0.42	0.00	0.90	0.00
703	WSTLD	0.02800	16.70	0.00	5.50	1.30	8.50	5.55	5.55	0.75	0.00	0.06	0.00	4.30	0.00

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

ELEM MEAN NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s
703	10.10	10.00	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
704	10.00	9.90	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
705	9.90	9.80	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
706	9.80	9.70	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030

723	8.000	16.70	0.00	26.64	10.47	7.06	6.22	6.36	1.15	0.35	0.38	1.88	0.00	0.90	0.00	0.00
2.48																
724	7.900	16.70	0.00	26.64	10.47	7.06	6.22	6.36	1.15	0.35	0.38	1.88	0.00	0.90	0.00	0.00
2.48																
725	7.800	16.70	0.00	26.64	10.47	7.05	6.22	6.36	1.15	0.35	0.38	1.88	0.00	0.90	0.00	0.00
2.48																
726	7.700	16.70	0.00	26.64	10.47	7.05	6.22	6.36	1.15	0.35	0.38	1.88	0.00	0.90	0.00	0.00
2.48																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 21 BEAR CR - SITE 13

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 3.0 MG/L RUN

***** REACH INPUTS

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
727 2.48	UPR RCH	0.30600	16.70	0.00	26.64	10.47	7.05	6.22	6.36	1.15	0.35	0.38	0.00	0.90	0.00

***** HYDRAULIC PARAMETER VALUES

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
727 0.171	7.70	7.60	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
728 0.171	7.60	7.50	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
729 0.171	7.50	7.40	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
730 0.171	7.40	7.30	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
731 0.171	7.30	7.20	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
732 0.171	7.20	7.10	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
733 0.171	7.10	7.00	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030

735	6.800	9.73	2.27	0.06	0.09	0.00	1.84	1.84	1.84	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.02	0.05																	
736	6.700	9.73	2.27	0.06	0.09	0.00	1.84	1.84	1.84	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.02	0.05																	
737	6.600	9.73	2.27	0.06	0.09	0.00	1.84	1.84	1.84	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.02	0.05																	
738	6.500	9.73	2.27	0.06	0.09	0.00	1.84	1.84	1.84	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.02	0.05																	
739	6.400	9.73	2.27	0.06	0.09	0.00	1.84	1.84	1.84	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.02	0.05																	
740	6.300	9.73	2.27	0.06	0.09	0.00	1.84	1.84	1.84	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.02	0.05																	
741	6.200	9.73	2.27	0.06	0.09	0.00	1.84	1.84	1.84	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.02	0.05																	
742	6.100	9.73	2.27	0.06	0.09	0.00	1.84	1.84	1.84	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.02	0.05																	
743	6.000	9.73	2.27	0.06	0.09	0.00	1.84	1.84	1.84	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.02	0.05																	
744	5.900	9.73	2.27	0.06	0.09	0.00	1.84	1.84	1.84	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.02	0.05																	
20 DEG C RATE				0.07		0.00	2.27			0.02		0.00	0.00	0.00	0.00			0.00
0.02																		
AVG 20 DEG C RATE			2.43		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
727	7.600	16.70	0.00	26.64	10.47	7.04	6.22	6.36	1.15	0.35	0.38	1.88	0.00	0.96	0.00	0.00
2.48																
728	7.500	16.70	0.00	26.64	10.47	7.04	6.22	6.37	1.15	0.35	0.38	1.88	0.00	1.01	0.00	0.00
2.48																
729	7.400	16.70	0.00	26.64	10.47	7.03	6.21	6.37	1.15	0.35	0.38	1.89	0.00	1.07	0.00	0.00
2.48																
730	7.300	16.70	0.00	26.64	10.47	7.03	6.21	6.38	1.15	0.35	0.38	1.89	0.00	1.12	0.00	0.00
2.48																
731	7.200	16.70	0.00	26.64	10.47	7.03	6.21	6.39	1.15	0.35	0.38	1.89	0.00	1.18	0.00	0.00
2.48																
732	7.100	16.70	0.00	26.64	10.47	7.02	6.21	6.39	1.15	0.35	0.38	1.89	0.00	1.23	0.00	0.00
2.48																
733	7.000	16.70	0.00	26.64	10.47	7.02	6.21	6.40	1.15	0.35	0.38	1.89	0.00	1.29	0.00	0.00
2.47																
734	6.900	16.70	0.00	26.64	10.47	7.01	6.20	6.41	1.15	0.35	0.38	1.89	0.00	1.34	0.00	0.00
2.47																
735	6.800	16.70	0.00	26.64	10.47	7.01	6.20	6.41	1.15	0.35	0.38	1.89	0.00	1.40	0.00	0.00

2.47																	
736	6.700	16.70	0.00	26.64	10.47	7.00	6.20	6.42	1.15	0.35	0.38	1.89	0.00	1.46	0.00	0.00	
2.47																	
737	6.600	16.70	0.00	26.64	10.47	7.00	6.20	6.42	1.15	0.35	0.38	1.89	0.00	1.51	0.00	0.00	
2.47																	
738	6.500	16.70	0.00	26.64	10.47	7.00	6.20	6.43	1.15	0.35	0.38	1.89	0.00	1.57	0.00	0.00	
2.47																	
739	6.400	16.70	0.00	26.64	10.47	6.99	6.19	6.44	1.15	0.35	0.38	1.89	0.00	1.62	0.00	0.00	
2.47																	
740	6.300	16.70	0.00	26.64	10.47	6.99	6.19	6.44	1.15	0.35	0.38	1.89	0.00	1.68	0.00	0.00	
2.47																	
741	6.200	16.70	0.00	26.64	10.47	6.99	6.19	6.45	1.15	0.35	0.38	1.89	0.00	1.73	0.00	0.00	
2.47																	
742	6.100	16.70	0.00	26.64	10.47	6.98	6.19	6.46	1.15	0.35	0.38	1.89	0.00	1.79	0.00	0.00	
2.46																	
743	6.000	16.70	0.00	26.64	10.47	6.98	6.18	6.46	1.15	0.35	0.38	1.89	0.00	1.84	0.00	0.00	
2.46																	
744	5.900	16.70	0.00	26.64	10.47	6.98	6.18	6.47	1.15	0.35	0.38	1.89	0.00	1.90	0.00	0.00	
2.46																	

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 22 SITE 13 - CALCASIEU RIVER

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 3.0 MG/L RUN

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

ELEM NCM NO. *	TYPE	FLOW m³/	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
745	UPR RCH	0.30600	16.70	0.00	26.64	10.47	6.98	6.18	6.47	1.15	0.35	0.38	0.00	1.90	0.00

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m³/	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s
745	5.90	5.80	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005														
746	5.80	5.70	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006

0.005	801	0.30	0.20	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005	802	0.20	0.10	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005	803	0.10	0.00	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005	TOT						12.64			334207.41	141135.89				
	AVG					0.00540		2.37	23.92			56.65			
	CUM						19.33								

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI
NCM	NCM																	
NO.	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY
DECAY	SETT						*	*	*				*		*	**	**	
1/da	1/da	mg/L	1/da	1/da	1/da	1/da				1/da	1/da	1/da		1/da				1/da
745	5.800	9.73	0.28	0.05	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
746	5.700	9.73	0.28	0.05	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
747	5.600	9.73	0.28	0.05	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
748	5.500	9.73	0.28	0.05	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
749	5.400	9.73	0.28	0.05	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.03	0.05																	
750	5.300	9.73	0.28	0.05	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.03	0.05																	
751	5.200	9.73	0.28	0.05	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.03	0.05																	
752	5.100	9.73	0.28	0.05	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.03	0.05																	
753	5.000	9.73	0.28	0.05	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.03	0.05																	
754	4.900	9.73	0.28	0.05	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.03	0.05																	
755	4.800	9.73	0.28	0.05	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.03	0.05																	
756	4.700	9.73	0.28	0.05	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.03	0.05																	
757	4.600	9.73	0.28	0.05	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.05																	
758	4.500	9.73	0.28	0.05	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.05																	
759	4.400	9.73	0.28	0.05	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.05																	
760	4.300	9.73	0.28	0.05	0.09	0.00	1.62	1.62	1.62	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00

801	0.200	16.70	0.00	26.64	10.47	6.12	5.01	5.02	0.95	0.64	0.37	1.96	0.00	0.06	0.00	0.00
2.70																
802	0.100	16.70	0.00	26.64	10.47	6.12	5.01	5.01	0.94	0.65	0.37	1.96	0.00	0.03	0.00	0.00
2.70																
803	0.000	16.70	0.00	26.64	10.47	6.12	5.01	5.01	0.94	0.65	0.37	1.96	0.00	0.00	0.00	0.00
2.70																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

STREAM SUMMARY
HEADWATER

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 3.0 MG/L RUN

TRAVEL TIME	=	19.33	DAYS
MAXIMUM EFFLUENT	=	58.93	PERCENT
FLOW	=	0.11560	TO 0.30600 m ³ /s
DISPERSION	=	0.0055	TO 0.0482 m ² /s
VELOCITY	=	0.00540	TO 0.28291 m/s
DEPTH	=	0.17	TO 2.37 m
WIDTH	=	3.16	TO 23.92 m
BOD DECAY	=	0.04	TO 0.16 per day
NH3 DECAY	=	0.00	TO 0.00 per day
SDMNT OXYGEN DMND	=	1.06	TO 1.84 g/m ² /d
NH3 SOURCE	=	0.00	TO 0.00 g/m ² /d
REAERATION	=	0.28	TO 3.92 per day
BOD SETTLING	=	0.09	TO 0.10 per day
ORGN DECAY	=	0.02	TO 0.11 per day
ORGN SETTLING	=	0.05	TO 0.19 per day
TEMPERATURE	=	16.70	TO 18.10 deg C
DISSOLVED OXYGEN	=	6.12	TO 8.47 mg/L

.....EXECUTION COMPLETED

APPENDIX B11 - Proposed 3.0 winter projection justifications

APPENDIX B12 - Proposed 3.0 winter loading calculations

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 3, Program Constants

Description of Constant	Value	Result	Source/Justification
Maximum iteration limit	1000.0		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.
Settled rate units.	2.0	Sets the settled rate to a velocity (m/day).	By making the settling rate a velocity the rate becomes dependent upon the depth.
K2 Max	25.0	Max K2 at 20 C allowed for any computational element	EPA Policy in the absence of a measured value.
Effective BOD due to algae	0.2		
NCM Oxygen Uptake	1.0	Oxygen Uptake Rate per Unit of NBOD decay.	Standard LA modeling procedure

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 9, Advective Hydraulic Coefficients					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	2.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.1	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream
2	Site 2 to Site 3	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	2.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.1	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream
3	Site 3 to Little Barnes Creek	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.10	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.31	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream
4	Little Barnes Creek to Redhead Branch	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.27	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
5	Redhead Branch to Site 6	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.27	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
6	Site 6 to Little Caney Creek	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.45	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
7	Little Caney Creek to dam	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.45	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
8	dam to Caney Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	8.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.38	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
9	Caney Creek to Hurricane Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.33	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
10	Hurricane Creek to Site 10	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.33	Zero flow cross section
		Mannings - N	Unitless	0.27	Value determined by considering sluggish stream.
11	Site 10 to Magnolia Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	4.08	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
12	Magnolia Creek to Brushy Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
13	Brushy Creek to Righthand Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
14	Righthand Creek to Site 11	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
15	Site 11 to Boggy Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 9, Advective Hydraulic Coefficients					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.2	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
16	Boggy Creek to Wolf Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	4.08	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.2	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
17	Wolf Creek to Unnamed Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.2	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
18	Unnamed Creek to Site 12	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	4.08	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.2	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
19	Site 12 to Clear Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	6.10	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.21	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
20	Clear Creek to Bear Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	6.10	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.21	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
21	Bear Creek to Site 13	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	6.10	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.21	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
22	Site 13 to Calcasieu River	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	23.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	2.29	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 11, INITIAL CONDITIONS

Reach #	REACH DESCRIPTION	Initial Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2
		Chlorophyll a	mg/l	2.6	Site 2
2	Site 2 to Site 3	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2
		Chlorophyll a	mg/l	2.6	Site 2
3	Site 3 to Little Barnes Creek	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 3
		Nitrate Nitrite	mg/l	0.37	Site 3
		Chlorophyll a	mg/l	2	Site 3
4	Little Barnes Creek to Redhead Branch	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 4
		Nitrate Nitrite	mg/l	0.09	Site 4
		Chlorophyll a	mg/l	1.9	Site 4
5	Redhead Branch to Site 6	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 4
		Nitrate Nitrite	mg/l	0.09	Site 4
		Chlorophyll a	mg/l	1.9	Site 4
6	Site 6 to Little Caney Creek	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 6
		Nitrate Nitrite	mg/l	0.1	Site 6
		Chlorophyll a	mg/l	6.1	Site 6
7	Little Caney Creek to dam	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 6
		Nitrate Nitrite	mg/l	0.1	Site 6
		Chlorophyll a	mg/l	6.1	Site 6
8	dam to Caney Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 7
		Nitrate Nitrite	mg/l	0.07	Site 7
		Chlorophyll a	mg/l	1	Site 7
9	Caney Creek to Hurricane Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 8
		Nitrate Nitrite	mg/l	0.09	Site 8
		Chlorophyll a	mg/l	0.6	Site 8

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 11, INITIAL CONDITIONS

Reach #	REACH DESCRIPTION	Initial Parameter	Units	Value	Source/Justification
10	Hurricane Creek to Site 10	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 8
		Nitrate Nitrite	mg/l	0.09	Site 8
		Chlorophyll a	mg/l	0.6	Site 8
11	Site 10 to Magnolia Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
12	Magnolia Creek to Brushy Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
13	Brushy Creek to Righthand Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
14	Righthand Creek to Site 11	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
15	Site 11 to Boggy Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
16	Boggy Creek to Wolf Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
17	Wolf Creek to Unnamed Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
18	Unnamed Creek to Site 12	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 11, INITIAL CONDITIONS

Reach #	REACH DESCRIPTION	Initial Parameter	Units	Value	Source/Justification
19	Site 12 to Clear Creek	Temperature	°Celcius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
20	Clear Creek to Bear Creek	Temperature	°Celcius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
21	Bear Creek to Site 13	Temperature	°Celcius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
22	Site 13 to Calcasieu River	Temperature	°Celcius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 13
		Nitrate Nitrite	mg/l	0.06	Site 13
		Chlorophyll a	mg/l	1.9	Site 13

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 12, Reaeration, Sediment Oxygen Demand and BOD Coeff.

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.51	45% Reduction
		Aerobic BOD decay	1/day	0.18	Bottle Rate for Site 2
		BOD Settling rate	m/day	0.1	Calibration
2	Site 2 to Site 3	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.24	45% Reduction
		Aerobic BOD decay	1/day	0.18	Bottle Rate for Site 2
		BOD Settling rate	m/day	0.1	Calibration
3	Site 3 to Little Barnes Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.24	45% Reduction
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 3
		BOD Settling rate	m/day	0.1	Calibration
4	Little Barnes Creek to Redhead Branch	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.72	45% Reduction
		Aerobic BOD decay	1/day	0.1	Bottle Rate for Site 4
		BOD Settling rate	m/day	0.1	Calibration
5	Redhead Branch to Site 6	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.86	45% Reduction
		Aerobic BOD decay	1/day	0.1	Bottle Rate for Site 4
		BOD Settling rate	m/day	0.1	Calibration
6	Site 6 to Little Caney Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.38	45% Reduction
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 6
		BOD Settling rate	m/day	0.1	Calibration
7	Little Caney Creek to dam	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.31	45% Reduction
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 6
		BOD Settling rate	m/day	0.1	Calibration

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 12, Reaeration, Sediment Oxygen Demand and BOD Coeff.

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
8	dam to Caney Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.72	45% Reduction
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 7
		BOD Settling rate	m/day	0.1	Calibration
9	Caney Creek to Hurricane Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.06	45% Reduction
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 8
		BOD Settling rate	m/day	0.1	Calibration
10	Hurricane Creek to Site 10	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.06	45% Reduction
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 8
		BOD Settling rate	m/day	0.1	Calibration
11	Site 10 to Magnolia Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.06	45% Reduction
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
12	Magnolia Creek to Brushy Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.06	45% Reduction
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
13	Brushy Creek to Righthand Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.06	45% Reduction
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
14	Righthand Creek to Site 11	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.79	45% Reduction
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
15	Site 11 to Boggy Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.72	45% Reduction
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
16	Boggy Creek to Wolf Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 12, Reaeration, Sediment Oxygen Demand and BOD Coeff.

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
		Background SOD	g/m ² -day	1.72	45% Reduction
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
17	Wolf Creek to Unnamed Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.72	45% Reduction
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
18	Unnamed Creek to Site 12	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.55	45% Reduction
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
19	Site 12 to Clear Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.99	45% Reduction
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
20	Clear Creek to Bear Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.27	45% Reduction
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
21	Bear Creek to Site 13	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.27	45% Reduction
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
22	Site 13 to Calcasieu River	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.99	45% Reduction
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 13
		BOD Settling rate	m/day	0.1	Calibration

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 13, Nitrogen and Phosphorus

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 2
		Org-N Settling rate	m/day	0.20	Calibration
2	Site 2 to Site 3	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 2
		Org-N Settling rate	m/day	0.2	Calibration
3	Site 3 to Little Barnes Creek	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 3
		Org-N Settling rate	m/day	0.2	Calibration
4	Little Barnes Creek to Redhead Branch	Org-N Decay	1/day	0.05	NBOD Bottle Rate Site 4
		Org-N Settling rate	m/day	0.05	Calibration
5	Redhead Branch to Site 6	Org-N Decay	1/day	0.05	NBOD Bottle Rate Site 4
		Org-N Settling rate	m/day	0.05	Calibration
6	Site 6 to Little Caney Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 6
		Org-N Settling rate	m/day	0.05	Calibration
7	Little Caney Creek to dam	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 6
		Org-N Settling rate	m/day	0.05	Calibration
8	dam to Caney Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 7
		Org-N Settling rate	m/day	0.05	Calibration
9	Caney Creek to Hurricane Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 8
		Org-N Settling rate	m/day	0.05	Calibration
10	Hurricane Creek to Site 10	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 8
		Org-N Settling rate	m/day	0.05	Calibration
11	Site 10 to Magnolia Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
12	Magnolia Creek to Brushy Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
13	Brushy Creek to Righthand Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
14	Righthand Creek to Site 11	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
15	Site 11 to Boggy Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
16	Boggy Creek to Wolf Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
17	Wolf Creek to Unnamed Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
18	Unnamed Creek to Site 12	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
19	Site 12 to Clear Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
20	Clear Creek to Bear Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
21	Bear Creek to Site 13	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
22	Site 13 to Calcasieu River	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 13
		Org-N Settling rate	m/day	0.05	Calibration

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 15, Coliform and Nonconservative Coefficients

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	NCM Decay	1/day	0.13	Bottle Rate Site 2
		NCM Settling Rate	m/day	0.05	Calibration
2	Site 2 to Site 3	NCM Decay	1/day	0.13	Bottle Rate Site 2
		NCM Settling Rate	m/day	0.05	Calibration
3	Site 3 to Little Barnes Creek	NCM Decay	1/day	0.13	Bottle Rate Site 3
		NCM Settling Rate	m/day	0.05	Calibration
4	Little Barnes Creek to Redhead Branch	NCM Decay	1/day	0.05	Bottle Rate Site 4
		NCM Settling Rate	m/day	0.05	Calibration
5	Redhead Branch to Site 6	NCM Decay	1/day	0.05	Bottle Rate Site 4
		NCM Settling Rate	m/day	0.05	Calibration
6	Site 6 to Little Caney Creek	NCM Decay	1/day	0.04	Bottle Rate Site 6
		NCM Settling Rate	m/day	0.05	Calibration
7	Little Caney Creek to dam	NCM Decay	1/day	0.04	Bottle Rate Site 6
		NCM Settling Rate	m/day	0.05	Calibration
8	dam to Caney Creek	NCM Decay	1/day	0.02	Bottle Rate Site 7
		NCM Settling Rate	m/day	0.05	Calibration
9	Caney Creek to Hurricane Creek	NCM Decay	1/day	0.03	Bottle Rate Site 8
		NCM Settling Rate	m/day	0.05	Calibration
10	Hurricane Creek to Site 10	NCM Decay	1/day	0.03	Bottle Rate Site 8
		NCM Settling Rate	m/day	0.05	Calibration
11	Site 10 to Magnolia Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
12	Magnolia Creek to Brushy Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
13	Brushy Creek to Righthand Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
14	Righthand Creek to Site 11	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
15	Site 11 to Boggy Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
16	Boggy Creek to Wolf Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
17	Wolf Creek to Unnamed Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
18	Unnamed Creek to Site 12	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
19	Site 12 to Clear Creek	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
20	Clear Creek to Bear Creek	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 15, Coliform and Nonconservative Coefficients					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
21	Bear Creek to Site 13	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
22	Site 13 to Calcasieu River	NCM Decay	1/day	0.03	Bottle Rate Site 13
		NCM Settling Rate	m/day	0.05	Calibration

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 16, Incremental Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Incremental Outflow	m ³ /s	-0.0272	
		Incremental Inflow	m ³ /s		
		Temperature	°Celsius	26	90th percentile Temperature from Ambient Site 0837
		Salinity	ppt		
		Conservative Matl. I	mg/l	33.9	Site 2
		Conservative Matl. II	mg/l	12.4	Site 2
3	Site 3 to Little Barnes Creek	Incremental Outflow	m ³ /s	-0.0204	
		Incremental Inflow	m ³ /s		
		Temperature	°Celsius	26	90th percentile Temperature from Ambient Site 0837
		Salinity	ppt		
		Conservative Matl. I	mg/l	33.6	Site 3
		Conservative Matl. II	mg/l	11	Site 3
4	Little Barnes Creek to Redhead Branch	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0057	
		Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	30.2	Site 4
		Conservative Matl. II	mg/l	7.9	Site 4
5	Redhead Branch to Site 6	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0057	
		Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	30.2	Site 4
		Conservative Matl. II	mg/l	7.9	Site 4
6	Site 6 to Little Caney Creek	Incremental Outflow	m ³ /s	-0.0317	
		Incremental Inflow	m ³ /s		
		Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	23.6	Site 6
		Conservative Matl. II	mg/l	6	Site 6

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 16, Incremental Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
7	Little Caney Creek to dam	Incremental Outflow	m ³ /s	-0.0317	
		Incremental Inflow	m ³ /s		
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	23.6	Site 6
		Conservative Matl. II	mg/l	6	Site 6
8	dam to Caney Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0442	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	8.8	Site 7
		Conservative Matl. II	mg/l	3.2	Site 7
10	Hurricane Creek to Site 10	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0071	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	6.9	Site 8
		Conservative Matl. II	mg/l	2.7	Site 8
11	Site 10 to Magnolia Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	9.2	Site 10
		Conservative Matl. II	mg/l	3.4	Site 10
12	Magnolia Creek to Brushy Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	9.2	Site 10
		Conservative Matl. II	mg/l	3.4	Site 10

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 16, Incremental Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
13	Brushy Creek to Righthand Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	9.2	Site 10
		Conservative Matl. II	mg/l	3.4	Site 10
14	Righthand Creek to Site 11	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	9.2	Site 10
		Conservative Matl. II	mg/l	3.4	Site 10
15	Site 11 to Boggy Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	13.6	Site 11
		Conservative Matl. II	mg/l	4.1	Site 11
16	Boggy Creek to Wolf Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	13.6	Site 11
		Conservative Matl. II	mg/l	4.1	Site 11
17	Wolf Creek to Unnamed Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	13.6	Site 11
		Conservative Matl. II	mg/l	4.1	Site 11

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 16, Incremental Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
18	Unnamed Creek to Site 12	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	13.6	Site 11
		Conservative Matl. II	mg/l	4.1	Site 11

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 17, Incremental Data for DO, BOD, Nitrogen

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.16	45% reduction in total nonpoint
		Org.-N	mg/l	0.89	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 2
		NO ₂₊₃ - N	mg/l	0.56	Site 2
3	Site 3 to Little Barnes Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.08	45% reduction in total nonpoint
		Org.-N	mg/l	0.48	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 3
		NO ₂₊₃ - N	mg/l	0.37	Site 3
4	Little Barnes Creek to Redhead Branch	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.82	45% reduction in total nonpoint
		Org.-N	mg/l	0.28	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 4
		NO ₂₊₃ - N	mg/l	0.09	Site 4
5	Redhead Branch to Site 6	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.82	45% reduction in total nonpoint
		Org.-N	mg/l	0.28	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 4
		NO ₂₊₃ - N	mg/l	0.09	Site 4
6	Site 6 to Little Caney Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.88	45% reduction in total nonpoint
		Org.-N	mg/l	0.48	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 6
		NO ₂₊₃ - N	mg/l	0.1	Site 6
7	Little Caney Creek to dam	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.88	45% reduction in total nonpoint
		Org.-N	mg/l	0.48	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 6
		NO ₂₊₃ - N	mg/l	0.1	Site 6
8	dam to Caney Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.54	45% reduction in total nonpoint
		Org.-N	mg/l	0.07	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 7
		NO ₂₊₃ - N	mg/l	0.07	Site 7

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 17, Incremental Data for DO, BOD, Nitrogen

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
10	Hurricane Creek to Site 10	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.95	45% reduction in total nonpoint
		Org.-N	mg/l	0.53	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 8
		NO ₂₊₃ - N	mg/l	0.09	Site 8
11	Site 10 to Magnolia Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.24	45% reduction in total nonpoint
		Org.-N	mg/l	0.54	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ - N	mg/l	0.08	Site 10
12	Magnolia Creek to Brushy Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.24	45% reduction in total nonpoint
		Org.-N	mg/l	0.54	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ - N	mg/l	0.08	Site 10
13	Brushy Creek to Righthand Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.24	45% reduction in total nonpoint
		Org.-N	mg/l	0.54	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ - N	mg/l	0.08	Site 10
14	Righthand Creek to Site 11	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.24	45% reduction in total nonpoint
		Org.-N	mg/l	0.54	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ - N	mg/l	0.08	Site 10
15	Site 11 to Boggy Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	3.55	45% reduction in total nonpoint
		Org.-N	mg/l	0.39	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ - N	mg/l	0.08	Site 11
16	Boggy Creek to Wolf Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	3.55	45% reduction in total nonpoint
		Org.-N	mg/l	0.39	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ - N	mg/l	0.08	Site 11

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 17, Incremental Data for DO, BOD, Nitrogen

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
17	Wolf Creek to Unnamed Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	3.55	45% reduction in total nonpoint
		Org.-N	mg/l	0.39	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ - N	mg/l	0.08	Site 11
18	Unnamed Creek to Site 12	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	3.55	45% reduction in total nonpoint
		Org.-N	mg/l	0.39	45% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ - N	mg/l	0.08	Site 11

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 18, Incremental Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Chlorophyll a	ug/l	4.3	Site 2
		NCM	mg/l	3.4	Site 2
3	Site 3 to Little Barnes Creek	Chlorophyll a	ug/l	4.46	Site 3
		NCM	mg/l	3.45	Site 3
4	Little Barnes Creek to Redhead Branch	Chlorophyll a	ug/l	4.23	Site 4
		NCM	mg/l	3.48	Site 4
5	Redhead Branch to Site 6	Chlorophyll a	ug/l	4.23	Site 4
		NCM	mg/l	3.48	Site 4
6	Site 6 to Little Caney Creek	Chlorophyll a	ug/l	3.01	Site 6
		NCM	mg/l	5.05	Site 6
7	Little Caney Creek to dam	Chlorophyll a	ug/l	3.01	Site 6
		NCM	mg/l	5.05	Site 6
8	dam to Caney Creek	Chlorophyll a	ug/l	3.72	Site 7
		NCM	mg/l	4.03	Site 7
10	Hurricane Creek to Site 10	Chlorophyll a	ug/l	2.68	Site 8
		NCM	mg/l	4.52	Site 8
11	Site 10 to Magnolia Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
12	Magnolia Creek to Brushy Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
13	Brushy Creek to Righthand Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
14	Righthand Creek to Site 11	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
15	Site 11 to Boggy Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
16	Boggy Creek to Wolf Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
17	Wolf Creek to Unnamed Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
18	Unnamed Creek to Site 12	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 19, Nonpoint Source Data

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	CBOD1	kg/day	2.06	45% reduction in total nonpoint
		CBOD2	kg/day	6.88	45% reduction in total nonpoint
		O-N	kg/day	2.06	45% reduction in total nonpoint
2	Site 2 to Site 3	CBOD1	kg/day	0	45% reduction in total nonpoint
		CBOD2	kg/day	2.06	45% reduction in total nonpoint
		O-N	kg/day	0	45% reduction in total nonpoint
3	Site 3 to Little Barnes Creek	CBOD1	kg/day	11	45% reduction in total nonpoint
		CBOD2	kg/day	6.88	45% reduction in total nonpoint
		O-N	kg/day	0	45% reduction in total nonpoint
4	Little Barnes Creek to Redhead Branch	CBOD1	kg/day	2.06	45% reduction in total nonpoint
		CBOD2	kg/day	3.44	45% reduction in total nonpoint
		O-N	kg/day	0.69	45% reduction in total nonpoint
5	Redhead Branch to Site 6	CBOD1	kg/day	0	45% reduction in total nonpoint
		CBOD2	kg/day	5.16	45% reduction in total nonpoint
		O-N	kg/day	0.69	45% reduction in total nonpoint
6	Site 6 to Little Caney Creek	CBOD1	kg/day	13.75	45% reduction in total nonpoint
		CBOD2	kg/day	2.75	45% reduction in total nonpoint
		O-N	kg/day	1.38	45% reduction in total nonpoint
7	Little Caney Creek to dam	CBOD1	kg/day	9.62	45% reduction in total nonpoint
		CBOD2	kg/day	1.38	45% reduction in total nonpoint
		O-N	kg/day	0.41	45% reduction in total nonpoint
8	dam to Caney Creek	CBOD1	kg/day	4.12	45% reduction in total nonpoint
		CBOD2	kg/day	2.06	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
9	Caney Creek to Hurricane Creek	CBOD1	kg/day	1.38	45% reduction in total nonpoint
		CBOD2	kg/day	6.19	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
10	Hurricane Creek to Site 10	CBOD1	kg/day	1.38	45% reduction in total nonpoint
		CBOD2	kg/day	2.06	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
11	Site 10 to Magnolia Creek	CBOD1	kg/day	3.44	45% reduction in total nonpoint
		CBOD2	kg/day	0	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
12	Magnolia Creek to Brushy Creek	CBOD1	kg/day	2.06	45% reduction in total nonpoint
		CBOD2	kg/day	0	45% reduction in total nonpoint
		O-N	kg/day	0	45% reduction in total nonpoint
13	Brushy Creek to Righthand Creek	CBOD1	kg/day	3.44	45% reduction in total nonpoint
		CBOD2	kg/day	0	45% reduction in total nonpoint
		O-N	kg/day	0	45% reduction in total nonpoint

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 19, Nonpoint Source Data

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
14	Righthand Creek to Site 11	CBOD1	kg/day	2.75	45% reduction in total nonpoint
		CBOD2	kg/day	0	45% reduction in total nonpoint
		O-N	kg/day	0	45% reduction in total nonpoint
15	Site 11 to Boggy Creek	CBOD1	kg/day	3.44	45% reduction in total nonpoint
		CBOD2	kg/day	0	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
16	Boggy Creek to Wolf Creek	CBOD1	kg/day	0	45% reduction in total nonpoint
		CBOD2	kg/day	0	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
17	Wolf Creek to Unnamed Creek	CBOD1	kg/day	2.06	45% reduction in total nonpoint
		CBOD2	kg/day	1.38	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
18	Unnamed Creek to Site 12	CBOD1	kg/day	3.44	45% reduction in total nonpoint
		CBOD2	kg/day	1.38	45% reduction in total nonpoint
		O-N	kg/day	0.58	45% reduction in total nonpoint
19	Site 12 to Clear Creek	CBOD1	kg/day	10.31	45% reduction in total nonpoint
		CBOD2	kg/day	0.69	45% reduction in total nonpoint
		O-N	kg/day	0.58	45% reduction in total nonpoint
20	Clear Creek to Bear Creek	CBOD1	kg/day	3.44	45% reduction in total nonpoint
		CBOD2	kg/day	0	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
21	Bear Creek to Site 13	CBOD1	kg/day	2.06	45% reduction in total nonpoint
		CBOD2	kg/day	0	45% reduction in total nonpoint
		O-N	kg/day	0.34	45% reduction in total nonpoint
22	Site 13 to Calcasieu River	CBOD1	kg/day	226.88	45% reduction in total nonpoint
		CBOD2	kg/day	68.44	45% reduction in total nonpoint
		O-N	kg/day	18.56	45% reduction in total nonpoint

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 20, Headwater Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	
		Headwater name		Barnes Creek	
		Headwater flow	cms	0.0351	Projected flow for summer critical
		Temperature	°Celcius	26.00	90th percentile Temperature from Ambient Site 0837
		Conservative Matl. I	mg/l	33.90	Site 2
		Conservative Matl. II	mg/l	12.40	Site 2

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 21, Headwater Data for DO, BOD, and Nitrogen

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	Site 2
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		BOD	mg/l	2.43	75% reduction in total nonpoint
		O-N	mg/l	0.96	75% reduction in total nonpoint
		NH ₃	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 22, Headwater Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives

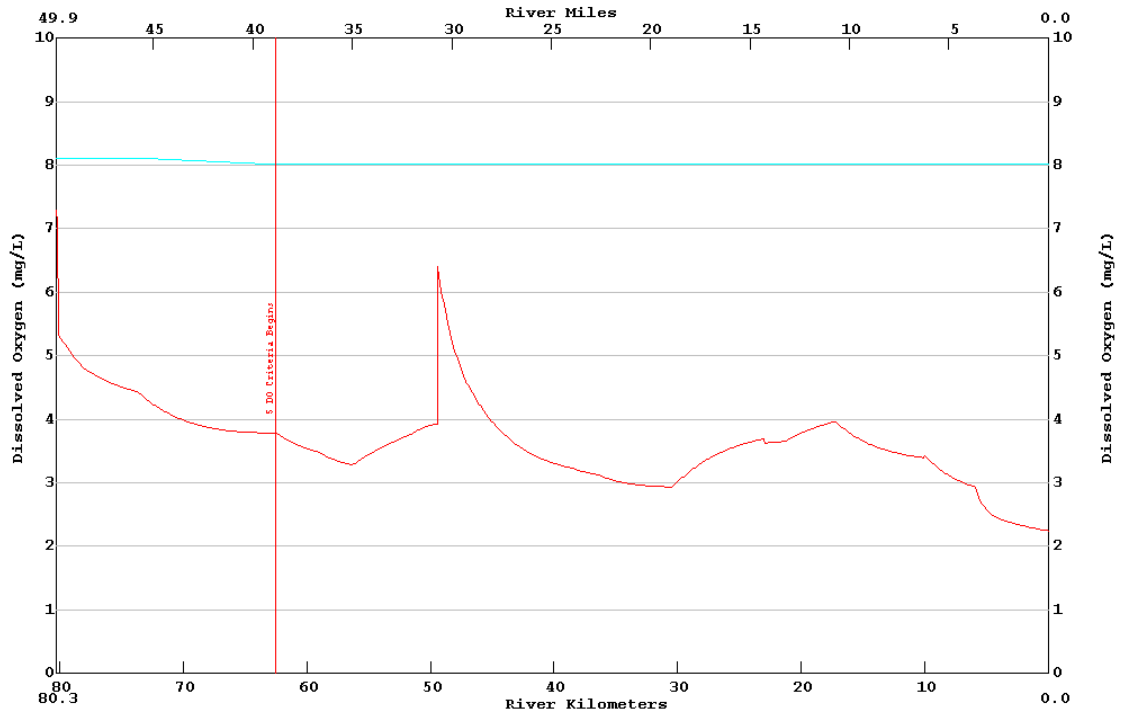
Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	
		Chlorophyll a	mg/l	2.6	Site 2
		CBOD 2	mg/l	3.4	Site 2

Barnes Creek Winter Projection Model Input Description For 3.0 DO In 030602

DATA TYPE 27, Lower Boundary Conditions					
Reach #	NAME	Parameter	Units	Value	Source/Justification
36	Sandy Creek - Hwy 124	Temperature	°Celcius	26	90th percentile Temperature from Ambient Site 0837
		Salinity	ppt		
		Conservative Matl. I	mg/l		
		Conservative Matl. II			
		Dissolved O ₂	mg/l		
		BOD	mg/l		
		Org.- N	mg/l		
		NH ₃ -N	mg/l		
		NO ₂₊₃ -N	mg/l		
		Chlorophyll a	ug/l	1.9	Site 13
		Nonconservative	mg/l		

APPENDIX B13 - Proposed 2.0 summer projection model input/output and graphs

LA-QUAL Version 5.02 Run at 10:32 on 02/19/2002 File D:\Barnes Creek\Input Files\barnssum2.0.txt
BARNES CREEK SUMMER 2.0 MG/L RUN min= 2.25 max= 7.30
:MAINSTEM



LA-QUAL Version 5.02
Louisiana Department of Environmental Quality

Input file is D:\Barnes Creek\Input Files\barnssum2.0.txt
Output produced at 10:37 on 02/19/2002

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

CARD TYPE	CONTROL TITLES
TITLE01	BARNES CREEK WATERSHED MODEL
TITLE02	BARNES CREEK SUMMER 2.0 MG/L RUN
CNTROL04 YES	METRIC UNITS
CNTROL05 YES	OXYGEN DEPENDENT RATES
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 YES	CONSERVATIVE MATERIAL II = SULFATES IN MG/L
MODOPT05 YES	DISSOLVED OXYGEN
MODOPT06 YES	BIOCHEMICAL OXYGEN DEMAND
MODOPT07 YES	NITROGEN
MODOPT08 NO	PHOSPHORUS
MODOPT09 NO	CHLOROPHYLL A
MODOPT10 NO	MACROPHYTES
MODOPT11 NO	COLIFORM
MODOPT12 YES	NONCONSERVATIVE MATERIAL = CBOD2 IN mg/L
ENDATA02	

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
PROGRAM	MAXIMUM ITERATION LIMIT	= 1000.00000
PROGRAM	PLOT TYPE	= 3.00000
PROGRAM	FINAL REPORT TYPE	= 1.00000
PROGRAM	SPECIAL REPORT TYPE	= 3.00000
PROGRAM	KL MINIMUM	= 0.70000 meters/day
PROGRAM	NCM OXYGEN UPTAKE RATE	= 1.00000 mg O/mg NCM
PROGRAM	INHIBITION CONTROL VALUE	= 3.00000
PROGRAM	NH3 OXYGEN UPTAKE RATE	= 0.00000 mg O/mg N
PROGRAM	K2 MAXIMUM	= 25.00000 per day
PROGRAM	HYDRAULIC CALCULATION METHOD	= 2.00000 (widths and depths)
PROGRAM	SETTLING RATE UNITS	= 2.00000 (per day)
PROGRAM	OCEAN EXCHANGE RATIO	= 0.00000

```

PROGRAM      EFFECTIVE BOD DUE TO ALGAE      =      0.15000 mg/L BOD per ug/L chl a
PROGRAM      ORGN OXYGEN UPTAKE RATE          =      1.00000 mg O/mg N
PROGRAM      ALGAE OXYGEN PROD                =      0.05000 mg O/ug chl a/day
PROGRAM      N MACROPHYTE UPTAKE              =      0.00300 mg N/mg macrophyte/day
PROGRAM      MACROPHYTE OXYGEN PROD           =      0.00000 mg O/mg macrophyte/day
PROGRAM      N PREFERENCE                      =      0.60000 (0.0=NH3 1.0=NO3)
ENDATA03

```

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

```

CARD TYPE    RATE CODE    THETA VALUE
THETA        NCM DECA     1.04700
THETA        ORGN DEC     1.07000
ENDATA04

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

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CARD TYPE    DESCRIPTION OF CONSTANT          VALUE
ENDATA05

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

```

CARD TYPE    DESCRIPTION OF CONSTANT          VALUE
ENDATA06

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\$\$\$ 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	BC	HEADWATER - SITE 2	80.30	TO 78.10	0.1000	2.20	22	1	22
REACH ID	2	BC	SITE 2 - SITE 3	78.10	TO 73.70	0.1000	4.40	44	23	66
REACH ID	3	BC	SITE 3 - LITTLE BARNES CR	73.70	TO 62.50	0.1000	11.20	112	67	178
REACH ID	4	BC	LITTLE BARNES - REDHEAD CR	62.50	TO 59.00	0.1000	3.50	35	179	213
REACH ID	5	BC	REDHEAD CR - SITE 6	59.00	TO 56.30	0.1000	2.70	27	214	240
REACH ID	6	BC	SITE 6 - LITTLE CANEY CR	56.30	TO 51.40	0.1000	4.90	49	241	289
REACH ID	7	BC	LITTLE CANEY CR - DAM	51.40	TO 49.40	0.1000	2.00	20	290	309
REACH ID	8	BC	DAM - CANEY CREEK	49.40	TO 46.50	0.1000	2.90	29	310	338
REACH ID	9	BC	CANEY CR - HURRICANE CR	46.50	TO 38.50	0.1000	8.00	80	339	418
REACH ID	10	BC	HURRICANE CR - SITE 10	38.50	TO 36.40	0.1000	2.10	21	419	439
REACH ID	11	BC	SITE 10 - MAGNOLIA CR	36.40	TO 34.10	0.1000	2.30	23	440	462

REACH ID	12	BC	MAGNOLIA CR - BRUSHY CR	34.10	TO	32.40	0.1000	1.70	17	463	479
REACH ID	13	BC	BRUSHY CR - RIGHTHAND CR	32.40	TO	30.50	0.1000	1.90	19	480	498
REACH ID	14	BC	RIGHTHAND CR - SITE 11	30.50	TO	29.50	0.1000	1.00	10	499	508
REACH ID	15	BC	SITE 11 - BOGGY CR	29.50	TO	23.00	0.1000	6.50	65	509	573
REACH ID	16	BC	BOGGY CR - WOLF CREEK	23.00	TO	22.90	0.1000	0.10	1	574	574
REACH ID	17	BC	WOLF CR - UNNAMED CREEK	22.90	TO	21.30	0.1000	1.60	16	575	590
REACH ID	18	BC	UNNAMED CR - SITE 12	21.30	TO	17.20	0.1000	4.10	41	591	631
REACH ID	19	BC	SITE 12 - CLEAR CR	17.20	TO	10.10	0.1000	7.10	71	632	702
REACH ID	20	BC	CLEAR CR - BEAR CR	10.10	TO	7.70	0.1000	2.40	24	703	726
REACH ID	21	BC	BEAR CR - SITE 13	7.70	TO	5.90	0.1000	1.80	18	727	744
REACH ID	22	BC	SITE 13 - CALCASIEU RIVER	5.90	TO	0.00	0.1000	5.90	59	745	803

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"
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 1										
HYDR-1	1	BC	2.680	0.930	2.800	0.620	1.000	0.100	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 2										
HYDR-1	2	BC	2.680	0.930	2.800	0.620	1.000	0.100	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 3										
HYDR-1	3	BC	2.680	0.930	3.100	0.620	1.000	0.310	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 4										
HYDR-1	4	BC	2.680	0.930	3.200	0.620	1.000	0.270	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 5										
HYDR-1	5	BC	2.680	0.930	3.200	0.620	1.000	0.270	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 6										
HYDR-1	6	BC	2.680	0.930	5.800	0.620	1.000	0.450	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 7										
HYDR-1	7	BC	2.680	0.930	5.800	0.620	1.000	0.450	0.00000	0.027
HYDR-1	8	BC	0.230	0.540	8.200	0.100	0.210	0.380	0.00000	0.027
HYDR-1	9	BC	0.230	0.540	4.000	0.100	0.210	0.330	0.00000	0.027
HYDR-1	10	BC	0.230	0.540	4.000	0.100	0.210	0.330	0.00000	0.027
HYDR-1	11	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	12	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	13	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	14	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	15	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	16	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	17	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	18	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	19	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	20	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	21	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	22	BC	0.230	0.540	23.800	0.100	0.210	2.290	0.00000	0.027

ENDATA09

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

CARD TYPE	REACH	ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"
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ENDATA10

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

CARD TYPE	REACH	ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
INITIAL	1	BC	26.00	0.00	7.30	0.00	0.56	0.00	2.60	0.00
INITIAL	2	BC	26.00	0.00	7.30	0.00	0.56	0.00	2.60	0.00
INITIAL	3	BC	26.00	0.00	7.30	0.00	0.37	0.00	2.00	0.00
INITIAL	4	BC	26.70	0.00	7.20	0.00	0.09	0.00	1.90	0.00
INITIAL	5	BC	26.70	0.00	7.20	0.00	0.09	0.00	1.90	0.00
INITIAL	6	BC	26.70	0.00	7.20	0.00	0.10	0.00	6.10	0.00
INITIAL	7	BC	26.70	0.00	7.20	0.00	0.10	0.00	6.10	0.00
INITIAL	8	BC	26.70	0.00	7.20	0.00	0.07	0.00	1.00	0.00
INITIAL	9	BC	26.70	0.00	7.20	0.00	0.09	0.00	0.60	0.00
INITIAL	10	BC	26.70	0.00	7.20	0.00	0.09	0.00	0.60	0.00
INITIAL	11	BC	26.70	0.00	7.20	0.00	0.08	0.00	1.10	0.00
INITIAL	12	BC	26.70	0.00	7.20	0.00	0.08	0.00	1.10	0.00
INITIAL	13	BC	26.70	0.00	7.20	0.00	0.08	0.00	1.10	0.00
INITIAL	14	BC	26.70	0.00	7.20	0.00	0.08	0.00	1.10	0.00
INITIAL	15	BC	26.70	0.00	7.20	0.00	0.08	0.00	0.90	0.00
INITIAL	16	BC	26.70	0.00	7.20	0.00	0.08	0.00	0.90	0.00
INITIAL	17	BC	26.70	0.00	7.20	0.00	0.08	0.00	0.90	0.00
INITIAL	18	BC	26.70	0.00	7.20	0.00	0.08	0.00	0.90	0.00
INITIAL	19	BC	26.70	0.00	7.20	0.00	0.10	0.00	0.90	0.00
INITIAL	20	BC	26.70	0.00	7.20	0.00	0.10	0.00	0.90	0.00
INITIAL	21	BC	26.70	0.00	7.20	0.00	0.10	0.00	0.90	0.00
INITIAL	22	BC	26.70	0.00	7.20	0.00	0.06	0.00	1.90	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 g/m ² /d	AEROB BOD DECAY per day	BOD SETT m/d	BOD CONV TO SOD	ANAER BOD DECAY
COEF-1	1	BC	20 K2=a/D	0.700	0.000	0.000	1.790	0.180	0.100	0.000	0.000
COEF-1	2	BC	20 K2=a/D	0.700	0.000	0.000	1.460	0.180	0.100	0.000	0.000
COEF-1	3	BC	20 K2=a/D	0.700	0.000	0.000	1.460	0.130	0.100	0.000	0.000
COEF-1	4	BC	20 K2=a/D	0.700	0.000	0.000	2.030	0.100	0.100	0.000	0.000
COEF-1	5	BC	20 K2=a/D	0.700	0.000	0.000	2.190	0.100	0.100	0.000	0.000
COEF-1	6	BC	20 K2=a/D	0.700	0.000	0.000	1.630	0.130	0.100	0.000	0.000
COEF-1	7	BC	20 K2=a/D	0.700	0.000	0.000	1.540	0.130	0.100	0.000	0.000
COEF-1	8	BC	20 K2=a/D	0.700	0.000	0.000	2.030	0.050	0.100	0.000	0.000
COEF-1	9	BC	20 K2=a/D	0.700	0.000	0.000	2.440	0.050	0.100	0.000	0.000
COEF-1	10	BC	20 K2=a/D	0.700	0.000	0.000	2.440	0.050	0.100	0.000	0.000

COEF-1	11	BC	20	K2=a/D	0.700	0.000	0.000	2.440	0.090	0.100	0.000	0.000
COEF-1	12	BC	20	K2=a/D	0.700	0.000	0.000	2.440	0.090	0.100	0.000	0.000
COEF-1	13	BC	20	K2=a/D	0.700	0.000	0.000	2.440	0.090	0.100	0.000	0.000
COEF-1	14	BC	20	K2=a/D	0.700	0.000	0.000	2.110	0.090	0.100	0.000	0.000
COEF-1	15	BC	20	K2=a/D	0.700	0.000	0.000	2.030	0.060	0.100	0.000	0.000
COEF-1	16	BC	20	K2=a/D	0.700	0.000	0.000	2.030	0.060	0.100	0.000	0.000
COEF-1	17	BC	20	K2=a/D	0.700	0.000	0.000	2.030	0.060	0.100	0.000	0.000
COEF-1	18	BC	20	K2=a/D	0.700	0.000	0.000	1.830	0.060	0.100	0.000	0.000
COEF-1	19	BC	20	K2=a/D	0.700	0.000	0.000	2.360	0.070	0.100	0.000	0.000
COEF-1	20	BC	20	K2=a/D	0.700	0.000	0.000	2.680	0.070	0.100	0.000	0.000
COEF-1	21	BC	20	K2=a/D	0.700	0.000	0.000	2.680	0.070	0.100	0.000	0.000
COEF-1	22	BC	20	K2=a/D	0.700	0.000	0.000	2.360	0.060	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
COEF-2	1	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	2	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	3	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	4	BC	0.050	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	5	BC	0.050	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	6	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	7	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	8	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	9	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	10	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	11	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	12	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	13	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	14	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	15	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	16	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	17	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	18	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	19	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	20	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	21	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	22	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000

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	BC	0.00	0.13	0.05	0.00
COEF-4	2	BC	0.00	0.13	0.05	0.00
COEF-4	3	BC	0.00	0.13	0.05	0.00
COEF-4	4	BC	0.00	0.05	0.05	0.00
COEF-4	5	BC	0.00	0.05	0.05	0.00
COEF-4	6	BC	0.00	0.04	0.05	0.00
COEF-4	7	BC	0.00	0.04	0.05	0.00
COEF-4	8	BC	0.00	0.02	0.05	0.00
COEF-4	9	BC	0.00	0.03	0.05	0.00
COEF-4	10	BC	0.00	0.03	0.05	0.00
COEF-4	11	BC	0.00	0.03	0.05	0.00
COEF-4	12	BC	0.00	0.03	0.05	0.00
COEF-4	13	BC	0.00	0.03	0.05	0.00
COEF-4	14	BC	0.00	0.03	0.05	0.00
COEF-4	15	BC	0.00	0.04	0.05	0.00
COEF-4	16	BC	0.00	0.04	0.05	0.00
COEF-4	17	BC	0.00	0.04	0.05	0.00
COEF-4	18	BC	0.00	0.04	0.05	0.00
COEF-4	19	BC	0.00	0.02	0.05	0.00
COEF-4	20	BC	0.00	0.02	0.05	0.00
COEF-4	21	BC	0.00	0.02	0.05	0.00
COEF-4	22	BC	0.00	0.03	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	IN/DIST	OUT/DIST
INCR-1	1	BC	0.00000	0.00000	26.00	0.00	33.90	12.40	0.00000	0.00000
INCR-1	2	BC	-0.02720	0.00000	26.00	0.00	33.90	12.40	0.00000	-0.00618
INCR-1	3	BC	-0.02040	0.00000	26.00	0.00	33.60	11.00	0.00000	-0.00182
INCR-1	4	BC	0.00000	0.00570	26.70	0.00	30.20	7.90	0.00163	0.00000
INCR-1	5	BC	0.00000	0.00570	26.70	0.00	30.20	7.90	0.00211	0.00000
INCR-1	6	BC	-0.00960	0.00000	26.70	0.00	23.60	6.00	0.00000	-0.00196
INCR-1	7	BC	-0.00960	0.00000	26.70	0.00	23.60	6.00	0.00000	-0.00480
INCR-1	8	BC	0.00000	0.00000	26.70	0.00	8.80	3.20	0.00000	0.00000
INCR-1	9	BC	0.00000	0.00000	26.70	0.00	6.90	2.70	0.00000	0.00000
INCR-1	10	BC	0.00000	0.00710	26.70	0.00	6.90	2.70	0.00338	0.00000
INCR-1	11	BC	0.00000	0.00330	26.70	0.00	9.20	3.40	0.00143	0.00000
INCR-1	12	BC	0.00000	0.00330	26.70	0.00	9.20	3.40	0.00194	0.00000
INCR-1	13	BC	0.00000	0.00330	26.70	0.00	9.20	3.40	0.00174	0.00000
INCR-1	14	BC	0.00000	0.00330	26.70	0.00	9.20	3.40	0.00330	0.00000
INCR-1	15	BC	0.00000	0.00790	26.70	0.00	13.60	4.10	0.00122	0.00000
INCR-1	16	BC	0.00000	0.00790	26.70	0.00	13.60	4.10	0.07900	0.00000
INCR-1	17	BC	0.00000	0.00790	26.70	0.00	13.60	4.10	0.00494	0.00000

INCR-1	18	BC	0.00000	0.00790	26.70	0.00	13.60	4.10	0.00193	0.00000
INCR-1	19	BC	0.00000	0.00000	26.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	20	BC	0.00000	0.00000	26.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	21	BC	0.00000	0.00000	26.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	22	BC	0.00000	0.00000	26.70	0.00	9.30	2.70	0.00000	0.00000

ENDATA16

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

CARD TYPE	REACH	ID	DO	BOD	ORG-N	NH3	NO3+2
INCR-2	1	BC	2.00	2.65	0.56	0.00	0.56
INCR-2	2	BC	2.00	4.92	1.06	0.00	0.56
INCR-2	3	BC	2.00	4.83	0.57	0.00	0.37
INCR-2	4	BC	2.00	5.70	0.33	0.00	0.09
INCR-2	5	BC	2.00	5.70	0.33	0.00	0.09
INCR-2	6	BC	2.00	6.95	0.57	0.00	0.10
INCR-2	7	BC	2.00	6.95	0.57	0.00	0.10
INCR-2	8	BC	2.00	5.54	0.07	0.00	0.07
INCR-2	9	BC	2.00	4.38	0.09	0.00	0.09
INCR-2	10	BC	2.00	5.85	0.63	0.00	0.09
INCR-2	11	BC	2.00	6.19	0.63	0.00	0.08
INCR-2	12	BC	2.00	6.19	0.63	0.00	0.08
INCR-2	13	BC	2.00	6.19	0.63	0.00	0.08
INCR-2	14	BC	2.00	6.19	0.63	0.00	0.08
INCR-2	15	BC	2.00	4.19	0.46	0.00	0.08
INCR-2	16	BC	2.00	4.19	0.46	0.00	0.08
INCR-2	17	BC	2.00	4.19	0.46	0.00	0.08
INCR-2	18	BC	2.00	4.19	0.46	0.00	0.08
INCR-2	19	BC	2.00	4.32	0.10	0.00	0.10
INCR-2	20	BC	2.00	4.32	0.10	0.00	0.10
INCR-2	21	BC	2.00	4.32	0.10	0.00	0.10
INCR-2	22	BC	2.00	5.12	0.06	0.00	0.06

ENDATA17

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

CARD TYPE	REACH	ID	PHOS	CHL A	COLI	NCM
INCR-3	1	BC	0.00	4.30	0.00	3.40
INCR-3	2	BC	0.00	4.30	0.00	3.40
INCR-3	3	BC	0.00	4.46	0.00	3.45
INCR-3	4	BC	0.00	4.23	0.00	3.48
INCR-3	5	BC	0.00	4.23	0.00	3.48
INCR-3	6	BC	0.00	3.01	0.00	5.05
INCR-3	7	BC	0.00	3.01	0.00	5.05
INCR-3	8	BC	0.00	3.72	0.00	4.03
INCR-3	9	BC	0.00	2.68	0.00	4.52
INCR-3	10	BC	0.00	2.68	0.00	4.52
INCR-3	11	BC	0.00	2.44	0.00	5.18

INCR-3	12	BC	0.00	2.44	0.00	5.18
INCR-3	13	BC	0.00	2.44	0.00	5.18
INCR-3	14	BC	0.00	2.44	0.00	5.18
INCR-3	15	BC	0.00	2.58	0.00	1.96
INCR-3	16	BC	0.00	2.58	0.00	1.96
INCR-3	17	BC	0.00	2.58	0.00	1.96
INCR-3	18	BC	0.00	2.58	0.00	1.96
INCR-3	19	BC	0.00	3.20	0.00	3.07
INCR-3	20	BC	0.00	3.20	0.00	3.07
INCR-3	21	BC	0.00	3.20	0.00	3.07
INCR-3	22	BC	0.00	1.34	0.00	2.73

ENDATA18

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

CARD TYPE	REACH	ID	BOD	ORG-N	COLI	NCM	DO
NONPOINT	1	BC	2.25	2.25	0.00	7.50	0.00
NONPOINT	2	BC	0.00	0.00	0.00	2.25	0.00
NONPOINT	3	BC	12.00	0.00	0.00	7.50	0.00
NONPOINT	4	BC	2.25	0.75	0.00	3.75	0.00
NONPOINT	5	BC	0.00	0.75	0.00	5.62	0.00
NONPOINT	6	BC	15.00	1.50	0.00	3.00	0.00
NONPOINT	7	BC	10.50	0.45	0.00	1.50	0.00
NONPOINT	8	BC	4.50	0.38	0.00	2.25	0.00
NONPOINT	9	BC	1.50	0.38	0.00	6.75	0.00
NONPOINT	10	BC	1.50	0.38	0.00	2.25	0.00
NONPOINT	11	BC	3.75	0.38	0.00	0.00	0.00
NONPOINT	12	BC	2.25	0.00	0.00	0.00	0.00
NONPOINT	13	BC	3.75	0.00	0.00	0.00	0.00
NONPOINT	14	BC	3.00	0.00	0.00	0.00	0.00
NONPOINT	15	BC	3.75	0.38	0.00	0.00	0.00
NONPOINT	16	BC	0.00	0.38	0.00	0.00	0.00
NONPOINT	17	BC	2.25	0.38	0.00	1.50	0.00
NONPOINT	18	BC	3.75	0.64	0.00	1.50	0.00
NONPOINT	19	BC	11.25	0.64	0.00	0.75	0.00
NONPOINT	20	BC	3.75	0.38	0.00	0.00	0.00
NONPOINT	21	BC	2.25	0.38	0.00	0.00	0.00
NONPOINT	22	BC	268.13	20.25	0.00	63.75	0.00

ENDATA19

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

CARD TYPE	ELEMENT	NAME	UNIT	FLOW m ³ /s	FLOW cfs	TEMP deg C	SALIN ppt	CM-I MG/L	CM-II MG/L
HDWTR-1	1	HEADWATER	0	0.03511	1.240	26.00	0.00	33.900	12.400

ENDATA20

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

WSTLD-2	419	HURRICANE CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	463	MAGNOLIA CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	480	BRUSHY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	499	RIGHTHAND CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	574	BOGGY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	575	WOLF CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	591	UNNAMED CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	703	CLEAR CREEK	7.20	5.55	0.00	0.75	0.00	0.00	0.06
WSTLD-2	727	BEAR CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ENDATA25

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

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
WSTLD-3	2	CITY OF DERIDDER	0.00	0.90	0.00	0.00
WSTLD-3	179	LITTLE BARNES CR	0.00	0.00	0.00	0.00
WSTLD-3	214	REDHEAD BRANCH	0.00	0.00	0.00	0.00
WSTLD-3	290	LITTLE CANEY CR	0.00	0.00	0.00	0.00
WSTLD-3	339	CANEY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	419	HURRICANE CREEK	0.00	0.00	0.00	0.00
WSTLD-3	463	MAGNOLIA CREEK	0.00	0.00	0.00	0.00
WSTLD-3	480	BRUSHY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	499	RIGHTHAND CREEK	0.00	0.00	0.00	0.00
WSTLD-3	574	BOGGY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	575	WOLF CREEK	0.00	0.00	0.00	0.00
WSTLD-3	591	UNNAMED CREEK	0.00	0.00	0.00	0.00
WSTLD-3	703	CLEAR CREEK	0.00	4.30	0.00	3.76
WSTLD-3	727	BEAR CREEK	0.00	0.00	0.00	0.00

ENDATA26

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

CARD TYPE	CONSTITUENT	CONCENTRATION
LOWER BC	TEMPERATURE	= 26.700 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	= 0.000 mg/L
LOWER BC	BIOCHEMICAL OXYGEN DEMAND	= 0.000 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	= 0.000 mg/L

ENDATA27

\$\$\$ DATA TYPE 28 (DAM DATA) \$\$\$

CARD TYPE	ELEMENT	NAME	EQN	"A"	"B"	"H"
DAM DATA ENDATA28	310	DAM AT SITE 7	1	1.000	0.800	4.740

\$\$\$ 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 = 22
PLOT RCH 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
ENDATA30

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

OVERLAY 1 bcprojovl.txt :MAINSTEM
ENDATA31

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

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
REACH NO. 1 HEADWATER - SITE 2 BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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	0.03511	26.00	0.00	33.90	12.40	7.30	2.08	2.47	1.03	0.00	0.56	0.00	2.60	0.00	3.40
2	WSTLD	0.16594	26.00	0.00	32.10	14.10	5.00	23.00	23.00	3.27	0.00	0.52	0.00	0.90	0.00	0.00

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
1	80.30	80.20	0.03511	0.00	0.09878	0.01	0.12	2.92	35.54	291.90	0.36	0.00	0.000	0.009	0.099
2	80.20	80.10	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
3	80.10	80.00	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
4	80.00	79.90	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
5	79.90	79.80	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
6	79.80	79.70	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
7	79.70	79.60	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
8	79.60	79.50	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
9	79.50	79.40	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
10	79.40	79.30	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
11	79.30	79.20	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
12	79.20	79.10	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
13	79.10	79.00	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
14	79.00	78.90	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
15	78.90	78.80	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
16	78.80	78.70	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
17	78.70	78.60	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
18	78.60	78.50	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
19	78.50	78.40	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
20	78.40	78.30	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
21	78.30	78.20	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
22	78.20	78.10	0.20105	82.54	0.26300	0.00	0.22	3.40	76.45	340.28	0.76	0.00	0.000	0.038	0.263
TOT						0.10			1640.90	7437.87					
AVG					0.24452		0.22	3.38			0.75				
CUM						0.10									

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

ELEM NCM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY	
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da	
1	80.200	8.11	6.44	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17	
0.06																				
2	80.100	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17	
0.06																				
3	80.000	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17	
0.06																				
4	79.900	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17	

0.06																			
5	79.800	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
6	79.700	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
7	79.600	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
8	79.500	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
9	79.400	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
10	79.300	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
11	79.200	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
12	79.100	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
13	79.000	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
14	78.900	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
15	78.800	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
16	78.700	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
17	78.600	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
18	78.500	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
19	78.400	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
20	78.300	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
21	78.200	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
22	78.100	8.11	3.49	0.24	0.12	0.00	2.61	2.61	2.61	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
0.06																			
	20 DEG C RATE			0.18		0.00	1.79			0.13		0.00	0.00	0.00	0.00			0.00	0.13
	AVG 20 DEG C RATE		3.24		0.10					0.20									
0.05																			

* g/m²/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 *
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1	80.200	26.00	0.00	33.89	12.41	7.10	2.18	2.57	1.07	0.00	0.56	1.63	0.00	2.60	0.00	0.00	3.49
2	80.100	26.00	0.00	32.41	13.80	5.34	19.33	19.72	2.89	0.00	0.52	3.41	0.00	2.60	0.00	0.00	0.63
3	80.000	26.00	0.00	32.41	13.80	5.31	19.30	19.69	2.89	0.01	0.52	3.42	0.00	2.60	0.00	0.00	0.65
4	79.900	26.00	0.00	32.41	13.80	5.28	19.28	19.67	2.89	0.01	0.52	3.42	0.00	2.60	0.00	0.00	0.67
5	79.800	26.00	0.00	32.41	13.80	5.25	19.25	19.64	2.89	0.01	0.52	3.42	0.00	2.60	0.00	0.00	0.69
6	79.700	26.00	0.00	32.41	13.80	5.22	19.23	19.62	2.89	0.01	0.52	3.43	0.00	2.60	0.00	0.00	0.71
7	79.600	26.00	0.00	32.41	13.80	5.19	19.21	19.60	2.89	0.02	0.52	3.43	0.00	2.60	0.00	0.00	0.73
8	79.500	26.00	0.00	32.41	13.80	5.16	19.18	19.57	2.89	0.02	0.52	3.43	0.00	2.60	0.00	0.00	0.74
9	79.400	26.00	0.00	32.41	13.80	5.13	19.16	19.55	2.89	0.02	0.52	3.43	0.00	2.60	0.00	0.00	0.76
10	79.300	26.00	0.00	32.41	13.80	5.11	19.14	19.53	2.89	0.02	0.52	3.44	0.00	2.60	0.00	0.00	0.78
11	79.200	26.00	0.00	32.41	13.80	5.08	19.11	19.50	2.89	0.03	0.52	3.44	0.00	2.60	0.00	0.00	0.80
12	79.100	26.00	0.00	32.41	13.80	5.05	19.09	19.48	2.89	0.03	0.52	3.44	0.00	2.60	0.00	0.00	0.82
13	79.000	26.00	0.00	32.41	13.80	5.03	19.06	19.45	2.89	0.03	0.52	3.45	0.00	2.60	0.00	0.00	0.84
14	78.900	26.00	0.00	32.41	13.80	5.00	19.04	19.43	2.89	0.03	0.52	3.45	0.00	2.60	0.00	0.00	0.86
15	78.800	26.00	0.00	32.41	13.80	4.98	19.02	19.41	2.89	0.03	0.52	3.45	0.00	2.60	0.00	0.00	0.88
16	78.700	26.00	0.00	32.41	13.80	4.95	18.99	19.38	2.89	0.04	0.52	3.45	0.00	2.60	0.00	0.00	0.89
17	78.600	26.00	0.00	32.41	13.80	4.93	18.97	19.36	2.89	0.04	0.52	3.46	0.00	2.60	0.00	0.00	0.91
18	78.500	26.00	0.00	32.41	13.80	4.90	18.95	19.34	2.90	0.04	0.52	3.46	0.00	2.60	0.00	0.00	0.93
19	78.400	26.00	0.00	32.41	13.80	4.88	18.92	19.31	2.90	0.04	0.52	3.46	0.00	2.60	0.00	0.00	0.95
20	78.300	26.00	0.00	32.41	13.80	4.86	18.90	19.29	2.90	0.05	0.52	3.47	0.00	2.60	0.00	0.00	0.97
21	78.200	26.00	0.00	32.41	13.80	4.83	18.88	19.27	2.90	0.05	0.52	3.47	0.00	2.60	0.00	0.00	0.99
22	78.100	26.00	0.00	32.41	13.80	4.81	18.85	19.24	2.90	0.05	0.52	3.47	0.00	2.60	0.00	0.00	1.01

* CM-I = CHLORIDES
MG/L
** g/m³

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

FINAL REPORT HEADWATER
REACH NO. 2 SITE 2 - SITE 3

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
23	UPR RCH	0.20105	26.00	0.00	32.41	13.80	4.81	18.85	19.24	2.90	0.05	0.52	0.00	2.60	0.00	1.01
EACH	INCR	-0.0006														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
23	78.10	78.00	0.20043	82.54	0.26277	0.00	0.22	3.40	76.28	340.11	0.76	0.00	0.000	0.038	0.263
24	78.00	77.90	0.19981	82.54	0.26254	0.00	0.22	3.40	76.11	339.94	0.76	0.00	0.000	0.038	0.263
25	77.90	77.80	0.19920	82.54	0.26231	0.00	0.22	3.40	75.94	339.77	0.76	0.00	0.000	0.038	0.262

26	77.80	77.70	0.19858	82.54	0.26208	0.00	0.22	3.40	75.77	339.59	0.76	0.00	0.000	0.038	0.262
27	77.70	77.60	0.19796	82.54	0.26185	0.00	0.22	3.39	75.60	339.42	0.76	0.00	0.000	0.037	0.262
28	77.60	77.50	0.19734	82.54	0.26161	0.00	0.22	3.39	75.43	339.25	0.75	0.00	0.000	0.037	0.262
29	77.50	77.40	0.19672	82.54	0.26138	0.00	0.22	3.39	75.26	339.08	0.75	0.00	0.000	0.037	0.261
30	77.40	77.30	0.19610	82.54	0.26114	0.00	0.22	3.39	75.10	338.90	0.75	0.00	0.000	0.037	0.261
31	77.30	77.20	0.19549	82.54	0.26090	0.00	0.22	3.39	74.93	338.73	0.75	0.00	0.000	0.037	0.261
32	77.20	77.10	0.19487	82.54	0.26066	0.00	0.22	3.39	74.76	338.56	0.75	0.00	0.000	0.037	0.261
33	77.10	77.00	0.19425	82.54	0.26042	0.00	0.22	3.38	74.59	338.39	0.75	0.00	0.000	0.037	0.260
34	77.00	76.90	0.19363	82.54	0.26017	0.00	0.22	3.38	74.42	338.21	0.74	0.00	0.000	0.037	0.260
35	76.90	76.80	0.19301	82.54	0.25993	0.00	0.22	3.38	74.26	338.04	0.74	0.00	0.000	0.037	0.260
36	76.80	76.70	0.19240	82.54	0.25968	0.00	0.22	3.38	74.09	337.87	0.74	0.00	0.000	0.037	0.260
37	76.70	76.60	0.19178	82.54	0.25943	0.00	0.22	3.38	73.92	337.69	0.74	0.00	0.000	0.037	0.259
38	76.60	76.50	0.19116	82.54	0.25918	0.00	0.22	3.38	73.75	337.52	0.74	0.00	0.000	0.037	0.259
39	76.50	76.40	0.19054	82.54	0.25893	0.00	0.22	3.37	73.59	337.35	0.74	0.00	0.000	0.036	0.259
40	76.40	76.30	0.18992	82.54	0.25868	0.00	0.22	3.37	73.42	337.18	0.73	0.00	0.000	0.036	0.259
41	76.30	76.20	0.18930	82.54	0.25842	0.00	0.22	3.37	73.25	337.00	0.73	0.00	0.000	0.036	0.258
42	76.20	76.10	0.18869	82.54	0.25817	0.00	0.22	3.37	73.09	336.83	0.73	0.00	0.000	0.036	0.258
43	76.10	76.00	0.18807	82.54	0.25791	0.00	0.22	3.37	72.92	336.66	0.73	0.00	0.000	0.036	0.258
44	76.00	75.90	0.18745	82.54	0.25765	0.00	0.22	3.36	72.75	336.48	0.73	0.00	0.000	0.036	0.258
45	75.90	75.80	0.18683	82.54	0.25739	0.00	0.22	3.36	72.59	336.31	0.73	0.00	0.000	0.036	0.257
46	75.80	75.70	0.18621	82.54	0.25713	0.00	0.22	3.36	72.42	336.14	0.72	0.00	0.000	0.036	0.257
47	75.70	75.60	0.18560	82.54	0.25686	0.00	0.22	3.36	72.26	335.96	0.72	0.00	0.000	0.036	0.257
48	75.60	75.50	0.18498	82.54	0.25659	0.00	0.21	3.36	72.09	335.79	0.72	0.00	0.000	0.036	0.257
49	75.50	75.40	0.18436	82.54	0.25633	0.00	0.21	3.36	71.92	335.62	0.72	0.00	0.000	0.036	0.256
50	75.40	75.30	0.18374	82.54	0.25606	0.00	0.21	3.35	71.76	335.44	0.72	0.00	0.000	0.035	0.256
51	75.30	75.20	0.18312	82.54	0.25579	0.00	0.21	3.35	71.59	335.27	0.72	0.00	0.000	0.035	0.256
52	75.20	75.10	0.18250	82.54	0.25551	0.00	0.21	3.35	71.43	335.10	0.71	0.00	0.000	0.035	0.256
53	75.10	75.00	0.18189	82.54	0.25524	0.00	0.21	3.35	71.26	334.92	0.71	0.00	0.000	0.035	0.255
54	75.00	74.90	0.18127	82.54	0.25496	0.00	0.21	3.35	71.10	334.75	0.71	0.00	0.000	0.035	0.255
55	74.90	74.80	0.18065	82.54	0.25468	0.00	0.21	3.35	70.93	334.58	0.71	0.00	0.000	0.035	0.255
56	74.80	74.70	0.18003	82.54	0.25440	0.00	0.21	3.34	70.77	334.40	0.71	0.00	0.000	0.035	0.254
57	74.70	74.60	0.17941	82.54	0.25412	0.00	0.21	3.34	70.60	334.23	0.71	0.00	0.000	0.035	0.254
58	74.60	74.50	0.17880	82.54	0.25384	0.00	0.21	3.34	70.44	334.05	0.70	0.00	0.000	0.035	0.254
59	74.50	74.40	0.17818	82.54	0.25355	0.00	0.21	3.34	70.27	333.88	0.70	0.00	0.000	0.035	0.254
60	74.40	74.30	0.17756	82.54	0.25327	0.00	0.21	3.34	70.11	333.71	0.70	0.00	0.000	0.035	0.253
61	74.30	74.20	0.17694	82.54	0.25298	0.00	0.21	3.34	69.94	333.53	0.70	0.00	0.000	0.034	0.253
62	74.20	74.10	0.17632	82.54	0.25269	0.00	0.21	3.33	69.78	333.36	0.70	0.00	0.000	0.034	0.253
63	74.10	74.00	0.17570	82.54	0.25240	0.00	0.21	3.33	69.61	333.18	0.70	0.00	0.000	0.034	0.252
64	74.00	73.90	0.17509	82.54	0.25210	0.00	0.21	3.33	69.45	333.01	0.69	0.00	0.000	0.034	0.252
65	73.90	73.80	0.17447	82.54	0.25181	0.00	0.21	3.33	69.29	332.84	0.69	0.00	0.000	0.034	0.252
66	73.80	73.70	0.17385	82.54	0.25151	0.00	0.21	3.33	69.12	332.66	0.69	0.00	0.000	0.034	0.252

TOT
AVG
CUM

0.20
0.25734
0.30
0.22
3.36
3197.96
14801.30
0.73

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

ELEM ENDING SAT REAER CBOD CBOD ANBOD BKGD FULL CORR ORGN ORGN NH3 NH3 DENIT PO4 ALG MAC COLI NCM

NCM NO. SETT	DIST	D.O. mg/L	RATE 1/da	DECAY 1/da	SETT 1/da	DECAY 1/da	SOD *	SOD *	SOD *	DECAY 1/da	SETT 1/da	DECAY 1/da	SRCE *	RATE 1/da	SRCE *	PROD **	PROD **	DECAY 1/da	DECAY 1/da
23 0.06	78.000	8.11	3.50	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
24 0.06	77.900	8.11	3.50	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
25 0.06	77.800	8.11	3.51	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
26 0.06	77.700	8.11	3.52	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
27 0.06	77.600	8.11	3.52	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
28 0.06	77.500	8.11	3.53	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
29 0.06	77.400	8.11	3.53	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
30 0.06	77.300	8.11	3.54	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
31 0.06	77.200	8.11	3.55	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
32 0.06	77.100	8.11	3.55	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
33 0.06	77.000	8.11	3.56	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
34 0.06	76.900	8.11	3.56	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
35 0.06	76.800	8.11	3.57	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
36 0.06	76.700	8.11	3.58	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
37 0.06	76.600	8.11	3.58	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
38 0.06	76.500	8.11	3.59	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
39 0.06	76.400	8.11	3.60	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
40 0.06	76.300	8.11	3.60	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.17
41 0.06	76.200	8.11	3.61	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
42 0.06	76.100	8.11	3.62	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
43 0.06	76.000	8.11	3.62	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
44 0.06	75.900	8.11	3.63	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17

45	75.800	8.11	3.63	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
46	75.700	8.11	3.64	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
47	75.600	8.11	3.65	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
48	75.500	8.11	3.65	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
49	75.400	8.11	3.66	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
50	75.300	8.11	3.67	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
51	75.200	8.11	3.67	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.17
0.06																			
52	75.100	8.11	3.68	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
53	75.000	8.11	3.69	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
54	74.900	8.11	3.69	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
55	74.800	8.11	3.70	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
56	74.700	8.11	3.71	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
57	74.600	8.11	3.71	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
58	74.500	8.11	3.72	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
59	74.400	8.11	3.73	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
60	74.300	8.11	3.73	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
61	74.200	8.11	3.74	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
62	74.100	8.11	3.75	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.17
0.06																			
63	74.000	8.11	3.75	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
64	73.900	8.11	3.76	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
65	73.800	8.11	3.77	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
66	73.700	8.11	3.78	0.24	0.12	0.00	2.13	2.13	2.13	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.17
0.06																			
20 DEG C RATE				0.18		0.00	1.46			0.13		0.00	0.00	0.00	0.00			0.00	0.13
AVG 20 DEG C RATE			3.24		0.10						0.20								
0.05																			

* g/m²/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 *
23	78.000	26.00	0.00	32.41	13.80	4.80	18.82	19.21	2.89	0.05	0.52	3.47	0.00	2.59	0.00	0.00	1.01
24	77.900	26.00	0.00	32.41	13.80	4.79	18.79	19.18	2.89	0.06	0.52	3.47	0.00	2.57	0.00	0.00	1.01
25	77.800	26.00	0.00	32.41	13.80	4.77	18.77	19.15	2.88	0.06	0.52	3.46	0.00	2.56	0.00	0.00	1.01
26	77.700	26.00	0.00	32.41	13.80	4.76	18.74	19.12	2.88	0.06	0.52	3.46	0.00	2.55	0.00	0.00	1.01
27	77.600	26.00	0.00	32.41	13.80	4.75	18.71	19.09	2.87	0.06	0.52	3.46	0.00	2.53	0.00	0.00	1.02
28	77.500	26.00	0.00	32.41	13.80	4.74	18.68	19.06	2.86	0.07	0.52	3.45	0.00	2.52	0.00	0.00	1.02
29	77.400	26.00	0.00	32.41	13.80	4.73	18.65	19.03	2.86	0.07	0.52	3.45	0.00	2.50	0.00	0.00	1.02
30	77.300	26.00	0.00	32.41	13.80	4.71	18.62	18.99	2.85	0.07	0.52	3.45	0.00	2.49	0.00	0.00	1.02
31	77.200	26.00	0.00	32.41	13.80	4.70	18.59	18.96	2.85	0.07	0.52	3.45	0.00	2.48	0.00	0.00	1.02
32	77.100	26.00	0.00	32.41	13.80	4.69	18.56	18.93	2.84	0.08	0.52	3.44	0.00	2.46	0.00	0.00	1.03
33	77.000	26.00	0.00	32.41	13.80	4.68	18.53	18.90	2.84	0.08	0.52	3.44	0.00	2.45	0.00	0.00	1.03
34	76.900	26.00	0.00	32.41	13.80	4.67	18.50	18.87	2.83	0.08	0.52	3.44	0.00	2.44	0.00	0.00	1.03
35	76.800	26.00	0.00	32.41	13.80	4.66	18.48	18.84	2.83	0.08	0.52	3.43	0.00	2.42	0.00	0.00	1.03
36	76.700	26.00	0.00	32.41	13.80	4.65	18.45	18.81	2.82	0.09	0.52	3.43	0.00	2.41	0.00	0.00	1.03
37	76.600	26.00	0.00	32.41	13.80	4.64	18.42	18.78	2.82	0.09	0.52	3.43	0.00	2.40	0.00	0.00	1.04
38	76.500	26.00	0.00	32.41	13.80	4.63	18.39	18.75	2.81	0.09	0.52	3.43	0.00	2.38	0.00	0.00	1.04
39	76.400	26.00	0.00	32.41	13.80	4.62	18.36	18.72	2.81	0.09	0.52	3.42	0.00	2.37	0.00	0.00	1.04
40	76.300	26.00	0.00	32.41	13.80	4.61	18.33	18.68	2.80	0.10	0.52	3.42	0.00	2.35	0.00	0.00	1.04
41	76.200	26.00	0.00	32.41	13.80	4.60	18.30	18.65	2.80	0.10	0.52	3.42	0.00	2.34	0.00	0.00	1.04
42	76.100	26.00	0.00	32.41	13.80	4.59	18.27	18.62	2.79	0.10	0.52	3.41	0.00	2.33	0.00	0.00	1.05
43	76.000	26.00	0.00	32.41	13.80	4.59	18.25	18.59	2.78	0.10	0.52	3.41	0.00	2.31	0.00	0.00	1.05
44	75.900	26.00	0.00	32.41	13.80	4.58	18.22	18.56	2.78	0.11	0.52	3.41	0.00	2.30	0.00	0.00	1.05
45	75.800	26.00	0.00	32.41	13.80	4.57	18.19	18.53	2.77	0.11	0.52	3.40	0.00	2.29	0.00	0.00	1.05
46	75.700	26.00	0.00	32.41	13.80	4.56	18.16	18.50	2.77	0.11	0.52	3.40	0.00	2.27	0.00	0.00	1.05
47	75.600	26.00	0.00	32.41	13.80	4.55	18.13	18.47	2.76	0.11	0.52	3.40	0.00	2.26	0.00	0.00	1.06
48	75.500	26.00	0.00	32.41	13.80	4.54	18.10	18.44	2.76	0.12	0.52	3.40	0.00	2.25	0.00	0.00	1.06
49	75.400	26.00	0.00	32.41	13.80	4.54	18.07	18.41	2.75	0.12	0.52	3.39	0.00	2.23	0.00	0.00	1.06
50	75.300	26.00	0.00	32.41	13.80	4.53	18.04	18.38	2.75	0.12	0.52	3.39	0.00	2.22	0.00	0.00	1.06
51	75.200	26.00	0.00	32.41	13.80	4.52	18.02	18.35	2.74	0.12	0.52	3.39	0.00	2.20	0.00	0.00	1.07
52	75.100	26.00	0.00	32.41	13.80	4.51	17.99	18.32	2.74	0.13	0.52	3.38	0.00	2.19	0.00	0.00	1.07
53	75.000	26.00	0.00	32.41	13.80	4.51	17.96	18.29	2.73	0.13	0.52	3.38	0.00	2.18	0.00	0.00	1.07
54	74.900	26.00	0.00	32.41	13.80	4.50	17.93	18.25	2.73	0.13	0.52	3.38	0.00	2.16	0.00	0.00	1.07
55	74.800	26.00	0.00	32.41	13.80	4.49	17.90	18.22	2.72	0.13	0.52	3.38	0.00	2.15	0.00	0.00	1.07
56	74.700	26.00	0.00	32.41	13.80	4.49	17.87	18.19	2.72	0.13	0.52	3.37	0.00	2.14	0.00	0.00	1.08
57	74.600	26.00	0.00	32.41	13.80	4.48	17.84	18.16	2.71	0.14	0.52	3.37	0.00	2.12	0.00	0.00	1.08
58	74.500	26.00	0.00	32.41	13.80	4.48	17.82	18.13	2.71	0.14	0.52	3.37	0.00	2.11	0.00	0.00	1.08
59	74.400	26.00	0.00	32.41	13.80	4.47	17.79	18.10	2.70	0.14	0.52	3.36	0.00	2.10	0.00	0.00	1.08
60	74.300	26.00	0.00	32.41	13.80	4.46	17.76	18.07	2.70	0.14	0.52	3.36	0.00	2.08	0.00	0.00	1.08
61	74.200	26.00	0.00	32.41	13.80	4.46	17.73	18.04	2.69	0.15	0.52	3.36	0.00	2.07	0.00	0.00	1.09
62	74.100	26.00	0.00	32.41	13.80	4.45	17.70	18.01	2.68	0.15	0.52	3.36	0.00	2.05	0.00	0.00	1.09
63	74.000	26.00	0.00	32.41	13.80	4.45	17.67	17.98	2.68	0.15	0.52	3.35	0.00	2.04	0.00	0.00	1.09
64	73.900	26.00	0.00	32.41	13.80	4.44	17.64	17.95	2.67	0.15	0.52	3.35	0.00	2.03	0.00	0.00	1.09
65	73.800	26.00	0.00	32.41	13.80	4.44	17.62	17.92	2.67	0.16	0.52	3.35	0.00	2.01	0.00	0.00	1.10

66 73.700 26.00 0.00 32.41 13.80 4.43 17.59 17.89 2.66 0.16 0.52 3.34 0.00 2.00 0.00 0.00 1.10

* CM-I = CHLORIDES CM-II = SULFATES NCM = CBOD2
 MG/L MG/L mg/L
 ** g/m³

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
 REACH NO. 3 SITE 3 - LITTLE BARNES CR BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m³/	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 *
67	UPR RCH	0.17385	26.00	0.00	32.41	13.80	4.43	17.59	17.89	2.66	0.16	0.52	0.00	2.00	0.00	1.10
EACH	INCR	-0.0002														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s	MEAN VELO m/s
67	73.70	73.60	0.17367	82.54	0.11467	0.01	0.42	3.63	151.45	362.61	1.51	0.00	0.000	0.028	0.115
68	73.60	73.50	0.17349	82.54	0.11459	0.01	0.42	3.63	151.39	362.56	1.51	0.00	0.000	0.028	0.115
69	73.50	73.40	0.17330	82.54	0.11452	0.01	0.42	3.63	151.33	362.51	1.51	0.00	0.000	0.028	0.115
70	73.40	73.30	0.17312	82.54	0.11445	0.01	0.42	3.62	151.27	362.46	1.51	0.00	0.000	0.028	0.114
71	73.30	73.20	0.17294	82.54	0.11438	0.01	0.42	3.62	151.20	362.41	1.51	0.00	0.000	0.028	0.114
72	73.20	73.10	0.17276	82.54	0.11430	0.01	0.42	3.62	151.14	362.35	1.51	0.00	0.000	0.028	0.114
73	73.10	73.00	0.17258	82.54	0.11423	0.01	0.42	3.62	151.08	362.30	1.51	0.00	0.000	0.028	0.114
74	73.00	72.90	0.17239	82.54	0.11416	0.01	0.42	3.62	151.02	362.25	1.51	0.00	0.000	0.028	0.114
75	72.90	72.80	0.17221	82.54	0.11408	0.01	0.42	3.62	150.95	362.20	1.51	0.00	0.000	0.028	0.114
76	72.80	72.70	0.17203	82.54	0.11401	0.01	0.42	3.62	150.89	362.15	1.51	0.00	0.000	0.028	0.114
77	72.70	72.60	0.17185	82.54	0.11393	0.01	0.42	3.62	150.83	362.10	1.51	0.00	0.000	0.027	0.114
78	72.60	72.50	0.17166	82.54	0.11386	0.01	0.42	3.62	150.77	362.05	1.51	0.00	0.000	0.027	0.114
79	72.50	72.40	0.17148	82.54	0.11379	0.01	0.42	3.62	150.71	361.99	1.51	0.00	0.000	0.027	0.114
80	72.40	72.30	0.17130	82.54	0.11371	0.01	0.42	3.62	150.64	361.94	1.51	0.00	0.000	0.027	0.114
81	72.30	72.20	0.17112	82.54	0.11364	0.01	0.42	3.62	150.58	361.89	1.51	0.00	0.000	0.027	0.114
82	72.20	72.10	0.17094	82.54	0.11356	0.01	0.42	3.62	150.52	361.84	1.51	0.00	0.000	0.027	0.114
83	72.10	72.00	0.17075	82.54	0.11349	0.01	0.42	3.62	150.46	361.79	1.50	0.00	0.000	0.027	0.113
84	72.00	71.90	0.17057	82.54	0.11342	0.01	0.42	3.62	150.39	361.74	1.50	0.00	0.000	0.027	0.113
85	71.90	71.80	0.17039	82.54	0.11334	0.01	0.42	3.62	150.33	361.69	1.50	0.00	0.000	0.027	0.113
86	71.80	71.70	0.17021	82.54	0.11327	0.01	0.42	3.62	150.27	361.64	1.50	0.00	0.000	0.027	0.113
87	71.70	71.60	0.17003	82.54	0.11319	0.01	0.42	3.62	150.21	361.58	1.50	0.00	0.000	0.027	0.113
88	71.60	71.50	0.16984	82.54	0.11312	0.01	0.42	3.62	150.15	361.53	1.50	0.00	0.000	0.027	0.113
89	71.50	71.40	0.16966	82.54	0.11304	0.01	0.42	3.61	150.08	361.48	1.50	0.00	0.000	0.027	0.113
90	71.40	71.30	0.16948	82.54	0.11297	0.01	0.42	3.61	150.02	361.43	1.50	0.00	0.000	0.027	0.113

91	71.30	71.20	0.16930	82.54	0.11290	0.01	0.41	3.61	149.96	361.38	1.50	0.00	0.000	0.027	0.113
92	71.20	71.10	0.16911	82.54	0.11282	0.01	0.41	3.61	149.90	361.33	1.50	0.00	0.000	0.027	0.113
93	71.10	71.00	0.16893	82.54	0.11275	0.01	0.41	3.61	149.83	361.28	1.50	0.00	0.000	0.027	0.113
94	71.00	70.90	0.16875	82.54	0.11267	0.01	0.41	3.61	149.77	361.22	1.50	0.00	0.000	0.027	0.113
95	70.90	70.80	0.16857	82.54	0.11260	0.01	0.41	3.61	149.71	361.17	1.50	0.00	0.000	0.027	0.113
96	70.80	70.70	0.16839	82.54	0.11252	0.01	0.41	3.61	149.65	361.12	1.50	0.00	0.000	0.027	0.113
97	70.70	70.60	0.16820	82.54	0.11245	0.01	0.41	3.61	149.59	361.07	1.50	0.00	0.000	0.027	0.112
98	70.60	70.50	0.16802	82.54	0.11237	0.01	0.41	3.61	149.52	361.02	1.50	0.00	0.000	0.027	0.112
99	70.50	70.40	0.16784	82.54	0.11230	0.01	0.41	3.61	149.46	360.97	1.49	0.00	0.000	0.027	0.112
100	70.40	70.30	0.16766	82.54	0.11222	0.01	0.41	3.61	149.40	360.92	1.49	0.00	0.000	0.027	0.112
101	70.30	70.20	0.16748	82.54	0.11215	0.01	0.41	3.61	149.34	360.86	1.49	0.00	0.000	0.027	0.112
102	70.20	70.10	0.16729	82.54	0.11207	0.01	0.41	3.61	149.28	360.81	1.49	0.00	0.000	0.027	0.112
103	70.10	70.00	0.16711	82.54	0.11199	0.01	0.41	3.61	149.21	360.76	1.49	0.00	0.000	0.027	0.112
104	70.00	69.90	0.16693	82.54	0.11192	0.01	0.41	3.61	149.15	360.71	1.49	0.00	0.000	0.027	0.112
105	69.90	69.80	0.16675	82.54	0.11184	0.01	0.41	3.61	149.09	360.66	1.49	0.00	0.000	0.027	0.112
106	69.80	69.70	0.16656	82.54	0.11177	0.01	0.41	3.61	149.03	360.61	1.49	0.00	0.000	0.027	0.112
107	69.70	69.60	0.16638	82.54	0.11169	0.01	0.41	3.61	148.97	360.56	1.49	0.00	0.000	0.027	0.112
108	69.60	69.50	0.16620	82.54	0.11162	0.01	0.41	3.61	148.90	360.50	1.49	0.00	0.000	0.027	0.112
109	69.50	69.40	0.16602	82.54	0.11154	0.01	0.41	3.60	148.84	360.45	1.49	0.00	0.000	0.027	0.112
110	69.40	69.30	0.16584	82.54	0.11146	0.01	0.41	3.60	148.78	360.40	1.49	0.00	0.000	0.027	0.111
111	69.30	69.20	0.16565	82.54	0.11139	0.01	0.41	3.60	148.72	360.35	1.49	0.00	0.000	0.027	0.111
112	69.20	69.10	0.16547	82.54	0.11131	0.01	0.41	3.60	148.66	360.30	1.49	0.00	0.000	0.027	0.111
113	69.10	69.00	0.16529	82.54	0.11124	0.01	0.41	3.60	148.59	360.25	1.49	0.00	0.000	0.027	0.111
114	69.00	68.90	0.16511	82.54	0.11116	0.01	0.41	3.60	148.53	360.19	1.49	0.00	0.000	0.027	0.111
115	68.90	68.80	0.16493	82.54	0.11108	0.01	0.41	3.60	148.47	360.14	1.48	0.00	0.000	0.027	0.111
116	68.80	68.70	0.16474	82.54	0.11101	0.01	0.41	3.60	148.41	360.09	1.48	0.00	0.000	0.027	0.111
117	68.70	68.60	0.16456	82.54	0.11093	0.01	0.41	3.60	148.35	360.04	1.48	0.00	0.000	0.027	0.111
118	68.60	68.50	0.16438	82.54	0.11085	0.01	0.41	3.60	148.28	359.99	1.48	0.00	0.000	0.026	0.111
119	68.50	68.40	0.16420	82.54	0.11078	0.01	0.41	3.60	148.22	359.94	1.48	0.00	0.000	0.026	0.111
120	68.40	68.30	0.16401	82.54	0.11070	0.01	0.41	3.60	148.16	359.89	1.48	0.00	0.000	0.026	0.111
121	68.30	68.20	0.16383	82.54	0.11062	0.01	0.41	3.60	148.10	359.83	1.48	0.00	0.000	0.026	0.111
122	68.20	68.10	0.16365	82.54	0.11055	0.01	0.41	3.60	148.04	359.78	1.48	0.00	0.000	0.026	0.111
123	68.10	68.00	0.16347	82.54	0.11047	0.01	0.41	3.60	147.98	359.73	1.48	0.00	0.000	0.026	0.110
124	68.00	67.90	0.16329	82.54	0.11039	0.01	0.41	3.60	147.91	359.68	1.48	0.00	0.000	0.026	0.110
125	67.90	67.80	0.16310	82.54	0.11032	0.01	0.41	3.60	147.85	359.63	1.48	0.00	0.000	0.026	0.110
126	67.80	67.70	0.16292	82.54	0.11024	0.01	0.41	3.60	147.79	359.58	1.48	0.00	0.000	0.026	0.110
127	67.70	67.60	0.16274	82.54	0.11016	0.01	0.41	3.60	147.73	359.52	1.48	0.00	0.000	0.026	0.110
128	67.60	67.50	0.16256	82.54	0.11008	0.01	0.41	3.59	147.67	359.47	1.48	0.00	0.000	0.026	0.110
129	67.50	67.40	0.16238	82.54	0.11001	0.01	0.41	3.59	147.60	359.42	1.48	0.00	0.000	0.026	0.110
130	67.40	67.30	0.16219	82.54	0.10993	0.01	0.41	3.59	147.54	359.37	1.48	0.00	0.000	0.026	0.110
131	67.30	67.20	0.16201	82.54	0.10985	0.01	0.41	3.59	147.48	359.32	1.47	0.00	0.000	0.026	0.110
132	67.20	67.10	0.16183	82.54	0.10977	0.01	0.41	3.59	147.42	359.27	1.47	0.00	0.000	0.026	0.110
133	67.10	67.00	0.16165	82.54	0.10970	0.01	0.41	3.59	147.36	359.22	1.47	0.00	0.000	0.026	0.110
134	67.00	66.90	0.16147	82.54	0.10962	0.01	0.41	3.59	147.30	359.16	1.47	0.00	0.000	0.026	0.110
135	66.90	66.80	0.16128	82.54	0.10954	0.01	0.41	3.59	147.23	359.11	1.47	0.00	0.000	0.026	0.110
136	66.80	66.70	0.16110	82.54	0.10946	0.01	0.41	3.59	147.17	359.06	1.47	0.00	0.000	0.026	0.109
137	66.70	66.60	0.16092	82.54	0.10939	0.01	0.41	3.59	147.11	359.01	1.47	0.00	0.000	0.026	0.109
138	66.60	66.50	0.16074	82.54	0.10931	0.01	0.41	3.59	147.05	358.96	1.47	0.00	0.000	0.026	0.109
139	66.50	66.40	0.16055	82.54	0.10923	0.01	0.41	3.59	146.99	358.91	1.47	0.00	0.000	0.026	0.109
140	66.40	66.30	0.16037	82.54	0.10915	0.01	0.41	3.59	146.93	358.85	1.47	0.00	0.000	0.026	0.109

0.06																			
166	63.700	8.02	1.95	0.18	0.12	0.00	2.22	2.22	2.22	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
167	63.600	8.02	1.95	0.18	0.12	0.00	2.22	2.22	2.22	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
168	63.500	8.02	1.95	0.18	0.12	0.00	2.22	2.22	2.22	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
169	63.400	8.02	1.95	0.18	0.12	0.00	2.22	2.22	2.22	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
170	63.300	8.02	1.95	0.18	0.12	0.00	2.22	2.22	2.22	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
171	63.200	8.02	1.96	0.18	0.12	0.00	2.22	2.22	2.22	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
172	63.100	8.02	1.96	0.18	0.12	0.00	2.22	2.22	2.22	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
173	63.000	8.02	1.96	0.18	0.12	0.00	2.22	2.22	2.22	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
174	62.900	8.01	1.96	0.18	0.12	0.00	2.22	2.22	2.22	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
175	62.800	8.01	1.96	0.18	0.12	0.00	2.22	2.22	2.22	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
176	62.700	8.01	1.96	0.18	0.12	0.00	2.22	2.22	2.22	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
177	62.600	8.01	1.96	0.18	0.12	0.00	2.23	2.23	2.23	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
178	62.500	8.01	1.96	0.18	0.12	0.00	2.23	2.23	2.23	0.20	0.23	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.18
0.06																			
20 DEG C RATE				0.13		0.00	1.46			0.13		0.00	0.00	0.00	0.00			0.00	0.13
AVG 20 DEG C RATE			1.70		0.10						0.20								
0.05																			

* g/m²/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 *
67	73.600	26.01	0.00	32.41	13.80	4.41	17.54	17.84	2.65	0.16	0.52	3.34	0.00	2.00	0.00	0.00	1.10
68	73.500	26.01	0.00	32.41	13.80	4.40	17.50	17.80	2.64	0.17	0.52	3.33	0.00	2.00	0.00	0.00	1.10
69	73.400	26.02	0.00	32.41	13.80	4.38	17.46	17.76	2.63	0.17	0.52	3.33	0.00	2.00	0.00	0.00	1.10
70	73.300	26.02	0.00	32.41	13.80	4.36	17.41	17.71	2.62	0.18	0.52	3.32	0.00	2.00	0.00	0.00	1.11
71	73.200	26.03	0.00	32.41	13.80	4.35	17.37	17.67	2.61	0.18	0.52	3.31	0.00	2.00	0.00	0.00	1.11
72	73.100	26.04	0.00	32.41	13.80	4.33	17.33	17.63	2.60	0.19	0.52	3.31	0.00	1.99	0.00	0.00	1.11
73	73.000	26.04	0.00	32.41	13.80	4.32	17.28	17.58	2.59	0.19	0.52	3.30	0.00	1.99	0.00	0.00	1.11
74	72.900	26.05	0.00	32.41	13.80	4.30	17.24	17.54	2.57	0.20	0.52	3.30	0.00	1.99	0.00	0.00	1.11
75	72.800	26.06	0.00	32.41	13.80	4.29	17.20	17.50	2.56	0.20	0.52	3.29	0.00	1.99	0.00	0.00	1.12
76	72.700	26.06	0.00	32.41	13.80	4.27	17.16	17.45	2.55	0.21	0.52	3.28	0.00	1.99	0.00	0.00	1.12

77	72.600	26.07	0.00	32.41	13.80	4.26	17.11	17.41	2.54	0.21	0.52	3.28	0.00	1.99	0.00	0.00	1.12
78	72.500	26.08	0.00	32.41	13.80	4.24	17.07	17.37	2.53	0.22	0.52	3.27	0.00	1.99	0.00	0.00	1.12
79	72.400	26.08	0.00	32.41	13.80	4.23	17.03	17.33	2.52	0.22	0.52	3.27	0.00	1.99	0.00	0.00	1.12
80	72.300	26.09	0.00	32.41	13.80	4.22	16.99	17.28	2.51	0.23	0.52	3.26	0.00	1.99	0.00	0.00	1.12
81	72.200	26.09	0.00	32.41	13.80	4.20	16.94	17.24	2.50	0.23	0.52	3.25	0.00	1.99	0.00	0.00	1.13
82	72.100	26.10	0.00	32.41	13.80	4.19	16.90	17.20	2.49	0.24	0.52	3.25	0.00	1.99	0.00	0.00	1.13
83	72.000	26.11	0.00	32.41	13.80	4.18	16.86	17.16	2.48	0.24	0.52	3.24	0.00	1.98	0.00	0.00	1.13
84	71.900	26.11	0.00	32.41	13.80	4.17	16.82	17.11	2.46	0.25	0.52	3.24	0.00	1.98	0.00	0.00	1.13
85	71.800	26.12	0.00	32.41	13.80	4.16	16.78	17.07	2.45	0.25	0.52	3.23	0.00	1.98	0.00	0.00	1.13
86	71.700	26.12	0.00	32.41	13.80	4.14	16.73	17.03	2.44	0.26	0.52	3.22	0.00	1.98	0.00	0.00	1.14
87	71.600	26.13	0.00	32.41	13.80	4.13	16.69	16.99	2.43	0.26	0.52	3.22	0.00	1.98	0.00	0.00	1.14
88	71.500	26.14	0.00	32.41	13.80	4.12	16.65	16.95	2.42	0.27	0.52	3.21	0.00	1.98	0.00	0.00	1.14
89	71.400	26.14	0.00	32.41	13.80	4.11	16.61	16.91	2.41	0.27	0.52	3.21	0.00	1.98	0.00	0.00	1.14
90	71.300	26.15	0.00	32.41	13.80	4.10	16.57	16.86	2.40	0.28	0.52	3.20	0.00	1.98	0.00	0.00	1.14
91	71.200	26.16	0.00	32.41	13.80	4.09	16.53	16.82	2.39	0.28	0.52	3.20	0.00	1.98	0.00	0.00	1.15
92	71.100	26.16	0.00	32.41	13.80	4.08	16.48	16.78	2.38	0.29	0.52	3.19	0.00	1.98	0.00	0.00	1.15
93	71.000	26.17	0.00	32.41	13.80	4.07	16.44	16.74	2.37	0.29	0.52	3.18	0.00	1.98	0.00	0.00	1.15
94	70.900	26.17	0.00	32.41	13.80	4.06	16.40	16.70	2.36	0.30	0.52	3.18	0.00	1.98	0.00	0.00	1.15
95	70.800	26.18	0.00	32.41	13.80	4.05	16.36	16.66	2.35	0.30	0.52	3.17	0.00	1.97	0.00	0.00	1.15
96	70.700	26.19	0.00	32.41	13.80	4.04	16.32	16.62	2.34	0.31	0.52	3.17	0.00	1.97	0.00	0.00	1.15
97	70.600	26.19	0.00	32.41	13.80	4.04	16.28	16.57	2.33	0.31	0.52	3.16	0.00	1.97	0.00	0.00	1.16
98	70.500	26.20	0.00	32.41	13.80	4.03	16.24	16.53	2.32	0.32	0.52	3.16	0.00	1.97	0.00	0.00	1.16
99	70.400	26.21	0.00	32.41	13.80	4.02	16.20	16.49	2.31	0.32	0.52	3.15	0.00	1.97	0.00	0.00	1.16
100	70.300	26.21	0.00	32.41	13.80	4.01	16.16	16.45	2.30	0.33	0.52	3.14	0.00	1.97	0.00	0.00	1.16
101	70.200	26.22	0.00	32.41	13.80	4.00	16.12	16.41	2.29	0.33	0.52	3.14	0.00	1.97	0.00	0.00	1.16
102	70.100	26.23	0.00	32.41	13.80	3.99	16.07	16.37	2.28	0.34	0.52	3.13	0.00	1.97	0.00	0.00	1.17
103	70.000	26.23	0.00	32.41	13.80	3.99	16.03	16.33	2.27	0.34	0.52	3.13	0.00	1.97	0.00	0.00	1.17
104	69.900	26.24	0.00	32.41	13.80	3.98	15.99	16.29	2.26	0.34	0.52	3.12	0.00	1.97	0.00	0.00	1.17
105	69.800	26.24	0.00	32.41	13.80	3.97	15.95	16.25	2.25	0.35	0.52	3.12	0.00	1.97	0.00	0.00	1.17
106	69.700	26.25	0.00	32.41	13.80	3.97	15.91	16.21	2.24	0.35	0.52	3.11	0.00	1.96	0.00	0.00	1.17
107	69.600	26.26	0.00	32.41	13.80	3.96	15.87	16.17	2.23	0.36	0.52	3.11	0.00	1.96	0.00	0.00	1.18
108	69.500	26.26	0.00	32.41	13.80	3.95	15.83	16.13	2.22	0.36	0.52	3.10	0.00	1.96	0.00	0.00	1.18
109	69.400	26.27	0.00	32.41	13.80	3.95	15.79	16.09	2.21	0.37	0.52	3.10	0.00	1.96	0.00	0.00	1.18
110	69.300	26.27	0.00	32.41	13.80	3.94	15.75	16.05	2.20	0.37	0.52	3.09	0.00	1.96	0.00	0.00	1.18
111	69.200	26.28	0.00	32.41	13.80	3.93	15.71	16.01	2.19	0.38	0.52	3.08	0.00	1.96	0.00	0.00	1.18
112	69.100	26.29	0.00	32.41	13.80	3.93	15.67	15.97	2.18	0.38	0.52	3.08	0.00	1.96	0.00	0.00	1.18
113	69.000	26.29	0.00	32.41	13.80	3.92	15.63	15.93	2.17	0.39	0.52	3.07	0.00	1.96	0.00	0.00	1.19
114	68.900	26.30	0.00	32.41	13.80	3.92	15.60	15.89	2.16	0.39	0.52	3.07	0.00	1.96	0.00	0.00	1.19
115	68.800	26.31	0.00	32.41	13.80	3.91	15.56	15.85	2.15	0.39	0.52	3.06	0.00	1.96	0.00	0.00	1.19
116	68.700	26.31	0.00	32.41	13.80	3.91	15.52	15.81	2.14	0.40	0.52	3.06	0.00	1.96	0.00	0.00	1.19
117	68.600	26.32	0.00	32.41	13.80	3.90	15.48	15.77	2.13	0.40	0.52	3.05	0.00	1.95	0.00	0.00	1.19
118	68.500	26.33	0.00	32.41	13.80	3.90	15.44	15.73	2.12	0.41	0.52	3.05	0.00	1.95	0.00	0.00	1.20
119	68.400	26.33	0.00	32.41	13.80	3.89	15.40	15.69	2.11	0.41	0.52	3.04	0.00	1.95	0.00	0.00	1.20
120	68.300	26.34	0.00	32.41	13.80	3.89	15.36	15.65	2.10	0.42	0.52	3.04	0.00	1.95	0.00	0.00	1.20
121	68.200	26.34	0.00	32.41	13.80	3.88	15.32	15.61	2.09	0.42	0.52	3.03	0.00	1.95	0.00	0.00	1.20
122	68.100	26.35	0.00	32.41	13.80	3.88	15.28	15.57	2.08	0.42	0.52	3.03	0.00	1.95	0.00	0.00	1.20
123	68.000	26.36	0.00	32.41	13.80	3.87	15.24	15.54	2.07	0.43	0.52	3.02	0.00	1.95	0.00	0.00	1.20
124	67.900	26.36	0.00	32.41	13.80	3.87	15.21	15.50	2.06	0.43	0.52	3.02	0.00	1.95	0.00	0.00	1.21
125	67.800	26.37	0.00	32.41	13.80	3.87	15.17	15.46	2.05	0.44	0.52	3.01	0.00	1.95	0.00	0.00	1.21
126	67.700	26.38	0.00	32.41	13.80	3.86	15.13	15.42	2.05	0.44	0.52	3.01	0.00	1.95	0.00	0.00	1.21

127	67.600	26.38	0.00	32.41	13.80	3.86	15.09	15.38	2.04	0.45	0.52	3.00	0.00	1.95	0.00	0.00	1.21
128	67.500	26.39	0.00	32.41	13.80	3.85	15.05	15.34	2.03	0.45	0.52	3.00	0.00	1.94	0.00	0.00	1.21
129	67.400	26.39	0.00	32.41	13.80	3.85	15.01	15.30	2.02	0.45	0.52	2.99	0.00	1.94	0.00	0.00	1.22
130	67.300	26.40	0.00	32.41	13.80	3.85	14.97	15.27	2.01	0.46	0.52	2.99	0.00	1.94	0.00	0.00	1.22
131	67.200	26.41	0.00	32.41	13.80	3.84	14.94	15.23	2.00	0.46	0.52	2.98	0.00	1.94	0.00	0.00	1.22
132	67.100	26.41	0.00	32.41	13.80	3.84	14.90	15.19	1.99	0.47	0.52	2.98	0.00	1.94	0.00	0.00	1.22
133	67.000	26.42	0.00	32.41	13.80	3.84	14.86	15.15	1.98	0.47	0.52	2.97	0.00	1.94	0.00	0.00	1.22
134	66.900	26.43	0.00	32.41	13.80	3.83	14.82	15.11	1.97	0.48	0.52	2.97	0.00	1.94	0.00	0.00	1.22
135	66.800	26.43	0.00	32.41	13.80	3.83	14.79	15.08	1.96	0.48	0.52	2.96	0.00	1.94	0.00	0.00	1.23
136	66.700	26.44	0.00	32.41	13.80	3.83	14.75	15.04	1.95	0.48	0.52	2.96	0.00	1.94	0.00	0.00	1.23
137	66.600	26.44	0.00	32.41	13.80	3.83	14.71	15.00	1.95	0.49	0.52	2.95	0.00	1.94	0.00	0.00	1.23
138	66.500	26.45	0.00	32.41	13.80	3.82	14.67	14.96	1.94	0.49	0.52	2.95	0.00	1.94	0.00	0.00	1.23
139	66.400	26.46	0.00	32.41	13.80	3.82	14.64	14.93	1.93	0.50	0.52	2.94	0.00	1.93	0.00	0.00	1.23
140	66.300	26.46	0.00	32.41	13.80	3.82	14.60	14.89	1.92	0.50	0.52	2.94	0.00	1.93	0.00	0.00	1.23
141	66.200	26.47	0.00	32.41	13.80	3.82	14.56	14.85	1.91	0.50	0.52	2.93	0.00	1.93	0.00	0.00	1.24
142	66.100	26.48	0.00	32.41	13.80	3.82	14.52	14.81	1.90	0.51	0.52	2.93	0.00	1.93	0.00	0.00	1.24
143	66.000	26.48	0.00	32.41	13.80	3.81	14.49	14.78	1.89	0.51	0.52	2.92	0.00	1.93	0.00	0.00	1.24
144	65.900	26.49	0.00	32.41	13.80	3.81	14.45	14.74	1.88	0.52	0.52	2.92	0.00	1.93	0.00	0.00	1.24
145	65.800	26.49	0.00	32.41	13.80	3.81	14.41	14.70	1.88	0.52	0.52	2.91	0.00	1.93	0.00	0.00	1.24
146	65.700	26.50	0.00	32.41	13.80	3.81	14.38	14.66	1.87	0.52	0.52	2.91	0.00	1.93	0.00	0.00	1.25
147	65.600	26.51	0.00	32.41	13.80	3.81	14.34	14.63	1.86	0.53	0.52	2.90	0.00	1.93	0.00	0.00	1.25
148	65.500	26.51	0.00	32.41	13.80	3.80	14.30	14.59	1.85	0.53	0.52	2.90	0.00	1.93	0.00	0.00	1.25
149	65.400	26.52	0.00	32.41	13.80	3.80	14.27	14.55	1.84	0.54	0.52	2.90	0.00	1.93	0.00	0.00	1.25
150	65.300	26.52	0.00	32.41	13.80	3.80	14.23	14.52	1.83	0.54	0.52	2.89	0.00	1.92	0.00	0.00	1.25
151	65.200	26.53	0.00	32.41	13.80	3.80	14.19	14.48	1.82	0.54	0.52	2.89	0.00	1.92	0.00	0.00	1.25
152	65.100	26.54	0.00	32.41	13.80	3.80	14.16	14.44	1.82	0.55	0.52	2.88	0.00	1.92	0.00	0.00	1.26
153	65.000	26.54	0.00	32.41	13.80	3.80	14.12	14.41	1.81	0.55	0.52	2.88	0.00	1.92	0.00	0.00	1.26
154	64.900	26.55	0.00	32.41	13.80	3.80	14.08	14.37	1.80	0.56	0.52	2.87	0.00	1.92	0.00	0.00	1.26
155	64.800	26.56	0.00	32.41	13.80	3.80	14.05	14.34	1.79	0.56	0.52	2.87	0.00	1.92	0.00	0.00	1.26
156	64.700	26.56	0.00	32.41	13.80	3.79	14.01	14.30	1.78	0.56	0.52	2.86	0.00	1.92	0.00	0.00	1.26
157	64.600	26.57	0.00	32.41	13.80	3.79	13.98	14.26	1.77	0.57	0.52	2.86	0.00	1.92	0.00	0.00	1.26
158	64.500	26.58	0.00	32.41	13.80	3.79	13.94	14.23	1.77	0.57	0.52	2.85	0.00	1.92	0.00	0.00	1.27
159	64.400	26.58	0.00	32.41	13.80	3.79	13.90	14.19	1.76	0.57	0.52	2.85	0.00	1.92	0.00	0.00	1.27
160	64.300	26.59	0.00	32.41	13.80	3.79	13.87	14.16	1.75	0.58	0.52	2.85	0.00	1.92	0.00	0.00	1.27
161	64.200	26.59	0.00	32.41	13.80	3.79	13.83	14.12	1.74	0.58	0.52	2.84	0.00	1.92	0.00	0.00	1.27
162	64.100	26.60	0.00	32.41	13.80	3.79	13.80	14.08	1.73	0.59	0.52	2.84	0.00	1.91	0.00	0.00	1.27
163	64.000	26.61	0.00	32.41	13.80	3.79	13.76	14.05	1.72	0.59	0.52	2.83	0.00	1.91	0.00	0.00	1.28
164	63.900	26.61	0.00	32.41	13.80	3.79	13.73	14.01	1.72	0.59	0.52	2.83	0.00	1.91	0.00	0.00	1.28
165	63.800	26.62	0.00	32.41	13.80	3.79	13.69	13.98	1.71	0.60	0.52	2.82	0.00	1.91	0.00	0.00	1.28
166	63.700	26.62	0.00	32.41	13.80	3.79	13.65	13.94	1.70	0.60	0.52	2.82	0.00	1.91	0.00	0.00	1.28
167	63.600	26.63	0.00	32.41	13.80	3.79	13.62	13.91	1.69	0.60	0.52	2.81	0.00	1.91	0.00	0.00	1.28
168	63.500	26.64	0.00	32.41	13.80	3.79	13.58	13.87	1.68	0.61	0.52	2.81	0.00	1.91	0.00	0.00	1.28
169	63.400	26.64	0.00	32.41	13.80	3.79	13.55	13.84	1.68	0.61	0.52	2.81	0.00	1.91	0.00	0.00	1.29
170	63.300	26.65	0.00	32.41	13.80	3.79	13.51	13.80	1.67	0.62	0.52	2.80	0.00	1.91	0.00	0.00	1.29
171	63.200	26.66	0.00	32.41	13.80	3.79	13.48	13.77	1.66	0.62	0.52	2.80	0.00	1.91	0.00	0.00	1.29
172	63.100	26.66	0.00	32.41	13.80	3.79	13.45	13.73	1.65	0.62	0.52	2.79	0.00	1.91	0.00	0.00	1.29
173	63.000	26.67	0.00	32.41	13.80	3.79	13.41	13.70	1.64	0.63	0.52	2.79	0.00	1.90	0.00	0.00	1.29
174	62.900	26.68	0.00	32.41	13.80	3.79	13.38	13.66	1.64	0.63	0.52	2.78	0.00	1.90	0.00	0.00	1.29
175	62.800	26.68	0.00	32.41	13.80	3.79	13.34	13.63	1.63	0.63	0.52	2.78	0.00	1.90	0.00	0.00	1.30
176	62.700	26.69	0.00	32.41	13.80	3.79	13.31	13.59	1.62	0.64	0.52	2.78	0.00	1.90	0.00	0.00	1.30

202	60.20	60.10	0.15736	80.49	0.11634	0.01	0.37	3.68	135.26	368.00	1.35	0.00	0.000	0.025	0.116
203	60.10	60.00	0.15752	80.40	0.11641	0.01	0.37	3.68	135.32	368.05	1.35	0.00	0.000	0.025	0.116
204	60.00	59.90	0.15769	80.32	0.11648	0.01	0.37	3.68	135.37	368.09	1.35	0.00	0.000	0.025	0.116
205	59.90	59.80	0.15785	80.24	0.11656	0.01	0.37	3.68	135.43	368.14	1.35	0.00	0.000	0.025	0.117
206	59.80	59.70	0.15801	80.15	0.11663	0.01	0.37	3.68	135.48	368.19	1.35	0.00	0.000	0.025	0.117
207	59.70	59.60	0.15817	80.07	0.11670	0.01	0.37	3.68	135.53	368.23	1.36	0.00	0.000	0.025	0.117
208	59.60	59.50	0.15834	79.99	0.11678	0.01	0.37	3.68	135.59	368.28	1.36	0.00	0.000	0.025	0.117
209	59.50	59.40	0.15850	79.91	0.11685	0.01	0.37	3.68	135.64	368.32	1.36	0.00	0.000	0.025	0.117
210	59.40	59.30	0.15866	79.82	0.11692	0.01	0.37	3.68	135.70	368.37	1.36	0.00	0.000	0.025	0.117
211	59.30	59.20	0.15883	79.74	0.11700	0.01	0.37	3.68	135.75	368.42	1.36	0.00	0.000	0.025	0.117
212	59.20	59.10	0.15899	79.66	0.11707	0.01	0.37	3.68	135.81	368.46	1.36	0.00	0.000	0.026	0.117
213	59.10	59.00	0.15915	79.58	0.11714	0.01	0.37	3.69	135.86	368.51	1.36	0.00	0.000	0.026	0.117
TOT															
AVG					0.11588		0.35			4722.87	12870.31			1.35	
CUM							1.83		0.37	3.68					

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
179	62.400	8.01	2.18	0.14	0.12	0.00	3.10	3.10	3.10	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
180	62.300	8.01	2.17	0.14	0.12	0.00	3.10	3.10	3.10	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
181	62.200	8.01	2.17	0.14	0.12	0.00	3.10	3.10	3.10	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
182	62.100	8.01	2.17	0.14	0.12	0.00	3.10	3.10	3.10	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
183	62.000	8.01	2.17	0.14	0.12	0.00	3.10	3.10	3.10	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
184	61.900	8.01	2.17	0.14	0.12	0.00	3.10	3.10	3.10	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
185	61.800	8.01	2.17	0.14	0.12	0.00	3.10	3.10	3.10	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
186	61.700	8.01	2.17	0.14	0.12	0.00	3.10	3.10	3.10	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
187	61.600	8.01	2.17	0.14	0.12	0.00	3.10	3.10	3.10	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
188	61.500	8.01	2.17	0.14	0.12	0.00	3.10	3.10	3.10	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
189	61.400	8.01	2.17	0.14	0.12	0.00	3.10	3.10	3.10	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07
0.06																			
190	61.300	8.01	2.17	0.14	0.12	0.00	3.10	3.10	3.10	0.08	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.07

0.05

* g/m²/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 *
179	62.400	26.70	0.00	32.41	13.80	3.77	13.20	13.49	1.60	0.64	0.52	2.77	0.00	1.90	0.00	0.00	1.31
180	62.300	26.70	0.00	32.41	13.79	3.76	13.16	13.45	1.60	0.65	0.52	2.76	0.00	1.90	0.00	0.00	1.32
181	62.200	26.70	0.00	32.41	13.78	3.75	13.13	13.41	1.60	0.65	0.52	2.76	0.00	1.90	0.00	0.00	1.33
182	62.100	26.70	0.00	32.40	13.78	3.74	13.09	13.38	1.60	0.65	0.52	2.76	0.00	1.90	0.00	0.00	1.34
183	62.000	26.70	0.00	32.40	13.77	3.72	13.05	13.34	1.60	0.65	0.51	2.76	0.00	1.90	0.00	0.00	1.34
184	61.900	26.70	0.00	32.40	13.77	3.71	13.02	13.30	1.59	0.65	0.51	2.76	0.00	1.90	0.00	0.00	1.35
185	61.800	26.70	0.00	32.40	13.76	3.70	12.98	13.27	1.59	0.65	0.51	2.75	0.00	1.90	0.00	0.00	1.36
186	61.700	26.70	0.00	32.40	13.75	3.69	12.95	13.23	1.59	0.65	0.51	2.75	0.00	1.90	0.00	0.00	1.37
187	61.600	26.70	0.00	32.39	13.75	3.68	12.91	13.20	1.59	0.65	0.51	2.75	0.00	1.90	0.00	0.00	1.38
188	61.500	26.70	0.00	32.39	13.74	3.67	12.88	13.16	1.59	0.65	0.51	2.75	0.00	1.90	0.00	0.00	1.39
189	61.400	26.70	0.00	32.39	13.73	3.66	12.84	13.13	1.58	0.65	0.51	2.75	0.00	1.90	0.00	0.00	1.40
190	61.300	26.70	0.00	32.39	13.73	3.65	12.81	13.09	1.58	0.65	0.51	2.75	0.00	1.90	0.00	0.00	1.40
191	61.200	26.70	0.00	32.38	13.72	3.64	12.77	13.06	1.58	0.65	0.51	2.74	0.00	1.90	0.00	0.00	1.41
192	61.100	26.70	0.00	32.38	13.72	3.63	12.74	13.02	1.58	0.65	0.51	2.74	0.00	1.90	0.00	0.00	1.42
193	61.000	26.70	0.00	32.38	13.71	3.62	12.70	12.99	1.58	0.65	0.51	2.74	0.00	1.90	0.00	0.00	1.43
194	60.900	26.70	0.00	32.38	13.70	3.61	12.67	12.95	1.58	0.65	0.51	2.74	0.00	1.90	0.00	0.00	1.44
195	60.800	26.70	0.00	32.38	13.70	3.60	12.63	12.92	1.57	0.65	0.51	2.74	0.00	1.90	0.00	0.00	1.44
196	60.700	26.70	0.00	32.37	13.69	3.59	12.60	12.88	1.57	0.65	0.51	2.73	0.00	1.90	0.00	0.00	1.45
197	60.600	26.70	0.00	32.37	13.69	3.59	12.56	12.85	1.57	0.65	0.51	2.73	0.00	1.90	0.00	0.00	1.46
198	60.500	26.70	0.00	32.37	13.68	3.58	12.53	12.81	1.57	0.65	0.51	2.73	0.00	1.90	0.00	0.00	1.47
199	60.400	26.70	0.00	32.37	13.67	3.57	12.50	12.78	1.57	0.66	0.51	2.73	0.00	1.90	0.00	0.00	1.48
200	60.300	26.70	0.00	32.36	13.67	3.56	12.46	12.75	1.56	0.66	0.51	2.73	0.00	1.90	0.00	0.00	1.49
201	60.200	26.70	0.00	32.36	13.66	3.55	12.43	12.71	1.56	0.66	0.51	2.73	0.00	1.90	0.00	0.00	1.49
202	60.100	26.70	0.00	32.36	13.66	3.55	12.39	12.68	1.56	0.66	0.51	2.72	0.00	1.90	0.00	0.00	1.50
203	60.000	26.70	0.00	32.36	13.65	3.54	12.36	12.65	1.56	0.66	0.51	2.72	0.00	1.90	0.00	0.00	1.51
204	59.900	26.70	0.00	32.35	13.64	3.53	12.33	12.61	1.56	0.66	0.50	2.72	0.00	1.90	0.00	0.00	1.52
205	59.800	26.70	0.00	32.35	13.64	3.53	12.29	12.58	1.56	0.66	0.50	2.72	0.00	1.90	0.00	0.00	1.53
206	59.700	26.70	0.00	32.35	13.63	3.52	12.26	12.55	1.55	0.66	0.50	2.72	0.00	1.90	0.00	0.00	1.53
207	59.600	26.70	0.00	32.35	13.63	3.51	12.23	12.51	1.55	0.66	0.50	2.71	0.00	1.90	0.00	0.00	1.54
208	59.500	26.70	0.00	32.35	13.62	3.51	12.20	12.48	1.55	0.66	0.50	2.71	0.00	1.90	0.00	0.00	1.55
209	59.400	26.70	0.00	32.34	13.62	3.50	12.16	12.45	1.55	0.66	0.50	2.71	0.00	1.90	0.00	0.00	1.56
210	59.300	26.70	0.00	32.34	13.61	3.50	12.13	12.42	1.55	0.66	0.50	2.71	0.00	1.90	0.00	0.00	1.57
211	59.200	26.70	0.00	32.34	13.60	3.49	12.10	12.38	1.54	0.66	0.50	2.71	0.00	1.90	0.00	0.00	1.57
212	59.100	26.70	0.00	32.34	13.60	3.49	12.07	12.35	1.54	0.66	0.50	2.71	0.00	1.90	0.00	0.00	1.58
213	59.000	26.70	0.00	32.34	13.59	3.48	12.04	12.32	1.54	0.66	0.50	2.70	0.00	1.90	0.00	0.00	1.59

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
214	UPR RCH	0.15915	26.70	0.00	32.34	13.59	3.48	12.04	12.32	1.54	0.66	0.50	0.00	1.90	0.00	1.59
EACH	INCR	0.0002	26.70	0.00	30.20	7.90	2.00	5.70	5.70	0.33	0.00	0.09	0.00		0.00	3.48

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
214	59.00	58.90	0.15936	79.47	0.11724	0.01	0.37	3.69	135.93	368.57	1.36	0.00	0.000	0.026	0.117
215	58.90	58.80	0.15957	79.37	0.11733	0.01	0.37	3.69	136.00	368.63	1.36	0.00	0.000	0.026	0.117
216	58.80	58.70	0.15978	79.26	0.11743	0.01	0.37	3.69	136.07	368.69	1.36	0.00	0.000	0.026	0.117
217	58.70	58.60	0.16000	79.16	0.11752	0.01	0.37	3.69	136.14	368.75	1.36	0.00	0.000	0.026	0.118
218	58.60	58.50	0.16021	79.06	0.11762	0.01	0.37	3.69	136.21	368.81	1.36	0.00	0.000	0.026	0.118
219	58.50	58.40	0.16042	78.95	0.11771	0.01	0.37	3.69	136.28	368.87	1.36	0.00	0.000	0.026	0.118
220	58.40	58.30	0.16063	78.85	0.11780	0.01	0.37	3.69	136.35	368.93	1.36	0.00	0.000	0.026	0.118
221	58.30	58.20	0.16084	78.74	0.11790	0.01	0.37	3.69	136.42	368.99	1.36	0.00	0.000	0.026	0.118
222	58.20	58.10	0.16105	78.64	0.11799	0.01	0.37	3.69	136.49	369.05	1.36	0.00	0.000	0.026	0.118
223	58.10	58.00	0.16126	78.54	0.11809	0.01	0.37	3.69	136.56	369.11	1.37	0.00	0.000	0.026	0.118
224	58.00	57.90	0.16147	78.44	0.11818	0.01	0.37	3.69	136.63	369.17	1.37	0.00	0.000	0.026	0.118
225	57.90	57.80	0.16168	78.33	0.11827	0.01	0.37	3.69	136.70	369.23	1.37	0.00	0.000	0.026	0.118
226	57.80	57.70	0.16190	78.23	0.11837	0.01	0.37	3.69	136.77	369.29	1.37	0.00	0.000	0.026	0.118
227	57.70	57.60	0.16211	78.13	0.11846	0.01	0.37	3.69	136.84	369.35	1.37	0.00	0.000	0.026	0.118
228	57.60	57.50	0.16232	78.03	0.11855	0.01	0.37	3.69	136.92	369.41	1.37	0.00	0.000	0.026	0.119
229	57.50	57.40	0.16253	77.93	0.11865	0.01	0.37	3.69	136.99	369.47	1.37	0.00	0.000	0.026	0.119
230	57.40	57.30	0.16274	77.82	0.11874	0.01	0.37	3.70	137.06	369.52	1.37	0.00	0.000	0.026	0.119
231	57.30	57.20	0.16295	77.72	0.11883	0.01	0.37	3.70	137.13	369.58	1.37	0.00	0.000	0.026	0.119
232	57.20	57.10	0.16316	77.62	0.11892	0.01	0.37	3.70	137.20	369.64	1.37	0.00	0.000	0.026	0.119
233	57.10	57.00	0.16337	77.52	0.11902	0.01	0.37	3.70	137.27	369.70	1.37	0.00	0.000	0.026	0.119
234	57.00	56.90	0.16358	77.42	0.11911	0.01	0.37	3.70	137.34	369.76	1.37	0.00	0.000	0.026	0.119
235	56.90	56.80	0.16380	77.32	0.11920	0.01	0.37	3.70	137.41	369.82	1.37	0.00	0.000	0.026	0.119
236	56.80	56.70	0.16401	77.22	0.11929	0.01	0.37	3.70	137.48	369.88	1.37	0.00	0.000	0.026	0.119
237	56.70	56.60	0.16422	77.12	0.11939	0.01	0.37	3.70	137.55	369.94	1.38	0.00	0.000	0.026	0.119
238	56.60	56.50	0.16443	77.03	0.11948	0.01	0.37	3.70	137.62	370.00	1.38	0.00	0.000	0.026	0.119
239	56.50	56.40	0.16464	76.93	0.11957	0.01	0.37	3.70	137.69	370.06	1.38	0.00	0.000	0.026	0.120
240	56.40	56.30	0.16485	76.83	0.11966	0.01	0.37	3.70	137.76	370.12	1.38	0.00	0.000	0.026	0.120
TOT						0.26			3694.82	9972.33					
AVG					0.11845		0.37	3.69			1.37				

CUM

2.09

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
214	58.900	8.01	2.15	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.07
215	58.800	8.01	2.15	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.07
216	58.700	8.01	2.15	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.07
217	58.600	8.01	2.15	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.07
218	58.500	8.01	2.15	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.07
219	58.400	8.01	2.15	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.07
220	58.300	8.01	2.15	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.07
221	58.200	8.01	2.15	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.07
222	58.100	8.01	2.15	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.07
223	58.000	8.01	2.15	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.07
224	57.900	8.01	2.15	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.07
225	57.800	8.01	2.15	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.07
226	57.700	8.01	2.14	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.07
227	57.600	8.01	2.14	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.07
228	57.500	8.01	2.14	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.07
229	57.400	8.01	2.14	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.07
230	57.300	8.01	2.14	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.07
231	57.200	8.01	2.14	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.07
232	57.100	8.01	2.14	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.07

233	57.000	8.01	2.14	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.07
0.06																			
234	56.900	8.01	2.14	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.07
0.06																			
235	56.800	8.01	2.14	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.07
0.06																			
236	56.700	8.01	2.14	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.07
0.06																			
237	56.600	8.01	2.14	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.07
0.06																			
238	56.500	8.01	2.14	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.07
0.06																			
239	56.400	8.01	2.14	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.07
0.06																			
240	56.300	8.01	2.13	0.14	0.12	0.00	3.34	3.34	3.34	0.08	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.07
0.06																			
20 DEG C RATE				0.10		0.00	2.19			0.05		0.00	0.00	0.00	0.00			0.00	0.05
AVG 20 DEG C RATE			1.89		0.10						0.05								
0.05																			

* g/m²/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 *
214	58.900	26.70	0.00	32.33	13.58	3.47	12.00	12.31	1.54	0.66	0.50	2.70	0.00	2.06	0.00	0.00	1.60
215	58.800	26.70	0.00	32.33	13.58	3.46	11.96	12.29	1.54	0.66	0.50	2.70	0.00	2.21	0.00	0.00	1.62
216	58.700	26.70	0.00	32.33	13.57	3.45	11.92	12.28	1.54	0.66	0.50	2.70	0.00	2.37	0.00	0.00	1.64
217	58.600	26.70	0.00	32.32	13.56	3.44	11.88	12.26	1.53	0.66	0.50	2.70	0.00	2.52	0.00	0.00	1.65
218	58.500	26.70	0.00	32.32	13.55	3.43	11.85	12.25	1.53	0.66	0.50	2.69	0.00	2.68	0.00	0.00	1.67
219	58.400	26.70	0.00	32.32	13.55	3.42	11.81	12.23	1.53	0.66	0.50	2.69	0.00	2.83	0.00	0.00	1.68
220	58.300	26.70	0.00	32.32	13.54	3.41	11.77	12.22	1.53	0.66	0.50	2.69	0.00	2.99	0.00	0.00	1.70
221	58.200	26.70	0.00	32.31	13.53	3.40	11.73	12.20	1.53	0.66	0.50	2.69	0.00	3.14	0.00	0.00	1.71
222	58.100	26.70	0.00	32.31	13.52	3.39	11.70	12.19	1.53	0.67	0.50	2.69	0.00	3.30	0.00	0.00	1.73
223	58.000	26.70	0.00	32.31	13.52	3.38	11.66	12.18	1.52	0.67	0.49	2.68	0.00	3.46	0.00	0.00	1.74
224	57.900	26.70	0.00	32.30	13.51	3.37	11.62	12.16	1.52	0.67	0.49	2.68	0.00	3.61	0.00	0.00	1.76
225	57.800	26.70	0.00	32.30	13.50	3.36	11.59	12.15	1.52	0.67	0.49	2.68	0.00	3.77	0.00	0.00	1.77
226	57.700	26.70	0.00	32.30	13.50	3.36	11.55	12.14	1.52	0.67	0.49	2.68	0.00	3.92	0.00	0.00	1.79
227	57.600	26.70	0.00	32.30	13.49	3.35	11.51	12.13	1.52	0.67	0.49	2.68	0.00	4.08	0.00	0.00	1.80
228	57.500	26.70	0.00	32.29	13.48	3.34	11.48	12.11	1.52	0.67	0.49	2.67	0.00	4.23	0.00	0.00	1.82
229	57.400	26.70	0.00	32.29	13.47	3.34	11.44	12.10	1.51	0.67	0.49	2.67	0.00	4.39	0.00	0.00	1.83
230	57.300	26.70	0.00	32.29	13.47	3.33	11.41	12.09	1.51	0.67	0.49	2.67	0.00	4.54	0.00	0.00	1.85
231	57.200	26.70	0.00	32.29	13.46	3.32	11.37	12.08	1.51	0.67	0.49	2.67	0.00	4.70	0.00	0.00	1.86
232	57.100	26.70	0.00	32.28	13.45	3.32	11.34	12.06	1.51	0.67	0.49	2.67	0.00	4.86	0.00	0.00	1.88
233	57.000	26.70	0.00	32.28	13.44	3.31	11.30	12.05	1.51	0.67	0.49	2.67	0.00	5.01	0.00	0.00	1.89
234	56.900	26.70	0.00	32.28	13.44	3.31	11.27	12.04	1.51	0.67	0.49	2.66	0.00	5.17	0.00	0.00	1.90

235	56.800	26.70	0.00	32.27	13.43	3.30	11.23	12.03	1.51	0.67	0.49	2.66	0.00	5.32	0.00	0.00	1.92
236	56.700	26.70	0.00	32.27	13.42	3.30	11.20	12.02	1.50	0.67	0.49	2.66	0.00	5.48	0.00	0.00	1.93
237	56.600	26.70	0.00	32.27	13.42	3.29	11.16	12.01	1.50	0.67	0.49	2.66	0.00	5.63	0.00	0.00	1.95
238	56.500	26.70	0.00	32.27	13.41	3.29	11.13	12.00	1.50	0.67	0.49	2.66	0.00	5.79	0.00	0.00	1.96
239	56.400	26.70	0.00	32.26	13.40	3.29	11.09	11.99	1.50	0.67	0.49	2.65	0.00	5.94	0.00	0.00	1.98
240	56.300	26.70	0.00	32.26	13.39	3.28	11.06	11.97	1.50	0.67	0.48	2.65	0.00	6.10	0.00	0.00	1.99

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 6 SITE 6 - LITTLE CANEY CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m³/	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 *
241	UPR RCH	0.16485	26.70	0.00	32.26	13.39	3.28	11.06	11.97	1.50	0.67	0.48	0.00	6.10	0.00	1.99
EACH	INCR	-0.0002														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s	MEAN VELO m/s
241	56.30	56.20	0.16465	76.83	0.04733	0.02	0.55	6.30	347.85	630.07	3.48	0.00	0.000	0.014	0.047
242	56.20	56.10	0.16446	76.83	0.04729	0.02	0.55	6.30	347.74	630.01	3.48	0.00	0.000	0.014	0.047
243	56.10	56.00	0.16426	76.83	0.04725	0.02	0.55	6.30	347.64	629.96	3.48	0.00	0.000	0.014	0.047
244	56.00	55.90	0.16407	76.83	0.04721	0.02	0.55	6.30	347.53	629.90	3.48	0.00	0.000	0.014	0.047
245	55.90	55.80	0.16387	76.83	0.04717	0.02	0.55	6.30	347.42	629.85	3.47	0.00	0.000	0.014	0.047
246	55.80	55.70	0.16368	76.83	0.04713	0.02	0.55	6.30	347.32	629.79	3.47	0.00	0.000	0.014	0.047
247	55.70	55.60	0.16348	76.83	0.04708	0.02	0.55	6.30	347.21	629.73	3.47	0.00	0.000	0.014	0.047
248	55.60	55.50	0.16328	76.83	0.04704	0.02	0.55	6.30	347.10	629.68	3.47	0.00	0.000	0.014	0.047
249	55.50	55.40	0.16309	76.83	0.04700	0.02	0.55	6.30	346.99	629.62	3.47	0.00	0.000	0.014	0.047
250	55.40	55.30	0.16289	76.83	0.04696	0.02	0.55	6.30	346.89	629.57	3.47	0.00	0.000	0.014	0.047
251	55.30	55.20	0.16270	76.83	0.04692	0.02	0.55	6.30	346.78	629.51	3.47	0.00	0.000	0.014	0.047
252	55.20	55.10	0.16250	76.83	0.04687	0.02	0.55	6.29	346.67	629.46	3.47	0.00	0.000	0.014	0.047
253	55.10	55.00	0.16230	76.83	0.04683	0.02	0.55	6.29	346.57	629.40	3.47	0.00	0.000	0.014	0.047
254	55.00	54.90	0.16211	76.83	0.04679	0.02	0.55	6.29	346.46	629.35	3.46	0.00	0.000	0.014	0.047
255	54.90	54.80	0.16191	76.83	0.04675	0.02	0.55	6.29	346.35	629.29	3.46	0.00	0.000	0.014	0.047
256	54.80	54.70	0.16172	76.83	0.04671	0.02	0.55	6.29	346.25	629.24	3.46	0.00	0.000	0.014	0.047
257	54.70	54.60	0.16152	76.83	0.04666	0.02	0.55	6.29	346.14	629.18	3.46	0.00	0.000	0.014	0.047
258	54.60	54.50	0.16132	76.83	0.04662	0.02	0.55	6.29	346.03	629.12	3.46	0.00	0.000	0.014	0.047
259	54.50	54.40	0.16113	76.83	0.04658	0.02	0.55	6.29	345.92	629.07	3.46	0.00	0.000	0.014	0.047

260	54.40	54.30	0.16093	76.83	0.04654	0.02	0.55	6.29	345.82	629.01	3.46	0.00	0.000	0.014	0.047
261	54.30	54.20	0.16074	76.83	0.04649	0.02	0.55	6.29	345.71	628.96	3.46	0.00	0.000	0.014	0.046
262	54.20	54.10	0.16054	76.83	0.04645	0.02	0.55	6.29	345.60	628.90	3.46	0.00	0.000	0.014	0.046
263	54.10	54.00	0.16034	76.83	0.04641	0.02	0.55	6.29	345.50	628.85	3.45	0.00	0.000	0.014	0.046
264	54.00	53.90	0.16015	76.83	0.04637	0.02	0.55	6.29	345.39	628.79	3.45	0.00	0.000	0.014	0.046
265	53.90	53.80	0.15995	76.83	0.04633	0.02	0.55	6.29	345.28	628.74	3.45	0.00	0.000	0.014	0.046
266	53.80	53.70	0.15976	76.83	0.04628	0.03	0.55	6.29	345.18	628.68	3.45	0.00	0.000	0.014	0.046
267	53.70	53.60	0.15956	76.83	0.04624	0.03	0.55	6.29	345.07	628.62	3.45	0.00	0.000	0.014	0.046
268	53.60	53.50	0.15936	76.83	0.04620	0.03	0.55	6.29	344.96	628.57	3.45	0.00	0.000	0.014	0.046
269	53.50	53.40	0.15917	76.83	0.04616	0.03	0.55	6.29	344.86	628.51	3.45	0.00	0.000	0.014	0.046
270	53.40	53.30	0.15897	76.83	0.04611	0.03	0.55	6.28	344.75	628.46	3.45	0.00	0.000	0.014	0.046
271	53.30	53.20	0.15878	76.83	0.04607	0.03	0.55	6.28	344.64	628.40	3.45	0.00	0.000	0.014	0.046
272	53.20	53.10	0.15858	76.83	0.04603	0.03	0.55	6.28	344.54	628.35	3.45	0.00	0.000	0.014	0.046
273	53.10	53.00	0.15839	76.83	0.04598	0.03	0.55	6.28	344.43	628.29	3.44	0.00	0.000	0.014	0.046
274	53.00	52.90	0.15819	76.83	0.04594	0.03	0.55	6.28	344.32	628.24	3.44	0.00	0.000	0.014	0.046
275	52.90	52.80	0.15799	76.83	0.04590	0.03	0.55	6.28	344.22	628.18	3.44	0.00	0.000	0.014	0.046
276	52.80	52.70	0.15780	76.83	0.04586	0.03	0.55	6.28	344.11	628.12	3.44	0.00	0.000	0.014	0.046
277	52.70	52.60	0.15760	76.83	0.04581	0.03	0.55	6.28	344.00	628.07	3.44	0.00	0.000	0.014	0.046
278	52.60	52.50	0.15741	76.83	0.04577	0.03	0.55	6.28	343.89	628.01	3.44	0.00	0.000	0.014	0.046
279	52.50	52.40	0.15721	76.83	0.04573	0.03	0.55	6.28	343.79	627.96	3.44	0.00	0.000	0.014	0.046
280	52.40	52.30	0.15701	76.83	0.04569	0.03	0.55	6.28	343.68	627.90	3.44	0.00	0.000	0.014	0.046
281	52.30	52.20	0.15682	76.83	0.04564	0.03	0.55	6.28	343.57	627.85	3.44	0.00	0.000	0.014	0.046
282	52.20	52.10	0.15662	76.83	0.04560	0.03	0.55	6.28	343.47	627.79	3.43	0.00	0.000	0.014	0.046
283	52.10	52.00	0.15643	76.83	0.04556	0.03	0.55	6.28	343.36	627.74	3.43	0.00	0.000	0.014	0.046
284	52.00	51.90	0.15623	76.83	0.04551	0.03	0.55	6.28	343.25	627.68	3.43	0.00	0.000	0.014	0.046
285	51.90	51.80	0.15603	76.83	0.04547	0.03	0.55	6.28	343.15	627.62	3.43	0.00	0.000	0.014	0.045
286	51.80	51.70	0.15584	76.83	0.04543	0.03	0.55	6.28	343.04	627.57	3.43	0.00	0.000	0.014	0.045
287	51.70	51.60	0.15564	76.83	0.04539	0.03	0.55	6.28	342.93	627.51	3.43	0.00	0.000	0.014	0.045
288	51.60	51.50	0.15545	76.83	0.04534	0.03	0.55	6.27	342.83	627.46	3.43	0.00	0.000	0.014	0.045
289	51.50	51.40	0.15525	76.83	0.04530	0.03	0.55	6.27	342.72	627.40	3.43	0.00	0.000	0.014	0.045
TOT						1.22			16918.93	30808.03					
AVG					0.04631		0.55	6.29			3.45				
CUM						3.31									

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
241	56.200	8.01	1.44	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
242	56.100	8.01	1.44	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
243	56.000	8.01	1.44	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05

0.06																			
269	53.400	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
270	53.300	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
271	53.200	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
272	53.100	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
273	53.000	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
274	52.900	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
275	52.800	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
276	52.700	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
277	52.600	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
278	52.500	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
279	52.400	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
280	52.300	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
281	52.200	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
282	52.100	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
283	52.000	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
284	51.900	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
285	51.800	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
286	51.700	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
287	51.600	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
288	51.500	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			
289	51.400	8.01	1.45	0.18	0.12	0.00	2.49	2.49	2.49	0.06	0.06	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.05
0.06																			

20 DEG C RATE				0.13		0.00	1.63			0.04		0.00	0.00	0.00	0.00			0.00	0.04
AVG 20 DEG C RATE	1.27			0.10						0.05									
0.05																			

* g/m²/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 *
241	56.200	26.70	0.00	32.26	13.39	3.30	11.00	11.92	1.50	0.67	0.48	2.65	0.00	6.10	0.00	0.00	1.99
242	56.100	26.70	0.00	32.26	13.39	3.31	10.94	11.86	1.49	0.67	0.48	2.65	0.00	6.10	0.00	0.00	1.99
243	56.000	26.70	0.00	32.26	13.39	3.32	10.89	11.80	1.49	0.68	0.48	2.65	0.00	6.10	0.00	0.00	1.99
244	55.900	26.70	0.00	32.26	13.39	3.33	10.83	11.75	1.49	0.68	0.48	2.65	0.00	6.10	0.00	0.00	1.98
245	55.800	26.70	0.00	32.26	13.39	3.35	10.78	11.69	1.49	0.68	0.48	2.65	0.00	6.10	0.00	0.00	1.98
246	55.700	26.70	0.00	32.26	13.39	3.36	10.72	11.63	1.48	0.68	0.48	2.65	0.00	6.10	0.00	0.00	1.98
247	55.600	26.70	0.00	32.26	13.39	3.37	10.66	11.58	1.48	0.68	0.48	2.65	0.00	6.10	0.00	0.00	1.98
248	55.500	26.70	0.00	32.26	13.39	3.38	10.61	11.52	1.48	0.69	0.48	2.65	0.00	6.10	0.00	0.00	1.98
249	55.400	26.70	0.00	32.26	13.39	3.40	10.55	11.47	1.48	0.69	0.48	2.65	0.00	6.10	0.00	0.00	1.98
250	55.300	26.70	0.00	32.26	13.39	3.41	10.50	11.42	1.48	0.69	0.48	2.65	0.00	6.10	0.00	0.00	1.98
251	55.200	26.70	0.00	32.26	13.39	3.42	10.45	11.36	1.47	0.69	0.48	2.65	0.00	6.10	0.00	0.00	1.98
252	55.100	26.70	0.00	32.26	13.39	3.43	10.39	11.31	1.47	0.69	0.48	2.65	0.00	6.10	0.00	0.00	1.98
253	55.000	26.70	0.00	32.26	13.39	3.44	10.34	11.25	1.47	0.70	0.48	2.65	0.00	6.10	0.00	0.00	1.97
254	54.900	26.70	0.00	32.26	13.39	3.45	10.29	11.20	1.47	0.70	0.48	2.64	0.00	6.10	0.00	0.00	1.97
255	54.800	26.70	0.00	32.26	13.39	3.47	10.23	11.15	1.46	0.70	0.48	2.64	0.00	6.10	0.00	0.00	1.97
256	54.700	26.70	0.00	32.26	13.39	3.48	10.18	11.10	1.46	0.70	0.48	2.64	0.00	6.10	0.00	0.00	1.97
257	54.600	26.70	0.00	32.26	13.39	3.49	10.13	11.05	1.46	0.70	0.48	2.64	0.00	6.10	0.00	0.00	1.97
258	54.500	26.70	0.00	32.26	13.39	3.50	10.08	10.99	1.46	0.71	0.48	2.64	0.00	6.10	0.00	0.00	1.97
259	54.400	26.70	0.00	32.26	13.39	3.51	10.03	10.94	1.46	0.71	0.48	2.64	0.00	6.10	0.00	0.00	1.97
260	54.300	26.70	0.00	32.26	13.39	3.52	9.98	10.89	1.45	0.71	0.48	2.64	0.00	6.10	0.00	0.00	1.97
261	54.200	26.70	0.00	32.26	13.39	3.53	9.93	10.84	1.45	0.71	0.48	2.64	0.00	6.10	0.00	0.00	1.97
262	54.100	26.70	0.00	32.26	13.39	3.54	9.88	10.79	1.45	0.71	0.48	2.64	0.00	6.10	0.00	0.00	1.96
263	54.000	26.70	0.00	32.26	13.39	3.55	9.83	10.74	1.45	0.72	0.48	2.64	0.00	6.10	0.00	0.00	1.96
264	53.900	26.70	0.00	32.26	13.39	3.56	9.78	10.69	1.44	0.72	0.48	2.64	0.00	6.10	0.00	0.00	1.96
265	53.800	26.70	0.00	32.26	13.39	3.57	9.73	10.64	1.44	0.72	0.48	2.64	0.00	6.10	0.00	0.00	1.96
266	53.700	26.70	0.00	32.26	13.39	3.58	9.68	10.59	1.44	0.72	0.48	2.64	0.00	6.10	0.00	0.00	1.96
267	53.600	26.70	0.00	32.26	13.39	3.59	9.63	10.54	1.44	0.73	0.48	2.64	0.00	6.10	0.00	0.00	1.96
268	53.500	26.70	0.00	32.26	13.39	3.60	9.58	10.50	1.44	0.73	0.48	2.64	0.00	6.10	0.00	0.00	1.96
269	53.400	26.70	0.00	32.26	13.39	3.61	9.53	10.45	1.43	0.73	0.48	2.64	0.00	6.10	0.00	0.00	1.96
270	53.300	26.70	0.00	32.26	13.39	3.62	9.49	10.40	1.43	0.73	0.48	2.64	0.00	6.10	0.00	0.00	1.96
271	53.200	26.70	0.00	32.26	13.39	3.63	9.44	10.35	1.43	0.73	0.47	2.64	0.00	6.10	0.00	0.00	1.95
272	53.100	26.70	0.00	32.26	13.39	3.64	9.39	10.31	1.43	0.74	0.47	2.64	0.00	6.10	0.00	0.00	1.95
273	53.000	26.70	0.00	32.26	13.39	3.65	9.34	10.26	1.42	0.74	0.47	2.64	0.00	6.10	0.00	0.00	1.95
274	52.900	26.70	0.00	32.26	13.39	3.65	9.30	10.21	1.42	0.74	0.47	2.64	0.00	6.10	0.00	0.00	1.95
275	52.800	26.70	0.00	32.26	13.39	3.66	9.25	10.17	1.42	0.74	0.47	2.64	0.00	6.10	0.00	0.00	1.95
276	52.700	26.70	0.00	32.26	13.39	3.67	9.21	10.12	1.42	0.74	0.47	2.64	0.00	6.10	0.00	0.00	1.95
277	52.600	26.70	0.00	32.26	13.39	3.68	9.16	10.08	1.42	0.75	0.47	2.64	0.00	6.10	0.00	0.00	1.95
278	52.500	26.70	0.00	32.26	13.39	3.69	9.12	10.03	1.41	0.75	0.47	2.63	0.00	6.10	0.00	0.00	1.95
279	52.400	26.70	0.00	32.26	13.39	3.70	9.07	9.99	1.41	0.75	0.47	2.63	0.00	6.10	0.00	0.00	1.95
280	52.300	26.70	0.00	32.26	13.39	3.71	9.03	9.94	1.41	0.75	0.47	2.63	0.00	6.10	0.00	0.00	1.94
281	52.200	26.70	0.00	32.26	13.39	3.71	8.98	9.90	1.41	0.75	0.47	2.63	0.00	6.10	0.00	0.00	1.94
282	52.100	26.70	0.00	32.26	13.39	3.72	8.94	9.85	1.41	0.76	0.47	2.63	0.00	6.10	0.00	0.00	1.94
283	52.000	26.70	0.00	32.26	13.39	3.73	8.89	9.81	1.40	0.76	0.47	2.63	0.00	6.10	0.00	0.00	1.94
284	51.900	26.70	0.00	32.26	13.39	3.74	8.85	9.77	1.40	0.76	0.47	2.63	0.00	6.10	0.00	0.00	1.94

285	51.800	26.70	0.00	32.26	13.39	3.75	8.81	9.72	1.40	0.76	0.47	2.63	0.00	6.10	0.00	0.00	1.94
286	51.700	26.70	0.00	32.26	13.39	3.75	8.76	9.68	1.40	0.76	0.47	2.63	0.00	6.10	0.00	0.00	1.94
287	51.600	26.70	0.00	32.26	13.39	3.76	8.72	9.64	1.40	0.77	0.47	2.63	0.00	6.10	0.00	0.00	1.94
288	51.500	26.70	0.00	32.26	13.39	3.77	8.68	9.59	1.39	0.77	0.47	2.63	0.00	6.10	0.00	0.00	1.94
289	51.400	26.70	0.00	32.26	13.39	3.78	8.64	9.55	1.39	0.77	0.47	2.63	0.00	6.10	0.00	0.00	1.94

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 7 LITTLE CANEY CR - DAM

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
290	UPR RCH	0.15525	26.70	0.00	32.26	13.39	3.78	8.64	9.55	1.39	0.77	0.47	0.00	6.10	0.00	1.94
EACH	INCR	-0.0005														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
290	51.40	51.30	0.15477	76.83	0.04519	0.03	0.55	6.27	342.46	627.27	3.42	0.00	0.000	0.014	0.045
291	51.30	51.20	0.15429	76.83	0.04509	0.03	0.55	6.27	342.20	627.13	3.42	0.00	0.000	0.014	0.045
292	51.20	51.10	0.15381	76.83	0.04498	0.03	0.55	6.27	341.94	626.99	3.42	0.00	0.000	0.014	0.045
293	51.10	51.00	0.15333	76.83	0.04488	0.03	0.55	6.27	341.68	626.86	3.42	0.00	0.000	0.014	0.045
294	51.00	50.90	0.15285	76.83	0.04477	0.03	0.54	6.27	341.42	626.72	3.41	0.00	0.000	0.014	0.045
295	50.90	50.80	0.15237	76.83	0.04466	0.03	0.54	6.27	341.16	626.58	3.41	0.00	0.000	0.013	0.045
296	50.80	50.70	0.15189	76.83	0.04456	0.03	0.54	6.26	340.90	626.45	3.41	0.00	0.000	0.013	0.045
297	50.70	50.60	0.15141	76.83	0.04445	0.03	0.54	6.26	340.63	626.31	3.41	0.00	0.000	0.013	0.044
298	50.60	50.50	0.15093	76.83	0.04434	0.03	0.54	6.26	340.37	626.17	3.40	0.00	0.000	0.013	0.044
299	50.50	50.40	0.15045	76.83	0.04424	0.03	0.54	6.26	340.11	626.04	3.40	0.00	0.000	0.013	0.044
300	50.40	50.30	0.14997	76.83	0.04413	0.03	0.54	6.26	339.85	625.90	3.40	0.00	0.000	0.013	0.044
301	50.30	50.20	0.14949	76.83	0.04402	0.03	0.54	6.26	339.59	625.76	3.40	0.00	0.000	0.013	0.044
302	50.20	50.10	0.14901	76.83	0.04391	0.03	0.54	6.26	339.33	625.63	3.39	0.00	0.000	0.013	0.044
303	50.10	50.00	0.14853	76.83	0.04381	0.03	0.54	6.25	339.07	625.49	3.39	0.00	0.000	0.013	0.044
304	50.00	49.90	0.14805	76.83	0.04370	0.03	0.54	6.25	338.81	625.35	3.39	0.00	0.000	0.013	0.044
305	49.90	49.80	0.14757	76.83	0.04359	0.03	0.54	6.25	338.55	625.22	3.39	0.00	0.000	0.013	0.044
306	49.80	49.70	0.14709	76.83	0.04348	0.03	0.54	6.25	338.29	625.08	3.38	0.00	0.000	0.013	0.043
307	49.70	49.60	0.14661	76.83	0.04337	0.03	0.54	6.25	338.03	624.94	3.38	0.00	0.000	0.013	0.043
308	49.60	49.50	0.14613	76.83	0.04326	0.03	0.54	6.25	337.77	624.81	3.38	0.00	0.000	0.013	0.043
309	49.50	49.40	0.14565	76.83	0.04315	0.03	0.54	6.25	337.51	624.67	3.38	0.00	0.000	0.013	0.043

TOT 0.52 6799.68 12519.37
 AVG 0.04417 0.54 6.26 3.40
 CUM 3.84

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
290	51.300	8.01	1.46	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.05
291	51.200	8.01	1.46	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.05
292	51.100	8.01	1.46	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.05
293	51.000	8.01	1.46	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.05
294	50.900	8.01	1.46	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.05
295	50.800	8.01	1.46	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.05
296	50.700	8.01	1.46	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.05
297	50.600	8.01	1.46	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.05
298	50.500	8.01	1.46	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.05
299	50.400	8.01	1.46	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.05
300	50.300	8.01	1.46	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.05
301	50.200	8.01	1.46	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.05
302	50.100	8.01	1.46	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.05
303	50.000	8.01	1.47	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.05
304	49.900	8.01	1.47	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.05
305	49.800	8.01	1.47	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.05
306	49.700	8.01	1.47	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.05
307	49.600	8.01	1.47	0.18	0.12	0.00	2.35	2.35	2.35	0.06	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.05

0.06
 308 49.500 8.01 1.47 0.18 0.12 0.00 2.35 2.35 2.35 0.06 0.06 0.00 0.00 0.00 0.00 0.09 0.00 0.00 0.05
 0.06
 309 49.400 8.01 1.47 0.18 0.12 0.00 2.35 2.35 2.35 0.06 0.06 0.00 0.00 0.00 0.00 0.07 0.00 0.00 0.05
 0.06
 20 DEG C RATE 0.13 0.00 1.54 0.04 0.00 0.00 0.00 0.00
 AVG 20 DEG C RATE 1.29 0.10 0.05
 0.05

* g/m²/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 *
290	51.300	26.70	0.00	32.26	13.39	3.79	8.61	9.49	1.39	0.77	0.47	2.63	0.00	5.84	0.00	0.00	1.94
291	51.200	26.70	0.00	32.26	13.39	3.80	8.59	9.42	1.39	0.77	0.47	2.63	0.00	5.59	0.00	0.00	1.94
292	51.100	26.70	0.00	32.26	13.39	3.82	8.56	9.36	1.38	0.78	0.47	2.63	0.00	5.34	0.00	0.00	1.94
293	51.000	26.70	0.00	32.26	13.39	3.83	8.54	9.30	1.38	0.78	0.47	2.63	0.00	5.08	0.00	0.00	1.94
294	50.900	26.70	0.00	32.26	13.39	3.84	8.51	9.24	1.38	0.78	0.47	2.63	0.00	4.82	0.00	0.00	1.94
295	50.800	26.70	0.00	32.26	13.39	3.85	8.49	9.17	1.38	0.78	0.47	2.63	0.00	4.57	0.00	0.00	1.94
296	50.700	26.70	0.00	32.26	13.39	3.86	8.46	9.11	1.37	0.78	0.47	2.63	0.00	4.32	0.00	0.00	1.94
297	50.600	26.70	0.00	32.26	13.39	3.86	8.44	9.05	1.37	0.79	0.47	2.62	0.00	4.06	0.00	0.00	1.94
298	50.500	26.70	0.00	32.26	13.39	3.87	8.41	8.98	1.37	0.79	0.47	2.62	0.00	3.80	0.00	0.00	1.94
299	50.400	26.70	0.00	32.26	13.39	3.88	8.39	8.92	1.37	0.79	0.47	2.62	0.00	3.55	0.00	0.00	1.94
300	50.300	26.70	0.00	32.26	13.39	3.89	8.37	8.86	1.36	0.79	0.47	2.62	0.00	3.30	0.00	0.00	1.94
301	50.200	26.70	0.00	32.26	13.39	3.89	8.34	8.80	1.36	0.80	0.47	2.62	0.00	3.04	0.00	0.00	1.94
302	50.100	26.70	0.00	32.26	13.39	3.90	8.32	8.74	1.36	0.80	0.47	2.62	0.00	2.78	0.00	0.00	1.94
303	50.000	26.70	0.00	32.26	13.39	3.90	8.29	8.67	1.36	0.80	0.47	2.62	0.00	2.53	0.00	0.00	1.94
304	49.900	26.70	0.00	32.26	13.39	3.91	8.27	8.61	1.35	0.80	0.47	2.62	0.00	2.28	0.00	0.00	1.94
305	49.800	26.70	0.00	32.26	13.39	3.91	8.25	8.55	1.35	0.80	0.47	2.62	0.00	2.02	0.00	0.00	1.94
306	49.700	26.70	0.00	32.26	13.39	3.92	8.23	8.49	1.35	0.81	0.47	2.62	0.00	1.76	0.00	0.00	1.94
307	49.600	26.70	0.00	32.26	13.39	3.92	8.20	8.43	1.34	0.81	0.47	2.62	0.00	1.51	0.00	0.00	1.94
308	49.500	26.70	0.00	32.26	13.39	3.92	8.18	8.37	1.34	0.81	0.47	2.62	0.00	1.25	0.00	0.00	1.94
309	49.400	26.70	0.00	32.26	13.39	3.93	8.16	8.31	1.34	0.81	0.47	2.62	0.00	1.00	0.00	0.00	1.94

* CM-I = CHLORIDES
 MG/L

CM-II = SULFATES
 MG/L

NCM = CBOD2
 mg/L

** g/m³

FINAL REPORT HEADWATER
 REACH NO. 8 DAM - CANEY CREEK

BARNES CREEK WATERSHED MODEL
 BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
310	UPR RCH	0.14565	26.70	0.00	32.26	13.39	3.93	8.16	8.31	1.34	0.81	0.47	0.00	1.00	0.00	1.94
310	DAM	DAM AT SITE 7 ADDS 2.47 MG/L DISSOLVED OXYGEN GIVING 6.40 MG/L D.O. FOR THE UPR RCH INPUT														

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
310	49.40	49.30	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
311	49.30	49.20	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
312	49.20	49.10	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
313	49.10	49.00	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
314	49.00	48.90	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
315	48.90	48.80	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
316	48.80	48.70	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
317	48.70	48.60	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
318	48.60	48.50	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
319	48.50	48.40	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
320	48.40	48.30	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
321	48.30	48.20	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
322	48.20	48.10	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
323	48.10	48.00	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
324	48.00	47.90	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
325	47.90	47.80	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
326	47.80	47.70	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
327	47.70	47.60	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
328	47.60	47.50	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
329	47.50	47.40	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
330	47.40	47.30	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
331	47.30	47.20	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
332	47.20	47.10	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
333	47.10	47.00	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
334	47.00	46.90	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
335	46.90	46.80	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
336	46.80	46.70	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
337	46.70	46.60	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
338	46.60	46.50	0.14565	76.83	0.03937	0.03	0.45	8.28	369.95	828.13	3.70	0.00	0.000	0.010	0.039
TOT						0.85			10728.43	24015.68					
AVG					0.03937		0.45	8.28			3.70				
CUM						4.69									

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
310	49.300	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.03
0.06																			
311	49.200	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.03
0.06																			
312	49.100	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.03
0.06																			
313	49.000	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
314	48.900	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
315	48.800	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
316	48.700	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
317	48.600	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
318	48.500	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
319	48.400	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
320	48.300	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
321	48.200	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
322	48.100	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
323	48.000	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
324	47.900	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
325	47.800	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
326	47.700	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
327	47.600	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
328	47.500	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
329	47.400	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
330	47.300	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
331	47.200	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03

0.06																			
332	47.100	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
333	47.000	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03
0.06																			
334	46.900	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03
0.06																			
335	46.800	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03
0.06																			
336	46.700	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03
0.06																			
337	46.600	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03
0.06																			
338	46.500	8.01	1.78	0.07	0.12	0.00	3.10	3.10	3.10	0.03	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03
0.06																			
20 DEG C RATE				0.05		0.00	2.03			0.02		0.00	0.00	0.00	0.00			0.00	0.02
AVG 20 DEG C RATE			1.57		0.10						0.05								
0.05																			

* g/m²/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 *
310	49.300	26.70	0.00	32.26	13.39	6.27	8.13	8.27	1.34	0.81	0.47	2.62	0.00	0.99	0.00	0.00	1.94
311	49.200	26.70	0.00	32.26	13.39	6.15	8.09	8.24	1.33	0.81	0.47	2.62	0.00	0.97	0.00	0.00	1.94
312	49.100	26.70	0.00	32.26	13.39	6.03	8.06	8.21	1.33	0.82	0.47	2.61	0.00	0.96	0.00	0.00	1.94
313	49.000	26.70	0.00	32.26	13.39	5.92	8.03	8.17	1.33	0.82	0.47	2.61	0.00	0.94	0.00	0.00	1.94
314	48.900	26.70	0.00	32.26	13.39	5.81	8.00	8.14	1.33	0.82	0.47	2.61	0.00	0.93	0.00	0.00	1.94
315	48.800	26.70	0.00	32.26	13.39	5.71	7.97	8.11	1.32	0.82	0.47	2.61	0.00	0.92	0.00	0.00	1.94
316	48.700	26.70	0.00	32.26	13.39	5.62	7.94	8.07	1.32	0.82	0.47	2.61	0.00	0.90	0.00	0.00	1.95
317	48.600	26.70	0.00	32.26	13.39	5.53	7.91	8.04	1.32	0.82	0.47	2.61	0.00	0.89	0.00	0.00	1.95
318	48.500	26.70	0.00	32.26	13.39	5.44	7.88	8.01	1.32	0.82	0.47	2.61	0.00	0.88	0.00	0.00	1.95
319	48.400	26.70	0.00	32.26	13.39	5.36	7.85	7.97	1.31	0.82	0.46	2.60	0.00	0.86	0.00	0.00	1.95
320	48.300	26.70	0.00	32.26	13.39	5.28	7.82	7.94	1.31	0.83	0.46	2.60	0.00	0.85	0.00	0.00	1.95
321	48.200	26.70	0.00	32.26	13.39	5.21	7.79	7.91	1.31	0.83	0.46	2.60	0.00	0.83	0.00	0.00	1.95
322	48.100	26.70	0.00	32.26	13.39	5.14	7.76	7.88	1.31	0.83	0.46	2.60	0.00	0.82	0.00	0.00	1.95
323	48.000	26.70	0.00	32.26	13.39	5.07	7.73	7.85	1.31	0.83	0.46	2.60	0.00	0.81	0.00	0.00	1.95
324	47.900	26.70	0.00	32.26	13.39	5.01	7.70	7.82	1.30	0.83	0.46	2.60	0.00	0.79	0.00	0.00	1.96
325	47.800	26.70	0.00	32.26	13.39	4.95	7.67	7.78	1.30	0.83	0.46	2.60	0.00	0.78	0.00	0.00	1.96
326	47.700	26.70	0.00	32.26	13.39	4.89	7.64	7.75	1.30	0.83	0.46	2.60	0.00	0.77	0.00	0.00	1.96
327	47.600	26.70	0.00	32.26	13.39	4.84	7.61	7.72	1.30	0.83	0.46	2.59	0.00	0.75	0.00	0.00	1.96
328	47.500	26.70	0.00	32.26	13.39	4.78	7.58	7.69	1.29	0.84	0.46	2.59	0.00	0.74	0.00	0.00	1.96
329	47.400	26.70	0.00	32.26	13.39	4.74	7.55	7.66	1.29	0.84	0.46	2.59	0.00	0.72	0.00	0.00	1.96
330	47.300	26.70	0.00	32.26	13.39	4.69	7.52	7.63	1.29	0.84	0.46	2.59	0.00	0.71	0.00	0.00	1.96
331	47.200	26.70	0.00	32.26	13.39	4.65	7.49	7.60	1.29	0.84	0.46	2.59	0.00	0.70	0.00	0.00	1.96

332	47.100	26.70	0.00	32.26	13.39	4.60	7.47	7.57	1.28	0.84	0.46	2.59	0.00	0.68	0.00	0.00	1.96
333	47.000	26.70	0.00	32.26	13.39	4.56	7.44	7.54	1.28	0.84	0.46	2.59	0.00	0.67	0.00	0.00	1.97
334	46.900	26.70	0.00	32.26	13.39	4.53	7.41	7.51	1.28	0.84	0.46	2.59	0.00	0.66	0.00	0.00	1.97
335	46.800	26.70	0.00	32.26	13.39	4.49	7.38	7.48	1.28	0.84	0.46	2.58	0.00	0.64	0.00	0.00	1.97
336	46.700	26.70	0.00	32.26	13.39	4.46	7.35	7.45	1.27	0.84	0.46	2.58	0.00	0.63	0.00	0.00	1.97
337	46.600	26.70	0.00	32.26	13.39	4.42	7.33	7.42	1.27	0.85	0.46	2.58	0.00	0.61	0.00	0.00	1.97
338	46.500	26.70	0.00	32.26	13.39	4.39	7.30	7.39	1.27	0.85	0.46	2.58	0.00	0.60	0.00	0.00	1.97

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 9 CANEY CR - HURRICANE CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
339	UPR RCH	0.14565	26.70	0.00	32.26	13.39	4.39	7.30	7.39	1.27	0.85	0.46	0.00	0.60	0.00	1.97

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
339	46.50	46.40	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
340	46.40	46.30	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
341	46.30	46.20	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
342	46.20	46.10	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
343	46.10	46.00	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
344	46.00	45.90	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
345	45.90	45.80	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
346	45.80	45.70	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
347	45.70	45.60	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
348	45.60	45.50	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
349	45.50	45.40	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
350	45.40	45.30	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
351	45.30	45.20	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
352	45.20	45.10	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
353	45.10	45.00	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
354	44.90	44.90	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
355	44.90	44.80	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
356	44.80	44.70	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090
357	44.70	44.60	0.14565	76.83	0.08996	0.01	0.40	4.08	161.91	408.13	1.62	0.00	0.000	0.021	0.090

401	40.200	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
402	40.100	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
403	40.000	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
404	39.900	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
405	39.800	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
406	39.700	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
407	39.600	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
408	39.500	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
409	39.400	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
410	39.300	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
411	39.200	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
412	39.100	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
413	39.000	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
414	38.900	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
415	38.800	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
416	38.700	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
417	38.600	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			
418	38.500	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
0.06																			

20 DEG C RATE 0.05 0.05 0.00 2.44 0.03 0.05 0.00 0.00 0.00 0.00
 AVG 20 DEG C RATE 1.76 0.10 0.05 0.05 0.00 0.00 0.00 0.00
 0.05

* g/m²/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 *
339	46.400	26.70	0.00	32.26	13.39	4.36	7.28	7.37	1.27	0.85	0.46	2.58	0.00	0.60	0.00	0.00	1.98

340	46.300	26.70	0.00	32.26	13.39	4.33	7.27	7.36	1.27	0.85	0.46	2.58	0.00	0.60	0.00	0.00	1.98
341	46.200	26.70	0.00	32.26	13.39	4.29	7.25	7.34	1.27	0.85	0.46	2.58	0.00	0.60	0.00	0.00	1.98
342	46.100	26.70	0.00	32.26	13.39	4.26	7.24	7.33	1.26	0.85	0.46	2.58	0.00	0.60	0.00	0.00	1.99
343	46.000	26.70	0.00	32.26	13.39	4.23	7.22	7.31	1.26	0.85	0.46	2.58	0.00	0.60	0.00	0.00	1.99
344	45.900	26.70	0.00	32.26	13.39	4.20	7.20	7.29	1.26	0.85	0.46	2.58	0.00	0.60	0.00	0.00	2.00
345	45.800	26.70	0.00	32.26	13.39	4.17	7.19	7.28	1.26	0.85	0.46	2.58	0.00	0.60	0.00	0.00	2.00
346	45.700	26.70	0.00	32.26	13.39	4.14	7.17	7.26	1.26	0.85	0.46	2.58	0.00	0.60	0.00	0.00	2.01
347	45.600	26.70	0.00	32.26	13.39	4.11	7.16	7.25	1.26	0.85	0.46	2.57	0.00	0.60	0.00	0.00	2.01
348	45.500	26.70	0.00	32.26	13.39	4.09	7.14	7.23	1.26	0.85	0.46	2.57	0.00	0.60	0.00	0.00	2.01
349	45.400	26.70	0.00	32.26	13.39	4.06	7.13	7.22	1.25	0.85	0.46	2.57	0.00	0.60	0.00	0.00	2.02
350	45.300	26.70	0.00	32.26	13.39	4.04	7.11	7.20	1.25	0.86	0.46	2.57	0.00	0.60	0.00	0.00	2.02
351	45.200	26.70	0.00	32.26	13.39	4.01	7.10	7.19	1.25	0.86	0.46	2.57	0.00	0.60	0.00	0.00	2.03
352	45.100	26.70	0.00	32.26	13.39	3.99	7.08	7.17	1.25	0.86	0.46	2.57	0.00	0.60	0.00	0.00	2.03
353	45.000	26.70	0.00	32.26	13.39	3.96	7.06	7.15	1.25	0.86	0.46	2.57	0.00	0.60	0.00	0.00	2.03
354	44.900	26.70	0.00	32.26	13.39	3.94	7.05	7.14	1.25	0.86	0.46	2.57	0.00	0.60	0.00	0.00	2.04
355	44.800	26.70	0.00	32.26	13.39	3.92	7.03	7.12	1.25	0.86	0.46	2.57	0.00	0.60	0.00	0.00	2.04
356	44.700	26.70	0.00	32.26	13.39	3.89	7.02	7.11	1.25	0.86	0.46	2.57	0.00	0.60	0.00	0.00	2.05
357	44.600	26.70	0.00	32.26	13.39	3.87	7.00	7.09	1.24	0.86	0.46	2.57	0.00	0.60	0.00	0.00	2.05
358	44.500	26.70	0.00	32.26	13.39	3.85	6.99	7.08	1.24	0.86	0.46	2.57	0.00	0.60	0.00	0.00	2.05
359	44.400	26.70	0.00	32.26	13.39	3.83	6.97	7.06	1.24	0.86	0.46	2.57	0.00	0.60	0.00	0.00	2.06
360	44.300	26.70	0.00	32.26	13.39	3.81	6.96	7.05	1.24	0.86	0.46	2.57	0.00	0.60	0.00	0.00	2.06
361	44.200	26.70	0.00	32.26	13.39	3.79	6.94	7.03	1.24	0.86	0.46	2.57	0.00	0.60	0.00	0.00	2.07
362	44.100	26.70	0.00	32.26	13.39	3.77	6.93	7.02	1.24	0.86	0.46	2.57	0.00	0.60	0.00	0.00	2.07
363	44.000	26.70	0.00	32.26	13.39	3.75	6.91	7.00	1.24	0.87	0.46	2.57	0.00	0.60	0.00	0.00	2.08
364	43.900	26.70	0.00	32.26	13.39	3.74	6.90	6.99	1.23	0.87	0.46	2.56	0.00	0.60	0.00	0.00	2.08
365	43.800	26.70	0.00	32.26	13.39	3.72	6.88	6.97	1.23	0.87	0.46	2.56	0.00	0.60	0.00	0.00	2.08
366	43.700	26.70	0.00	32.26	13.39	3.70	6.87	6.96	1.23	0.87	0.46	2.56	0.00	0.60	0.00	0.00	2.09
367	43.600	26.70	0.00	32.26	13.39	3.69	6.85	6.94	1.23	0.87	0.46	2.56	0.00	0.60	0.00	0.00	2.09
368	43.500	26.70	0.00	32.26	13.39	3.67	6.84	6.93	1.23	0.87	0.46	2.56	0.00	0.60	0.00	0.00	2.10
369	43.400	26.70	0.00	32.26	13.39	3.65	6.82	6.91	1.23	0.87	0.46	2.56	0.00	0.60	0.00	0.00	2.10
370	43.300	26.70	0.00	32.26	13.39	3.64	6.81	6.90	1.23	0.87	0.46	2.56	0.00	0.60	0.00	0.00	2.10
371	43.200	26.70	0.00	32.26	13.39	3.62	6.79	6.88	1.23	0.87	0.46	2.56	0.00	0.60	0.00	0.00	2.11
372	43.100	26.70	0.00	32.26	13.39	3.61	6.78	6.87	1.22	0.87	0.46	2.56	0.00	0.60	0.00	0.00	2.11
373	43.000	26.70	0.00	32.26	13.39	3.60	6.76	6.85	1.22	0.87	0.46	2.56	0.00	0.60	0.00	0.00	2.12
374	42.900	26.70	0.00	32.26	13.39	3.58	6.75	6.84	1.22	0.87	0.46	2.56	0.00	0.60	0.00	0.00	2.12
375	42.800	26.70	0.00	32.26	13.39	3.57	6.74	6.83	1.22	0.87	0.46	2.56	0.00	0.60	0.00	0.00	2.12
376	42.700	26.70	0.00	32.26	13.39	3.56	6.72	6.81	1.22	0.87	0.46	2.56	0.00	0.60	0.00	0.00	2.13
377	42.600	26.70	0.00	32.26	13.39	3.54	6.71	6.80	1.22	0.88	0.46	2.56	0.00	0.60	0.00	0.00	2.13
378	42.500	26.70	0.00	32.26	13.39	3.53	6.69	6.78	1.22	0.88	0.46	2.56	0.00	0.60	0.00	0.00	2.14
379	42.400	26.70	0.00	32.26	13.39	3.52	6.68	6.77	1.22	0.88	0.46	2.56	0.00	0.60	0.00	0.00	2.14
380	42.300	26.70	0.00	32.26	13.39	3.51	6.66	6.75	1.21	0.88	0.46	2.56	0.00	0.60	0.00	0.00	2.14
381	42.200	26.70	0.00	32.26	13.39	3.49	6.65	6.74	1.21	0.88	0.46	2.55	0.00	0.60	0.00	0.00	2.15
382	42.100	26.70	0.00	32.26	13.39	3.48	6.63	6.72	1.21	0.88	0.46	2.55	0.00	0.60	0.00	0.00	2.15
383	42.000	26.70	0.00	32.26	13.39	3.47	6.62	6.71	1.21	0.88	0.46	2.55	0.00	0.60	0.00	0.00	2.15
384	41.900	26.70	0.00	32.26	13.39	3.46	6.61	6.70	1.21	0.88	0.46	2.55	0.00	0.60	0.00	0.00	2.16
385	41.800	26.70	0.00	32.26	13.39	3.45	6.59	6.68	1.21	0.88	0.46	2.55	0.00	0.60	0.00	0.00	2.16
386	41.700	26.70	0.00	32.26	13.39	3.44	6.58	6.67	1.21	0.88	0.46	2.55	0.00	0.60	0.00	0.00	2.17
387	41.600	26.70	0.00	32.26	13.39	3.43	6.56	6.65	1.21	0.88	0.46	2.55	0.00	0.60	0.00	0.00	2.17
388	41.500	26.70	0.00	32.26	13.39	3.42	6.55	6.64	1.20	0.88	0.46	2.55	0.00	0.60	0.00	0.00	2.17
389	41.400	26.70	0.00	32.26	13.39	3.41	6.54	6.63	1.20	0.88	0.46	2.55	0.00	0.60	0.00	0.00	2.18

390	41.300	26.70	0.00	32.26	13.39	3.40	6.52	6.61	1.20	0.89	0.46	2.55	0.00	0.60	0.00	0.00	2.18
391	41.200	26.70	0.00	32.26	13.39	3.40	6.51	6.60	1.20	0.89	0.46	2.55	0.00	0.60	0.00	0.00	2.19
392	41.100	26.70	0.00	32.26	13.39	3.39	6.49	6.58	1.20	0.89	0.46	2.55	0.00	0.60	0.00	0.00	2.19
393	41.000	26.70	0.00	32.26	13.39	3.38	6.48	6.57	1.20	0.89	0.46	2.55	0.00	0.60	0.00	0.00	2.19
394	40.900	26.70	0.00	32.26	13.39	3.37	6.47	6.56	1.20	0.89	0.46	2.55	0.00	0.60	0.00	0.00	2.20
395	40.800	26.70	0.00	32.26	13.39	3.36	6.45	6.54	1.20	0.89	0.46	2.55	0.00	0.60	0.00	0.00	2.20
396	40.700	26.70	0.00	32.26	13.39	3.35	6.44	6.53	1.19	0.89	0.46	2.55	0.00	0.60	0.00	0.00	2.21
397	40.600	26.70	0.00	32.26	13.39	3.35	6.42	6.51	1.19	0.89	0.46	2.55	0.00	0.60	0.00	0.00	2.21
398	40.500	26.70	0.00	32.26	13.39	3.34	6.41	6.50	1.19	0.89	0.46	2.55	0.00	0.60	0.00	0.00	2.21
399	40.400	26.70	0.00	32.26	13.39	3.33	6.40	6.49	1.19	0.89	0.46	2.54	0.00	0.60	0.00	0.00	2.22
400	40.300	26.70	0.00	32.26	13.39	3.33	6.38	6.47	1.19	0.89	0.46	2.54	0.00	0.60	0.00	0.00	2.22
401	40.200	26.70	0.00	32.26	13.39	3.32	6.37	6.46	1.19	0.89	0.46	2.54	0.00	0.60	0.00	0.00	2.23
402	40.100	26.70	0.00	32.26	13.39	3.31	6.36	6.45	1.19	0.89	0.46	2.54	0.00	0.60	0.00	0.00	2.23
403	40.000	26.70	0.00	32.26	13.39	3.31	6.34	6.43	1.19	0.89	0.46	2.54	0.00	0.60	0.00	0.00	2.23
404	39.900	26.70	0.00	32.26	13.39	3.30	6.33	6.42	1.18	0.90	0.46	2.54	0.00	0.60	0.00	0.00	2.24
405	39.800	26.70	0.00	32.26	13.39	3.29	6.31	6.40	1.18	0.90	0.46	2.54	0.00	0.60	0.00	0.00	2.24
406	39.700	26.70	0.00	32.26	13.39	3.29	6.30	6.39	1.18	0.90	0.46	2.54	0.00	0.60	0.00	0.00	2.24
407	39.600	26.70	0.00	32.26	13.39	3.28	6.29	6.38	1.18	0.90	0.46	2.54	0.00	0.60	0.00	0.00	2.25
408	39.500	26.70	0.00	32.26	13.39	3.28	6.27	6.36	1.18	0.90	0.46	2.54	0.00	0.60	0.00	0.00	2.25
409	39.400	26.70	0.00	32.26	13.39	3.27	6.26	6.35	1.18	0.90	0.46	2.54	0.00	0.60	0.00	0.00	2.26
410	39.300	26.70	0.00	32.26	13.39	3.27	6.25	6.34	1.18	0.90	0.46	2.54	0.00	0.60	0.00	0.00	2.26
411	39.200	26.70	0.00	32.26	13.39	3.26	6.23	6.32	1.18	0.90	0.46	2.54	0.00	0.60	0.00	0.00	2.26
412	39.100	26.70	0.00	32.26	13.39	3.26	6.22	6.31	1.17	0.90	0.46	2.54	0.00	0.60	0.00	0.00	2.27
413	39.000	26.70	0.00	32.26	13.39	3.25	6.21	6.30	1.17	0.90	0.46	2.54	0.00	0.60	0.00	0.00	2.27
414	38.900	26.70	0.00	32.26	13.39	3.25	6.19	6.28	1.17	0.90	0.46	2.54	0.00	0.60	0.00	0.00	2.27
415	38.800	26.70	0.00	32.26	13.39	3.24	6.18	6.27	1.17	0.90	0.46	2.54	0.00	0.60	0.00	0.00	2.28
416	38.700	26.70	0.00	32.26	13.39	3.24	6.17	6.26	1.17	0.90	0.46	2.54	0.00	0.60	0.00	0.00	2.28
417	38.600	26.70	0.00	32.26	13.39	3.23	6.15	6.24	1.17	0.90	0.46	2.54	0.00	0.60	0.00	0.00	2.29
418	38.500	26.70	0.00	32.26	13.39	3.23	6.14	6.23	1.17	0.90	0.46	2.53	0.00	0.60	0.00	0.00	2.29

* CM-I = CHLORIDES
MG/L
** g/m³

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

FINAL REPORT HEADWATER
REACH NO. 10 HURRICANE CR - SITE 10

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
419	UPR RCH	0.14565	26.70	0.00	32.26	13.39	3.23	6.14	6.23	1.17	0.90	0.46	0.00	0.60	0.00	2.29
EACH	INCR	0.0003	26.70	0.00	6.90	2.70	2.00	5.85	5.85	0.63	0.00	0.09	0.00		0.00	4.52

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
419	38.50	38.40	0.14599	76.65	0.09015	0.01	0.40	4.08	161.93	408.14	1.62	0.00	0.000	0.021	0.090
420	38.40	38.30	0.14633	76.47	0.09035	0.01	0.40	4.08	161.95	408.15	1.62	0.00	0.000	0.021	0.090
421	38.30	38.20	0.14666	76.30	0.09055	0.01	0.40	4.08	161.97	408.16	1.62	0.00	0.000	0.021	0.091
422	38.20	38.10	0.14700	76.12	0.09075	0.01	0.40	4.08	161.98	408.17	1.62	0.00	0.000	0.021	0.091
423	38.10	38.00	0.14734	75.95	0.09095	0.01	0.40	4.08	162.00	408.18	1.62	0.00	0.000	0.021	0.091
424	38.00	37.90	0.14768	75.77	0.09115	0.01	0.40	4.08	162.02	408.19	1.62	0.00	0.000	0.021	0.091
425	37.90	37.80	0.14802	75.60	0.09135	0.01	0.40	4.08	162.04	408.20	1.62	0.00	0.000	0.021	0.091
426	37.80	37.70	0.14836	75.43	0.09155	0.01	0.40	4.08	162.05	408.21	1.62	0.00	0.000	0.021	0.092
427	37.70	37.60	0.14869	75.26	0.09175	0.01	0.40	4.08	162.07	408.22	1.62	0.00	0.000	0.021	0.092
428	37.60	37.50	0.14903	75.09	0.09195	0.01	0.40	4.08	162.09	408.23	1.62	0.00	0.000	0.021	0.092
429	37.50	37.40	0.14937	74.92	0.09214	0.01	0.40	4.08	162.10	408.24	1.62	0.00	0.000	0.021	0.092
430	37.40	37.30	0.14971	74.75	0.09234	0.01	0.40	4.08	162.12	408.25	1.62	0.00	0.000	0.021	0.092
431	37.30	37.20	0.15005	74.58	0.09254	0.01	0.40	4.08	162.14	408.26	1.62	0.00	0.000	0.021	0.093
432	37.20	37.10	0.15038	74.41	0.09274	0.01	0.40	4.08	162.15	408.27	1.62	0.00	0.000	0.022	0.093
433	37.10	37.00	0.15072	74.24	0.09294	0.01	0.40	4.08	162.17	408.28	1.62	0.00	0.000	0.022	0.093
434	37.00	36.90	0.15106	74.08	0.09314	0.01	0.40	4.08	162.19	408.29	1.62	0.00	0.000	0.022	0.093
435	36.90	36.80	0.15140	73.91	0.09334	0.01	0.40	4.08	162.20	408.30	1.62	0.00	0.000	0.022	0.093
436	36.80	36.70	0.15174	73.75	0.09354	0.01	0.40	4.08	162.22	408.31	1.62	0.00	0.000	0.022	0.094
437	36.70	36.60	0.15207	73.58	0.09374	0.01	0.40	4.08	162.24	408.32	1.62	0.00	0.000	0.022	0.094
438	36.60	36.50	0.15241	73.42	0.09393	0.01	0.40	4.08	162.26	408.33	1.62	0.00	0.000	0.022	0.094
439	36.50	36.40	0.15275	73.26	0.09413	0.01	0.40	4.08	162.27	408.34	1.62	0.00	0.000	0.022	0.094
TOT						0.26			3404.16	8573.00					
AVG					0.09213		0.40	4.08			1.62				
CUM						5.98									

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

ELEM NCM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
1/da	mg/L	1/da	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
419	38.400	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
420	38.300	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
421	38.200	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
422	38.100	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
423	38.000	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04

424	37.900	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
425	37.800	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
426	37.700	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04
0.06																			
427	37.600	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
428	37.500	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
429	37.400	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
430	37.300	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
431	37.200	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
432	37.100	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04
0.06																			
433	37.000	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
434	36.900	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
435	36.800	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
436	36.700	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
437	36.600	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
438	36.500	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
439	36.400	8.01	2.00	0.07	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
20 DEG C RATE				0.05		0.00	2.44			0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG 20 DEG C RATE			1.76		0.10						0.05								
0.05																			

* g/m²/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 *
419	38.400	26.70	0.00	32.20	13.37	3.22	6.13	6.23	1.17	0.90	0.46	2.53	0.00	0.62	0.00	0.00	2.30
420	38.300	26.70	0.00	32.14	13.35	3.22	6.12	6.22	1.16	0.90	0.46	2.53	0.00	0.65	0.00	0.00	2.31
421	38.200	26.70	0.00	32.09	13.32	3.21	6.11	6.21	1.16	0.90	0.46	2.52	0.00	0.67	0.00	0.00	2.32
422	38.100	26.70	0.00	32.03	13.30	3.20	6.10	6.21	1.16	0.90	0.46	2.52	0.00	0.70	0.00	0.00	2.33
423	38.000	26.70	0.00	31.97	13.27	3.20	6.09	6.20	1.16	0.90	0.46	2.52	0.00	0.72	0.00	0.00	2.34

424	37.900	26.70	0.00	31.91	13.25	3.19	6.08	6.20	1.16	0.90	0.46	2.51	0.00	0.74	0.00	0.00	2.35
425	37.800	26.70	0.00	31.86	13.22	3.19	6.08	6.19	1.16	0.90	0.46	2.51	0.00	0.77	0.00	0.00	2.36
426	37.700	26.70	0.00	31.80	13.20	3.18	6.07	6.18	1.16	0.89	0.46	2.51	0.00	0.79	0.00	0.00	2.37
427	37.600	26.70	0.00	31.74	13.18	3.17	6.06	6.18	1.15	0.89	0.46	2.50	0.00	0.81	0.00	0.00	2.38
428	37.500	26.70	0.00	31.69	13.15	3.17	6.05	6.17	1.15	0.89	0.45	2.50	0.00	0.84	0.00	0.00	2.39
429	37.400	26.70	0.00	31.63	13.13	3.16	6.04	6.17	1.15	0.89	0.45	2.49	0.00	0.86	0.00	0.00	2.40
430	37.300	26.70	0.00	31.57	13.11	3.16	6.03	6.16	1.15	0.89	0.45	2.49	0.00	0.89	0.00	0.00	2.41
431	37.200	26.70	0.00	31.52	13.08	3.16	6.02	6.16	1.15	0.89	0.45	2.49	0.00	0.91	0.00	0.00	2.42
432	37.100	26.70	0.00	31.46	13.06	3.15	6.01	6.15	1.15	0.89	0.45	2.48	0.00	0.93	0.00	0.00	2.43
433	37.000	26.70	0.00	31.41	13.03	3.15	6.00	6.15	1.15	0.88	0.45	2.48	0.00	0.96	0.00	0.00	2.44
434	36.900	26.70	0.00	31.35	13.01	3.14	6.00	6.14	1.15	0.88	0.45	2.48	0.00	0.98	0.00	0.00	2.45
435	36.800	26.70	0.00	31.30	12.99	3.14	5.99	6.14	1.14	0.88	0.45	2.47	0.00	1.00	0.00	0.00	2.46
436	36.700	26.70	0.00	31.24	12.97	3.13	5.98	6.13	1.14	0.88	0.45	2.47	0.00	1.03	0.00	0.00	2.47
437	36.600	26.70	0.00	31.19	12.94	3.13	5.97	6.13	1.14	0.88	0.45	2.47	0.00	1.05	0.00	0.00	2.48
438	36.500	26.70	0.00	31.14	12.92	3.13	5.96	6.12	1.14	0.88	0.45	2.46	0.00	1.08	0.00	0.00	2.49
439	36.400	26.70	0.00	31.08	12.90	3.12	5.95	6.12	1.14	0.88	0.45	2.46	0.00	1.10	0.00	0.00	2.50

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 11 SITE 10 - MAGNOLIA CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
440	UPR RCH	0.15275	26.70	0.00	31.08	12.90	3.12	5.95	6.12	1.14	0.88	0.45	0.00	1.10	0.00	2.50
EACH	INCR	0.0001	26.70	0.00	9.20	3.40	2.00	6.19	6.19	0.63	0.00	0.08	0.00	0.00	0.00	5.18

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
440	36.40	36.30	0.15289	73.19	0.06226	0.02	0.42	5.88	245.58	588.34	2.46	0.00	0.000	0.015	0.062
441	36.30	36.20	0.15304	73.12	0.06231	0.02	0.42	5.88	245.59	588.35	2.46	0.00	0.000	0.015	0.062
442	36.20	36.10	0.15318	73.05	0.06237	0.02	0.42	5.88	245.60	588.35	2.46	0.00	0.000	0.015	0.062
443	36.10	36.00	0.15332	72.98	0.06243	0.02	0.42	5.88	245.61	588.36	2.46	0.00	0.000	0.015	0.062
444	36.00	35.90	0.15347	72.91	0.06248	0.02	0.42	5.88	245.62	588.36	2.46	0.00	0.000	0.015	0.062
445	35.90	35.80	0.15361	72.85	0.06254	0.02	0.42	5.88	245.63	588.36	2.46	0.00	0.000	0.015	0.063
446	35.80	35.70	0.15376	72.78	0.06259	0.02	0.42	5.88	245.64	588.37	2.46	0.00	0.000	0.015	0.063
447	35.70	35.60	0.15390	72.71	0.06265	0.02	0.42	5.88	245.65	588.37	2.46	0.00	0.000	0.015	0.063
448	35.60	35.50	0.15404	72.64	0.06271	0.02	0.42	5.88	245.66	588.38	2.46	0.00	0.000	0.015	0.063

449	35.50	35.40	0.15419	72.58	0.06276	0.02	0.42	5.88	245.67	588.38	2.46	0.00	0.000	0.015	0.063
450	35.40	35.30	0.15433	72.51	0.06282	0.02	0.42	5.88	245.68	588.38	2.46	0.00	0.000	0.015	0.063
451	35.30	35.20	0.15447	72.44	0.06287	0.02	0.42	5.88	245.68	588.39	2.46	0.00	0.000	0.015	0.063
452	35.20	35.10	0.15462	72.37	0.06293	0.02	0.42	5.88	245.69	588.39	2.46	0.00	0.000	0.015	0.063
453	35.10	35.00	0.15476	72.31	0.06299	0.02	0.42	5.88	245.70	588.40	2.46	0.00	0.000	0.015	0.063
454	35.00	34.90	0.15490	72.24	0.06304	0.02	0.42	5.88	245.71	588.40	2.46	0.00	0.000	0.015	0.063
455	34.90	34.80	0.15505	72.17	0.06310	0.02	0.42	5.88	245.72	588.41	2.46	0.00	0.000	0.015	0.063
456	34.80	34.70	0.15519	72.11	0.06315	0.02	0.42	5.88	245.73	588.41	2.46	0.00	0.000	0.015	0.063
457	34.70	34.60	0.15533	72.04	0.06321	0.02	0.42	5.88	245.74	588.41	2.46	0.00	0.000	0.015	0.063
458	34.60	34.50	0.15548	71.97	0.06327	0.02	0.42	5.88	245.75	588.42	2.46	0.00	0.000	0.015	0.063
459	34.50	34.40	0.15562	71.91	0.06332	0.02	0.42	5.88	245.76	588.42	2.46	0.00	0.000	0.015	0.063
460	34.40	34.30	0.15576	71.84	0.06338	0.02	0.42	5.88	245.77	588.43	2.46	0.00	0.000	0.015	0.063
461	34.30	34.20	0.15591	71.77	0.06343	0.02	0.42	5.88	245.78	588.43	2.46	0.00	0.000	0.015	0.063
462	34.20	34.10	0.15605	71.71	0.06349	0.02	0.42	5.88	245.79	588.44	2.46	0.00	0.000	0.015	0.063

TOT 0.42 5650.75 13532.95
AVG 0.06287 0.42 5.88 2.46
CUM 6.41

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI	NCM
NCM	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY	DECAY
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																			
440	36.300	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
441	36.200	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
442	36.100	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
443	36.000	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
444	35.900	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
445	35.800	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
446	35.700	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
447	35.600	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
448	35.500	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
449	35.400	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
450	35.300	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04

0.06																				
451	35.200	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
452	35.100	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
453	35.000	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
454	34.900	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
455	34.800	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
456	34.700	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
457	34.600	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
458	34.500	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
459	34.400	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
460	34.300	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
461	34.200	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
462	34.100	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
0.06																				
20 DEG C RATE				0.09		0.00	2.44			0.03		0.00	0.00	0.00	0.00			0.00	0.03	
AVG 20 DEG C RATE			1.68		0.10						0.05									
0.05																				

* g/m²/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 *
440	36.300	26.70	0.00	31.06	12.89	3.12	5.94	6.10	1.14	0.88	0.44	2.46	0.00	1.10	0.00	0.00	2.50
441	36.200	26.70	0.00	31.04	12.88	3.11	5.93	6.09	1.14	0.88	0.44	2.46	0.00	1.10	0.00	0.00	2.50
442	36.100	26.70	0.00	31.02	12.87	3.10	5.91	6.08	1.13	0.88	0.44	2.46	0.00	1.10	0.00	0.00	2.50
443	36.000	26.70	0.00	31.00	12.86	3.09	5.90	6.06	1.13	0.88	0.44	2.45	0.00	1.10	0.00	0.00	2.49
444	35.900	26.70	0.00	30.98	12.85	3.08	5.88	6.05	1.13	0.88	0.44	2.45	0.00	1.10	0.00	0.00	2.49
445	35.800	26.70	0.00	30.96	12.84	3.08	5.87	6.04	1.13	0.88	0.44	2.45	0.00	1.10	0.00	0.00	2.49
446	35.700	26.70	0.00	30.94	12.84	3.07	5.86	6.02	1.13	0.88	0.44	2.45	0.00	1.10	0.00	0.00	2.49
447	35.600	26.70	0.00	30.92	12.83	3.06	5.84	6.01	1.13	0.88	0.44	2.45	0.00	1.10	0.00	0.00	2.49
448	35.500	26.70	0.00	30.90	12.82	3.06	5.83	6.00	1.13	0.88	0.44	2.45	0.00	1.10	0.00	0.00	2.48
449	35.400	26.70	0.00	30.88	12.81	3.05	5.82	5.98	1.12	0.88	0.44	2.44	0.00	1.10	0.00	0.00	2.48
450	35.300	26.70	0.00	30.86	12.80	3.05	5.80	5.97	1.12	0.88	0.44	2.44	0.00	1.10	0.00	0.00	2.48
451	35.200	26.70	0.00	30.84	12.79	3.04	5.79	5.96	1.12	0.88	0.44	2.44	0.00	1.10	0.00	0.00	2.48

452	35.100	26.70	0.00	30.82	12.78	3.04	5.78	5.94	1.12	0.88	0.44	2.44	0.00	1.10	0.00	0.00	2.48
453	35.000	26.70	0.00	30.80	12.77	3.03	5.77	5.93	1.12	0.88	0.44	2.44	0.00	1.10	0.00	0.00	2.47
454	34.900	26.70	0.00	30.78	12.77	3.03	5.75	5.92	1.12	0.88	0.44	2.44	0.00	1.10	0.00	0.00	2.47
455	34.800	26.70	0.00	30.76	12.76	3.02	5.74	5.91	1.12	0.88	0.44	2.43	0.00	1.10	0.00	0.00	2.47
456	34.700	26.70	0.00	30.74	12.75	3.02	5.73	5.89	1.11	0.88	0.44	2.43	0.00	1.10	0.00	0.00	2.47
457	34.600	26.70	0.00	30.72	12.74	3.01	5.72	5.88	1.11	0.88	0.44	2.43	0.00	1.10	0.00	0.00	2.47
458	34.500	26.70	0.00	30.70	12.73	3.01	5.70	5.87	1.11	0.88	0.44	2.43	0.00	1.10	0.00	0.00	2.46
459	34.400	26.70	0.00	30.68	12.72	3.01	5.69	5.86	1.11	0.88	0.44	2.43	0.00	1.10	0.00	0.00	2.46
460	34.300	26.70	0.00	30.66	12.71	3.00	5.68	5.84	1.11	0.88	0.44	2.43	0.00	1.10	0.00	0.00	2.46
461	34.200	26.70	0.00	30.64	12.71	3.00	5.67	5.83	1.11	0.88	0.44	2.42	0.00	1.10	0.00	0.00	2.46
462	34.100	26.70	0.00	30.62	12.70	2.99	5.65	5.82	1.11	0.88	0.44	2.42	0.00	1.10	0.00	0.00	2.46

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 12 MAGNOLIA CR - BRUSHY CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
463	UPR RCH	0.15605	26.70	0.00	30.62	12.70	2.99	5.65	5.82	1.11	0.88	0.44	0.00	1.10	0.00	2.46
EACH	INCR	0.0002	26.70	0.00	9.20	3.40	2.00	6.19	6.19	0.63	0.00	0.08	0.00		0.00	5.18

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
463	34.10	34.00	0.15624	71.62	0.06357	0.02	0.42	5.88	245.80	588.44	2.46	0.00	0.000	0.015	0.064
464	34.00	33.90	0.15644	71.53	0.06364	0.02	0.42	5.88	245.81	588.45	2.46	0.00	0.000	0.015	0.064
465	33.90	33.80	0.15663	71.44	0.06372	0.02	0.42	5.88	245.83	588.45	2.46	0.00	0.000	0.015	0.064
466	33.80	33.70	0.15683	71.35	0.06379	0.02	0.42	5.88	245.84	588.46	2.46	0.00	0.000	0.015	0.064
467	33.70	33.60	0.15702	71.26	0.06387	0.02	0.42	5.88	245.85	588.46	2.46	0.00	0.000	0.015	0.064
468	33.60	33.50	0.15722	71.18	0.06394	0.02	0.42	5.88	245.87	588.47	2.46	0.00	0.000	0.015	0.064
469	33.50	33.40	0.15741	71.09	0.06402	0.02	0.42	5.88	245.88	588.47	2.46	0.00	0.000	0.015	0.064
470	33.40	33.30	0.15760	71.00	0.06409	0.02	0.42	5.88	245.89	588.48	2.46	0.00	0.000	0.016	0.064
471	33.30	33.20	0.15780	70.91	0.06417	0.02	0.42	5.88	245.90	588.49	2.46	0.00	0.000	0.016	0.064
472	33.20	33.10	0.15799	70.83	0.06425	0.02	0.42	5.88	245.92	588.49	2.46	0.00	0.000	0.016	0.064
473	33.10	33.00	0.15819	70.74	0.06432	0.02	0.42	5.88	245.93	588.50	2.46	0.00	0.000	0.016	0.064
474	33.00	32.90	0.15838	70.65	0.06440	0.02	0.42	5.89	245.94	588.50	2.46	0.00	0.000	0.016	0.064
475	32.90	32.80	0.15857	70.57	0.06447	0.02	0.42	5.89	245.95	588.51	2.46	0.00	0.000	0.016	0.064
476	32.80	32.70	0.15877	70.48	0.06455	0.02	0.42	5.89	245.97	588.51	2.46	0.00	0.000	0.016	0.065

479 32.400 8.01 1.90 0.12 0.12 0.00 3.72 3.72 3.72 0.05 0.06 0.00 0.00 0.00 0.00 0.07 0.00 0.00 0.04
0.06

20 DEG C RATE 0.09 0.00 2.44 0.03 0.00 0.00 0.00 0.00
AVG 20 DEG C RATE 1.68 0.10 0.05 0.00 0.03

0.05

* g/m²/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 *
463	34.000	26.70	0.00	30.59	12.69	2.99	5.64	5.80	1.10	0.88	0.44	2.42	0.00	1.10	0.00	0.00	2.45
464	33.900	26.70	0.00	30.57	12.67	2.99	5.63	5.79	1.10	0.88	0.44	2.42	0.00	1.10	0.00	0.00	2.45
465	33.800	26.70	0.00	30.54	12.66	2.98	5.61	5.78	1.10	0.88	0.44	2.41	0.00	1.10	0.00	0.00	2.45
466	33.700	26.70	0.00	30.51	12.65	2.98	5.60	5.76	1.10	0.88	0.43	2.41	0.00	1.10	0.00	0.00	2.45
467	33.600	26.70	0.00	30.49	12.64	2.98	5.58	5.75	1.09	0.88	0.43	2.41	0.00	1.10	0.00	0.00	2.45
468	33.500	26.70	0.00	30.46	12.63	2.98	5.57	5.74	1.09	0.88	0.43	2.40	0.00	1.10	0.00	0.00	2.45
469	33.400	26.70	0.00	30.43	12.62	2.97	5.56	5.72	1.09	0.88	0.43	2.40	0.00	1.10	0.00	0.00	2.45
470	33.300	26.70	0.00	30.41	12.61	2.97	5.54	5.71	1.08	0.88	0.43	2.40	0.00	1.10	0.00	0.00	2.45
471	33.200	26.70	0.00	30.38	12.59	2.97	5.53	5.70	1.08	0.88	0.43	2.39	0.00	1.10	0.00	0.00	2.45
472	33.100	26.70	0.00	30.36	12.58	2.97	5.52	5.68	1.08	0.88	0.43	2.39	0.00	1.10	0.00	0.00	2.45
473	33.000	26.70	0.00	30.33	12.57	2.96	5.50	5.67	1.08	0.88	0.43	2.39	0.00	1.10	0.00	0.00	2.44
474	32.900	26.70	0.00	30.30	12.56	2.96	5.49	5.66	1.07	0.88	0.43	2.38	0.00	1.10	0.00	0.00	2.44
475	32.800	26.70	0.00	30.28	12.55	2.96	5.48	5.64	1.07	0.88	0.43	2.38	0.00	1.10	0.00	0.00	2.44
476	32.700	26.70	0.00	30.25	12.54	2.96	5.46	5.63	1.07	0.88	0.43	2.38	0.00	1.10	0.00	0.00	2.44
477	32.600	26.70	0.00	30.23	12.53	2.96	5.45	5.62	1.07	0.88	0.43	2.37	0.00	1.10	0.00	0.00	2.44
478	32.500	26.70	0.00	30.20	12.52	2.95	5.44	5.60	1.06	0.88	0.43	2.37	0.00	1.10	0.00	0.00	2.44
479	32.400	26.70	0.00	30.18	12.50	2.95	5.43	5.59	1.06	0.88	0.43	2.37	0.00	1.10	0.00	0.00	2.44

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 13 BRUSHY CR - RIGHTHAND CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
480	UPR RCH	0.15935	26.70	0.00	30.18	12.50	2.95	5.43	5.59	1.06	0.88	0.43	0.00	1.10	0.00	2.44
EACH	INCR	0.0002	26.70	0.00	9.20	3.40	2.00	6.19	6.19	0.63	0.00	0.08	0.00		0.00	5.18

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
480	32.40	32.30	0.15952	70.15	0.06484	0.02	0.42	5.89	246.02	588.54	2.46	0.00	0.000	0.016	0.065
481	32.30	32.20	0.15970	70.07	0.06491	0.02	0.42	5.89	246.03	588.54	2.46	0.00	0.000	0.016	0.065
482	32.20	32.10	0.15987	69.99	0.06498	0.02	0.42	5.89	246.04	588.55	2.46	0.00	0.000	0.016	0.065
483	32.10	32.00	0.16005	69.92	0.06505	0.02	0.42	5.89	246.05	588.55	2.46	0.00	0.000	0.016	0.065
484	32.00	31.90	0.16022	69.84	0.06511	0.02	0.42	5.89	246.06	588.56	2.46	0.00	0.000	0.016	0.065
485	31.90	31.80	0.16039	69.77	0.06518	0.02	0.42	5.89	246.07	588.56	2.46	0.00	0.000	0.016	0.065
486	31.80	31.70	0.16057	69.69	0.06525	0.02	0.42	5.89	246.08	588.57	2.46	0.00	0.000	0.016	0.065
487	31.70	31.60	0.16074	69.62	0.06532	0.02	0.42	5.89	246.09	588.57	2.46	0.00	0.000	0.016	0.065
488	31.60	31.50	0.16091	69.54	0.06538	0.02	0.42	5.89	246.11	588.58	2.46	0.00	0.000	0.016	0.065
489	31.50	31.40	0.16109	69.47	0.06545	0.02	0.42	5.89	246.12	588.58	2.46	0.00	0.000	0.016	0.065
490	31.40	31.30	0.16126	69.39	0.06552	0.02	0.42	5.89	246.13	588.59	2.46	0.00	0.000	0.016	0.066
491	31.30	31.20	0.16144	69.32	0.06559	0.02	0.42	5.89	246.14	588.59	2.46	0.00	0.000	0.016	0.066
492	31.20	31.10	0.16161	69.24	0.06565	0.02	0.42	5.89	246.15	588.60	2.46	0.00	0.000	0.016	0.066
493	31.10	31.00	0.16178	69.17	0.06572	0.02	0.42	5.89	246.16	588.60	2.46	0.00	0.000	0.016	0.066
494	31.00	30.90	0.16196	69.09	0.06579	0.02	0.42	5.89	246.17	588.61	2.46	0.00	0.000	0.016	0.066
495	30.90	30.80	0.16213	69.02	0.06586	0.02	0.42	5.89	246.18	588.61	2.46	0.00	0.000	0.016	0.066
496	30.80	30.70	0.16230	68.95	0.06592	0.02	0.42	5.89	246.19	588.62	2.46	0.00	0.000	0.016	0.066
497	30.70	30.60	0.16248	68.87	0.06599	0.02	0.42	5.89	246.21	588.62	2.46	0.00	0.000	0.016	0.066
498	30.60	30.50	0.16265	68.80	0.06606	0.02	0.42	5.89	246.22	588.63	2.46	0.00	0.000	0.016	0.066
TOT						0.34			4676.22	11183.04					
AVG					0.06545		0.42	5.89			2.46				
CUM						7.05									

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

ELEM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECA	CBOD SETT	ANBOD DECA	BKGD SOD	FULL SOD	CORR SOD	ORGN DECA	ORGN SETT	NH3 DECA	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECA	NCM DECA
SETT		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da
480	32.300	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
481	32.200	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
482	32.100	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
483	32.000	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
484	31.900	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04

0.06																			
485	31.800	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
486	31.700	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
487	31.600	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
488	31.500	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
489	31.400	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
490	31.300	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
491	31.200	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
492	31.100	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
493	31.000	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
494	30.900	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
495	30.800	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
496	30.700	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
497	30.600	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
498	30.500	8.01	1.90	0.12	0.12	0.00	3.72	3.72	3.72	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04
0.06																			
20 DEG C RATE				0.09		0.00	2.44			0.03		0.00	0.00	0.00	0.00			0.00	0.03
AVG 20 DEG C RATE			1.67		0.10						0.05								
0.05																			

* g/m²/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 *
480	32.300	26.70	0.00	30.15	12.49	2.95	5.42	5.58	1.06	0.88	0.43	2.36	0.00	1.10	0.00	0.00	2.44
481	32.200	26.70	0.00	30.13	12.48	2.95	5.41	5.58	1.06	0.88	0.43	2.36	0.00	1.10	0.00	0.00	2.44
482	32.100	26.70	0.00	30.11	12.47	2.95	5.40	5.57	1.05	0.88	0.43	2.36	0.00	1.10	0.00	0.00	2.43
483	32.000	26.70	0.00	30.08	12.46	2.95	5.39	5.56	1.05	0.88	0.43	2.35	0.00	1.10	0.00	0.00	2.43
484	31.900	26.70	0.00	30.06	12.46	2.95	5.39	5.55	1.05	0.88	0.43	2.35	0.00	1.10	0.00	0.00	2.43
485	31.800	26.70	0.00	30.04	12.45	2.94	5.38	5.54	1.05	0.88	0.43	2.35	0.00	1.10	0.00	0.00	2.43
486	31.700	26.70	0.00	30.02	12.44	2.94	5.37	5.54	1.04	0.88	0.43	2.35	0.00	1.10	0.00	0.00	2.43
487	31.600	26.70	0.00	29.99	12.43	2.94	5.36	5.53	1.04	0.88	0.43	2.34	0.00	1.10	0.00	0.00	2.43

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

ELEM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECA	CBOD SETT	ANBOD DECA	BKGD SOD	FULL SOD	CORR SOD	ORGN DECA	ORGN SETT	NH3 DECA	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECA	NCM DECA	
SETT		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da	
499	30.400	8.01	1.90	0.12	0.12	0.00	3.22	3.22	3.22	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
500	30.300	8.01	1.90	0.12	0.12	0.00	3.22	3.22	3.22	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
501	30.200	8.01	1.90	0.12	0.12	0.00	3.22	3.22	3.22	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
502	30.100	8.01	1.90	0.12	0.12	0.00	3.22	3.22	3.22	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
503	30.000	8.01	1.90	0.12	0.12	0.00	3.22	3.22	3.22	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
504	29.900	8.01	1.90	0.12	0.12	0.00	3.22	3.22	3.22	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
505	29.800	8.01	1.90	0.12	0.12	0.00	3.22	3.22	3.22	0.05	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.04	
506	29.700	8.01	1.90	0.12	0.12	0.00	3.22	3.22	3.22	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04	
507	29.600	8.01	1.90	0.12	0.12	0.00	3.22	3.22	3.22	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04	
508	29.500	8.01	1.90	0.12	0.12	0.00	3.22	3.22	3.22	0.05	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04	
20	DEG C RATE			0.09	0.00			2.11		0.03			0.00	0.00	0.00	0.00	0.00			0.03
AVG	20 DEG C RATE			1.67	0.10						0.05									
0.05																				

* g/m²/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 *
499	30.400	26.70	0.00	29.71	12.30	2.95	5.28	5.44	1.01	0.87	0.42	2.31	0.00	1.08	0.00	0.00	2.42
500	30.300	26.70	0.00	29.67	12.28	2.97	5.28	5.44	1.01	0.87	0.42	2.30	0.00	1.06	0.00	0.00	2.42
501	30.200	26.70	0.00	29.63	12.27	2.99	5.28	5.44	1.01	0.87	0.42	2.30	0.00	1.04	0.00	0.00	2.42
502	30.100	26.70	0.00	29.58	12.25	3.01	5.29	5.44	1.01	0.87	0.42	2.29	0.00	1.02	0.00	0.00	2.42
503	30.000	26.70	0.00	29.54	12.23	3.02	5.29	5.44	1.00	0.87	0.42	2.29	0.00	1.00	0.00	0.00	2.42
504	29.900	26.70	0.00	29.50	12.21	3.04	5.29	5.43	1.00	0.87	0.42	2.29	0.00	0.98	0.00	0.00	2.42

505	29.800	26.70	0.00	29.46	12.19	3.05	5.29	5.43	1.00	0.87	0.42	2.28	0.00	0.96	0.00	0.00	2.42
506	29.700	26.70	0.00	29.42	12.18	3.07	5.29	5.43	1.00	0.87	0.41	2.28	0.00	0.94	0.00	0.00	2.42
507	29.600	26.70	0.00	29.38	12.16	3.08	5.29	5.43	0.99	0.87	0.41	2.27	0.00	0.92	0.00	0.00	2.43
508	29.500	26.70	0.00	29.34	12.14	3.10	5.29	5.43	0.99	0.86	0.41	2.27	0.00	0.90	0.00	0.00	2.43

* CM-I = CHLORIDES MG/L CM-II = SULFATES MG/L NCM = CBOD2 mg/L

** g/m³

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
 REACH NO. 15 SITE 11 - BOGGY CR BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m³/	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 *
509	UPR RCH	0.16595	26.70	0.00	29.34	12.14	3.10	5.29	5.43	0.99	0.86	0.41	0.00	0.90	0.00	2.43
EACH	INCR	0.0001	26.70	0.00	13.60	4.10	2.00	4.19	4.19	0.46	0.00	0.08	0.00		0.00	1.96

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s	MEAN VELO m/s
509	29.50	29.40	0.16607	67.38	0.15128	0.01	0.27	4.09	109.78	408.72	1.10	0.00	0.000	0.025	0.151
510	29.40	29.30	0.16619	67.33	0.15138	0.01	0.27	4.09	109.78	408.73	1.10	0.00	0.000	0.025	0.151
511	29.30	29.20	0.16632	67.28	0.15149	0.01	0.27	4.09	109.79	408.73	1.10	0.00	0.000	0.025	0.151
512	29.20	29.10	0.16644	67.23	0.15159	0.01	0.27	4.09	109.79	408.73	1.10	0.00	0.000	0.025	0.152
513	29.10	29.00	0.16656	67.18	0.15169	0.01	0.27	4.09	109.80	408.74	1.10	0.00	0.000	0.025	0.152
514	29.00	28.90	0.16668	67.14	0.15180	0.01	0.27	4.09	109.81	408.74	1.10	0.00	0.000	0.025	0.152
515	28.90	28.80	0.16680	67.09	0.15190	0.01	0.27	4.09	109.81	408.74	1.10	0.00	0.000	0.025	0.152
516	28.80	28.70	0.16692	67.04	0.15200	0.01	0.27	4.09	109.82	408.75	1.10	0.00	0.000	0.025	0.152
517	28.70	28.60	0.16704	66.99	0.15211	0.01	0.27	4.09	109.82	408.75	1.10	0.00	0.000	0.025	0.152
518	28.60	28.50	0.16717	66.94	0.15221	0.01	0.27	4.09	109.83	408.75	1.10	0.00	0.000	0.025	0.152
519	28.50	28.40	0.16729	66.89	0.15231	0.01	0.27	4.09	109.83	408.76	1.10	0.00	0.000	0.026	0.152
520	28.40	28.30	0.16741	66.84	0.15242	0.01	0.27	4.09	109.84	408.76	1.10	0.00	0.000	0.026	0.152
521	28.30	28.20	0.16753	66.79	0.15252	0.01	0.27	4.09	109.84	408.76	1.10	0.00	0.000	0.026	0.153
522	28.20	28.10	0.16765	66.75	0.15262	0.01	0.27	4.09	109.85	408.77	1.10	0.00	0.000	0.026	0.153
523	28.10	28.00	0.16777	66.70	0.15273	0.01	0.27	4.09	109.85	408.77	1.10	0.00	0.000	0.026	0.153
524	28.00	27.90	0.16790	66.65	0.15283	0.01	0.27	4.09	109.86	408.78	1.10	0.00	0.000	0.026	0.153
525	27.90	27.80	0.16802	66.60	0.15293	0.01	0.27	4.09	109.86	408.78	1.10	0.00	0.000	0.026	0.153
526	27.80	27.70	0.16814	66.55	0.15304	0.01	0.27	4.09	109.87	408.78	1.10	0.00	0.000	0.026	0.153
527	27.70	27.60	0.16826	66.50	0.15314	0.01	0.27	4.09	109.87	408.79	1.10	0.00	0.000	0.026	0.153
528	27.60	27.50	0.16838	66.46	0.15324	0.01	0.27	4.09	109.88	408.79	1.10	0.00	0.000	0.026	0.153
529	27.50	27.40	0.16850	66.41	0.15335	0.01	0.27	4.09	109.88	408.79	1.10	0.00	0.000	0.026	0.153

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

ELEM NCM NO. SETT	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
509	29.400	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
510	29.300	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
511	29.200	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
512	29.100	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
513	29.000	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
514	28.900	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
515	28.800	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
516	28.700	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
517	28.600	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
518	28.500	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
519	28.400	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
520	28.300	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
521	28.200	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
522	28.100	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
523	28.000	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
524	27.900	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
525	27.800	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
526	27.700	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
527	27.600	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
528	27.500	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
529	27.400	8.01	2.96	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05

0.06																			
555	24.800	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
556	24.700	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
557	24.600	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
558	24.500	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
559	24.400	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
560	24.300	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
561	24.200	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
562	24.100	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
563	24.000	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
564	23.900	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
565	23.800	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
566	23.700	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
567	23.600	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
568	23.500	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
569	23.400	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
570	23.300	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
571	23.200	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
572	23.100	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
573	23.000	8.01	2.95	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
20	DEG C RATE				0.06		0.00	2.03		0.04		0.00	0.00	0.00	0.00			0.00	0.04
AVG	20 DEG C RATE			2.60		0.10					0.05								
0.05																			

* g/m²/d ** mg/L/day

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

ELEM	ENDING	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	TOTN	PHOS	CHL A	MACRO	COLI	NCM
------	--------	------	------	------	-------	----	-----	------	------	-----	-------	------	------	-------	-------	------	-----

NO.	DIST	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	**	#/100mL	*
509	29.400	26.70	0.00	29.33	12.14	3.11	5.29	5.42	0.99	0.86	0.41	2.27	0.00	0.90	0.00	0.00	2.43
510	29.300	26.70	0.00	29.32	12.13	3.13	5.28	5.42	0.99	0.86	0.41	2.27	0.00	0.90	0.00	0.00	2.42
511	29.200	26.70	0.00	29.31	12.12	3.15	5.28	5.41	0.99	0.86	0.41	2.26	0.00	0.90	0.00	0.00	2.42
512	29.100	26.70	0.00	29.30	12.12	3.16	5.27	5.41	0.99	0.86	0.41	2.26	0.00	0.90	0.00	0.00	2.42
513	29.000	26.70	0.00	29.28	12.11	3.18	5.27	5.40	0.99	0.86	0.41	2.26	0.00	0.90	0.00	0.00	2.42
514	28.900	26.70	0.00	29.27	12.11	3.19	5.26	5.40	0.98	0.86	0.41	2.26	0.00	0.90	0.00	0.00	2.41
515	28.800	26.70	0.00	29.26	12.10	3.21	5.26	5.39	0.98	0.86	0.41	2.26	0.00	0.90	0.00	0.00	2.41
516	28.700	26.70	0.00	29.25	12.10	3.23	5.25	5.39	0.98	0.86	0.41	2.26	0.00	0.90	0.00	0.00	2.41
517	28.600	26.70	0.00	29.24	12.09	3.24	5.25	5.38	0.98	0.86	0.41	2.26	0.00	0.90	0.00	0.00	2.41
518	28.500	26.70	0.00	29.23	12.08	3.25	5.24	5.38	0.98	0.86	0.41	2.26	0.00	0.90	0.00	0.00	2.40
519	28.400	26.70	0.00	29.22	12.08	3.27	5.24	5.37	0.98	0.86	0.41	2.25	0.00	0.90	0.00	0.00	2.40
520	28.300	26.70	0.00	29.20	12.07	3.28	5.23	5.37	0.98	0.86	0.41	2.25	0.00	0.90	0.00	0.00	2.40
521	28.200	26.70	0.00	29.19	12.07	3.29	5.23	5.36	0.98	0.86	0.41	2.25	0.00	0.90	0.00	0.00	2.40
522	28.100	26.70	0.00	29.18	12.06	3.31	5.23	5.36	0.98	0.86	0.41	2.25	0.00	0.90	0.00	0.00	2.39
523	28.000	26.70	0.00	29.17	12.05	3.32	5.22	5.36	0.98	0.86	0.41	2.25	0.00	0.90	0.00	0.00	2.39
524	27.900	26.70	0.00	29.16	12.05	3.33	5.22	5.35	0.98	0.86	0.41	2.25	0.00	0.90	0.00	0.00	2.39
525	27.800	26.70	0.00	29.15	12.04	3.34	5.21	5.35	0.98	0.86	0.41	2.25	0.00	0.90	0.00	0.00	2.39
526	27.700	26.70	0.00	29.14	12.04	3.36	5.21	5.34	0.97	0.86	0.41	2.25	0.00	0.90	0.00	0.00	2.38
527	27.600	26.70	0.00	29.13	12.03	3.37	5.20	5.34	0.97	0.86	0.41	2.24	0.00	0.90	0.00	0.00	2.38
528	27.500	26.70	0.00	29.11	12.03	3.38	5.20	5.33	0.97	0.86	0.41	2.24	0.00	0.90	0.00	0.00	2.38
529	27.400	26.70	0.00	29.10	12.02	3.39	5.19	5.33	0.97	0.86	0.41	2.24	0.00	0.90	0.00	0.00	2.38
530	27.300	26.70	0.00	29.09	12.01	3.40	5.19	5.32	0.97	0.86	0.41	2.24	0.00	0.90	0.00	0.00	2.38
531	27.200	26.70	0.00	29.08	12.01	3.41	5.18	5.32	0.97	0.86	0.41	2.24	0.00	0.90	0.00	0.00	2.37
532	27.100	26.70	0.00	29.07	12.00	3.42	5.18	5.31	0.97	0.86	0.41	2.24	0.00	0.90	0.00	0.00	2.37
533	27.000	26.70	0.00	29.06	12.00	3.43	5.17	5.31	0.97	0.86	0.41	2.24	0.00	0.90	0.00	0.00	2.37
534	26.900	26.70	0.00	29.05	11.99	3.44	5.17	5.31	0.97	0.86	0.41	2.23	0.00	0.90	0.00	0.00	2.37
535	26.800	26.70	0.00	29.04	11.99	3.45	5.17	5.30	0.97	0.86	0.41	2.23	0.00	0.90	0.00	0.00	2.36
536	26.700	26.70	0.00	29.03	11.98	3.46	5.16	5.30	0.97	0.86	0.41	2.23	0.00	0.90	0.00	0.00	2.36
537	26.600	26.70	0.00	29.01	11.98	3.47	5.16	5.29	0.96	0.86	0.41	2.23	0.00	0.90	0.00	0.00	2.36
538	26.500	26.70	0.00	29.00	11.97	3.48	5.15	5.29	0.96	0.86	0.41	2.23	0.00	0.90	0.00	0.00	2.36
539	26.400	26.70	0.00	28.99	11.96	3.49	5.15	5.28	0.96	0.86	0.41	2.23	0.00	0.90	0.00	0.00	2.35
540	26.300	26.70	0.00	28.98	11.96	3.50	5.14	5.28	0.96	0.86	0.41	2.23	0.00	0.90	0.00	0.00	2.35
541	26.200	26.70	0.00	28.97	11.95	3.50	5.14	5.27	0.96	0.86	0.41	2.23	0.00	0.90	0.00	0.00	2.35
542	26.100	26.70	0.00	28.96	11.95	3.51	5.13	5.27	0.96	0.86	0.40	2.22	0.00	0.90	0.00	0.00	2.35
543	26.000	26.70	0.00	28.95	11.94	3.52	5.13	5.27	0.96	0.86	0.40	2.22	0.00	0.90	0.00	0.00	2.35
544	25.900	26.70	0.00	28.94	11.94	3.53	5.13	5.26	0.96	0.86	0.40	2.22	0.00	0.90	0.00	0.00	2.34
545	25.800	26.70	0.00	28.93	11.93	3.54	5.12	5.26	0.96	0.86	0.40	2.22	0.00	0.90	0.00	0.00	2.34
546	25.700	26.70	0.00	28.92	11.92	3.54	5.12	5.25	0.96	0.86	0.40	2.22	0.00	0.90	0.00	0.00	2.34
547	25.600	26.70	0.00	28.90	11.92	3.55	5.11	5.25	0.96	0.86	0.40	2.22	0.00	0.90	0.00	0.00	2.34
548	25.500	26.70	0.00	28.89	11.91	3.56	5.11	5.24	0.96	0.86	0.40	2.22	0.00	0.90	0.00	0.00	2.33
549	25.400	26.70	0.00	28.88	11.91	3.56	5.10	5.24	0.95	0.86	0.40	2.22	0.00	0.90	0.00	0.00	2.33
550	25.300	26.70	0.00	28.87	11.90	3.57	5.10	5.24	0.95	0.86	0.40	2.21	0.00	0.90	0.00	0.00	2.33
551	25.200	26.70	0.00	28.86	11.90	3.58	5.10	5.23	0.95	0.86	0.40	2.21	0.00	0.90	0.00	0.00	2.33
552	25.100	26.70	0.00	28.85	11.89	3.58	5.09	5.23	0.95	0.86	0.40	2.21	0.00	0.90	0.00	0.00	2.33
553	25.000	26.70	0.00	28.84	11.89	3.59	5.09	5.22	0.95	0.86	0.40	2.21	0.00	0.90	0.00	0.00	2.32
554	24.900	26.70	0.00	28.83	11.88	3.60	5.08	5.22	0.95	0.86	0.40	2.21	0.00	0.90	0.00	0.00	2.32
555	24.800	26.70	0.00	28.82	11.87	3.60	5.08	5.21	0.95	0.86	0.40	2.21	0.00	0.90	0.00	0.00	2.32
556	24.700	26.70	0.00	28.81	11.87	3.61	5.07	5.21	0.95	0.86	0.40	2.21	0.00	0.90	0.00	0.00	2.32

557	24.600	26.70	0.00	28.80	11.86	3.61	5.07	5.21	0.95	0.86	0.40	2.21	0.00	0.90	0.00	0.00	2.31
558	24.500	26.70	0.00	28.79	11.86	3.62	5.07	5.20	0.95	0.86	0.40	2.20	0.00	0.90	0.00	0.00	2.31
559	24.400	26.70	0.00	28.78	11.85	3.63	5.06	5.20	0.95	0.86	0.40	2.20	0.00	0.90	0.00	0.00	2.31
560	24.300	26.70	0.00	28.76	11.85	3.63	5.06	5.19	0.95	0.86	0.40	2.20	0.00	0.90	0.00	0.00	2.31
561	24.200	26.70	0.00	28.75	11.84	3.64	5.05	5.19	0.95	0.86	0.40	2.20	0.00	0.90	0.00	0.00	2.31
562	24.100	26.70	0.00	28.74	11.84	3.64	5.05	5.18	0.94	0.86	0.40	2.20	0.00	0.90	0.00	0.00	2.30
563	24.000	26.70	0.00	28.73	11.83	3.65	5.05	5.18	0.94	0.86	0.40	2.20	0.00	0.90	0.00	0.00	2.30
564	23.900	26.70	0.00	28.72	11.83	3.65	5.04	5.18	0.94	0.86	0.40	2.20	0.00	0.90	0.00	0.00	2.30
565	23.800	26.70	0.00	28.71	11.82	3.66	5.04	5.17	0.94	0.86	0.40	2.20	0.00	0.90	0.00	0.00	2.30
566	23.700	26.70	0.00	28.70	11.81	3.66	5.03	5.17	0.94	0.86	0.40	2.20	0.00	0.90	0.00	0.00	2.29
567	23.600	26.70	0.00	28.69	11.81	3.67	5.03	5.16	0.94	0.85	0.40	2.19	0.00	0.90	0.00	0.00	2.29
568	23.500	26.70	0.00	28.68	11.80	3.67	5.02	5.16	0.94	0.85	0.40	2.19	0.00	0.90	0.00	0.00	2.29
569	23.400	26.70	0.00	28.67	11.80	3.68	5.02	5.16	0.94	0.85	0.40	2.19	0.00	0.90	0.00	0.00	2.29
570	23.300	26.70	0.00	28.66	11.79	3.68	5.02	5.15	0.94	0.85	0.40	2.19	0.00	0.90	0.00	0.00	2.29
571	23.200	26.70	0.00	28.65	11.79	3.68	5.01	5.15	0.94	0.85	0.40	2.19	0.00	0.90	0.00	0.00	2.28
572	23.100	26.70	0.00	28.64	11.78	3.69	5.01	5.14	0.94	0.85	0.40	2.19	0.00	0.90	0.00	0.00	2.28
573	23.000	26.70	0.00	28.63	11.78	3.69	5.00	5.14	0.94	0.85	0.40	2.19	0.00	0.90	0.00	0.00	2.28

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 16 BOGGY CR - WOLF CREEK

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
574	UPR RCH	0.17385	26.70	0.00	28.63	11.78	3.69	5.00	5.14	0.94	0.85	0.40	0.00	0.90	0.00	2.28
EACH	INCR	0.0079	26.70	0.00	13.60	4.10	2.00	4.19	4.19	0.46	0.00	0.08	0.00		0.00	1.96

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
574	23.00	22.90	0.18175	61.57	0.16458	0.01	0.27	4.09	110.43	409.16	1.10	0.00	0.000	0.028	0.165
TOT						0.01			110.43	409.16	1.10				
AVG					0.16458		0.27	4.09							
CUM						7.72									

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

ELEM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
574	22.900	8.01	2.94	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
20 DEG C RATE				0.06	0.00	2.03					0.04	0.00	0.00	0.00	0.00				
AVG 20 DEG C RATE				2.59	0.10					0.05									
* g/m ² /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 *
574	22.900	26.70	0.00	27.97	11.44	3.62	4.96	5.10	0.94	0.82	0.38	2.14	0.00	0.90	0.00	0.00	2.26
* CM-I = CHLORIDES MG/L				CM-II = SULFATES MG/L				NCM = CBOD2 mg/L									
** g/m ³																	

FINAL REPORT HEADWATER
 REACH NO. 17 WOLF CR - UNNAMED CREEK

BARNES CREEK WATERSHED MODEL
 BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
575	UPR RCH	0.18175	26.70	0.00	27.97	11.44	3.62	4.96	5.10	0.94	0.82	0.38	0.00	0.90	0.00	2.26
EACH	INCR	0.0005	26.70	0.00	13.60	4.10	2.00	4.19	4.19	0.46	0.00	0.08	0.00	0.00		1.96

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
575	22.90	22.80	0.18224	61.40	0.16500	0.01	0.27	4.09	110.45	409.17	1.10	0.00	0.000	0.028	0.165

585	21.800	8.01	2.94	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
586	21.700	8.01	2.94	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
587	21.600	8.01	2.94	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
588	21.500	8.01	2.94	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
589	21.400	8.01	2.94	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
590	21.300	8.01	2.94	0.08	0.12	0.00	3.10	3.10	3.10	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
20 DEG C RATE				0.06		0.00	2.03			0.04		0.00	0.00	0.00	0.00			0.00	0.04
AVG 20 DEG C RATE			2.59		0.10						0.05								
0.05																			

* g/m²/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 *
575	22.800	26.70	0.00	27.93	11.42	3.63	4.96	5.10	0.94	0.82	0.38	2.14	0.00	0.90	0.00	0.00	2.27
576	22.700	26.70	0.00	27.90	11.40	3.63	4.96	5.10	0.94	0.81	0.38	2.13	0.00	0.90	0.00	0.00	2.27
577	22.600	26.70	0.00	27.86	11.38	3.63	4.96	5.10	0.94	0.81	0.38	2.13	0.00	0.90	0.00	0.00	2.27
578	22.500	26.70	0.00	27.82	11.36	3.63	4.96	5.10	0.94	0.81	0.38	2.13	0.00	0.90	0.00	0.00	2.28
579	22.400	26.70	0.00	27.78	11.34	3.63	4.96	5.10	0.93	0.81	0.38	2.12	0.00	0.90	0.00	0.00	2.28
580	22.300	26.70	0.00	27.74	11.33	3.64	4.96	5.10	0.93	0.81	0.38	2.12	0.00	0.90	0.00	0.00	2.28
581	22.200	26.70	0.00	27.71	11.31	3.64	4.96	5.10	0.93	0.80	0.38	2.12	0.00	0.90	0.00	0.00	2.29
582	22.100	26.70	0.00	27.67	11.29	3.64	4.96	5.10	0.93	0.80	0.38	2.11	0.00	0.90	0.00	0.00	2.29
583	22.000	26.70	0.00	27.63	11.27	3.64	4.96	5.10	0.93	0.80	0.38	2.11	0.00	0.90	0.00	0.00	2.29
584	21.900	26.70	0.00	27.59	11.25	3.64	4.96	5.10	0.93	0.80	0.38	2.11	0.00	0.90	0.00	0.00	2.30
585	21.800	26.70	0.00	27.56	11.23	3.64	4.96	5.10	0.93	0.80	0.37	2.10	0.00	0.90	0.00	0.00	2.30
586	21.700	26.70	0.00	27.52	11.21	3.65	4.96	5.10	0.93	0.80	0.37	2.10	0.00	0.90	0.00	0.00	2.30
587	21.600	26.70	0.00	27.48	11.19	3.65	4.96	5.10	0.93	0.79	0.37	2.10	0.00	0.90	0.00	0.00	2.31
588	21.500	26.70	0.00	27.45	11.17	3.65	4.96	5.10	0.93	0.79	0.37	2.09	0.00	0.90	0.00	0.00	2.31
589	21.400	26.70	0.00	27.41	11.16	3.65	4.96	5.10	0.93	0.79	0.37	2.09	0.00	0.90	0.00	0.00	2.31
590	21.300	26.70	0.00	27.37	11.14	3.65	4.96	5.10	0.93	0.79	0.37	2.09	0.00	0.90	0.00	0.00	2.32

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 18 UNNAMED CR - SITE 12

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
591	UPR RCH	0.18965	26.70	0.00	27.37	11.14	3.65	4.96	5.10	0.93	0.79	0.37	0.00	0.90	0.00	2.32
EACH	INCR	0.0002	26.70	0.00	13.60	4.10	2.00	4.19	4.19	0.46	0.00	0.08	0.00		0.00	1.96

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
591	21.30	21.20	0.18984	58.94	0.17141	0.01	0.27	4.09	110.75	409.38	1.11	0.00	0.000	0.029	0.171
592	21.20	21.10	0.19004	58.88	0.17157	0.01	0.27	4.09	110.76	409.38	1.11	0.00	0.000	0.029	0.172
593	21.10	21.00	0.19023	58.82	0.17173	0.01	0.27	4.09	110.77	409.39	1.11	0.00	0.000	0.029	0.172
594	21.00	20.90	0.19042	58.76	0.17190	0.01	0.27	4.09	110.78	409.39	1.11	0.00	0.000	0.029	0.172
595	20.90	20.80	0.19061	58.71	0.17206	0.01	0.27	4.09	110.78	409.40	1.11	0.00	0.000	0.029	0.172
596	20.80	20.70	0.19081	58.65	0.17222	0.01	0.27	4.09	110.79	409.40	1.11	0.00	0.000	0.029	0.172
597	20.70	20.60	0.19100	58.59	0.17238	0.01	0.27	4.09	110.80	409.41	1.11	0.00	0.000	0.029	0.172
598	20.60	20.50	0.19119	58.53	0.17254	0.01	0.27	4.09	110.81	409.41	1.11	0.00	0.000	0.029	0.173
599	20.50	20.40	0.19138	58.47	0.17271	0.01	0.27	4.09	110.81	409.42	1.11	0.00	0.000	0.029	0.173
600	20.40	20.30	0.19158	58.41	0.17287	0.01	0.27	4.09	110.82	409.42	1.11	0.00	0.000	0.029	0.173
601	20.30	20.20	0.19177	58.35	0.17303	0.01	0.27	4.09	110.83	409.43	1.11	0.00	0.000	0.029	0.173
602	20.20	20.10	0.19196	58.29	0.17319	0.01	0.27	4.09	110.84	409.43	1.11	0.00	0.000	0.029	0.173
603	20.10	20.00	0.19216	58.23	0.17336	0.01	0.27	4.09	110.84	409.44	1.11	0.00	0.000	0.029	0.173
604	20.00	19.90	0.19235	58.18	0.17352	0.01	0.27	4.09	110.85	409.44	1.11	0.00	0.000	0.029	0.174
605	19.90	19.80	0.19254	58.12	0.17368	0.01	0.27	4.09	110.86	409.45	1.11	0.00	0.000	0.029	0.174
606	19.80	19.70	0.19273	58.06	0.17384	0.01	0.27	4.09	110.87	409.45	1.11	0.00	0.000	0.029	0.174
607	19.70	19.60	0.19293	58.00	0.17400	0.01	0.27	4.09	110.87	409.46	1.11	0.00	0.000	0.029	0.174
608	19.60	19.50	0.19312	57.94	0.17417	0.01	0.27	4.09	110.88	409.46	1.11	0.00	0.000	0.029	0.174
609	19.50	19.40	0.19331	57.89	0.17433	0.01	0.27	4.09	110.89	409.47	1.11	0.00	0.000	0.029	0.174
610	19.40	19.30	0.19350	57.83	0.17449	0.01	0.27	4.09	110.90	409.47	1.11	0.00	0.000	0.029	0.174
611	19.30	19.20	0.19370	57.77	0.17465	0.01	0.27	4.09	110.90	409.48	1.11	0.00	0.000	0.029	0.175
612	19.20	19.10	0.19389	57.71	0.17481	0.01	0.27	4.09	110.91	409.48	1.11	0.00	0.000	0.029	0.175
613	19.10	19.00	0.19408	57.66	0.17498	0.01	0.27	4.09	110.92	409.49	1.11	0.00	0.000	0.029	0.175
614	19.00	18.90	0.19428	57.60	0.17514	0.01	0.27	4.09	110.93	409.49	1.11	0.00	0.000	0.030	0.175
615	18.90	18.80	0.19447	57.54	0.17530	0.01	0.27	4.09	110.93	409.50	1.11	0.00	0.000	0.030	0.175
616	18.80	18.70	0.19466	57.49	0.17546	0.01	0.27	4.10	110.94	409.50	1.11	0.00	0.000	0.030	0.175
617	18.70	18.60	0.19485	57.43	0.17562	0.01	0.27	4.10	110.95	409.51	1.11	0.00	0.000	0.030	0.176
618	18.60	18.50	0.19505	57.37	0.17579	0.01	0.27	4.10	110.96	409.51	1.11	0.00	0.000	0.030	0.176
619	18.50	18.40	0.19524	57.32	0.17595	0.01	0.27	4.10	110.96	409.52	1.11	0.00	0.000	0.030	0.176
620	18.40	18.30	0.19543	57.26	0.17611	0.01	0.27	4.10	110.97	409.52	1.11	0.00	0.000	0.030	0.176
621	18.30	18.20	0.19562	57.20	0.17627	0.01	0.27	4.10	110.98	409.53	1.11	0.00	0.000	0.030	0.176
622	18.20	18.10	0.19582	57.15	0.17643	0.01	0.27	4.10	110.99	409.54	1.11	0.00	0.000	0.030	0.176
623	18.10	18.00	0.19601	57.09	0.17660	0.01	0.27	4.10	110.99	409.54	1.11	0.00	0.000	0.030	0.177
624	18.00	17.90	0.19620	57.03	0.17676	0.01	0.27	4.10	111.00	409.55	1.11	0.00	0.000	0.030	0.177

630	17.300	8.01	2.93	0.08	0.12	0.00	2.79	2.79	2.79	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
631	17.200	8.01	2.93	0.08	0.12	0.00	2.79	2.79	2.79	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
0.06																			
20 DEG C RATE				0.06		0.00	1.83			0.04		0.00	0.00	0.00	0.00			0.00	0.04
AVG 20 DEG C RATE		2.58			0.10						0.05								
0.05																			

* g/m²/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 *
591	21.200	26.70	0.00	27.36	11.13	3.66	4.96	5.09	0.93	0.79	0.37	2.09	0.00	0.90	0.00	0.00	2.32
592	21.100	26.70	0.00	27.35	11.12	3.67	4.96	5.09	0.93	0.79	0.37	2.09	0.00	0.90	0.00	0.00	2.32
593	21.000	26.70	0.00	27.33	11.12	3.68	4.96	5.09	0.93	0.79	0.37	2.09	0.00	0.90	0.00	0.00	2.32
594	20.900	26.70	0.00	27.32	11.11	3.70	4.95	5.09	0.93	0.79	0.37	2.08	0.00	0.90	0.00	0.00	2.32
595	20.800	26.70	0.00	27.31	11.10	3.71	4.95	5.09	0.93	0.79	0.37	2.08	0.00	0.90	0.00	0.00	2.32
596	20.700	26.70	0.00	27.29	11.09	3.72	4.95	5.08	0.93	0.79	0.37	2.08	0.00	0.90	0.00	0.00	2.32
597	20.600	26.70	0.00	27.28	11.09	3.73	4.95	5.08	0.93	0.79	0.37	2.08	0.00	0.90	0.00	0.00	2.32
598	20.500	26.70	0.00	27.26	11.08	3.74	4.95	5.08	0.93	0.79	0.37	2.08	0.00	0.90	0.00	0.00	2.32
599	20.400	26.70	0.00	27.25	11.07	3.74	4.94	5.08	0.93	0.79	0.37	2.08	0.00	0.90	0.00	0.00	2.32
600	20.300	26.70	0.00	27.24	11.07	3.75	4.94	5.08	0.93	0.79	0.37	2.08	0.00	0.90	0.00	0.00	2.32
601	20.200	26.70	0.00	27.22	11.06	3.76	4.94	5.08	0.93	0.78	0.37	2.08	0.00	0.90	0.00	0.00	2.32
602	20.100	26.70	0.00	27.21	11.05	3.77	4.94	5.07	0.93	0.78	0.37	2.08	0.00	0.90	0.00	0.00	2.32
603	20.000	26.70	0.00	27.20	11.05	3.78	4.94	5.07	0.92	0.78	0.37	2.08	0.00	0.90	0.00	0.00	2.32
604	19.900	26.70	0.00	27.18	11.04	3.79	4.94	5.07	0.92	0.78	0.37	2.07	0.00	0.90	0.00	0.00	2.32
605	19.800	26.70	0.00	27.17	11.03	3.80	4.93	5.07	0.92	0.78	0.37	2.07	0.00	0.90	0.00	0.00	2.32
606	19.700	26.70	0.00	27.15	11.02	3.81	4.93	5.07	0.92	0.78	0.37	2.07	0.00	0.90	0.00	0.00	2.32
607	19.600	26.70	0.00	27.14	11.02	3.81	4.93	5.07	0.92	0.78	0.37	2.07	0.00	0.90	0.00	0.00	2.32
608	19.500	26.70	0.00	27.13	11.01	3.82	4.93	5.06	0.92	0.78	0.37	2.07	0.00	0.90	0.00	0.00	2.32
609	19.400	26.70	0.00	27.11	11.00	3.83	4.93	5.06	0.92	0.78	0.37	2.07	0.00	0.90	0.00	0.00	2.32
610	19.300	26.70	0.00	27.10	11.00	3.84	4.92	5.06	0.92	0.78	0.36	2.07	0.00	0.90	0.00	0.00	2.32
611	19.200	26.70	0.00	27.09	10.99	3.84	4.92	5.06	0.92	0.78	0.36	2.07	0.00	0.90	0.00	0.00	2.32
612	19.100	26.70	0.00	27.07	10.98	3.85	4.92	5.06	0.92	0.78	0.36	2.07	0.00	0.90	0.00	0.00	2.32
613	19.000	26.70	0.00	27.06	10.98	3.86	4.92	5.05	0.92	0.78	0.36	2.07	0.00	0.90	0.00	0.00	2.32
614	18.900	26.70	0.00	27.05	10.97	3.87	4.92	5.05	0.92	0.78	0.36	2.07	0.00	0.90	0.00	0.00	2.32
615	18.800	26.70	0.00	27.03	10.96	3.87	4.92	5.05	0.92	0.78	0.36	2.06	0.00	0.90	0.00	0.00	2.32
616	18.700	26.70	0.00	27.02	10.96	3.88	4.91	5.05	0.92	0.78	0.36	2.06	0.00	0.90	0.00	0.00	2.32
617	18.600	26.70	0.00	27.01	10.95	3.89	4.91	5.05	0.92	0.78	0.36	2.06	0.00	0.90	0.00	0.00	2.32
618	18.500	26.70	0.00	26.99	10.94	3.89	4.91	5.05	0.92	0.78	0.36	2.06	0.00	0.90	0.00	0.00	2.32
619	18.400	26.70	0.00	26.98	10.94	3.90	4.91	5.04	0.92	0.78	0.36	2.06	0.00	0.90	0.00	0.00	2.32
620	18.300	26.70	0.00	26.97	10.93	3.90	4.91	5.04	0.92	0.78	0.36	2.06	0.00	0.90	0.00	0.00	2.32
621	18.200	26.70	0.00	26.95	10.92	3.91	4.91	5.04	0.92	0.78	0.36	2.06	0.00	0.90	0.00	0.00	2.32
622	18.100	26.70	0.00	26.94	10.92	3.92	4.90	5.04	0.92	0.78	0.36	2.06	0.00	0.90	0.00	0.00	2.32
623	18.000	26.70	0.00	26.93	10.91	3.92	4.90	5.04	0.92	0.78	0.36	2.06	0.00	0.90	0.00	0.00	2.32

698	10.500	8.01	2.83	0.10	0.12	0.00	3.60	3.60	3.60	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
699	10.400	8.01	2.83	0.10	0.12	0.00	3.60	3.60	3.60	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
700	10.300	8.01	2.83	0.10	0.12	0.00	3.60	3.60	3.60	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
701	10.200	8.01	2.83	0.10	0.12	0.00	3.60	3.60	3.60	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
702	10.100	8.01	2.83	0.10	0.12	0.00	3.60	3.60	3.60	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
20 DEG C RATE				0.07		0.00	2.36			0.02		0.00	0.00	0.00	0.00			0.00	0.02
AVG 20 DEG C RATE			2.49		0.10					0.05									
0.05																			

* g/m²/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 *
632	17.100	26.70	0.00	26.82	10.86	3.95	4.89	5.02	0.92	0.77	0.36	2.05	0.00	0.90	0.00	0.00	2.32
633	17.000	26.70	0.00	26.82	10.86	3.93	4.89	5.02	0.92	0.77	0.36	2.05	0.00	0.90	0.00	0.00	2.32
634	16.900	26.70	0.00	26.82	10.86	3.91	4.89	5.02	0.92	0.77	0.36	2.05	0.00	0.90	0.00	0.00	2.31
635	16.800	26.70	0.00	26.82	10.86	3.89	4.88	5.02	0.92	0.77	0.36	2.05	0.00	0.90	0.00	0.00	2.31
636	16.700	26.70	0.00	26.82	10.86	3.88	4.88	5.02	0.92	0.77	0.36	2.05	0.00	0.90	0.00	0.00	2.31
637	16.600	26.70	0.00	26.82	10.86	3.86	4.88	5.02	0.92	0.77	0.36	2.05	0.00	0.90	0.00	0.00	2.31
638	16.500	26.70	0.00	26.82	10.86	3.85	4.88	5.01	0.92	0.77	0.36	2.05	0.00	0.90	0.00	0.00	2.31
639	16.400	26.70	0.00	26.82	10.86	3.83	4.88	5.01	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.31
640	16.300	26.70	0.00	26.82	10.86	3.82	4.88	5.01	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.31
641	16.200	26.70	0.00	26.82	10.86	3.80	4.88	5.01	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.30
642	16.100	26.70	0.00	26.82	10.86	3.79	4.87	5.01	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.30
643	16.000	26.70	0.00	26.82	10.86	3.77	4.87	5.01	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.30
644	15.900	26.70	0.00	26.82	10.86	3.76	4.87	5.01	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.30
645	15.800	26.70	0.00	26.82	10.86	3.75	4.87	5.01	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.30
646	15.700	26.70	0.00	26.82	10.86	3.74	4.87	5.00	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.30
647	15.600	26.70	0.00	26.82	10.86	3.72	4.87	5.00	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.30
648	15.500	26.70	0.00	26.82	10.86	3.71	4.87	5.00	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.30
649	15.400	26.70	0.00	26.82	10.86	3.70	4.87	5.00	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.29
650	15.300	26.70	0.00	26.82	10.86	3.69	4.86	5.00	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.29
651	15.200	26.70	0.00	26.82	10.86	3.68	4.86	5.00	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.29
652	15.100	26.70	0.00	26.82	10.86	3.67	4.86	5.00	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.29
653	15.000	26.70	0.00	26.82	10.86	3.66	4.86	5.00	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.29
654	14.900	26.70	0.00	26.82	10.86	3.65	4.86	4.99	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.29
655	14.800	26.70	0.00	26.82	10.86	3.64	4.86	4.99	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.29
656	14.700	26.70	0.00	26.82	10.86	3.63	4.86	4.99	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.28
657	14.600	26.70	0.00	26.82	10.86	3.62	4.86	4.99	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.28
658	14.500	26.70	0.00	26.82	10.86	3.61	4.85	4.99	0.91	0.78	0.36	2.05	0.00	0.90	0.00	0.00	2.28

FINAL REPORT HEADWATER
 REACH NO. 20 CLEAR CR - BEAR CR

BARNES CREEK WATERSHED MODEL
 BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
703	UPR RCH	0.19755	26.70	0.00	26.82	10.86	3.40	4.80	4.94	0.90	0.79	0.36	0.00	0.90	0.00	2.22
703	WSTLD	0.00280	26.70	0.00	5.50	1.30	7.20	5.55	5.55	0.75	0.00	0.06	0.00	4.30	0.00	3.76

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
703	10.10	10.00	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
704	10.00	9.90	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
705	9.90	9.80	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
706	9.80	9.70	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
707	9.70	9.60	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
708	9.60	9.50	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
709	9.50	9.40	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
710	9.40	9.30	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
711	9.30	9.20	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
712	9.20	9.10	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
713	9.10	9.00	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
714	9.00	8.90	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
715	8.90	8.80	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
716	8.80	8.70	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
717	8.70	8.60	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
718	8.60	8.50	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
719	8.50	8.40	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
720	8.40	8.30	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
721	8.30	8.20	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
722	8.20	8.10	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
723	8.10	8.00	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
724	8.00	7.90	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
725	7.90	7.80	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
726	7.80	7.70	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
TOT						0.24			4184.10	14871.69					
AVG					0.11492		0.28	6.20			1.74				
CUM						9.07									

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

724	7.900	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
725	7.800	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
726	7.700	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
20 DEG C RATE				0.07		0.00	2.68			0.02		0.00	0.00	0.00	0.00			0.00	0.02
AVG 20 DEG C RATE		2.49			0.10						0.05								
0.05																			

* g/m²/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 *
703	10.000	26.70	0.00	26.53	10.72	3.43	4.81	4.95	0.89	0.78	0.35	2.03	0.00	0.90	0.00	0.00	2.24
704	9.900	26.70	0.00	26.53	10.72	3.41	4.81	4.95	0.89	0.78	0.35	2.03	0.00	0.90	0.00	0.00	2.24
705	9.800	26.70	0.00	26.53	10.72	3.39	4.81	4.94	0.89	0.78	0.35	2.03	0.00	0.90	0.00	0.00	2.24
706	9.700	26.70	0.00	26.53	10.72	3.37	4.81	4.94	0.89	0.78	0.35	2.03	0.00	0.90	0.00	0.00	2.24
707	9.600	26.70	0.00	26.53	10.72	3.35	4.81	4.94	0.89	0.78	0.35	2.03	0.00	0.90	0.00	0.00	2.23
708	9.500	26.70	0.00	26.53	10.72	3.33	4.81	4.94	0.89	0.78	0.35	2.03	0.00	0.90	0.00	0.00	2.23
709	9.400	26.70	0.00	26.53	10.72	3.31	4.80	4.94	0.89	0.78	0.35	2.03	0.00	0.90	0.00	0.00	2.23
710	9.300	26.70	0.00	26.53	10.72	3.30	4.80	4.94	0.89	0.78	0.35	2.03	0.00	0.90	0.00	0.00	2.23
711	9.200	26.70	0.00	26.53	10.72	3.28	4.80	4.94	0.89	0.78	0.35	2.03	0.00	0.90	0.00	0.00	2.23
712	9.100	26.70	0.00	26.53	10.72	3.26	4.80	4.94	0.89	0.78	0.35	2.03	0.00	0.90	0.00	0.00	2.22
713	9.000	26.70	0.00	26.53	10.72	3.25	4.80	4.93	0.89	0.78	0.35	2.03	0.00	0.90	0.00	0.00	2.22
714	8.900	26.70	0.00	26.53	10.72	3.23	4.80	4.93	0.89	0.78	0.35	2.03	0.00	0.90	0.00	0.00	2.22
715	8.800	26.70	0.00	26.53	10.72	3.22	4.80	4.93	0.89	0.79	0.35	2.03	0.00	0.90	0.00	0.00	2.22
716	8.700	26.70	0.00	26.53	10.72	3.20	4.80	4.93	0.89	0.79	0.35	2.03	0.00	0.90	0.00	0.00	2.22
717	8.600	26.70	0.00	26.53	10.72	3.19	4.79	4.93	0.89	0.79	0.35	2.03	0.00	0.90	0.00	0.00	2.21
718	8.500	26.70	0.00	26.53	10.72	3.18	4.79	4.93	0.90	0.79	0.35	2.03	0.00	0.90	0.00	0.00	2.21
719	8.400	26.70	0.00	26.53	10.72	3.16	4.79	4.93	0.90	0.79	0.35	2.03	0.00	0.90	0.00	0.00	2.21
720	8.300	26.70	0.00	26.53	10.72	3.15	4.79	4.93	0.90	0.79	0.35	2.03	0.00	0.90	0.00	0.00	2.21
721	8.200	26.70	0.00	26.53	10.72	3.14	4.79	4.92	0.90	0.79	0.35	2.03	0.00	0.90	0.00	0.00	2.21
722	8.100	26.70	0.00	26.53	10.72	3.13	4.79	4.92	0.90	0.79	0.35	2.04	0.00	0.90	0.00	0.00	2.20
723	8.000	26.70	0.00	26.53	10.72	3.11	4.79	4.92	0.90	0.79	0.35	2.04	0.00	0.90	0.00	0.00	2.20
724	7.900	26.70	0.00	26.53	10.72	3.10	4.79	4.92	0.90	0.79	0.35	2.04	0.00	0.90	0.00	0.00	2.20
725	7.800	26.70	0.00	26.53	10.72	3.09	4.78	4.92	0.90	0.79	0.35	2.04	0.00	0.90	0.00	0.00	2.20
726	7.700	26.70	0.00	26.53	10.72	3.08	4.78	4.92	0.90	0.79	0.35	2.04	0.00	0.90	0.00	0.00	2.20

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
727	UPR RCH	0.20035	26.70	0.00	26.53	10.72	3.08	4.78	4.92	0.90	0.79	0.35	0.00	0.90	0.00	2.20

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
727	7.70	7.60	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
728	7.60	7.50	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
729	7.50	7.40	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
730	7.40	7.30	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
731	7.30	7.20	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
732	7.20	7.10	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
733	7.10	7.00	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
734	7.00	6.90	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
735	6.90	6.80	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
736	6.80	6.70	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
737	6.70	6.60	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
738	6.60	6.50	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
739	6.50	6.40	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
740	6.40	6.30	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
741	6.30	6.20	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
742	6.20	6.10	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
743	6.10	6.00	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
744	6.00	5.90	0.20035	57.25	0.11492	0.01	0.28	6.20	174.34	619.65	1.74	0.00	0.000	0.020	0.115
TOT						0.18			3138.08	11153.77					
AVG					0.11492		0.28	6.20			1.74				
CUM						9.25									

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

ELEM NCM NO.	ENDING DIST	SAT D.O.	REAER RATE	CBOD DECAY	CBOD SETT	ANBOD DECAY	BKGD SOD	FULL SOD	CORR SOD	ORGN DECAY	ORGN SETT	NH3 DECAY	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECAY	NCM DECAY
		mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da	1/da

727	7.600	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
0.06																			
728	7.500	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.03
0.06																			
729	7.400	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.03
0.06																			
730	7.300	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.03
0.06																			
731	7.200	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.03
0.06																			
732	7.100	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.03
0.06																			
733	7.000	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.03
0.06																			
734	6.900	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.03
0.06																			
735	6.800	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.03
0.06																			
736	6.700	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.03
0.06																			
737	6.600	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.03
0.06																			
738	6.500	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.03
0.06																			
739	6.400	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.03
0.06																			
740	6.300	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.03
0.06																			
741	6.200	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.03
0.06																			
742	6.100	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.03
0.06																			
743	6.000	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
744	5.900	8.01	2.82	0.10	0.12	0.00	4.09	4.09	4.09	0.03	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03
0.06																			
20 DEG C RATE				0.07		0.00	2.68			0.02		0.00	0.00	0.00	0.00			0.00	0.02
AVG 20 DEG C RATE			2.49		0.10						0.05								
0.05																			

* g/m²/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 *
727	7.600	26.70	0.00	26.53	10.72	3.07	4.78	4.92	0.90	0.79	0.35	2.04	0.00	0.96	0.00	0.00	2.20

728	7.500	26.70	0.00	26.53	10.72	3.06	4.78	4.93	0.90	0.79	0.35	2.04	0.00	1.01	0.00	0.00	2.19
729	7.400	26.70	0.00	26.53	10.72	3.05	4.77	4.93	0.90	0.79	0.35	2.04	0.00	1.07	0.00	0.00	2.19
730	7.300	26.70	0.00	26.53	10.72	3.04	4.77	4.94	0.90	0.79	0.35	2.04	0.00	1.12	0.00	0.00	2.19
731	7.200	26.70	0.00	26.53	10.72	3.03	4.77	4.94	0.90	0.79	0.35	2.04	0.00	1.18	0.00	0.00	2.19
732	7.100	26.70	0.00	26.53	10.72	3.02	4.77	4.95	0.90	0.79	0.35	2.04	0.00	1.23	0.00	0.00	2.19
733	7.000	26.70	0.00	26.53	10.72	3.01	4.76	4.96	0.90	0.79	0.35	2.04	0.00	1.29	0.00	0.00	2.18
734	6.900	26.70	0.00	26.53	10.72	3.00	4.76	4.96	0.90	0.79	0.35	2.04	0.00	1.34	0.00	0.00	2.18
735	6.800	26.70	0.00	26.53	10.72	3.00	4.76	4.97	0.90	0.79	0.35	2.04	0.00	1.40	0.00	0.00	2.18
736	6.700	26.70	0.00	26.53	10.72	2.99	4.75	4.97	0.90	0.79	0.35	2.04	0.00	1.46	0.00	0.00	2.18
737	6.600	26.70	0.00	26.53	10.72	2.98	4.75	4.98	0.90	0.79	0.35	2.04	0.00	1.51	0.00	0.00	2.18
738	6.500	26.70	0.00	26.53	10.72	2.97	4.75	4.98	0.90	0.79	0.35	2.04	0.00	1.57	0.00	0.00	2.17
739	6.400	26.70	0.00	26.53	10.72	2.97	4.74	4.99	0.90	0.79	0.35	2.04	0.00	1.62	0.00	0.00	2.17
740	6.300	26.70	0.00	26.53	10.72	2.96	4.74	4.99	0.90	0.79	0.35	2.05	0.00	1.68	0.00	0.00	2.17
741	6.200	26.70	0.00	26.53	10.72	2.95	4.74	5.00	0.90	0.79	0.35	2.05	0.00	1.73	0.00	0.00	2.17
742	6.100	26.70	0.00	26.53	10.72	2.95	4.74	5.00	0.90	0.79	0.35	2.05	0.00	1.79	0.00	0.00	2.17
743	6.000	26.70	0.00	26.53	10.72	2.94	4.73	5.01	0.90	0.79	0.35	2.05	0.00	1.84	0.00	0.00	2.17
744	5.900	26.70	0.00	26.53	10.72	2.93	4.73	5.01	0.90	0.79	0.35	2.05	0.00	1.90	0.00	0.00	2.16

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 22 SITE 13 - CALCASIEU RIVER

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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 *
745	UPR RCH	0.20035	26.70	0.00	26.53	10.72	2.93	4.73	5.01	0.90	0.79	0.35	0.00	1.90	0.00	2.16

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	MEAN VELO m/s
745	5.90	5.80	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
746	5.80	5.70	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
747	5.70	5.60	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
748	5.60	5.50	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
749	5.50	5.40	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
750	5.40	5.30	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
751	5.30	5.20	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
752	5.20	5.10	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004
753	5.10	5.00	0.20035	57.25	0.00355	0.33	2.36	23.90	5642.80	2389.65	56.43	0.00	0.000	0.004	0.004

TOT			19.23		332925.34	140989.62														
AVG			0.00355		2.36	23.90														56.43
CUM																				

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI	NCM
NCM																			
NO.	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY	DECAY
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																			
745	5.800	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.04
0.06																			
746	5.700	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.04
0.06																			
747	5.600	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.04
0.06																			
748	5.500	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.04
0.06																			
749	5.400	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.04
0.06																			
750	5.300	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.04
0.06																			
751	5.200	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.04
0.06																			
752	5.100	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.04
0.06																			
753	5.000	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.04
0.06																			
754	4.900	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.04
0.06																			
755	4.800	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.04
0.06																			
756	4.700	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.04
0.06																			
757	4.600	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.04
0.06																			
758	4.500	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.04
0.06																			
759	4.400	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.04
0.06																			
760	4.300	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.04
0.06																			
761	4.200	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.04
0.06																			
762	4.100	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.04

0.06																				
788	1.500	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04	
0.06																				
789	1.400	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04	
0.06																				
790	1.300	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04	
0.06																				
791	1.200	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04	
0.06																				
792	1.100	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.04	
0.06																				
793	1.000	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.04	
0.06																				
794	0.900	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.04	
0.06																				
795	0.800	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.04	
0.06																				
796	0.700	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.04	
0.06																				
797	0.600	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.04	
0.06																				
798	0.500	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.04	
0.06																				
799	0.400	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.04	
0.06																				
800	0.300	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.04	
0.06																				
801	0.200	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	
0.06																				
802	0.100	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	
0.06																				
803	0.000	8.01	0.34	0.08	0.12	0.00	3.60	3.60	3.60	0.05	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	
0.06																				
20 DEG C RATE					0.06	0.00	2.36			0.03		0.00	0.00	0.00	0.00			0.00	0.03	
AVG 20 DEG C RATE			0.30		0.10						0.05									
0.05																				

* g/m²/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 *
745	5.800	26.70	0.00	26.53	10.72	2.87	4.69	4.97	0.89	0.81	0.35	2.05	0.00	1.87	0.00	0.00	2.16
746	5.700	26.70	0.00	26.53	10.72	2.82	4.65	4.92	0.88	0.82	0.35	2.05	0.00	1.84	0.00	0.00	2.15
747	5.600	26.70	0.00	26.53	10.72	2.77	4.61	4.88	0.87	0.83	0.35	2.05	0.00	1.80	0.00	0.00	2.14
748	5.500	26.70	0.00	26.53	10.72	2.73	4.58	4.84	0.86	0.84	0.35	2.05	0.00	1.77	0.00	0.00	2.13

749	5.400	26.70	0.00	26.53	10.72	2.69	4.55	4.81	0.85	0.86	0.35	2.05	0.00	1.74	0.00	0.00	2.13
750	5.300	26.70	0.00	26.53	10.72	2.66	4.52	4.77	0.84	0.87	0.35	2.06	0.00	1.71	0.00	0.00	2.12
751	5.200	26.70	0.00	26.53	10.72	2.63	4.49	4.74	0.83	0.88	0.34	2.06	0.00	1.67	0.00	0.00	2.12
752	5.100	26.70	0.00	26.53	10.72	2.60	4.46	4.71	0.82	0.89	0.34	2.06	0.00	1.64	0.00	0.00	2.11
753	5.000	26.70	0.00	26.53	10.72	2.58	4.44	4.68	0.82	0.90	0.34	2.06	0.00	1.61	0.00	0.00	2.10
754	4.900	26.70	0.00	26.53	10.72	2.56	4.41	4.65	0.81	0.92	0.34	2.06	0.00	1.58	0.00	0.00	2.10
755	4.800	26.70	0.00	26.53	10.72	2.54	4.39	4.62	0.80	0.93	0.34	2.07	0.00	1.55	0.00	0.00	2.09
756	4.700	26.70	0.00	26.53	10.72	2.52	4.37	4.60	0.79	0.94	0.34	2.07	0.00	1.51	0.00	0.00	2.09
757	4.600	26.70	0.00	26.53	10.72	2.51	4.35	4.57	0.79	0.95	0.34	2.07	0.00	1.48	0.00	0.00	2.08
758	4.500	26.70	0.00	26.53	10.72	2.49	4.33	4.55	0.78	0.96	0.34	2.08	0.00	1.45	0.00	0.00	2.08
759	4.400	26.70	0.00	26.53	10.72	2.48	4.32	4.53	0.77	0.97	0.34	2.08	0.00	1.42	0.00	0.00	2.07
760	4.300	26.70	0.00	26.53	10.72	2.47	4.30	4.51	0.77	0.98	0.33	2.08	0.00	1.38	0.00	0.00	2.07
761	4.200	26.70	0.00	26.53	10.72	2.46	4.28	4.49	0.76	1.00	0.33	2.09	0.00	1.35	0.00	0.00	2.06
762	4.100	26.70	0.00	26.53	10.72	2.45	4.27	4.47	0.75	1.01	0.33	2.09	0.00	1.32	0.00	0.00	2.06
763	4.000	26.70	0.00	26.53	10.72	2.44	4.26	4.45	0.75	1.02	0.33	2.10	0.00	1.29	0.00	0.00	2.06
764	3.900	26.70	0.00	26.53	10.72	2.43	4.24	4.43	0.74	1.03	0.33	2.10	0.00	1.26	0.00	0.00	2.05
765	3.800	26.70	0.00	26.53	10.72	2.42	4.23	4.42	0.74	1.04	0.33	2.11	0.00	1.22	0.00	0.00	2.05
766	3.700	26.70	0.00	26.53	10.72	2.41	4.22	4.40	0.73	1.05	0.33	2.11	0.00	1.19	0.00	0.00	2.04
767	3.600	26.70	0.00	26.53	10.72	2.41	4.21	4.38	0.73	1.06	0.33	2.11	0.00	1.16	0.00	0.00	2.04
768	3.500	26.70	0.00	26.53	10.72	2.40	4.20	4.37	0.72	1.07	0.33	2.12	0.00	1.13	0.00	0.00	2.04
769	3.400	26.70	0.00	26.53	10.72	2.39	4.19	4.36	0.72	1.08	0.33	2.12	0.00	1.09	0.00	0.00	2.03
770	3.300	26.70	0.00	26.53	10.72	2.39	4.18	4.34	0.71	1.09	0.33	2.13	0.00	1.06	0.00	0.00	2.03
771	3.200	26.70	0.00	26.53	10.72	2.38	4.18	4.33	0.71	1.10	0.33	2.13	0.00	1.03	0.00	0.00	2.03
772	3.100	26.70	0.00	26.53	10.72	2.38	4.17	4.32	0.70	1.11	0.33	2.14	0.00	1.00	0.00	0.00	2.02
773	3.000	26.70	0.00	26.53	10.72	2.37	4.16	4.31	0.70	1.12	0.32	2.15	0.00	0.97	0.00	0.00	2.02
774	2.900	26.70	0.00	26.53	10.72	2.37	4.15	4.29	0.69	1.13	0.32	2.15	0.00	0.93	0.00	0.00	2.02
775	2.800	26.70	0.00	26.53	10.72	2.36	4.15	4.28	0.69	1.14	0.32	2.16	0.00	0.90	0.00	0.00	2.01
776	2.700	26.70	0.00	26.53	10.72	2.36	4.14	4.27	0.69	1.15	0.32	2.16	0.00	0.87	0.00	0.00	2.01
777	2.600	26.70	0.00	26.53	10.72	2.35	4.14	4.26	0.68	1.16	0.32	2.17	0.00	0.84	0.00	0.00	2.01
778	2.500	26.70	0.00	26.53	10.72	2.35	4.13	4.25	0.68	1.17	0.32	2.17	0.00	0.81	0.00	0.00	2.01
779	2.400	26.70	0.00	26.53	10.72	2.34	4.13	4.24	0.67	1.18	0.32	2.18	0.00	0.77	0.00	0.00	2.00
780	2.300	26.70	0.00	26.53	10.72	2.34	4.12	4.23	0.67	1.19	0.32	2.19	0.00	0.74	0.00	0.00	2.00
781	2.200	26.70	0.00	26.53	10.72	2.33	4.12	4.22	0.67	1.20	0.32	2.19	0.00	0.71	0.00	0.00	2.00
782	2.100	26.70	0.00	26.53	10.72	2.33	4.11	4.21	0.67	1.21	0.32	2.20	0.00	0.68	0.00	0.00	2.00
783	2.000	26.70	0.00	26.53	10.72	2.32	4.11	4.21	0.66	1.22	0.32	2.21	0.00	0.64	0.00	0.00	1.99
784	1.900	26.70	0.00	26.53	10.72	2.32	4.11	4.20	0.66	1.23	0.32	2.21	0.00	0.61	0.00	0.00	1.99
785	1.800	26.70	0.00	26.53	10.72	2.31	4.10	4.19	0.66	1.24	0.32	2.22	0.00	0.58	0.00	0.00	1.99
786	1.700	26.70	0.00	26.53	10.72	2.31	4.10	4.18	0.65	1.25	0.32	2.23	0.00	0.55	0.00	0.00	1.99
787	1.600	26.70	0.00	26.53	10.72	2.30	4.10	4.17	0.65	1.26	0.32	2.23	0.00	0.52	0.00	0.00	1.99
788	1.500	26.70	0.00	26.53	10.72	2.30	4.09	4.17	0.65	1.27	0.32	2.24	0.00	0.48	0.00	0.00	1.98
789	1.400	26.70	0.00	26.53	10.72	2.30	4.09	4.16	0.65	1.28	0.32	2.25	0.00	0.45	0.00	0.00	1.98
790	1.300	26.70	0.00	26.53	10.72	2.29	4.09	4.15	0.64	1.29	0.32	2.25	0.00	0.42	0.00	0.00	1.98
791	1.200	26.70	0.00	26.53	10.72	2.29	4.09	4.15	0.64	1.30	0.32	2.26	0.00	0.39	0.00	0.00	1.98
792	1.100	26.70	0.00	26.53	10.72	2.28	4.09	4.14	0.64	1.31	0.32	2.27	0.00	0.35	0.00	0.00	1.98
793	1.000	26.70	0.00	26.53	10.72	2.28	4.09	4.13	0.64	1.32	0.32	2.27	0.00	0.32	0.00	0.00	1.98
794	0.900	26.70	0.00	26.53	10.72	2.28	4.09	4.13	0.63	1.33	0.32	2.28	0.00	0.29	0.00	0.00	1.98
795	0.800	26.70	0.00	26.53	10.72	2.27	4.09	4.12	0.63	1.34	0.32	2.29	0.00	0.26	0.00	0.00	1.97
796	0.700	26.70	0.00	26.53	10.72	2.27	4.09	4.12	0.63	1.35	0.32	2.30	0.00	0.23	0.00	0.00	1.97
797	0.600	26.70	0.00	26.53	10.72	2.26	4.09	4.12	0.63	1.36	0.32	2.30	0.00	0.19	0.00	0.00	1.97
798	0.500	26.70	0.00	26.53	10.72	2.26	4.09	4.11	0.63	1.37	0.32	2.31	0.00	0.16	0.00	0.00	1.97

799	0.400	26.70	0.00	26.53	10.72	2.26	4.09	4.11	0.63	1.38	0.32	2.32	0.00	0.13	0.00	0.00	1.97
800	0.300	26.70	0.00	26.53	10.72	2.25	4.09	4.10	0.62	1.39	0.32	2.33	0.00	0.10	0.00	0.00	1.97
801	0.200	26.70	0.00	26.53	10.72	2.25	4.09	4.10	0.62	1.40	0.32	2.34	0.00	0.06	0.00	0.00	1.97
802	0.100	26.70	0.00	26.53	10.72	2.25	4.09	4.10	0.62	1.41	0.32	2.34	0.00	0.03	0.00	0.00	1.97
803	0.000	26.70	0.00	26.53	10.72	2.25	4.10	4.10	0.62	1.42	0.32	2.35	0.00	0.00	0.00	0.00	1.97

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

STREAM SUMMARY
HEADWATER

BARNES CREEK WATERSHED MODEL
BARNES CREEK SUMMER 2.0 MG/L RUN

TRAVEL TIME = 28.48 DAYS

MAXIMUM EFFLUENT = 82.54 PERCENT

FLOW = 0.03511 TO 0.20105 m³/s

DISPERSION = 0.0036 TO 0.0379 m²/s

VELOCITY = 0.00355 TO 0.26300 m/s

DEPTH = 0.12 TO 2.36 m

WIDTH = 2.92 TO 23.90 m

BOD DECAY = 0.07 TO 0.24 per day

NH3 DECAY = 0.00 TO 0.00 per day

SDMNT OXYGEN DMND= 2.13 TO 4.09 g/m²/d

NH3 SOURCE = 0.00 TO 0.00 g/m²/d

REAERATION = 0.34 TO 6.44 per day

BOD SETTLING = 0.12 TO 0.12 per day

ORGN DECAY = 0.03 TO 0.20 per day

ORGN SETTLING = 0.06 TO 0.23 per day

TEMPERATURE = 26.00 TO 26.70 deg C

DISSOLVED OXYGEN = 2.25 TO 7.10 mg/L

.....EXECUTION COMPLETED

APPENDIX B14 - Proposed 2.0 summer projection justifications

Barnes Creek Summer Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 3, Program Constants

Description of Constant	Value	Result	Source/Justification
Maximum iteration limit	1000.0		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.
Settled rate units.	2.0	Sets the settled rate to a velocity (m/day).	By making the settling rate a velocity the rate becomes dependent upon the depth.
K2 Max	25.0	Max K2 at 20 C allowed for any computational element	EPA Policy in the absence of a measured value.
Effective BOD due to algae	0.2		
NCM Oxygen Uptake	1.0	Oxygen Uptake Rate per Unit of NBOD decay.	Standard LA modeling procedure

Barnes Creek Summer Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 9, Advection Hydraulic Coefficients					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	2.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.1	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
2	Site 2 to Site 3	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	2.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.1	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
3	Site 3 to Little Barnes Creek	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.10	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.31	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
4	Little Barnes Creek to Redhead Branch	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.27	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
5	Redhead Branch to Site 6	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.27	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
6	Site 6 to Little Caney Creek	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.45	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
7	Little Caney Creek to dam	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.45	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
8	dam to Caney Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	8.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.38	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
9	Caney Creek to Hurricane Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.33	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
10	Hurricane Creek to Site 10	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.33	Zero flow cross section
		Mannings - N	Unitless	0.27	Value determined by considering sluggish stream.
11	Site 10 to Magnolia Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	4.08	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
12	Magnolia Creek to Brushy Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
13	Brushy Creek to Righthand Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.

Barnes Creek Summer Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 11, INITIAL CONDITIONS					
Reach #	REACH DESCRIPTION	Initial Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Temperature	°Celsius	26	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2
		Chlorophyll a	mg/l	2.6	Site 2
2	Site 2 to Site 3	Temperature	°Celsius	26	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2
		Chlorophyll a	mg/l	2.6	Site 2
3	Site 3 to Little Barnes Creek	Temperature	°Celsius	26	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 3
		Nitrate Nitrite	mg/l	0.37	Site 3
		Chlorophyll a	mg/l	2	Site 3
4	Little Barnes Creek to Redhead Branch	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 4
		Nitrate Nitrite	mg/l	0.09	Site 4
		Chlorophyll a	mg/l	1.9	Site 4
5	Redhead Branch to Site 6	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 4
		Nitrate Nitrite	mg/l	0.09	Site 4
		Chlorophyll a	mg/l	1.9	Site 4
6	Site 6 to Little Caney Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 6
		Nitrate Nitrite	mg/l	0.1	Site 6
		Chlorophyll a	mg/l	6.1	Site 6
7	Little Caney Creek to dam	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 6
		Nitrate Nitrite	mg/l	0.1	Site 6
		Chlorophyll a	mg/l	6.1	Site 6
8	dam to Caney Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 7
		Nitrate Nitrite	mg/l	0.07	Site 7
		Chlorophyll a	mg/l	0.07	Site 7
9	Caney Creek to Hurricane Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 8
		Nitrate Nitrite	mg/l	0.09	Site 8
		Chlorophyll a	mg/l	0.6	Site 8
10	Hurricane Creek to Site 10	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 8
		Nitrate Nitrite	mg/l	0.09	Site 8
		Chlorophyll a	mg/l	0.6	Site 8
11	Site 10 to Magnolia Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
12	Magnolia Creek to Brushy Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
13	Brushy Creek to Righthand Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
14	Righthand Creek to Site 11	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
15	Site 11 to Boggy Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
16	Boggy Creek to Wolf Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
17	Wolf Creek to Unnamed Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
18	Unnamed Creek to Site 12	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
19	Site 12 to Clear Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
20	Clear Creek to Bear Creek	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
21	Bear Creek to Site 13	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
22	Site 13 to Calcasieu River	Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 13
		Nitrate Nitrite	mg/l	0.06	Site 13
		Chlorophyll a	mg/l	1.9	Site 13

Barnes Creek Summer Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 12, Recreation, Sediment Oxygen Demand and BOD Coeff.					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	1.79	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.18	Bottle Rate for Site 2
		BOD Settling rate	m/day	0.1	Calibration
2	Site 2 to Site 3	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	1.46	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.18	Bottle Rate for Site 2
		BOD Settling rate	m/day	0.1	Calibration
3	Site 3 to Little Barnes Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	1.46	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 3
		BOD Settling rate	m/day	0.1	Calibration
4	Little Barnes Creek to Redhead Branch	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	2.03	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.1	Bottle Rate for Site 4
		BOD Settling rate	m/day	0.1	Calibration
5	Redhead Branch to Site 6	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	2.19	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.1	Bottle Rate for Site 4
		BOD Settling rate	m/day	0.1	Calibration
6	Site 6 to Little Caney Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	1.63	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 6
		BOD Settling rate	m/day	0.1	Calibration
7	Little Caney Creek to dam	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	1.54	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 6
		BOD Settling rate	m/day	0.1	Calibration
8	dam to Caney Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	2.03	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 7
		BOD Settling rate	m/day	0.1	Calibration
9	Caney Creek to Hurricane Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	2.44	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 8
		BOD Settling rate	m/day	0.1	Calibration
10	Hurricane Creek to Site 10	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	2.44	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 8
		BOD Settling rate	m/day	0.1	Calibration
11	Site 10 to Magnolia Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	2.44	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
12	Magnolia Creek to Brushy Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	2.44	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
13	Brushy Creek to Righthand Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	2.44	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
14	Righthand Creek to Site 11	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	2.11	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
15	Site 11 to Boggy Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	2.03	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
16	Boggy Creek to Wolf Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	2.03	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
17	Wolf Creek to Unnamed Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	2.03	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
18	Unnamed Creek to Site 12	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	1.83	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
19	Site 12 to Clear Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	2.36	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
20	Clear Creek to Bear Creek	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	2.68	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
21	Bear Creek to Site 13	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	2.68	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
22	Site 13 to Calcasieu River	K ₁ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	
		Background SOD	µm ² -day	2.36	35% reduction Louisiana Standard in metric units
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 13
		BOD Settling rate	m/day	0.1	Calibration

Barnes Creek Summer Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 13, Nitrogen and Phosphorus

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 2
		Org-N Settling rate	m/day	0.20	Calibration
2	Site 2 to Site 3	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 2
		Org-N Settling rate	m/day	0.2	Calibration
3	Site 3 to Little Barnes Creek	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 3
		Org-N Settling rate	m/day	0.2	Calibration
4	Little Barnes Creek to Redhead Branch	Org-N Decay	1/day	0.05	NBOD Bottle Rate Site 4
		Org-N Settling rate	m/day	0.05	Calibration
5	Redhead Branch to Site 6	Org-N Decay	1/day	0.05	NBOD Bottle Rate Site 4
		Org-N Settling rate	m/day	0.05	Calibration
6	Site 6 to Little Caney Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 6
		Org-N Settling rate	m/day	0.05	Calibration
7	Little Caney Creek to dam	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 6
		Org-N Settling rate	m/day	0.05	Calibration
8	dam to Caney Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 7
		Org-N Settling rate	m/day	0.05	Calibration
9	Caney Creek to Hurricane Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 8
		Org-N Settling rate	m/day	0.05	Calibration
10	Hurricane Creek to Site 10	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 8
		Org-N Settling rate	m/day	0.05	Calibration
11	Site 10 to Magnolia Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
12	Magnolia Creek to Brushy Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
13	Brushy Creek to Righthand Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
14	Righthand Creek to Site 11	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
15	Site 11 to Boggy Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
16	Boggy Creek to Wolf Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
17	Wolf Creek to Unnamed Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
18	Unnamed Creek to Site 12	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
19	Site 12 to Clear Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
20	Clear Creek to Bear Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
21	Bear Creek to Site 13	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
22	Site 13 to Calcasieu River	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 13
		Org-N Settling rate	m/day	0.05	Calibration

Barnes Creek Summer Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 15, Coliform and Nonconservative Coefficients

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	NCM Decay	1/day	0.13	Bottle Rate Site 2
		NCM Settling Rate	m/day	0.05	Calibration
2	Site 2 to Site 3	NCM Decay	1/day	0.13	Bottle Rate Site 2
		NCM Settling Rate	m/day	0.05	Calibration
3	Site 3 to Little Barnes Creek	NCM Decay	1/day	0.13	Bottle Rate Site 3
		NCM Settling Rate	m/day	0.05	Calibration
4	Little Barnes Creek to Redhead Branch	NCM Decay	1/day	0.05	Bottle Rate Site 4
		NCM Settling Rate	m/day	0.05	Calibration
5	Redhead Branch to Site 6	NCM Decay	1/day	0.05	Bottle Rate Site 4
		NCM Settling Rate	m/day	0.05	Calibration
6	Site 6 to Little Caney Creek	NCM Decay	1/day	0.04	Bottle Rate Site 6
		NCM Settling Rate	m/day	0.05	Calibration
7	Little Caney Creek to dam	NCM Decay	1/day	0.04	Bottle Rate Site 6
		NCM Settling Rate	m/day	0.05	Calibration
8	dam to Caney Creek	NCM Decay	1/day	0.02	Bottle Rate Site 7
		NCM Settling Rate	m/day	0.05	Calibration
9	Caney Creek to Hurricane Creek	NCM Decay	1/day	0.03	Bottle Rate Site 8
		NCM Settling Rate	m/day	0.05	Calibration
10	Hurricane Creek to Site 10	NCM Decay	1/day	0.03	Bottle Rate Site 8
		NCM Settling Rate	m/day	0.05	Calibration
11	Site 10 to Magnolia Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
12	Magnolia Creek to Brushy Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
13	Brushy Creek to Righthand Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
14	Righthand Creek to Site 11	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
15	Site 11 to Boggy Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
16	Boggy Creek to Wolf Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
17	Wolf Creek to Unnamed Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
18	Unnamed Creek to Site 12	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
19	Site 12 to Clear Creek	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
20	Clear Creek to Bear Creek	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
21	Bear Creek to Site 13	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
22	Site 13 to Calcasieu River	NCM Decay	1/day	0.03	Bottle Rate Site 13
		NCM Settling Rate	m/day	0.05	Calibration

Barnes Creek Summer Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 16, Incremental Data for Flow, Temperature, Salinity, and Conservatives					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Incremental Outflow	m ³ /s	-0.0272	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26	90th percentile Temperature from Ambient Site 0837
		Salinity	ppt		
		Conservative Mast. I	mg/l	13.9	Site 2
		Conservative Mast. II	mg/l	12.4	Site 2
3	Site 3 to Little Barnes Creek	Incremental Outflow	m ³ /s	-0.0204	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26	90th percentile Temperature from Ambient Site 0837
		Salinity	ppt	33.6	Site 3
		Conservative Mast. I	mg/l	11	Site 3
		Conservative Mast. II	mg/l		
4	Little Barnes Creek to Redhead Branch	Incremental Outflow	m ³ /s	0.0057	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt	30.2	Site 4
		Conservative Mast. I	mg/l	7.9	Site 4
		Conservative Mast. II	mg/l		
5	Redhead Branch to Site 6	Incremental Outflow	m ³ /s	0.0057	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt	30.2	Site 4
		Conservative Mast. I	mg/l	7.9	Site 4
		Conservative Mast. II	mg/l		
6	Site 6 to Little Casey Creek	Incremental Outflow	m ³ /s	-0.0317	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt	23.6	Site 6
		Conservative Mast. I	mg/l	6	Site 6
		Conservative Mast. II	mg/l		
7	Little Casey Creek to dam	Incremental Outflow	m ³ /s	-0.0317	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt	23.6	Site 6
		Conservative Mast. I	mg/l	6	Site 6
		Conservative Mast. II	mg/l		
8	dam to Casey Creek	Incremental Outflow	m ³ /s	0.0442	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt	8.8	Site 7
		Conservative Mast. I	mg/l	3.2	Site 7
		Conservative Mast. II	mg/l		
10	Hurricane Creek to Site 10	Incremental Outflow	m ³ /s	0.0071	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt	6.9	Site 8
		Conservative Mast. I	mg/l	2.7	Site 8
		Conservative Mast. II	mg/l		
11	Site 10 to Magnolia Creek	Incremental Outflow	m ³ /s	0.0033	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt	9.2	Site 10
		Conservative Mast. I	mg/l	3.4	Site 10
		Conservative Mast. II	mg/l		
12	Magnolia Creek to Brushy Creek	Incremental Outflow	m ³ /s	0.0033	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt	9.2	Site 10
		Conservative Mast. I	mg/l	3.4	Site 10
		Conservative Mast. II	mg/l		
13	Brushy Creek to Righthand Creek	Incremental Outflow	m ³ /s	0.0033	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt	9.2	Site 10
		Conservative Mast. I	mg/l	3.4	Site 10
		Conservative Mast. II	mg/l		
14	Righthand Creek to Site 11	Incremental Outflow	m ³ /s	0.0033	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt	9.2	Site 10
		Conservative Mast. I	mg/l	3.4	Site 10
		Conservative Mast. II	mg/l		
15	Site 11 to Boggy Creek	Incremental Outflow	m ³ /s	0.0079	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt	13.6	Site 11
		Conservative Mast. I	mg/l	4.1	Site 11
		Conservative Mast. II	mg/l		
16	Boggy Creek to Wolf Creek	Incremental Outflow	m ³ /s	0.0079	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt	13.6	Site 11
		Conservative Mast. I	mg/l	4.1	Site 11
		Conservative Mast. II	mg/l		
17	Wolf Creek to Unnamed Creek	Incremental Outflow	m ³ /s	0.0079	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt	13.6	Site 11
		Conservative Mast. I	mg/l	4.1	Site 11
		Conservative Mast. II	mg/l		
18	Unnamed Creek to Site 12	Incremental Outflow	m ³ /s	0.0079	
		Incremental Inflow	m ³ /s		
		Temperature	°C/°C _{amb}	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt	13.6	Site 11
		Conservative Mast. I	mg/l	4.1	Site 11
		Conservative Mast. II	mg/l		

Barnes Creek Summer Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 17, Incremental Data for DO, BOD, Nitrogen					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.92	35% reduction in total nonpoint
		Org.-N	mg/l	1.06	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 2
		NO ₂₊₃ -N	mg/l	0.56	Site 2
3	Site 3 to Little Barnes Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.83	35% reduction in total nonpoint
		Org.-N	mg/l	0.57	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 3
		NO ₂₊₃ -N	mg/l	0.37	Site 3
4	Little Barnes Creek to Redhead Branch	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.7	35% reduction in total nonpoint
		Org.-N	mg/l	0.33	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 4
		NO ₂₊₃ -N	mg/l	0.09	Site 4
5	Redhead Branch to Site 6	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.7	35% reduction in total nonpoint
		Org.-N	mg/l	0.33	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 4
		NO ₂₊₃ -N	mg/l	0.09	Site 4
6	Site 6 to Little Caney Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	6.95	35% reduction in total nonpoint
		Org.-N	mg/l	0.57	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 6
		NO ₂₊₃ -N	mg/l	0.1	Site 6
7	Little Caney Creek to dam	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	6.95	35% reduction in total nonpoint
		Org.-N	mg/l	0.57	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 6
		NO ₂₊₃ -N	mg/l	0.1	Site 6
8	dam to Caney Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.54	35% reduction in total nonpoint
		Org.-N	mg/l	0.07	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 7
		NO ₂₊₃ -N	mg/l	0.07	Site 7
10	Hurricane Creek to Site 10	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.85	35% reduction in total nonpoint
		Org.-N	mg/l	0.63	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 8
		NO ₂₊₃ -N	mg/l	0.09	Site 8
11	Site 10 to Magnolia Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	6.19	35% reduction in total nonpoint
		Org.-N	mg/l	0.63	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ -N	mg/l	0.08	Site 10
12	Magnolia Creek to Brushy Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	6.19	35% reduction in total nonpoint
		Org.-N	mg/l	0.63	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ -N	mg/l	0.08	Site 10
13	Brushy Creek to Righthand Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	6.19	35% reduction in total nonpoint
		Org.-N	mg/l	0.63	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ -N	mg/l	0.08	Site 10
14	Righthand Creek to Site 11	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	6.19	35% reduction in total nonpoint
		Org.-N	mg/l	0.63	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ -N	mg/l	0.08	Site 10
15	Site 11 to Boggy Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.19	35% reduction in total nonpoint
		Org.-N	mg/l	0.46	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ -N	mg/l	0.08	Site 11
16	Boggy Creek to Wolf Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.19	35% reduction in total nonpoint
		Org.-N	mg/l	0.46	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ -N	mg/l	0.08	Site 11
17	Wolf Creek to Unnamed Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.19	35% reduction in total nonpoint
		Org.-N	mg/l	0.46	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ -N	mg/l	0.08	Site 11
18	Unnamed Creek to Site 12	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.19	35% reduction in total nonpoint
		Org.-N	mg/l	0.46	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ -N	mg/l	0.08	Site 11

Barnes Creek Summer Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 18, Incremental Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Chlorophyll a	ug/l	4.3	Site 2
		CBOD2	mg/l	3.4	Site 2
3	Site 3 to Little Barnes Creek	Chlorophyll a	ug/l	4.46	Site 3
		NCM	mg/l	3.45	Site 3
4	Little Barnes Creek to Redhead Branch	Chlorophyll a	ug/l	4.23	Site 4
		NCM	mg/l	3.48	Site 4
5	Redhead Branch to Site 6	Chlorophyll a	ug/l	4.23	Site 4
		NCM	mg/l	3.48	Site 4
6	Site 6 to Little Caney Creek	Chlorophyll a	ug/l	3.01	Site 6
		NCM	mg/l	5.05	Site 6
7	Little Caney Creek to dam	Chlorophyll a	ug/l	3.01	Site 6
		NCM	mg/l	5.05	Site 6
8	dam to Caney Creek	Chlorophyll a	ug/l	3.72	Site 7
		NCM	mg/l	4.03	Site 7
10	Hurricane Creek to Site 10	Chlorophyll a	ug/l	2.68	Site 8
		NCM	mg/l	4.52	Site 8
11	Site 10 to Magnolia Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
12	Magnolia Creek to Brushy Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
13	Brushy Creek to Righthand Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
14	Righthand Creek to Site 11	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
15	Site 11 to Boggy Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
16	Boggy Creek to Wolf Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
17	Wolf Creek to Unnamed Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
18	Unnamed Creek to Site 12	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11

Barnes Creek Summer Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 19, Nonpoint Source Data					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	CBOD1	kg/day	2.25	35% reduction in total nonpoint
		CBOD2	kg/day	7.5	35% reduction in total nonpoint
		O-N	kg/day	2.25	35% reduction in total nonpoint
2	Site 2 to Site 3	CBOD1	kg/day	0	35% reduction in total nonpoint
		CBOD2	kg/day	2.25	35% reduction in total nonpoint
		O-N	kg/day	0	35% reduction in total nonpoint
3	Site 3 to Little Barnes Creek	CBOD1	kg/day	12	35% reduction in total nonpoint
		CBOD2	kg/day	7.5	35% reduction in total nonpoint
		O-N	kg/day	0	35% reduction in total nonpoint
4	Little Barnes Creek to Redhead Branch	CBOD1	kg/day	2.25	35% reduction in total nonpoint
		CBOD2	kg/day	3.75	35% reduction in total nonpoint
		O-N	kg/day	0.75	35% reduction in total nonpoint
5	Redhead Branch to Site 6	CBOD1	kg/day	0	35% reduction in total nonpoint
		CBOD2	kg/day	5.62	35% reduction in total nonpoint
		O-N	kg/day	0.75	35% reduction in total nonpoint
6	Site 6 to Little Caney Creek	CBOD1	kg/day	15	35% reduction in total nonpoint
		CBOD2	kg/day	3	35% reduction in total nonpoint
		O-N	kg/day	1.5	35% reduction in total nonpoint
7	Little Caney Creek to dam	CBOD1	kg/day	10.5	35% reduction in total nonpoint
		CBOD2	kg/day	1.5	35% reduction in total nonpoint
		O-N	kg/day	0.45	35% reduction in total nonpoint
8	dam to Caney Creek	CBOD1	kg/day	4.5	35% reduction in total nonpoint
		CBOD2	kg/day	2.25	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
9	Caney Creek to Hurricane Creek	CBOD1	kg/day	1.5	35% reduction in total nonpoint
		CBOD2	kg/day	6.75	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
10	Hurricane Creek to Site 10	CBOD1	kg/day	1.5	35% reduction in total nonpoint
		CBOD2	kg/day	2.25	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
11	Site 10 to Magnolia Creek	CBOD1	kg/day	3.75	35% reduction in total nonpoint
		CBOD2	kg/day	0	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
12	Magnolia Creek to Brushy Creek	CBOD1	kg/day	2.25	35% reduction in total nonpoint
		CBOD2	kg/day	0	35% reduction in total nonpoint
		O-N	kg/day	0	35% reduction in total nonpoint
13	Brushy Creek to Righthand Creek	CBOD1	kg/day	3.75	35% reduction in total nonpoint
		CBOD2	kg/day	0	35% reduction in total nonpoint
		O-N	kg/day	0	35% reduction in total nonpoint
14	Righthand Creek to Site 11	CBOD1	kg/day	3	35% reduction in total nonpoint
		CBOD2	kg/day	0	35% reduction in total nonpoint
		O-N	kg/day	0	35% reduction in total nonpoint
15	Site 11 to Boggy Creek	CBOD1	kg/day	3.75	35% reduction in total nonpoint
		CBOD2	kg/day	0	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
16	Boggy Creek to Wolf Creek	CBOD1	kg/day	0	35% reduction in total nonpoint
		CBOD2	kg/day	0	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
17	Wolf Creek to Unnamed Creek	CBOD1	kg/day	2.25	35% reduction in total nonpoint
		CBOD2	kg/day	1.5	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
18	Unnamed Creek to Site 12	CBOD1	kg/day	3.75	35% reduction in total nonpoint
		CBOD2	kg/day	1.5	35% reduction in total nonpoint
		O-N	kg/day	0.64	35% reduction in total nonpoint
19	Site 12 to Clear Creek	CBOD1	kg/day	11.25	35% reduction in total nonpoint
		CBOD2	kg/day	0.75	35% reduction in total nonpoint
		O-N	kg/day	0.64	35% reduction in total nonpoint
20	Clear Creek to Bear Creek	CBOD1	kg/day	3.75	35% reduction in total nonpoint
		CBOD2	kg/day	0	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
21	Bear Creek to Site 13	CBOD1	kg/day	2.25	35% reduction in total nonpoint
		CBOD2	kg/day	0	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
22	Site 13 to Calcasieu River	CBOD1	kg/day	268.13	35% reduction in total nonpoint
		CBOD2	kg/day	63.75	35% reduction in total nonpoint
		O-N	kg/day	20.25	35% reduction in total nonpoint

Barnes Creek Summer Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 20, Headwater Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	
		Headwater name		Barnes Creek	
		Headwater flow	cms	0.0351	Projected flow for summer critical
		Temperature	°Celcius	26.00	90th percentile Temperature from Ambient Site 0837
		Conservative Matl. I	mg/l	33.90	Site 2
		Conservative Matl. II	mg/l	12.40	Site 2

Barnes Creek Summer Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 21, Headwater Data for DO, BOD, and Nitrogen

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	Site 2
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		BOD	mg/l	2.47	35% reduction in total nonpoint
		O-N	mg/l	1.03	35% reduction in total nonpoint
		NH ₃	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2

Barnes Creek Summer Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 22, Headwater Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	
		Chlorophyll a	mg/l	2.6	Site 2
		CBOD 2	mg/l	3.4	Site 2

Barnes Creek Summer Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 27, Lower Boundary Conditions

Reach #	NAME	Parameter	Units	Value	Source/Justification
36	Sandy Creek - Hwy 124	Temperature	°Celcius	26	90th percentile Temperature from Ambient Site 0837
		Salinity	ppt		
		Conservative Matl. I	mg/l		
		Conservative Matl. II			
		Dissolved O ₂	mg/l		
		BOD	mg/l		
		Org.- N	mg/l		
		NH ₃ -N	mg/l		
		NO ₂₊₃ -N	mg/l		
		Chlorophyll a	ug/l	1.9	Site 13
		Nonconservative	mg/l		

APPENDIX B15 - Proposed 2.0 summer loading calculations

Proposed 2.0 DO Standard Summer TMDL calculations and Projection model calculations for Incremental loads:

Barnes Creek - 030601 and 030602

Shaded cells are input values for calculations.
Values to be used in the projection models.

Reach Description and #	Incremental Load Determinations:										Projection Model Input determinations:						Projection Model Input determinations:				
	Calibration Load determinations:					Percentage Reduction calculations:					Projection Model Input determinations:		Projection Model Input determinations:		Sub-total MOS load (kg/day)		Sub-total LA load (kg/day)				
	Projection Flow (cms)	Calb UCBOB conc (mg/l)	Unadjusted UCBOB (kg/day)	Calb UNBOD conc. (mg/l)	Unadjusted UNBOD (kg/day)	Background Conc. UCBOB (mg/l)	Background Conc. UNBOD (mg/l)	Background % Reduction	Background Load UCBOB (kg/day)	Background Load UNBOD (kg/day)	Actual % Reduction of Man-Made Loads	Increm. UCBOB Load Adjusted For % Reduction (LA load)	Increm. UNBOD Load Adjusted For % Reduction (LA load)	Increm. UCBOB Adjusted for MOS (kg/day) (I)	Increm. UNBOD Adjusted for MOS (kg/day) (I)	Projection UCBOB conc. (mg/l)	Projection UNBOD conc. (mg/l)	Proj. UCBOB MOS load (kg/day)	Proj. UNBOD MOS load (kg/day)	Sub-total MOS load (kg/day)	Sub-total LA load (kg/day)
A	B	C = (86.4)(A)(B)	D	E = (86.4)(A)(D)	F	G	H/I	H = (1-HI) (86.4)(A)(F)	I = (1-HI) (86.4)(A)(G)	J, Note 1	K = (C-H)(I-J) + H	L = (E-I)(I-J) + I	M = (K-H) / ((1-MOS) + H)	N = (I-J) / ((1-MOS) + I)	M / ((A)(86.4))	N / ((A)(86.4))	O = K	M = N - L	P = O + P	O + P	K + L
1							0%			35%											
2	-0.0272	6.05	-14.22	1.30	-3.06		0%	0.00	0.00	35%	-9.24	-1.99	-12	-2	4.92	1.06	-2	0	-3	-11	
3	-0.0204	5.94	-10.47	0.70	-1.23		0%	0.00	0.00	35%	-6.81	-0.80	-9	-1	4.83	0.57	-2	0	-2	-8	
4	0.0057	7.01	3.45	0.41	0.20		0%	0.00	0.00	35%	2.24	0.13	3	0	5.70	0.33	1	0	1	2	
5	0.0057	7.01	3.45	0.41	0.20		0%	0.00	0.00	35%	2.24	0.13	3	0	5.70	0.33	1	0	1	2	
6	-0.0096	8.55	-7.09	0.70	-0.58		0%	0.00	0.00	35%	-4.61	-0.38	-6	0	6.95	0.57	-1	0	-1	-5	
7	-0.0096	8.55	-7.09	0.70	-0.58		0%	0.00	0.00	35%	-4.61	-0.38	-6	0	6.95	0.57	-1	0	-1	-5	
8							0%			35%											
9							0%			35%											
10	0.0071	7.20	4.42	0.77	0.47		0%	0.00	0.00	35%	2.87	0.31	4	0	5.85	0.63	1	0	1	3	
11	0.0033	7.62	2.17	0.78	0.22		0%	0.00	0.00	35%	1.41	0.14	2	0	6.19	0.63	0	0	0	2	
12	0.0033	7.62	2.17	0.78	0.22		0%	0.00	0.00	35%	1.41	0.14	2	0	6.19	0.63	0	0	0	2	
13	0.0033	7.62	2.17	0.78	0.22		0%	0.00	0.00	35%	1.41	0.14	2	0	6.19	0.63	0	0	0	2	
14	0.0033	7.62	2.17	0.78	0.22		0%	0.00	0.00	35%	1.41	0.14	2	0	6.19	0.63	0	0	0	2	
15	0.0079	5.16	3.52	0.57	0.39		0%	0.00	0.00	35%	2.29	0.25	3	0	4.19	0.46	1	0	1	3	
16	0.0079	5.16	3.52	0.57	0.39		0%	0.00	0.00	35%	2.29	0.25	3	0	4.19	0.46	1	0	1	3	
17	0.0079	5.16	3.52	0.57	0.39		0%	0.00	0.00	35%	2.29	0.25	3	0	4.19	0.46	1	0	1	3	
18	0.0079	5.16	3.52	0.57	0.39		0%	0.00	0.00	35%	2.29	0.25	3	0	4.19	0.46	1	0	1	3	
19							0%			35%											
20							0%			35%											
21							0%			35%											
22							0%			35%											
Sub-Total benthic loading								0	0		-3	-1	-4	-2			-1	0	-1	-4	

Note 1: The percentage reduction values are taken from the "Non-Point Benthic Load Input and TMDL Calculations" workshee

EXPLICIT MARGINS:
MARGIN OF SAFETY (MOS) (%) = **20%**

Proposed 2.0 DO Standard Summer TMDL Calculations for Point Source loads:

Barnes Creek - 030601 and 030602

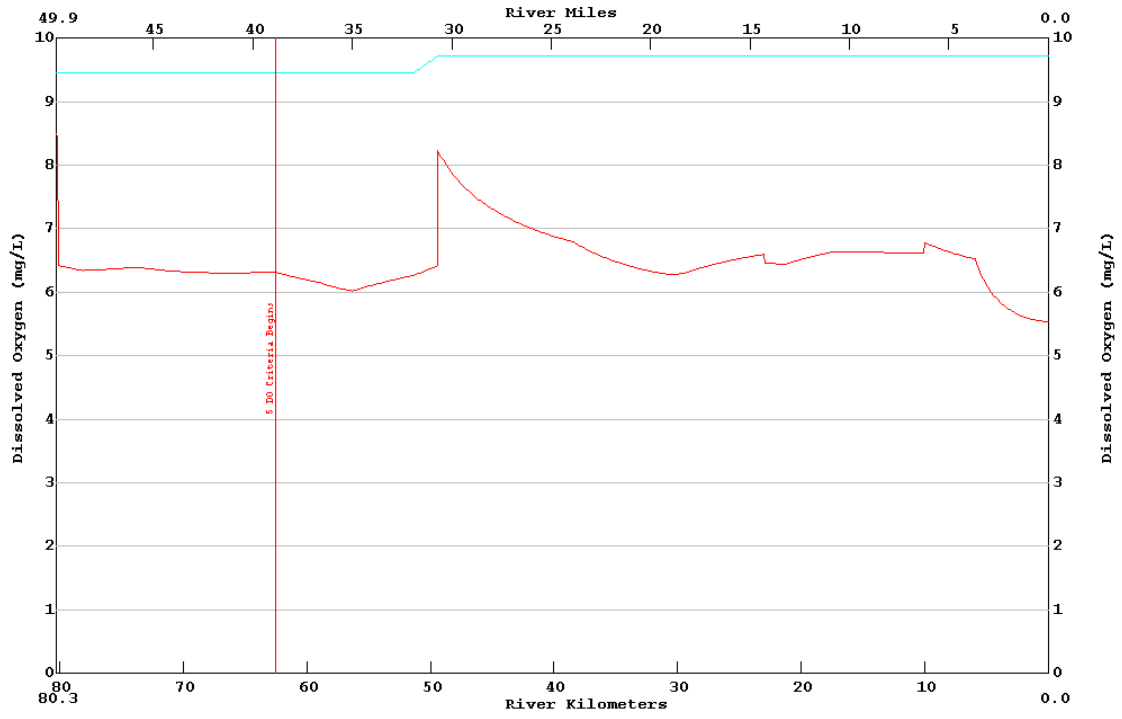
Input data into the shaded cells.

Point Source Loading Calculations																		
Pt. Source / Facility Description and Reach #	Receiving Stream	Included in the Projection Model (Yes/No)	Anticipated/ design flow (cms)	Flow with MOS (cms)	Proposed Permit Limits			UCBOD				UNBOD				Sub-total of Point Source Loads		
					CBOD ₅ (mg/l)	NH ₃ N (mg/l)	MOS (%)	Ultimate Conc. (mg/l) (2)	Loads (kg/day) (1)	WLA (kg/day)	Reserve/ MOS Load (kg/day)	Ultimate Conc. (mg/l) (2)	Loads (kg/day) (1)	WLA (kg/day)	Reserve/ MOS Load (kg/day)	Loads (kg/day)	WLA (kg/day)	Reserve/ MOS (kg/day)
			A	A1 = A/(1-D)	B	C	D	E = 2.3 x B	F = (86.4)(A1)(E)	G = (1-D) x F	H = (D)(F)	I = 4.3 x B	J = (86.4)(A1)(I)	K = (1-D) x J	L = (D)(J)	F + J	G + K	H + L
City of DeRidder	Unnamed Ditch to Barnes Creek	Yes	0.132752	0.165940	10.00	5.00	0.20	23.00	329.76	263.81	65.95	21.50	308.25	246.60	61.65	638.01	510.41	127.60
Evergreen Mobile Home Park	Unnamed ditch to Little Barnes Creek to Barnes Creek	No	0.000700	0.000875	30.00	15.00	0.20	69.00	5.22	4.17	1.04	64.50	4.88	3.90	0.98	10.09	8.07	2.02
Beauregard Fire Prot Dist #2	Unnamed ditch to unnamed trib to Barnes Creek	No	0.000020	0.000025	30.00	15.00	0.20	69.00	0.15	0.12	0.03	64.50	0.14	0.11	0.03	0.29	0.23	0.06
Broadlands Fire Dept Station #1	Unnamed ditch to Little Barnes Creek to Barnes Creek	No	0.000020	0.000025	30.00	15.00	0.20	69.00	0.15	0.12	0.03	64.50	0.14	0.11	0.03	0.29	0.23	0.06
SUB-TOTAL Loads			0.133492						335.27	268.22	67.05		313.41	250.72	62.68	648.68	518.94	129.74

(1) - Load(kg/day) = 86.4 x Ultimate Conc.(mg/l) x Modeled Flow(cms)
 (2) - [UCBOD conc. = CBOD5(mg/l) x 2.3] and [UNBOD conc. = NH3N(mg/l) x 4.3]

APPENDIX B16 - Proposed 2.0 winter projection model input/output and graphs

LA-QUAL Version 5.02 Run at 10:36 on 02/19/2002 File D:\Barnes Creek\Input Files\barnswin2.0.txt
BARNES CREEK WINTER 2.0 MG/L RUN min= 5.54 max= 8.50
:MAINSTEM



LA-QUAL Version 5.02
Louisiana Department of Environmental Quality

Input file is D:\Barnes Creek\Input Files\barnswin2.0.txt
Output produced at 10:38 on 02/19/2002

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

CARD TYPE	CONTROL TITLES
TITLE01	BARNES CREEK WATERSHED MODEL
TITLE02	BARNES CREEK WINTER 2.0 MG/L RUN
CNTROL04 YES	METRIC UNITS
CNTROL05 YES	OXYGEN DEPENDENT RATES
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 YES	CONSERVATIVE MATERIAL II = SULFATES	IN MG/L
MODOPT05 YES	DISSOLVED OXYGEN	
MODOPT06 YES	BIOCHEMICAL OXYGEN DEMAND	
MODOPT07 YES	NITROGEN	
MODOPT08 NO	PHOSPHORUS	
MODOPT09 NO	CHLOROPHYLL A	
MODOPT10 NO	MACROPHYTES	
MODOPT11 NO	COLIFORM	
MODOPT12 YES	NONCONSERVATIVE MATERIAL = CBOD2	IN mg/L
ENDATA02		

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
PROGRAM	MAXIMUM ITERATION LIMIT	= 1000.00000
PROGRAM	PLOT TYPE	= 3.00000
PROGRAM	FINAL REPORT TYPE	= 1.00000
PROGRAM	SPECIAL REPORT TYPE	= 3.00000
PROGRAM	KL MINIMUM	= 0.70000 meters/day
PROGRAM	NCM OXYGEN UPTAKE RATE	= 1.00000 mg O/mg NCM
PROGRAM	INHIBITION CONTROL VALUE	= 3.00000
PROGRAM	NH3 OXYGEN UPTAKE RATE	= 0.00000 mg O/mg N
PROGRAM	K2 MAXIMUM	= 25.00000 per day
PROGRAM	HYDRAULIC CALCULATION METHOD	= 2.00000 (widths and depths)
PROGRAM	SETTLING RATE UNITS	= 2.00000 (per day)
PROGRAM	OCEAN EXCHANGE RATIO	= 0.00000
PROGRAM	EFFECTIVE BOD DUE TO ALGAE	= 0.15000 mg/L BOD per ug/L chl a
PROGRAM	ORGN OXYGEN UPTAKE RATE	= 1.00000 mg O/mg N
PROGRAM	ALGAE OXYGEN PROD	= 0.05000 mg O/ug chl a/day
PROGRAM	N MACROPHYTE UPTAKE	= 0.00300 mg N/mg macrophyte/day

PROGRAM MACROPHYTE OXYGEN PROD = 0.00000 mg O/mg macrophyte/day
PROGRAM N PREFERENCE = 0.60000 (0.0=NH3 1.0=NO3)
ENDATA03

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

CARD TYPE	RATE CODE	THETA VALUE
THETA	NCM DECA	1.04700
THETA	ORGN DEC	1.07000

ENDATA04

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
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ENDATA05

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
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ENDATA06

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

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE
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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	BC	HEADWATER - SITE 2	80.30	TO 78.10	0.1000	2.20	22	1	22
REACH ID	2	BC	SITE 2 - SITE 3	78.10	TO 73.70	0.1000	4.40	44	23	66
REACH ID	3	BC	SITE 3 - LITTLE BARNES CR	73.70	TO 62.50	0.1000	11.20	112	67	178
REACH ID	4	BC	LITTLE BARNES - REDHEAD CR	62.50	TO 59.00	0.1000	3.50	35	179	213
REACH ID	5	BC	REDHEAD CR - SITE 6	59.00	TO 56.30	0.1000	2.70	27	214	240
REACH ID	6	BC	SITE 6 - LITTLE CANEY CR	56.30	TO 51.40	0.1000	4.90	49	241	289
REACH ID	7	BC	LITTLE CANEY CR - DAM	51.40	TO 49.40	0.1000	2.00	20	290	309
REACH ID	8	BC	DAM - CANEY CREEK	49.40	TO 46.50	0.1000	2.90	29	310	338
REACH ID	9	BC	CANEY CR - HURRICANE CR	46.50	TO 38.50	0.1000	8.00	80	339	418
REACH ID	10	BC	HURRICANE CR - SITE 10	38.50	TO 36.40	0.1000	2.10	21	419	439
REACH ID	11	BC	SITE 10 - MAGNOLIA CR	36.40	TO 34.10	0.1000	2.30	23	440	462
REACH ID	12	BC	MAGNOLIA CR - BRUSHY CR	34.10	TO 32.40	0.1000	1.70	17	463	479
REACH ID	13	BC	BRUSHY CR - RIGHTHAND CR	32.40	TO 30.50	0.1000	1.90	19	480	498
REACH ID	14	BC	RIGHTHAND CR - SITE 11	30.50	TO 29.50	0.1000	1.00	10	499	508
REACH ID	15	BC	SITE 11 - BOGGY CR	29.50	TO 23.00	0.1000	6.50	65	509	573
REACH ID	16	BC	BOGGY CR - WOLF CREEK	23.00	TO 22.90	0.1000	0.10	1	574	574
REACH ID	17	BC	WOLF CR - UNNAMED CREEK	22.90	TO 21.30	0.1000	1.60	16	575	590
REACH ID	18	BC	UNNAMED CR - SITE 12	21.30	TO 17.20	0.1000	4.10	41	591	631
REACH ID	19	BC	SITE 12 - CLEAR CR	17.20	TO 10.10	0.1000	7.10	71	632	702

REACH ID	20	BC	CLEAR CR - BEAR CR	10.10	TO	7.70	0.1000	2.40	24	703	726
REACH ID	21	BC	BEAR CR - SITE 13	7.70	TO	5.90	0.1000	1.80	18	727	744
REACH ID	22	BC	SITE 13 - CALCASIEU RIVER	5.90	TO	0.00	0.1000	5.90	59	745	803

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"
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 1										
HYDR-1	1	BC	2.680	0.930	2.800	0.620	1.000	0.100	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 2										
HYDR-1	2	BC	2.680	0.930	2.800	0.620	1.000	0.100	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 3										
HYDR-1	3	BC	2.680	0.930	3.100	0.620	1.000	0.310	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 4										
HYDR-1	4	BC	2.680	0.930	3.200	0.620	1.000	0.270	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 5										
HYDR-1	5	BC	2.680	0.930	3.200	0.620	1.000	0.270	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 6										
HYDR-1	6	BC	2.680	0.930	5.800	0.620	1.000	0.450	0.00000	0.027
***** WARNING: VELOCITY AND DEPTH EXPONENTS ADD TO GREATER THAN 1.0 IN REACH 7										
HYDR-1	7	BC	2.680	0.930	5.800	0.620	1.000	0.450	0.00000	0.027
HYDR-1	8	BC	0.230	0.540	8.200	0.100	0.210	0.380	0.00000	0.027
HYDR-1	9	BC	0.230	0.540	4.000	0.100	0.210	0.330	0.00000	0.027
HYDR-1	10	BC	0.230	0.540	4.000	0.100	0.210	0.330	0.00000	0.027
HYDR-1	11	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	12	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	13	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	14	BC	0.230	0.540	5.800	0.100	0.210	0.350	0.00000	0.027
HYDR-1	15	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	16	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	17	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	18	BC	0.230	0.540	4.000	0.100	0.210	0.200	0.00000	0.027
HYDR-1	19	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	20	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	21	BC	0.230	0.540	6.100	0.100	0.210	0.210	0.00000	0.027
HYDR-1	22	BC	0.230	0.540	23.800	0.100	0.210	2.290	0.00000	0.027

ENDATA09

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

CARD TYPE	REACH	ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"
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ENDATA10

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

CARD TYPE	REACH	ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
INITIAL	1	BC	18.10	0.00	5.00	0.00	0.56	0.00	2.60	0.00
INITIAL	2	BC	18.10	0.00	5.00	0.00	0.56	0.00	2.60	0.00

INITIAL	3	BC	18.10	0.00	5.00	0.00	0.37	0.00	2.00	0.00
INITIAL	4	BC	18.10	0.00	5.00	0.00	0.09	0.00	1.90	0.00
INITIAL	5	BC	18.10	0.00	5.00	0.00	0.09	0.00	1.90	0.00
INITIAL	6	BC	18.10	0.00	5.00	0.00	0.10	0.00	6.10	0.00
INITIAL	7	BC	18.10	0.00	5.00	0.00	0.10	0.00	6.10	0.00
INITIAL	8	BC	16.70	0.00	5.00	0.00	0.07	0.00	1.00	0.00
INITIAL	9	BC	16.70	0.00	5.00	0.00	0.09	0.00	0.60	0.00
INITIAL	10	BC	16.70	0.00	5.00	0.00	0.09	0.00	0.60	0.00
INITIAL	11	BC	16.70	0.00	5.00	0.00	0.08	0.00	1.10	0.00
INITIAL	12	BC	16.70	0.00	5.00	0.00	0.08	0.00	1.10	0.00
INITIAL	13	BC	16.70	0.00	5.00	0.00	0.08	0.00	1.10	0.00
INITIAL	14	BC	16.70	0.00	5.00	0.00	0.08	0.00	1.10	0.00
INITIAL	15	BC	16.70	0.00	5.00	0.00	0.08	0.00	0.90	0.00
INITIAL	16	BC	16.70	0.00	5.00	0.00	0.08	0.00	0.90	0.00
INITIAL	17	BC	16.70	0.00	5.00	0.00	0.08	0.00	0.90	0.00
INITIAL	18	BC	16.70	0.00	5.00	0.00	0.08	0.00	0.90	0.00
INITIAL	19	BC	16.70	0.00	5.00	0.00	0.10	0.00	0.90	0.00
INITIAL	20	BC	16.70	0.00	5.00	0.00	0.10	0.00	0.90	0.00
INITIAL	21	BC	16.70	0.00	5.00	0.00	0.10	0.00	0.90	0.00
INITIAL	22	BC	16.70	0.00	5.00	0.00	0.06	0.00	1.90	0.00

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

CARD	TYPE	REACH	ID	K2 OPT	K2 "A"	K2 "B"	K2 "C"	BKGRND SOD g/m ² /d	AEROB	BOD SETT m/d	BOD CONV TO SOD	ANAER
									BOD DECAY per day			BOD DECAY
COEF-1	1	BC	20	K2=a/D	0.700	0.000	0.000	1.790	0.180	0.100	0.000	0.000
COEF-1	2	BC	20	K2=a/D	0.700	0.000	0.000	1.460	0.180	0.100	0.000	0.000
COEF-1	3	BC	20	K2=a/D	0.700	0.000	0.000	1.460	0.130	0.100	0.000	0.000
COEF-1	4	BC	20	K2=a/D	0.700	0.000	0.000	2.030	0.100	0.100	0.000	0.000
COEF-1	5	BC	20	K2=a/D	0.700	0.000	0.000	2.190	0.100	0.100	0.000	0.000
COEF-1	6	BC	20	K2=a/D	0.700	0.000	0.000	1.630	0.130	0.100	0.000	0.000
COEF-1	7	BC	20	K2=a/D	0.700	0.000	0.000	1.540	0.130	0.100	0.000	0.000
COEF-1	8	BC	20	K2=a/D	0.700	0.000	0.000	2.030	0.050	0.100	0.000	0.000
COEF-1	9	BC	20	K2=a/D	0.700	0.000	0.000	2.440	0.050	0.100	0.000	0.000
COEF-1	10	BC	20	K2=a/D	0.700	0.000	0.000	2.440	0.050	0.100	0.000	0.000
COEF-1	11	BC	20	K2=a/D	0.700	0.000	0.000	2.440	0.090	0.100	0.000	0.000
COEF-1	12	BC	20	K2=a/D	0.700	0.000	0.000	2.440	0.090	0.100	0.000	0.000
COEF-1	13	BC	20	K2=a/D	0.700	0.000	0.000	2.440	0.090	0.100	0.000	0.000
COEF-1	14	BC	20	K2=a/D	0.700	0.000	0.000	2.110	0.090	0.100	0.000	0.000
COEF-1	15	BC	20	K2=a/D	0.700	0.000	0.000	2.030	0.060	0.100	0.000	0.000
COEF-1	16	BC	20	K2=a/D	0.700	0.000	0.000	2.030	0.060	0.100	0.000	0.000
COEF-1	17	BC	20	K2=a/D	0.700	0.000	0.000	2.030	0.060	0.100	0.000	0.000
COEF-1	18	BC	20	K2=a/D	0.700	0.000	0.000	1.830	0.060	0.100	0.000	0.000
COEF-1	19	BC	20	K2=a/D	0.700	0.000	0.000	2.360	0.070	0.100	0.000	0.000
COEF-1	20	BC	20	K2=a/D	0.700	0.000	0.000	2.680	0.070	0.100	0.000	0.000
COEF-1	21	BC	20	K2=a/D	0.700	0.000	0.000	2.680	0.070	0.100	0.000	0.000
COEF-1	22	BC	20	K2=a/D	0.700	0.000	0.000	2.360	0.060	0.100	0.000	0.000

\$\$\$ 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
COEF-2	1	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	2	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	3	BC	0.130	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	4	BC	0.050	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	5	BC	0.050	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	6	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	7	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	8	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	9	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	10	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	11	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	12	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	13	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	14	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	15	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	16	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	17	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	18	BC	0.040	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	19	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	20	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	21	BC	0.020	0.050	0.000	0.000	0.000	0.000	0.000
COEF-2	22	BC	0.030	0.050	0.000	0.000	0.000	0.000	0.000

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	BC	0.00	0.13	0.05	0.00
COEF-4	2	BC	0.00	0.13	0.05	0.00
COEF-4	3	BC	0.00	0.13	0.05	0.00
COEF-4	4	BC	0.00	0.05	0.05	0.00
COEF-4	5	BC	0.00	0.05	0.05	0.00
COEF-4	6	BC	0.00	0.04	0.05	0.00
COEF-4	7	BC	0.00	0.04	0.05	0.00
COEF-4	8	BC	0.00	0.02	0.05	0.00
COEF-4	9	BC	0.00	0.03	0.05	0.00
COEF-4	10	BC	0.00	0.03	0.05	0.00
COEF-4	11	BC	0.00	0.03	0.05	0.00
COEF-4	12	BC	0.00	0.03	0.05	0.00
COEF-4	13	BC	0.00	0.03	0.05	0.00
COEF-4	14	BC	0.00	0.03	0.05	0.00
COEF-4	15	BC	0.00	0.04	0.05	0.00

COEF-4	16	BC	0.00	0.04	0.05	0.00
COEF-4	17	BC	0.00	0.04	0.05	0.00
COEF-4	18	BC	0.00	0.04	0.05	0.00
COEF-4	19	BC	0.00	0.02	0.05	0.00
COEF-4	20	BC	0.00	0.02	0.05	0.00
COEF-4	21	BC	0.00	0.02	0.05	0.00
COEF-4	22	BC	0.00	0.03	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	IN/DIST	OUT/DIST
INCR-1	1	BC	0.00000	0.00000	18.10	0.00	33.90	12.40	0.00000	0.00000
INCR-1	2	BC	-0.02720	0.00000	18.10	0.00	33.90	12.40	0.00000	-0.00618
INCR-1	3	BC	-0.02040	0.00000	18.10	0.00	33.60	11.00	0.00000	-0.00182
INCR-1	4	BC	0.00000	0.00570	18.10	0.00	30.20	7.90	0.00163	0.00000
INCR-1	5	BC	0.00000	0.00570	18.10	0.00	30.20	7.90	0.00211	0.00000
INCR-1	6	BC	-0.00960	0.00000	18.10	0.00	23.60	6.00	0.00000	-0.00196
INCR-1	7	BC	-0.00960	0.00000	18.10	0.00	23.60	6.00	0.00000	-0.00480
INCR-1	8	BC	0.00000	0.00000	16.70	0.00	8.80	3.20	0.00000	0.00000
INCR-1	9	BC	0.00000	0.00000	16.70	0.00	6.90	2.70	0.00000	0.00000
INCR-1	10	BC	0.00000	0.00710	16.70	0.00	6.90	2.70	0.00338	0.00000
INCR-1	11	BC	0.00000	0.00330	16.70	0.00	9.20	3.40	0.00143	0.00000
INCR-1	12	BC	0.00000	0.00330	16.70	0.00	9.20	3.40	0.00194	0.00000
INCR-1	13	BC	0.00000	0.00330	16.70	0.00	9.20	3.40	0.00174	0.00000
INCR-1	14	BC	0.00000	0.00330	16.70	0.00	9.20	3.40	0.00330	0.00000
INCR-1	15	BC	0.00000	0.00790	16.70	0.00	13.60	4.10	0.00122	0.00000
INCR-1	16	BC	0.00000	0.00790	16.70	0.00	13.60	4.10	0.07900	0.00000
INCR-1	17	BC	0.00000	0.00790	16.70	0.00	13.60	4.10	0.00494	0.00000
INCR-1	18	BC	0.00000	0.00790	16.70	0.00	13.60	4.10	0.00193	0.00000
INCR-1	19	BC	0.00000	0.00000	16.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	20	BC	0.00000	0.00000	16.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	21	BC	0.00000	0.00000	16.70	0.00	20.90	5.00	0.00000	0.00000
INCR-1	22	BC	0.00000	0.00000	16.70	0.00	9.30	2.70	0.00000	0.00000

ENDATA16

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

CARD TYPE	REACH	ID	DO	BOD	ORG-N	NH3	NO3+2
INCR-2	1	BC	2.00	2.65	0.56	0.00	0.56
INCR-2	2	BC	2.00	4.92	1.06	0.00	0.56
INCR-2	3	BC	2.00	4.83	0.57	0.00	0.37
INCR-2	4	BC	2.00	5.70	0.33	0.00	0.09
INCR-2	5	BC	2.00	5.70	0.33	0.00	0.09
INCR-2	6	BC	2.00	6.95	0.57	0.00	0.10
INCR-2	7	BC	2.00	6.95	0.57	0.00	0.10
INCR-2	8	BC	2.00	5.54	0.07	0.00	0.07
INCR-2	9	BC	2.00	4.38	0.09	0.00	0.09
INCR-2	10	BC	2.00	5.85	0.63	0.00	0.09
INCR-2	11	BC	2.00	6.19	0.63	0.00	0.08
INCR-2	12	BC	2.00	6.19	0.63	0.00	0.08
INCR-2	13	BC	2.00	6.19	0.63	0.00	0.08

INCR-2	14	BC	2.00	6.19	0.63	0.00	0.08
INCR-2	15	BC	2.00	4.19	0.46	0.00	0.08
INCR-2	16	BC	2.00	4.19	0.46	0.00	0.08
INCR-2	17	BC	2.00	4.19	0.46	0.00	0.08
INCR-2	18	BC	2.00	4.19	0.46	0.00	0.08
INCR-2	19	BC	2.00	4.32	0.10	0.00	0.10
INCR-2	20	BC	2.00	4.32	0.10	0.00	0.10
INCR-2	21	BC	2.00	4.32	0.10	0.00	0.10
INCR-2	22	BC	2.00	5.12	0.06	0.00	0.06

ENDATA17

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

CARD TYPE	REACH	ID	PHOS	CHL A	COLI	NCM
INCR-3	1	BC	0.00	4.30	0.00	3.40
INCR-3	2	BC	0.00	4.30	0.00	3.40
INCR-3	3	BC	0.00	4.46	0.00	3.45
INCR-3	4	BC	0.00	4.23	0.00	3.48
INCR-3	5	BC	0.00	4.23	0.00	3.48
INCR-3	6	BC	0.00	3.01	0.00	5.05
INCR-3	7	BC	0.00	3.01	0.00	5.05
INCR-3	8	BC	0.00	3.72	0.00	4.03
INCR-3	9	BC	0.00	2.68	0.00	4.52
INCR-3	10	BC	0.00	2.68	0.00	4.52
INCR-3	11	BC	0.00	2.44	0.00	5.18
INCR-3	12	BC	0.00	2.44	0.00	5.18
INCR-3	13	BC	0.00	2.44	0.00	5.18
INCR-3	14	BC	0.00	2.44	0.00	5.18
INCR-3	15	BC	0.00	2.58	0.00	1.96
INCR-3	16	BC	0.00	2.58	0.00	1.96
INCR-3	17	BC	0.00	2.58	0.00	1.96
INCR-3	18	BC	0.00	2.58	0.00	1.96
INCR-3	19	BC	0.00	3.20	0.00	3.07
INCR-3	20	BC	0.00	3.20	0.00	3.07
INCR-3	21	BC	0.00	3.20	0.00	3.07
INCR-3	22	BC	0.00	1.34	0.00	2.73

ENDATA18

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

CARD TYPE	REACH	ID	BOD	ORG-N	COLI	NCM	DO
NONPOINT	1	BC	2.25	2.25	0.00	7.50	0.00
NONPOINT	2	BC	0.00	0.00	0.00	2.25	0.00
NONPOINT	3	BC	12.00	0.00	0.00	7.50	0.00
NONPOINT	4	BC	2.25	0.75	0.00	3.75	0.00
NONPOINT	5	BC	0.00	0.75	0.00	5.62	0.00
NONPOINT	6	BC	15.00	1.50	0.00	3.00	0.00
NONPOINT	7	BC	10.50	0.45	0.00	1.50	0.00
NONPOINT	8	BC	4.50	0.38	0.00	2.25	0.00
NONPOINT	9	BC	1.50	0.38	0.00	6.75	0.00
NONPOINT	10	BC	1.50	0.38	0.00	2.25	0.00
NONPOINT	11	BC	3.75	0.38	0.00	0.00	0.00

NONPOINT	12	BC	2.25	0.00	0.00	0.00	0.00
NONPOINT	13	BC	3.75	0.00	0.00	0.00	0.00
NONPOINT	14	BC	3.00	0.00	0.00	0.00	0.00
NONPOINT	15	BC	3.75	0.38	0.00	0.00	0.00
NONPOINT	16	BC	0.00	0.38	0.00	0.00	0.00
NONPOINT	17	BC	2.25	0.38	0.00	1.50	0.00
NONPOINT	18	BC	3.75	0.64	0.00	1.50	0.00
NONPOINT	19	BC	11.25	0.64	0.00	0.75	0.00
NONPOINT	20	BC	3.75	0.38	0.00	0.00	0.00
NONPOINT	21	BC	2.25	0.38	0.00	0.00	0.00
NONPOINT	22	BC	268.13	20.25	0.00	63.75	0.00

ENDATA19

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

CARD TYPE	ELEMENT	NAME	UNIT	FLOW m ³ /s	FLOW cfs	TEMP deg C	SALIN ppt	CM-I MG/L	CM-II MG/L
HDWTR-1	1	HEADWATER	0	0.11560	4.082	18.10	0.00	33.900	12.400

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	HEADWATER	8.50	2.47	1.03	0.00	0.56

ENDATA21

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

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
HDWTR-3	1	HEADWATER	0.00	2.60	0.00	3.40

ENDATA22

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

CARD TYPE	JUNCTION ELEMENT	UPSTRM ELEMENT	RIVER KILOM	NAME
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ENDATA23

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

CARD TYPE	ELEMENT	RKILO	NAME	FLOW m ³ /s	FLOW cfs	FLOW MGD	TEMP deg C	SALIN ppt	CM-I MG/L	CM-II MG/L
WSTLD-1	2	80.20	CITY OF DERIDDER	0.16590	5.85805	3.787	18.10	0.00	32.100	14.100
WSTLD-1	179	62.50	LITTLE BARNES CR	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	214	59.00	REDHEAD BRANCH	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	290	51.40	LITTLE CANEY CR	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	339	46.50	CANEY CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	419	38.50	HURRICANE CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	463	34.10	MAGNOLIA CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000

WSTLD-1	480	32.40	BRUSHY CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	499	30.50	RIGHTHAND CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	574	23.00	BOGGY CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	575	22.90	WOLF CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	591	21.30	UNNAMED CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000
WSTLD-1	703	10.10	CLEAR CREEK	0.02800	0.98870	0.639	16.70	0.00	5.500	1.300
WSTLD-1	727	7.70	BEAR CREEK	0.00000	0.00000	0.000	0.00	0.00	0.000	0.000

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
WSTLD-2	2	CITY OF DERIDDER	5.00	23.00	0.00	3.33	0.00	1.70	0.46
WSTLD-2	179	LITTLE BARNES CR	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	214	REDHEAD BRANCH	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	290	LITTLE CANEY CR	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	339	CANEY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	419	HURRICANE CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	463	MAGNOLIA CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	480	BRUSHY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	499	RIGHTHAND CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	574	BOGGY CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	575	WOLF CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	591	UNNAMED CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSTLD-2	703	CLEAR CREEK	8.50	5.55	0.00	0.75	0.00	0.00	0.06
WSTLD-2	727	BEAR CREEK	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ENDATA25

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

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
WSTLD-3	2	CITY OF DERIDDER	0.00	0.90	0.00	0.00
WSTLD-3	179	LITTLE BARNES CR	0.00	0.00	0.00	0.00
WSTLD-3	214	REDHEAD BRANCH	0.00	0.00	0.00	0.00
WSTLD-3	290	LITTLE CANEY CR	0.00	0.00	0.00	0.00
WSTLD-3	339	CANEY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	419	HURRICANE CREEK	0.00	0.00	0.00	0.00
WSTLD-3	463	MAGNOLIA CREEK	0.00	0.00	0.00	0.00
WSTLD-3	480	BRUSHY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	499	RIGHTHAND CREEK	0.00	0.00	0.00	0.00
WSTLD-3	574	BOGGY CREEK	0.00	0.00	0.00	0.00
WSTLD-3	575	WOLF CREEK	0.00	0.00	0.00	0.00
WSTLD-3	591	UNNAMED CREEK	0.00	0.00	0.00	0.00
WSTLD-3	703	CLEAR CREEK	0.00	4.30	0.00	3.76
WSTLD-3	727	BEAR CREEK	0.00	0.00	0.00	0.00

ENDATA26

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

CARD TYPE	CONSTITUENT	CONCENTRATION
LOWER BC	TEMPERATURE	= 16.700 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 = 0.000 mg/L
 LOWER BC BIOCHEMICAL OXYGEN DEMAND = 0.000 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 = 0.000 mg/L
 ENDATA27

\$\$\$ DATA TYPE 28 (DAM DATA) \$\$\$

CARD TYPE	ELEMENT	NAME	EQN	"A"	"B"	"H"
DAM DATA	310	DAM AT SITE 7	1	1.000	0.800	4.740

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 = 22
 PLOT RCH 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
 ENDATA30

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

OVERLAY 1 bcprojovl.txt :MAINSTEM
 ENDATA31

.....NO ERRORS DETECTED IN INPUT DATA
HYDRAULIC CALCULATIONS COMPLETED
TRIDIAGONAL MATRIX TERMS INITIALIZED
OXYGEN DEPENDENT RATES CONVERGENT IN 8 ITERATIONS
CONSTITUENT CALCULATIONS COMPLETED
GRAPHICS DATA FOR PLOT 1 WRITTEN TO UNIT 11

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
 REACH NO. 1 HEADWATER - SITE 2 BARNES CREEK WINTER 2.0 MG/L RUN

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

ELEM NCM NO.	TYPE	FLOW m ³ /	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
1	HDWTR	0.11560	18.10	0.00	33.90	12.40	8.50	2.08	2.47	1.03	0.00	0.56	0.00	2.60	0.00
2	WSTLD	0.16590	18.10	0.00	32.10	14.10	5.00	23.00	23.00	3.27	0.00	0.52	0.00	0.90	0.00

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

ELEM MEAN NO. VELO	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
1 0.213	80.30	80.20	0.11560	0.00	0.21307	0.01	0.17	3.16	54.25	316.03	0.54	0.00	0.000	0.025
2 0.283	80.20	80.10	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
3 0.283	80.10	80.00	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
4 0.283	80.00	79.90	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
5 0.283	79.90	79.80	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
6 0.283	79.80	79.70	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
7 0.283	79.70	79.60	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
8 0.283	79.60	79.50	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
9 0.283	79.50	79.40	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
10 0.283	79.40	79.30	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
11 0.283	79.30	79.20	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
12 0.283	79.20	79.10	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
13 0.283	79.10	79.00	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
14 0.283	79.00	78.90	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048
15	78.90	78.80	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048

0.283																		
16	78.80	78.70	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048				
0.283																		
17	78.70	78.60	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048				
0.283																		
18	78.60	78.50	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048				
0.283																		
19	78.50	78.40	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048				
0.283																		
20	78.40	78.30	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048				
0.283																		
21	78.30	78.20	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048				
0.283																		
22	78.20	78.10	0.28150	58.93	0.28291	0.00	0.27	3.62	99.50	362.44	1.00	0.00	0.000	0.048				
0.283																		
TOT										2143.78		7927.32						
AVG					0.27876			0.27	3.60					0.97				
CUM								0.09										

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
1	80.200	9.45	3.92	0.16	0.10	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
2	80.100	9.45	2.45	0.16	0.10	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
3	80.000	9.45	2.45	0.16	0.10	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
4	79.900	9.45	2.45	0.16	0.10	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
5	79.800	9.45	2.45	0.16	0.10	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
6	79.700	9.45	2.45	0.16	0.10	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
7	79.600	9.45	2.45	0.16	0.10	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
8	79.500	9.45	2.45	0.16	0.10	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
9	79.400	9.45	2.45	0.16	0.10	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
10	79.300	9.45	2.45	0.16	0.10	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
11	79.200	9.45	2.45	0.16	0.10	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.12	0.05																	
12	79.100	9.45	2.45	0.16	0.10	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00

9	79.400	18.10	0.00	32.84	13.40	6.39	14.32	14.71	2.37	0.01	0.53	2.91	0.00	2.60	0.00	0.00
1.51																
10	79.300	18.10	0.00	32.84	13.40	6.39	14.31	14.70	2.37	0.01	0.53	2.91	0.00	2.60	0.00	0.00
1.53																
11	79.200	18.10	0.00	32.84	13.40	6.38	14.30	14.69	2.37	0.01	0.53	2.91	0.00	2.60	0.00	0.00
1.54																
12	79.100	18.10	0.00	32.84	13.40	6.38	14.29	14.68	2.37	0.01	0.53	2.92	0.00	2.60	0.00	0.00
1.55																
13	79.000	18.10	0.00	32.84	13.40	6.37	14.28	14.67	2.37	0.01	0.53	2.92	0.00	2.60	0.00	0.00
1.56																
14	78.900	18.10	0.00	32.84	13.40	6.37	14.27	14.66	2.37	0.01	0.53	2.92	0.00	2.60	0.00	0.00
1.58																
15	78.800	18.10	0.00	32.84	13.40	6.37	14.26	14.65	2.37	0.02	0.53	2.92	0.00	2.60	0.00	0.00
1.59																
16	78.700	18.10	0.00	32.84	13.40	6.36	14.25	14.64	2.37	0.02	0.53	2.93	0.00	2.60	0.00	0.00
1.60																
17	78.600	18.10	0.00	32.84	13.40	6.36	14.24	14.63	2.38	0.02	0.53	2.93	0.00	2.60	0.00	0.00
1.62																
18	78.500	18.10	0.00	32.84	13.40	6.36	14.22	14.61	2.38	0.02	0.53	2.93	0.00	2.60	0.00	0.00
1.63																
19	78.400	18.10	0.00	32.84	13.40	6.35	14.21	14.60	2.38	0.02	0.53	2.93	0.00	2.60	0.00	0.00
1.64																
20	78.300	18.10	0.00	32.84	13.40	6.35	14.20	14.59	2.38	0.02	0.53	2.93	0.00	2.60	0.00	0.00
1.66																
21	78.200	18.10	0.00	32.84	13.40	6.35	14.19	14.58	2.38	0.02	0.53	2.94	0.00	2.60	0.00	0.00
1.67																
22	78.100	18.10	0.00	32.84	13.40	6.34	14.18	14.57	2.38	0.02	0.53	2.94	0.00	2.60	0.00	0.00
1.68																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 2 SITE 2 - SITE 3

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 2.0 MG/L RUN

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

ELEM	TYPE	FLOW	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	PHOS	CHL A	COLI
NCM		m ³ /	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	#/100mL
NO.															
23	UPR RCH	0.28150	18.10	0.00	32.84	13.40	6.34	14.18	14.57	2.38	0.02	0.53	0.00	2.60	0.00
1.68	EACH INCR	-0.0006													

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s	
0.283	23	78.10	78.00	0.28088	58.93	0.28282	0.00	0.27	3.62	99.32	362.27	0.99	0.00	0.000	0.048
0.283	24	78.00	77.90	0.28026	58.93	0.28272	0.00	0.27	3.62	99.13	362.11	0.99	0.00	0.000	0.048
0.283	25	77.90	77.80	0.27965	58.93	0.28262	0.00	0.27	3.62	98.95	361.94	0.99	0.00	0.000	0.048
0.283	26	77.80	77.70	0.27903	58.93	0.28253	0.00	0.27	3.62	98.76	361.77	0.99	0.00	0.000	0.048
0.282	27	77.70	77.60	0.27841	58.93	0.28243	0.00	0.27	3.62	98.58	361.60	0.99	0.00	0.000	0.048
0.282	28	77.60	77.50	0.27779	58.93	0.28233	0.00	0.27	3.61	98.39	361.43	0.98	0.00	0.000	0.048
0.282	29	77.50	77.40	0.27717	58.93	0.28223	0.00	0.27	3.61	98.21	361.26	0.98	0.00	0.000	0.048
0.282	30	77.40	77.30	0.27655	58.93	0.28213	0.00	0.27	3.61	98.02	361.09	0.98	0.00	0.000	0.048
0.282	31	77.30	77.20	0.27594	58.93	0.28203	0.00	0.27	3.61	97.84	360.93	0.98	0.00	0.000	0.048
0.282	32	77.20	77.10	0.27532	58.93	0.28193	0.00	0.27	3.61	97.66	360.76	0.98	0.00	0.000	0.047
0.282	33	77.10	77.00	0.27470	58.93	0.28182	0.00	0.27	3.61	97.47	360.59	0.97	0.00	0.000	0.047
0.282	34	77.00	76.90	0.27408	58.93	0.28172	0.00	0.27	3.60	97.29	360.42	0.97	0.00	0.000	0.047
0.282	35	76.90	76.80	0.27346	58.93	0.28162	0.00	0.27	3.60	97.10	360.25	0.97	0.00	0.000	0.047
0.282	36	76.80	76.70	0.27285	58.93	0.28151	0.00	0.27	3.60	96.92	360.08	0.97	0.00	0.000	0.047
0.281	37	76.70	76.60	0.27223	58.93	0.28141	0.00	0.27	3.60	96.74	359.91	0.97	0.00	0.000	0.047
0.281	38	76.60	76.50	0.27161	58.93	0.28130	0.00	0.27	3.60	96.55	359.74	0.97	0.00	0.000	0.047
0.281	39	76.50	76.40	0.27099	58.93	0.28119	0.00	0.27	3.60	96.37	359.58	0.96	0.00	0.000	0.047
0.281	40	76.40	76.30	0.27037	58.93	0.28109	0.00	0.27	3.59	96.19	359.41	0.96	0.00	0.000	0.047
0.281	41	76.30	76.20	0.26975	58.93	0.28098	0.00	0.27	3.59	96.01	359.24	0.96	0.00	0.000	0.047
0.281	42	76.20	76.10	0.26914	58.93	0.28087	0.00	0.27	3.59	95.82	359.07	0.96	0.00	0.000	0.047
0.281	43	76.10	76.00	0.26852	58.93	0.28076	0.00	0.27	3.59	95.64	358.90	0.96	0.00	0.000	0.047
0.281	44	76.00	75.90	0.26790	58.93	0.28065	0.00	0.27	3.59	95.46	358.73	0.95	0.00	0.000	0.047
0.281	45	75.90	75.80	0.26728	58.93	0.28054	0.00	0.27	3.59	95.28	358.56	0.95	0.00	0.000	0.047
0.281	46	75.80	75.70	0.26666	58.93	0.28042	0.00	0.27	3.58	95.09	358.39	0.95	0.00	0.000	0.046

EACH INCR -0.0002

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
67 0.141	73.70	73.60	0.25412	58.93	0.14119	0.01	0.47	3.85	179.99	384.96	1.80	0.00	0.000	0.037
68 0.141	73.60	73.50	0.25394	58.93	0.14114	0.01	0.47	3.85	179.92	384.91	1.80	0.00	0.000	0.037
69 0.141	73.50	73.40	0.25375	58.93	0.14109	0.01	0.47	3.85	179.85	384.86	1.80	0.00	0.000	0.037
70 0.141	73.40	73.30	0.25357	58.93	0.14104	0.01	0.47	3.85	179.79	384.81	1.80	0.00	0.000	0.037
71 0.141	73.30	73.20	0.25339	58.93	0.14099	0.01	0.47	3.85	179.72	384.76	1.80	0.00	0.000	0.037
72 0.141	73.20	73.10	0.25321	58.93	0.14094	0.01	0.47	3.85	179.65	384.71	1.80	0.00	0.000	0.037
73 0.141	73.10	73.00	0.25302	58.93	0.14089	0.01	0.47	3.85	179.59	384.66	1.80	0.00	0.000	0.037
74 0.141	73.00	72.90	0.25284	58.93	0.14084	0.01	0.47	3.85	179.52	384.61	1.80	0.00	0.000	0.037
75 0.141	72.90	72.80	0.25266	58.93	0.14079	0.01	0.47	3.85	179.45	384.56	1.79	0.00	0.000	0.037
76 0.141	72.80	72.70	0.25248	58.93	0.14074	0.01	0.47	3.85	179.39	384.51	1.79	0.00	0.000	0.037
77 0.141	72.70	72.60	0.25230	58.93	0.14070	0.01	0.47	3.84	179.32	384.46	1.79	0.00	0.000	0.037
78 0.141	72.60	72.50	0.25211	58.93	0.14065	0.01	0.47	3.84	179.25	384.41	1.79	0.00	0.000	0.037
79 0.141	72.50	72.40	0.25193	58.93	0.14060	0.01	0.47	3.84	179.19	384.36	1.79	0.00	0.000	0.037
80 0.141	72.40	72.30	0.25175	58.93	0.14055	0.01	0.47	3.84	179.12	384.31	1.79	0.00	0.000	0.037
81 0.140	72.30	72.20	0.25157	58.93	0.14050	0.01	0.47	3.84	179.05	384.26	1.79	0.00	0.000	0.037
82 0.140	72.20	72.10	0.25139	58.93	0.14045	0.01	0.47	3.84	178.99	384.21	1.79	0.00	0.000	0.037
83 0.140	72.10	72.00	0.25120	58.93	0.14040	0.01	0.47	3.84	178.92	384.16	1.79	0.00	0.000	0.037
84 0.140	72.00	71.90	0.25102	58.93	0.14035	0.01	0.47	3.84	178.85	384.11	1.79	0.00	0.000	0.037
85 0.140	71.90	71.80	0.25084	58.93	0.14030	0.01	0.47	3.84	178.79	384.06	1.79	0.00	0.000	0.037
86 0.140	71.80	71.70	0.25066	58.93	0.14025	0.01	0.47	3.84	178.72	384.01	1.79	0.00	0.000	0.037
87	71.70	71.60	0.25047	58.93	0.14020	0.01	0.47	3.84	178.65	383.96	1.79	0.00	0.000	0.037

0.140														
88	71.60	71.50	0.25029	58.93	0.14015	0.01	0.47	3.84	178.59	383.91	1.79	0.00	0.000	0.037
0.140														
89	71.50	71.40	0.25011	58.93	0.14010	0.01	0.47	3.84	178.52	383.86	1.79	0.00	0.000	0.037
0.140														
90	71.40	71.30	0.24993	58.93	0.14005	0.01	0.46	3.84	178.45	383.81	1.78	0.00	0.000	0.037
0.140														
91	71.30	71.20	0.24975	58.93	0.14000	0.01	0.46	3.84	178.39	383.76	1.78	0.00	0.000	0.037
0.140														
92	71.20	71.10	0.24956	58.93	0.13995	0.01	0.46	3.84	178.32	383.71	1.78	0.00	0.000	0.037
0.140														
93	71.10	71.00	0.24938	58.93	0.13990	0.01	0.46	3.84	178.25	383.66	1.78	0.00	0.000	0.037
0.140														
94	71.00	70.90	0.24920	58.93	0.13985	0.01	0.46	3.84	178.19	383.61	1.78	0.00	0.000	0.037
0.140														
95	70.90	70.80	0.24902	58.93	0.13980	0.01	0.46	3.84	178.12	383.56	1.78	0.00	0.000	0.037
0.140														
96	70.80	70.70	0.24884	58.93	0.13975	0.01	0.46	3.84	178.05	383.51	1.78	0.00	0.000	0.037
0.140														
97	70.70	70.60	0.24865	58.93	0.13970	0.01	0.46	3.83	177.99	383.46	1.78	0.00	0.000	0.037
0.140														
98	70.60	70.50	0.24847	58.93	0.13965	0.01	0.46	3.83	177.92	383.41	1.78	0.00	0.000	0.037
0.140														
99	70.50	70.40	0.24829	58.93	0.13960	0.01	0.46	3.83	177.85	383.36	1.78	0.00	0.000	0.037
0.140														
100	70.40	70.30	0.24811	58.93	0.13955	0.01	0.46	3.83	177.79	383.31	1.78	0.00	0.000	0.037
0.140														
101	70.30	70.20	0.24792	58.93	0.13950	0.01	0.46	3.83	177.72	383.26	1.78	0.00	0.000	0.037
0.140														
102	70.20	70.10	0.24774	58.93	0.13945	0.01	0.46	3.83	177.66	383.21	1.78	0.00	0.000	0.037
0.139														
103	70.10	70.00	0.24756	58.93	0.13940	0.01	0.46	3.83	177.59	383.16	1.78	0.00	0.000	0.037
0.139														
104	70.00	69.90	0.24738	58.93	0.13935	0.01	0.46	3.83	177.52	383.11	1.78	0.00	0.000	0.037
0.139														
105	69.90	69.80	0.24720	58.93	0.13930	0.01	0.46	3.83	177.46	383.06	1.77	0.00	0.000	0.037
0.139														
106	69.80	69.70	0.24701	58.93	0.13925	0.01	0.46	3.83	177.39	383.01	1.77	0.00	0.000	0.037
0.139														
107	69.70	69.60	0.24683	58.93	0.13920	0.01	0.46	3.83	177.32	382.96	1.77	0.00	0.000	0.037
0.139														
108	69.60	69.50	0.24665	58.93	0.13915	0.01	0.46	3.83	177.26	382.91	1.77	0.00	0.000	0.037
0.139														
109	69.50	69.40	0.24647	58.93	0.13910	0.01	0.46	3.83	177.19	382.86	1.77	0.00	0.000	0.037
0.139														
110	69.40	69.30	0.24629	58.93	0.13905	0.01	0.46	3.83	177.12	382.81	1.77	0.00	0.000	0.037
0.139														
111	69.30	69.20	0.24610	58.93	0.13900	0.01	0.46	3.83	177.06	382.76	1.77	0.00	0.000	0.037
0.139														
112	69.20	69.10	0.24592	58.93	0.13895	0.01	0.46	3.83	176.99	382.71	1.77	0.00	0.000	0.037
0.139														
113	69.10	69.00	0.24574	58.93	0.13889	0.01	0.46	3.83	176.92	382.66	1.77	0.00	0.000	0.037
0.139														
114	69.00	68.90	0.24556	58.93	0.13884	0.01	0.46	3.83	176.86	382.61	1.77	0.00	0.000	0.037

0.139														
115	68.90	68.80	0.24537	58.93	0.13879	0.01	0.46	3.83	176.79	382.56	1.77	0.00	0.000	0.037
0.139														
116	68.80	68.70	0.24519	58.93	0.13874	0.01	0.46	3.83	176.73	382.51	1.77	0.00	0.000	0.036
0.139														
117	68.70	68.60	0.24501	58.93	0.13869	0.01	0.46	3.82	176.66	382.46	1.77	0.00	0.000	0.036
0.139														
118	68.60	68.50	0.24483	58.93	0.13864	0.01	0.46	3.82	176.59	382.41	1.77	0.00	0.000	0.036
0.139														
119	68.50	68.40	0.24465	58.93	0.13859	0.01	0.46	3.82	176.53	382.36	1.77	0.00	0.000	0.036
0.139														
120	68.40	68.30	0.24446	58.93	0.13854	0.01	0.46	3.82	176.46	382.31	1.76	0.00	0.000	0.036
0.139														
121	68.30	68.20	0.24428	58.93	0.13849	0.01	0.46	3.82	176.39	382.26	1.76	0.00	0.000	0.036
0.138														
122	68.20	68.10	0.24410	58.93	0.13844	0.01	0.46	3.82	176.33	382.21	1.76	0.00	0.000	0.036
0.138														
123	68.10	68.00	0.24392	58.93	0.13838	0.01	0.46	3.82	176.26	382.16	1.76	0.00	0.000	0.036
0.138														
124	68.00	67.90	0.24374	58.93	0.13833	0.01	0.46	3.82	176.19	382.11	1.76	0.00	0.000	0.036
0.138														
125	67.90	67.80	0.24355	58.93	0.13828	0.01	0.46	3.82	176.13	382.06	1.76	0.00	0.000	0.036
0.138														
126	67.80	67.70	0.24337	58.93	0.13823	0.01	0.46	3.82	176.06	382.01	1.76	0.00	0.000	0.036
0.138														
127	67.70	67.60	0.24319	58.93	0.13818	0.01	0.46	3.82	176.00	381.96	1.76	0.00	0.000	0.036
0.138														
128	67.60	67.50	0.24301	58.93	0.13813	0.01	0.46	3.82	175.93	381.91	1.76	0.00	0.000	0.036
0.138														
129	67.50	67.40	0.24282	58.93	0.13808	0.01	0.46	3.82	175.86	381.86	1.76	0.00	0.000	0.036
0.138														
130	67.40	67.30	0.24264	58.93	0.13802	0.01	0.46	3.82	175.80	381.80	1.76	0.00	0.000	0.036
0.138														
131	67.30	67.20	0.24246	58.93	0.13797	0.01	0.46	3.82	175.73	381.75	1.76	0.00	0.000	0.036
0.138														
132	67.20	67.10	0.24228	58.93	0.13792	0.01	0.46	3.82	175.67	381.70	1.76	0.00	0.000	0.036
0.138														
133	67.10	67.00	0.24210	58.93	0.13787	0.01	0.46	3.82	175.60	381.65	1.76	0.00	0.000	0.036
0.138														
134	67.00	66.90	0.24191	58.93	0.13782	0.01	0.46	3.82	175.53	381.60	1.76	0.00	0.000	0.036
0.138														
135	66.90	66.80	0.24173	58.93	0.13777	0.01	0.46	3.82	175.47	381.55	1.75	0.00	0.000	0.036
0.138														
136	66.80	66.70	0.24155	58.93	0.13771	0.01	0.46	3.82	175.40	381.50	1.75	0.00	0.000	0.036
0.138														
137	66.70	66.60	0.24137	58.93	0.13766	0.01	0.46	3.81	175.33	381.45	1.75	0.00	0.000	0.036
0.138														
138	66.60	66.50	0.24119	58.93	0.13761	0.01	0.46	3.81	175.27	381.40	1.75	0.00	0.000	0.036
0.138														
139	66.50	66.40	0.24100	58.93	0.13756	0.01	0.46	3.81	175.20	381.35	1.75	0.00	0.000	0.036
0.138														
140	66.40	66.30	0.24082	58.93	0.13751	0.01	0.46	3.81	175.14	381.30	1.75	0.00	0.000	0.036
0.138														
141	66.30	66.20	0.24064	58.93	0.13745	0.01	0.46	3.81	175.07	381.25	1.75	0.00	0.000	0.036

0.137														
142	66.20	66.10	0.24046	58.93	0.13740	0.01	0.46	3.81	175.00	381.20	1.75	0.00	0.000	0.036
0.137														
143	66.10	66.00	0.24027	58.93	0.13735	0.01	0.46	3.81	174.94	381.15	1.75	0.00	0.000	0.036
0.137														
144	66.00	65.90	0.24009	58.93	0.13730	0.01	0.46	3.81	174.87	381.10	1.75	0.00	0.000	0.036
0.137														
145	65.90	65.80	0.23991	58.93	0.13724	0.01	0.46	3.81	174.81	381.05	1.75	0.00	0.000	0.036
0.137														
146	65.80	65.70	0.23973	58.93	0.13719	0.01	0.46	3.81	174.74	381.00	1.75	0.00	0.000	0.036
0.137														
147	65.70	65.60	0.23955	58.93	0.13714	0.01	0.46	3.81	174.67	380.95	1.75	0.00	0.000	0.036
0.137														
148	65.60	65.50	0.23936	58.93	0.13709	0.01	0.46	3.81	174.61	380.90	1.75	0.00	0.000	0.036
0.137														
149	65.50	65.40	0.23918	58.93	0.13703	0.01	0.46	3.81	174.54	380.85	1.75	0.00	0.000	0.036
0.137														
150	65.40	65.30	0.23900	58.93	0.13698	0.01	0.46	3.81	174.48	380.80	1.74	0.00	0.000	0.036
0.137														
151	65.30	65.20	0.23882	58.93	0.13693	0.01	0.46	3.81	174.41	380.75	1.74	0.00	0.000	0.036
0.137														
152	65.20	65.10	0.23864	58.93	0.13688	0.01	0.46	3.81	174.34	380.70	1.74	0.00	0.000	0.036
0.137														
153	65.10	65.00	0.23845	58.93	0.13682	0.01	0.46	3.81	174.28	380.65	1.74	0.00	0.000	0.036
0.137														
154	65.00	64.90	0.23827	58.93	0.13677	0.01	0.46	3.81	174.21	380.60	1.74	0.00	0.000	0.036
0.137														
155	64.90	64.80	0.23809	58.93	0.13672	0.01	0.46	3.81	174.15	380.55	1.74	0.00	0.000	0.036
0.137														
156	64.80	64.70	0.23791	58.93	0.13667	0.01	0.46	3.81	174.08	380.50	1.74	0.00	0.000	0.036
0.137														
157	64.70	64.60	0.23772	58.93	0.13661	0.01	0.46	3.80	174.01	380.45	1.74	0.00	0.000	0.036
0.137														
158	64.60	64.50	0.23754	58.93	0.13656	0.01	0.46	3.80	173.95	380.40	1.74	0.00	0.000	0.036
0.137														
159	64.50	64.40	0.23736	58.93	0.13651	0.01	0.46	3.80	173.88	380.35	1.74	0.00	0.000	0.036
0.137														
160	64.40	64.30	0.23718	58.93	0.13645	0.01	0.46	3.80	173.82	380.30	1.74	0.00	0.000	0.036
0.136														
161	64.30	64.20	0.23700	58.93	0.13640	0.01	0.46	3.80	173.75	380.25	1.74	0.00	0.000	0.036
0.136														
162	64.20	64.10	0.23681	58.93	0.13635	0.01	0.46	3.80	173.68	380.20	1.74	0.00	0.000	0.036
0.136														
163	64.10	64.00	0.23663	58.93	0.13629	0.01	0.46	3.80	173.62	380.15	1.74	0.00	0.000	0.035
0.136														
164	64.00	63.90	0.23645	58.93	0.13624	0.01	0.46	3.80	173.55	380.10	1.74	0.00	0.000	0.035
0.136														
165	63.90	63.80	0.23627	58.93	0.13619	0.01	0.46	3.80	173.49	380.05	1.73	0.00	0.000	0.035
0.136														
166	63.80	63.70	0.23609	58.93	0.13613	0.01	0.46	3.80	173.42	380.00	1.73	0.00	0.000	0.035
0.136														
167	63.70	63.60	0.23590	58.93	0.13608	0.01	0.46	3.80	173.36	379.95	1.73	0.00	0.000	0.035
0.136														
168	63.60	63.50	0.23572	58.93	0.13603	0.01	0.46	3.80	173.29	379.90	1.73	0.00	0.000	0.035

0.136																		
169	63.50	63.40	0.23554	58.93	0.13597	0.01	0.46	3.80	173.22	379.85	1.73	0.00	0.000	0.035				
0.136																		
170	63.40	63.30	0.23536	58.93	0.13592	0.01	0.46	3.80	173.16	379.80	1.73	0.00	0.000	0.035				
0.136																		
171	63.30	63.20	0.23517	58.93	0.13587	0.01	0.46	3.80	173.09	379.75	1.73	0.00	0.000	0.035				
0.136																		
172	63.20	63.10	0.23499	58.93	0.13581	0.01	0.46	3.80	173.03	379.70	1.73	0.00	0.000	0.035				
0.136																		
173	63.10	63.00	0.23481	58.93	0.13576	0.01	0.46	3.80	172.96	379.65	1.73	0.00	0.000	0.035				
0.136																		
174	63.00	62.90	0.23463	58.93	0.13571	0.01	0.46	3.80	172.89	379.60	1.73	0.00	0.000	0.035				
0.136																		
175	62.90	62.80	0.23445	58.93	0.13565	0.01	0.46	3.80	172.83	379.55	1.73	0.00	0.000	0.035				
0.136																		
176	62.80	62.70	0.23426	58.93	0.13560	0.01	0.46	3.79	172.76	379.50	1.73	0.00	0.000	0.035				
0.136																		
177	62.70	62.60	0.23408	58.93	0.13554	0.01	0.46	3.79	172.70	379.45	1.73	0.00	0.000	0.035				
0.136																		
178	62.60	62.50	0.23390	58.93	0.13549	0.01	0.46	3.79	172.63	379.40	1.73	0.00	0.000	0.035				
0.135																		
TOT																		
AVG					0.13837		0.94			19745.56	42804.09							
CUM							1.21	0.46	3.82			1.76						

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
67	73.600	9.45	1.44	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
68	73.500	9.45	1.44	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
69	73.400	9.45	1.44	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
70	73.300	9.45	1.44	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
71	73.200	9.45	1.44	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
72	73.100	9.45	1.44	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
73	73.000	9.45	1.44	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
74	72.900	9.45	1.44	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
75	72.800	9.45	1.44	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00

0.12	0.05																	
157	64.600	9.45	1.47	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
158	64.500	9.45	1.47	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
159	64.400	9.45	1.47	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
160	64.300	9.45	1.47	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
161	64.200	9.45	1.47	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
162	64.100	9.45	1.47	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
163	64.000	9.45	1.48	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
164	63.900	9.45	1.48	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
165	63.800	9.45	1.48	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
166	63.700	9.45	1.48	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
167	63.600	9.45	1.48	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
168	63.500	9.45	1.48	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
169	63.400	9.45	1.48	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
170	63.300	9.45	1.48	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
171	63.200	9.45	1.48	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
172	63.100	9.45	1.48	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
173	63.000	9.45	1.48	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
174	62.900	9.45	1.48	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
175	62.800	9.45	1.48	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
176	62.700	9.45	1.48	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
177	62.600	9.45	1.48	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
178	62.500	9.45	1.48	0.12	0.10	0.00	1.30	1.30	1.30	0.11	0.19	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.12	0.05																	
20	DEG C RATE			0.13		0.00	1.46			0.13		0.00	0.00	0.00	0.00			0.00
0.13																		
AVG	20 DEG C RATE		1.52		0.10						0.20							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
1.73 67	73.600	18.10	0.00	32.84	13.40	6.39	13.51	13.81	2.25	0.07	0.53	2.85	0.00	2.00	0.00	0.00
1.73 68	73.500	18.10	0.00	32.84	13.40	6.39	13.49	13.79	2.24	0.08	0.53	2.85	0.00	2.00	0.00	0.00
1.73 69	73.400	18.10	0.00	32.84	13.40	6.39	13.47	13.77	2.24	0.08	0.53	2.85	0.00	2.00	0.00	0.00
1.73 70	73.300	18.10	0.00	32.84	13.40	6.38	13.45	13.75	2.23	0.08	0.53	2.84	0.00	2.00	0.00	0.00
1.73 71	73.200	18.10	0.00	32.84	13.40	6.38	13.43	13.73	2.23	0.08	0.53	2.84	0.00	2.00	0.00	0.00
1.73 72	73.100	18.10	0.00	32.84	13.40	6.38	13.41	13.71	2.22	0.08	0.53	2.84	0.00	1.99	0.00	0.00
1.73 73	73.000	18.10	0.00	32.84	13.40	6.38	13.40	13.69	2.21	0.09	0.53	2.83	0.00	1.99	0.00	0.00
1.73 74	72.900	18.10	0.00	32.84	13.40	6.37	13.38	13.68	2.21	0.09	0.53	2.83	0.00	1.99	0.00	0.00
1.73 75	72.800	18.10	0.00	32.84	13.40	6.37	13.36	13.66	2.20	0.09	0.53	2.83	0.00	1.99	0.00	0.00
1.73 76	72.700	18.10	0.00	32.84	13.40	6.37	13.34	13.64	2.20	0.09	0.53	2.82	0.00	1.99	0.00	0.00
1.73 77	72.600	18.10	0.00	32.84	13.40	6.37	13.32	13.62	2.19	0.09	0.53	2.82	0.00	1.99	0.00	0.00
1.73 78	72.500	18.10	0.00	32.84	13.40	6.36	13.30	13.60	2.19	0.10	0.53	2.82	0.00	1.99	0.00	0.00
1.74 79	72.400	18.10	0.00	32.84	13.40	6.36	13.28	13.58	2.18	0.10	0.53	2.81	0.00	1.99	0.00	0.00
1.74 80	72.300	18.10	0.00	32.84	13.40	6.36	13.27	13.56	2.18	0.10	0.53	2.81	0.00	1.99	0.00	0.00
1.74 81	72.200	18.10	0.00	32.84	13.40	6.36	13.25	13.54	2.17	0.10	0.53	2.81	0.00	1.99	0.00	0.00
1.74 82	72.100	18.10	0.00	32.84	13.40	6.36	13.23	13.53	2.17	0.10	0.53	2.80	0.00	1.99	0.00	0.00
1.74 83	72.000	18.10	0.00	32.84	13.40	6.35	13.21	13.51	2.16	0.11	0.53	2.80	0.00	1.98	0.00	0.00
1.74 84	71.900	18.10	0.00	32.84	13.40	6.35	13.19	13.49	2.15	0.11	0.53	2.80	0.00	1.98	0.00	0.00
1.74 85	71.800	18.10	0.00	32.84	13.40	6.35	13.17	13.47	2.15	0.11	0.53	2.79	0.00	1.98	0.00	0.00
1.74 86	71.700	18.10	0.00	32.84	13.40	6.35	13.15	13.45	2.14	0.11	0.53	2.79	0.00	1.98	0.00	0.00
1.74 87	71.600	18.10	0.00	32.84	13.40	6.35	13.14	13.43	2.14	0.11	0.53	2.78	0.00	1.98	0.00	0.00
1.74 88	71.500	18.10	0.00	32.84	13.40	6.34	13.12	13.42	2.13	0.12	0.53	2.78	0.00	1.98	0.00	0.00
1.74 89	71.400	18.10	0.00	32.84	13.40	6.34	13.10	13.40	2.13	0.12	0.53	2.78	0.00	1.98	0.00	0.00

192	61.100	9.45	1.62	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
193	61.000	9.45	1.62	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
194	60.900	9.45	1.62	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
195	60.800	9.45	1.62	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
196	60.700	9.45	1.62	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
197	60.600	9.45	1.62	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
198	60.500	9.45	1.62	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
199	60.400	9.45	1.61	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
200	60.300	9.45	1.61	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
201	60.200	9.45	1.61	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
202	60.100	9.45	1.61	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
203	60.000	9.45	1.61	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
204	59.900	9.45	1.61	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
205	59.800	9.45	1.61	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
206	59.700	9.45	1.61	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
207	59.600	9.45	1.61	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
208	59.500	9.45	1.61	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
209	59.400	9.45	1.61	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
210	59.300	9.45	1.61	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
211	59.200	9.45	1.61	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
212	59.100	9.45	1.61	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
213	59.000	9.45	1.61	0.09	0.10	0.00	1.80	1.80	1.80	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
20	DEG C RATE			0.10		0.00	2.03			0.05		0.00	0.00	0.00	0.00			0.00
0.05																		
AVG	20 DEG C RATE		1.68		0.10						0.05							
0.05																		

* g/m²/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES

ELEM NCM 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
179	62.400	18.10	0.00	32.84	13.40	6.31	11.56	11.85	1.69	0.28	0.53	2.50	0.00	1.90	0.00	0.00
1.81																
180	62.300	18.10	0.00	32.84	13.39	6.31	11.54	11.83	1.69	0.28	0.53	2.50	0.00	1.90	0.00	0.00
1.82																
181	62.200	18.10	0.00	32.83	13.39	6.30	11.53	11.81	1.69	0.28	0.53	2.50	0.00	1.90	0.00	0.00
1.82																
182	62.100	18.10	0.00	32.83	13.39	6.29	11.51	11.79	1.69	0.28	0.53	2.50	0.00	1.90	0.00	0.00
1.83																
183	62.000	18.10	0.00	32.83	13.38	6.29	11.49	11.78	1.69	0.28	0.53	2.50	0.00	1.90	0.00	0.00
1.83																
184	61.900	18.10	0.00	32.83	13.38	6.28	11.47	11.76	1.69	0.28	0.53	2.50	0.00	1.90	0.00	0.00
1.84																
185	61.800	18.10	0.00	32.83	13.38	6.28	11.45	11.74	1.69	0.28	0.53	2.50	0.00	1.90	0.00	0.00
1.84																
186	61.700	18.10	0.00	32.82	13.37	6.27	11.44	11.72	1.68	0.28	0.53	2.49	0.00	1.90	0.00	0.00
1.85																
187	61.600	18.10	0.00	32.82	13.37	6.27	11.42	11.70	1.68	0.28	0.53	2.49	0.00	1.90	0.00	0.00
1.85																
188	61.500	18.10	0.00	32.82	13.36	6.26	11.40	11.69	1.68	0.28	0.53	2.49	0.00	1.90	0.00	0.00
1.86																
189	61.400	18.10	0.00	32.82	13.36	6.26	11.38	11.67	1.68	0.28	0.53	2.49	0.00	1.90	0.00	0.00
1.86																
190	61.300	18.10	0.00	32.82	13.36	6.25	11.37	11.65	1.68	0.28	0.53	2.49	0.00	1.90	0.00	0.00
1.87																
191	61.200	18.10	0.00	32.82	13.35	6.25	11.35	11.63	1.68	0.28	0.53	2.49	0.00	1.90	0.00	0.00
1.87																
192	61.100	18.10	0.00	32.81	13.35	6.24	11.33	11.62	1.68	0.28	0.53	2.49	0.00	1.90	0.00	0.00
1.88																
193	61.000	18.10	0.00	32.81	13.35	6.24	11.31	11.60	1.68	0.28	0.53	2.49	0.00	1.90	0.00	0.00
1.88																
194	60.900	18.10	0.00	32.81	13.34	6.23	11.30	11.58	1.68	0.28	0.53	2.49	0.00	1.90	0.00	0.00
1.89																
195	60.800	18.10	0.00	32.81	13.34	6.23	11.28	11.56	1.67	0.29	0.53	2.49	0.00	1.90	0.00	0.00
1.89																
196	60.700	18.10	0.00	32.81	13.33	6.22	11.26	11.55	1.67	0.29	0.53	2.48	0.00	1.90	0.00	0.00
1.90																
197	60.600	18.10	0.00	32.80	13.33	6.22	11.24	11.53	1.67	0.29	0.52	2.48	0.00	1.90	0.00	0.00
1.90																
198	60.500	18.10	0.00	32.80	13.33	6.21	11.23	11.51	1.67	0.29	0.52	2.48	0.00	1.90	0.00	0.00
1.91																
199	60.400	18.10	0.00	32.80	13.32	6.21	11.21	11.49	1.67	0.29	0.52	2.48	0.00	1.90	0.00	0.00
1.91																
200	60.300	18.10	0.00	32.80	13.32	6.21	11.19	11.48	1.67	0.29	0.52	2.48	0.00	1.90	0.00	0.00
1.92																
201	60.200	18.10	0.00	32.80	13.32	6.20	11.17	11.46	1.67	0.29	0.52	2.48	0.00	1.90	0.00	0.00
1.92																
202	60.100	18.10	0.00	32.80	13.31	6.20	11.16	11.44	1.67	0.29	0.52	2.48	0.00	1.90	0.00	0.00

1.93																	
203	60.000	18.10	0.00	32.79	13.31	6.19	11.14	11.42	1.67	0.29	0.52	2.48	0.00	1.90	0.00	0.00	
1.93																	
204	59.900	18.10	0.00	32.79	13.30	6.19	11.12	11.41	1.66	0.29	0.52	2.48	0.00	1.90	0.00	0.00	
1.94																	
205	59.800	18.10	0.00	32.79	13.30	6.18	11.11	11.39	1.66	0.29	0.52	2.48	0.00	1.90	0.00	0.00	
1.94																	
206	59.700	18.10	0.00	32.79	13.30	6.18	11.09	11.37	1.66	0.29	0.52	2.47	0.00	1.90	0.00	0.00	
1.95																	
207	59.600	18.10	0.00	32.79	13.29	6.18	11.07	11.36	1.66	0.29	0.52	2.47	0.00	1.90	0.00	0.00	
1.95																	
208	59.500	18.10	0.00	32.79	13.29	6.17	11.05	11.34	1.66	0.29	0.52	2.47	0.00	1.90	0.00	0.00	
1.95																	
209	59.400	18.10	0.00	32.78	13.29	6.17	11.04	11.32	1.66	0.29	0.52	2.47	0.00	1.90	0.00	0.00	
1.96																	
210	59.300	18.10	0.00	32.78	13.28	6.17	11.02	11.31	1.66	0.29	0.52	2.47	0.00	1.90	0.00	0.00	
1.96																	
211	59.200	18.10	0.00	32.78	13.28	6.16	11.00	11.29	1.66	0.29	0.52	2.47	0.00	1.90	0.00	0.00	
1.97																	
212	59.100	18.10	0.00	32.78	13.27	6.16	10.99	11.27	1.66	0.29	0.52	2.47	0.00	1.90	0.00	0.00	
1.97																	
213	59.000	18.10	0.00	32.78	13.27	6.15	10.97	11.26	1.66	0.29	0.52	2.47	0.00	1.90	0.00	0.00	
1.98																	

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 5 REDHEAD CR - SITE 6

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 2.0 MG/L RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
214	UPR RCH	0.23960	18.10	0.00	32.78	13.27	6.15	10.97	11.26	1.66	0.29	0.52	0.00	1.90	0.00
1.98	EACH	0.0002	18.10	0.00	30.20	7.90	2.00	5.70	5.70	0.33	0.00	0.09	0.00		0.00
3.48	INCR														

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

ELEM MEAN NO. VELO	BEGIN DIST	ENDING DIST	FLOW PCT EFF	ADVCTV VELO	TRAVEL TIME	DEPTH	WIDTH	VOLUME	SURFACE AREA	X-SECT AREA	TIDAL PRISM	TIDAL VELO	DISPRSN
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m/s	km	km	m ³ /	m/s	days	m	m	m ³	m ²	m ²	m ³	m/s	m ² /s		
0.146	214	59.00	58.90	0.23981	57.48	0.14648	0.01	0.42	3.91	163.72	391.03	1.64	0.00	0.000	0.035
0.147	215	58.90	58.80	0.24002	57.43	0.14654	0.01	0.42	3.91	163.79	391.08	1.64	0.00	0.000	0.036
0.147	216	58.80	58.70	0.24023	57.38	0.14660	0.01	0.42	3.91	163.87	391.14	1.64	0.00	0.000	0.036
0.147	217	58.70	58.60	0.24044	57.33	0.14666	0.01	0.42	3.91	163.94	391.20	1.64	0.00	0.000	0.036
0.147	218	58.60	58.50	0.24066	57.28	0.14673	0.01	0.42	3.91	164.02	391.26	1.64	0.00	0.000	0.036
0.147	219	58.50	58.40	0.24087	57.23	0.14679	0.01	0.42	3.91	164.09	391.32	1.64	0.00	0.000	0.036
0.147	220	58.40	58.30	0.24108	57.18	0.14685	0.01	0.42	3.91	164.17	391.37	1.64	0.00	0.000	0.036
0.147	221	58.30	58.20	0.24129	57.13	0.14691	0.01	0.42	3.91	164.24	391.43	1.64	0.00	0.000	0.036
0.147	222	58.20	58.10	0.24150	57.08	0.14697	0.01	0.42	3.91	164.32	391.49	1.64	0.00	0.000	0.036
0.147	223	58.10	58.00	0.24171	57.03	0.14703	0.01	0.42	3.92	164.40	391.55	1.64	0.00	0.000	0.036
0.147	224	58.00	57.90	0.24192	56.98	0.14709	0.01	0.42	3.92	164.47	391.61	1.64	0.00	0.000	0.036
0.147	225	57.90	57.80	0.24213	56.93	0.14715	0.01	0.42	3.92	164.55	391.66	1.65	0.00	0.000	0.036
0.147	226	57.80	57.70	0.24234	56.88	0.14721	0.01	0.42	3.92	164.62	391.72	1.65	0.00	0.000	0.036
0.147	227	57.70	57.60	0.24256	56.83	0.14727	0.01	0.42	3.92	164.70	391.78	1.65	0.00	0.000	0.036
0.147	228	57.60	57.50	0.24277	56.78	0.14733	0.01	0.42	3.92	164.77	391.84	1.65	0.00	0.000	0.036
0.147	229	57.50	57.40	0.24298	56.73	0.14739	0.01	0.42	3.92	164.85	391.90	1.65	0.00	0.000	0.036
0.147	230	57.40	57.30	0.24319	56.68	0.14745	0.01	0.42	3.92	164.93	391.96	1.65	0.00	0.000	0.036
0.148	231	57.30	57.20	0.24340	56.63	0.14751	0.01	0.42	3.92	165.00	392.01	1.65	0.00	0.000	0.036
0.148	232	57.20	57.10	0.24361	56.58	0.14757	0.01	0.42	3.92	165.08	392.07	1.65	0.00	0.000	0.036
0.148	233	57.10	57.00	0.24382	56.54	0.14763	0.01	0.42	3.92	165.15	392.13	1.65	0.00	0.000	0.036
0.148	234	57.00	56.90	0.24403	56.49	0.14769	0.01	0.42	3.92	165.23	392.19	1.65	0.00	0.000	0.036
0.148	235	56.90	56.80	0.24424	56.44	0.14775	0.01	0.42	3.92	165.30	392.25	1.65	0.00	0.000	0.036
0.148	236	56.80	56.70	0.24446	56.39	0.14781	0.01	0.42	3.92	165.38	392.30	1.65	0.00	0.000	0.036
0.148	237	56.70	56.60	0.24467	56.34	0.14787	0.01	0.42	3.92	165.46	392.36	1.65	0.00	0.000	0.036
0.148	238	56.60	56.50	0.24488	56.29	0.14793	0.01	0.42	3.92	165.53	392.42	1.66	0.00	0.000	0.036
0.148	239	56.50	56.40	0.24509	56.24	0.14799	0.01	0.42	3.92	165.61	392.48	1.66	0.00	0.000	0.036

0.148																		
240	56.40	56.30	0.24530	56.20	0.14805	0.01	0.42	3.93	165.68	392.54	1.66	0.00	0.000	0.036				
0.148																		
TOT						0.21			4446.87	10578.08								
AVG					0.14727		0.42	3.92						1.65				
CUM						1.70												

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI
NCM	NCM																	
NO.	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY
DECAY	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																	
214	58.900	9.45	1.61	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.00
0.05	0.05																	
215	58.800	9.45	1.61	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.10	0.00	0.00
0.05	0.05																	
216	58.700	9.45	1.61	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.11	0.00	0.00
0.05	0.05																	
217	58.600	9.45	1.61	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.05	0.05																	
218	58.500	9.45	1.61	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.12	0.00	0.00
0.05	0.05																	
219	58.400	9.45	1.61	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.13	0.00	0.00
0.05	0.05																	
220	58.300	9.45	1.61	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.14	0.00	0.00
0.05	0.05																	
221	58.200	9.45	1.61	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.14	0.00	0.00
0.05	0.05																	
222	58.100	9.45	1.61	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.15	0.00	0.00
0.05	0.05																	
223	58.000	9.45	1.60	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.16	0.00	0.00
0.05	0.05																	
224	57.900	9.45	1.60	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.17	0.00	0.00
0.05	0.05																	
225	57.800	9.45	1.60	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.17	0.00	0.00
0.05	0.05																	
226	57.700	9.45	1.60	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.18	0.00	0.00
0.05	0.05																	
227	57.600	9.45	1.60	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.19	0.00	0.00
0.05	0.05																	
228	57.500	9.45	1.60	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.19	0.00	0.00
0.05	0.05																	
229	57.400	9.45	1.60	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.20	0.00	0.00
0.05	0.05																	
230	57.300	9.45	1.60	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.21	0.00	0.00
0.05	0.05																	
231	57.200	9.45	1.60	0.09	0.10	0.00	1.94	1.94	1.94	0.04	0.05	0.00	0.00	0.00	0.00	0.22	0.00	0.00

2.08	223	58.000	18.10	0.00	32.75	13.22	6.09	10.76	11.28	1.65	0.29	0.52	2.46	0.00	3.46	0.00	0.00
2.09	224	57.900	18.10	0.00	32.75	13.22	6.09	10.74	11.29	1.64	0.30	0.52	2.45	0.00	3.61	0.00	0.00
2.10	225	57.800	18.10	0.00	32.75	13.21	6.08	10.72	11.29	1.64	0.30	0.51	2.45	0.00	3.77	0.00	0.00
2.11	226	57.700	18.10	0.00	32.75	13.21	6.08	10.70	11.29	1.64	0.30	0.51	2.45	0.00	3.92	0.00	0.00
2.11	227	57.600	18.10	0.00	32.75	13.21	6.07	10.68	11.30	1.64	0.30	0.51	2.45	0.00	4.08	0.00	0.00
2.12	228	57.500	18.10	0.00	32.74	13.20	6.07	10.66	11.30	1.64	0.30	0.51	2.45	0.00	4.23	0.00	0.00
2.13	229	57.400	18.10	0.00	32.74	13.20	6.06	10.64	11.30	1.64	0.30	0.51	2.45	0.00	4.39	0.00	0.00
2.14	230	57.300	18.10	0.00	32.74	13.19	6.06	10.62	11.31	1.64	0.30	0.51	2.45	0.00	4.54	0.00	0.00
2.15	231	57.200	18.10	0.00	32.74	13.19	6.05	10.60	11.31	1.64	0.30	0.51	2.45	0.00	4.70	0.00	0.00
2.16	232	57.100	18.10	0.00	32.73	13.18	6.05	10.58	11.31	1.64	0.30	0.51	2.45	0.00	4.86	0.00	0.00
2.17	233	57.000	18.10	0.00	32.73	13.18	6.05	10.56	11.32	1.64	0.30	0.51	2.44	0.00	5.01	0.00	0.00
2.18	234	56.900	18.10	0.00	32.73	13.17	6.04	10.54	11.32	1.63	0.30	0.51	2.44	0.00	5.17	0.00	0.00
2.19	235	56.800	18.10	0.00	32.73	13.17	6.04	10.53	11.32	1.63	0.30	0.51	2.44	0.00	5.32	0.00	0.00
2.20	236	56.700	18.10	0.00	32.73	13.16	6.03	10.51	11.33	1.63	0.30	0.51	2.44	0.00	5.48	0.00	0.00
2.21	237	56.600	18.10	0.00	32.72	13.16	6.03	10.49	11.33	1.63	0.30	0.51	2.44	0.00	5.63	0.00	0.00
2.22	238	56.500	18.10	0.00	32.72	13.16	6.03	10.47	11.34	1.63	0.30	0.51	2.44	0.00	5.79	0.00	0.00
2.23	239	56.400	18.10	0.00	32.72	13.15	6.02	10.45	11.34	1.63	0.30	0.51	2.44	0.00	5.94	0.00	0.00
2.24	240	56.300	18.10	0.00	32.72	13.15	6.02	10.43	11.34	1.63	0.30	0.51	2.44	0.00	6.10	0.00	0.00

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 6 SITE 6 - LITTLE CANEY CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 2.0 MG/L RUN

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

ELEM	TYPE	FLOW	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	PHOS	CHL A	COLI
NCM															
NO.		m ³ /	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	#/100mL

*

241 UPR RCH 0.24530 18.10 0.00 32.72 13.15 6.02 10.43 11.34 1.63 0.30 0.51 0.00 6.10 0.00
 2.24
 EACH INCR -0.0002

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
241	56.30	56.20	0.24510	56.20	0.06240	0.02	0.60	6.52	392.77	652.48	3.93	0.00	0.000	0.020
0.062														
242	56.20	56.10	0.24491	56.20	0.06237	0.02	0.60	6.52	392.66	652.43	3.93	0.00	0.000	0.020
0.062														
243	56.10	56.00	0.24471	56.20	0.06234	0.02	0.60	6.52	392.55	652.37	3.93	0.00	0.000	0.020
0.062														
244	56.00	55.90	0.24452	56.20	0.06231	0.02	0.60	6.52	392.44	652.32	3.92	0.00	0.000	0.020
0.062														
245	55.90	55.80	0.24432	56.20	0.06228	0.02	0.60	6.52	392.32	652.27	3.92	0.00	0.000	0.020
0.062														
246	55.80	55.70	0.24412	56.20	0.06224	0.02	0.60	6.52	392.21	652.21	3.92	0.00	0.000	0.020
0.062														
247	55.70	55.60	0.24393	56.20	0.06221	0.02	0.60	6.52	392.10	652.16	3.92	0.00	0.000	0.020
0.062														
248	55.60	55.50	0.24373	56.20	0.06218	0.02	0.60	6.52	391.99	652.10	3.92	0.00	0.000	0.020
0.062														
249	55.50	55.40	0.24354	56.20	0.06215	0.02	0.60	6.52	391.88	652.05	3.92	0.00	0.000	0.020
0.062														
250	55.40	55.30	0.24334	56.20	0.06211	0.02	0.60	6.52	391.77	652.00	3.92	0.00	0.000	0.020
0.062														
251	55.30	55.20	0.24314	56.20	0.06208	0.02	0.60	6.52	391.65	651.94	3.92	0.00	0.000	0.020
0.062														
252	55.20	55.10	0.24295	56.20	0.06205	0.02	0.60	6.52	391.54	651.89	3.92	0.00	0.000	0.020
0.062														
253	55.10	55.00	0.24275	56.20	0.06202	0.02	0.60	6.52	391.43	651.84	3.91	0.00	0.000	0.020
0.062														
254	55.00	54.90	0.24256	56.20	0.06198	0.02	0.60	6.52	391.32	651.78	3.91	0.00	0.000	0.020
0.062														
255	54.90	54.80	0.24236	56.20	0.06195	0.02	0.60	6.52	391.21	651.73	3.91	0.00	0.000	0.020
0.062														
256	54.80	54.70	0.24217	56.20	0.06192	0.02	0.60	6.52	391.10	651.67	3.91	0.00	0.000	0.020
0.062														
257	54.70	54.60	0.24197	56.20	0.06189	0.02	0.60	6.52	390.99	651.62	3.91	0.00	0.000	0.020
0.062														
258	54.60	54.50	0.24177	56.20	0.06185	0.02	0.60	6.52	390.87	651.57	3.91	0.00	0.000	0.020
0.062														
259	54.50	54.40	0.24158	56.20	0.06182	0.02	0.60	6.52	390.76	651.51	3.91	0.00	0.000	0.020
0.062														
260	54.40	54.30	0.24138	56.20	0.06179	0.02	0.60	6.51	390.65	651.46	3.91	0.00	0.000	0.020

0.062														
261	54.30	54.20	0.24119	56.20	0.06176	0.02	0.60	6.51	390.54	651.40	3.91	0.00	0.000	0.020
0.062														
262	54.20	54.10	0.24099	56.20	0.06172	0.02	0.60	6.51	390.43	651.35	3.90	0.00	0.000	0.020
0.062														
263	54.10	54.00	0.24079	56.20	0.06169	0.02	0.60	6.51	390.32	651.30	3.90	0.00	0.000	0.020
0.062														
264	54.00	53.90	0.24060	56.20	0.06166	0.02	0.60	6.51	390.20	651.24	3.90	0.00	0.000	0.020
0.062														
265	53.90	53.80	0.24040	56.20	0.06163	0.02	0.60	6.51	390.09	651.19	3.90	0.00	0.000	0.020
0.062														
266	53.80	53.70	0.24021	56.20	0.06159	0.02	0.60	6.51	389.98	651.13	3.90	0.00	0.000	0.020
0.062														
267	53.70	53.60	0.24001	56.20	0.06156	0.02	0.60	6.51	389.87	651.08	3.90	0.00	0.000	0.020
0.062														
268	53.60	53.50	0.23981	56.20	0.06153	0.02	0.60	6.51	389.76	651.03	3.90	0.00	0.000	0.020
0.062														
269	53.50	53.40	0.23962	56.20	0.06150	0.02	0.60	6.51	389.65	650.97	3.90	0.00	0.000	0.020
0.061														
270	53.40	53.30	0.23942	56.20	0.06146	0.02	0.60	6.51	389.54	650.92	3.90	0.00	0.000	0.020
0.061														
271	53.30	53.20	0.23923	56.20	0.06143	0.02	0.60	6.51	389.43	650.86	3.89	0.00	0.000	0.020
0.061														
272	53.20	53.10	0.23903	56.20	0.06140	0.02	0.60	6.51	389.31	650.81	3.89	0.00	0.000	0.020
0.061														
273	53.10	53.00	0.23883	56.20	0.06137	0.02	0.60	6.51	389.20	650.76	3.89	0.00	0.000	0.020
0.061														
274	53.00	52.90	0.23864	56.20	0.06133	0.02	0.60	6.51	389.09	650.70	3.89	0.00	0.000	0.020
0.061														
275	52.90	52.80	0.23844	56.20	0.06130	0.02	0.60	6.51	388.98	650.65	3.89	0.00	0.000	0.020
0.061														
276	52.80	52.70	0.23825	56.20	0.06127	0.02	0.60	6.51	388.87	650.59	3.89	0.00	0.000	0.020
0.061														
277	52.70	52.60	0.23805	56.20	0.06123	0.02	0.60	6.51	388.76	650.54	3.89	0.00	0.000	0.020
0.061														
278	52.60	52.50	0.23785	56.20	0.06120	0.02	0.60	6.50	388.65	650.49	3.89	0.00	0.000	0.020
0.061														
279	52.50	52.40	0.23766	56.20	0.06117	0.02	0.60	6.50	388.53	650.43	3.89	0.00	0.000	0.020
0.061														
280	52.40	52.30	0.23746	56.20	0.06114	0.02	0.60	6.50	388.42	650.38	3.88	0.00	0.000	0.020
0.061														
281	52.30	52.20	0.23727	56.20	0.06110	0.02	0.60	6.50	388.31	650.32	3.88	0.00	0.000	0.020
0.061														
282	52.20	52.10	0.23707	56.20	0.06107	0.02	0.60	6.50	388.20	650.27	3.88	0.00	0.000	0.020
0.061														
283	52.10	52.00	0.23688	56.20	0.06104	0.02	0.60	6.50	388.09	650.22	3.88	0.00	0.000	0.020
0.061														
284	52.00	51.90	0.23668	56.20	0.06100	0.02	0.60	6.50	387.98	650.16	3.88	0.00	0.000	0.020
0.061														
285	51.90	51.80	0.23648	56.20	0.06097	0.02	0.60	6.50	387.87	650.11	3.88	0.00	0.000	0.020
0.061														
286	51.80	51.70	0.23629	56.20	0.06094	0.02	0.60	6.50	387.76	650.05	3.88	0.00	0.000	0.020
0.061														
287	51.70	51.60	0.23609	56.20	0.06090	0.02	0.60	6.50	387.65	650.00	3.88	0.00	0.000	0.020

0.061	288	51.60	51.50	0.23590	56.20	0.06087	0.02	0.60	6.50	387.53	649.95	3.88	0.00	0.000	0.020
0.061	289	51.50	51.40	0.23570	56.20	0.06084	0.02	0.60	6.50	387.42	649.89	3.87	0.00	0.000	0.020
0.061	TOT						0.92			19114.64	31908.20				
	AVG					0.06162		0.60	6.51			3.90			
	CUM						2.62								

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

ELEM NCM	ENDING NCM	SAT D.O.	REAER RATE	CBOD DECA	CBOD SETT	ANBOD DECA	BKGD SOD	FULL SOD	CORR SOD	ORGN DECA	ORGN SETT	NH3 DECA	NH3 SRCE	DENIT RATE	PO4 SRCE	ALG PROD	MAC PROD	COLI DECA
NO.	DIST	D.O.	RATE	DECA	SETT	DECA	SOD	SOD	SOD	DECA	SETT	DECA	SRCE	RATE	SRCE	PROD	PROD	DECA
DECAY	SETT	mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da
241	56.200	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
242	56.100	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
243	56.000	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
244	55.900	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
245	55.800	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
246	55.700	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
247	55.600	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
248	55.500	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
249	55.400	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
250	55.300	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
251	55.200	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
252	55.100	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
253	55.000	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
254	54.900	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
255	54.800	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
256	54.700	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00
0.04	0.05																	
257	54.600	9.45	1.12	0.12	0.10	0.00	1.45	1.45	1.45	0.04	0.05	0.00	0.00	0.00	0.00	0.28	0.00	0.00

281	52.200	18.10	0.00	32.72	13.15	6.23	9.40	10.31	1.59	0.34	0.50	2.43	0.00	6.10	0.00	0.00
2.21																
282	52.100	18.10	0.00	32.72	13.15	6.23	9.38	10.29	1.59	0.34	0.50	2.43	0.00	6.10	0.00	0.00
2.21																
283	52.000	18.10	0.00	32.72	13.15	6.24	9.35	10.27	1.58	0.34	0.50	2.43	0.00	6.10	0.00	0.00
2.21																
284	51.900	18.10	0.00	32.72	13.15	6.24	9.33	10.25	1.58	0.34	0.50	2.43	0.00	6.10	0.00	0.00
2.21																
285	51.800	18.10	0.00	32.72	13.15	6.25	9.31	10.22	1.58	0.34	0.50	2.43	0.00	6.10	0.00	0.00
2.21																
286	51.700	18.10	0.00	32.72	13.15	6.25	9.28	10.20	1.58	0.34	0.50	2.43	0.00	6.10	0.00	0.00
2.21																
287	51.600	18.10	0.00	32.72	13.15	6.26	9.26	10.18	1.58	0.34	0.50	2.43	0.00	6.10	0.00	0.00
2.21																
288	51.500	18.10	0.00	32.72	13.15	6.26	9.24	10.15	1.58	0.35	0.50	2.43	0.00	6.10	0.00	0.00
2.21																
289	51.400	18.10	0.00	32.72	13.15	6.26	9.22	10.13	1.58	0.35	0.50	2.43	0.00	6.10	0.00	0.00
2.21																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 7 LITTLE CANEY CR - DAM

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 2.0 MG/L RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
290	UPR RCH	0.23570	18.10	0.00	32.72	13.15	6.26	9.22	10.13	1.58	0.35	0.50	0.00	6.10	0.00
2.21	EACH INCR	-0.0005													

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
290	51.40	51.30	0.23522	56.20	0.06076	0.02	0.60	6.50	387.15	649.76	3.87	0.00	0.000	0.020
0.061														
291	51.30	51.20	0.23474	56.20	0.06068	0.02	0.60	6.50	386.88	649.63	3.87	0.00	0.000	0.020

0.061																		
292	51.20	51.10	0.23426	56.20	0.06059	0.02	0.60	6.49	386.61	649.49	3.87	0.00	0.000	0.020				
0.061																		
293	51.10	51.00	0.23378	56.20	0.06051	0.02	0.59	6.49	386.33	649.36	3.86	0.00	0.000	0.020				
0.061																		
294	51.00	50.90	0.23330	56.20	0.06043	0.02	0.59	6.49	386.06	649.23	3.86	0.00	0.000	0.020				
0.060																		
295	50.90	50.80	0.23282	56.20	0.06035	0.02	0.59	6.49	385.79	649.10	3.86	0.00	0.000	0.020				
0.060																		
296	50.80	50.70	0.23234	56.20	0.06027	0.02	0.59	6.49	385.52	648.97	3.86	0.00	0.000	0.020				
0.060																		
297	50.70	50.60	0.23186	56.20	0.06018	0.02	0.59	6.49	385.25	648.83	3.85	0.00	0.000	0.020				
0.060																		
298	50.60	50.50	0.23138	56.20	0.06010	0.02	0.59	6.49	384.97	648.70	3.85	0.00	0.000	0.019				
0.060																		
299	50.50	50.40	0.23090	56.20	0.06002	0.02	0.59	6.49	384.70	648.57	3.85	0.00	0.000	0.019				
0.060																		
300	50.40	50.30	0.23042	56.20	0.05994	0.02	0.59	6.48	384.43	648.43	3.84	0.00	0.000	0.019				
0.060																		
301	50.30	50.20	0.22994	56.20	0.05986	0.02	0.59	6.48	384.16	648.30	3.84	0.00	0.000	0.019				
0.060																		
302	50.20	50.10	0.22946	56.20	0.05977	0.02	0.59	6.48	383.89	648.17	3.84	0.00	0.000	0.019				
0.060																		
303	50.10	50.00	0.22898	56.20	0.05969	0.02	0.59	6.48	383.62	648.04	3.84	0.00	0.000	0.019				
0.060																		
304	50.00	49.90	0.22850	56.20	0.05961	0.02	0.59	6.48	383.35	647.90	3.83	0.00	0.000	0.019				
0.060																		
305	49.90	49.80	0.22802	56.20	0.05952	0.02	0.59	6.48	383.07	647.77	3.83	0.00	0.000	0.019				
0.060																		
306	49.80	49.70	0.22754	56.20	0.05944	0.02	0.59	6.48	382.80	647.64	3.83	0.00	0.000	0.019				
0.059																		
307	49.70	49.60	0.22706	56.20	0.05936	0.02	0.59	6.48	382.53	647.51	3.83	0.00	0.000	0.019				
0.059																		
308	49.60	49.50	0.22658	56.20	0.05927	0.02	0.59	6.47	382.26	647.37	3.82	0.00	0.000	0.019				
0.059																		
309	49.50	49.40	0.22610	56.20	0.05919	0.02	0.59	6.47	381.99	647.24	3.82	0.00	0.000	0.019				
0.059																		
TOT						0.39				7691.36	12970.02							
AVG					0.05997			0.59	6.49									3.85
CUM						3.01												

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI
NCM	NCM																	
NO.	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY
DECAY	SETT	mg/L	1/da	1/da	1/da	1/da	*	*	*	1/da	1/da	1/da	*	1/da	*	**	**	1/da
290	51.300	9.46	1.13	0.12	0.10	0.00	1.36	1.36	1.36	0.04	0.05	0.00	0.00	0.00	0.00	0.27	0.00	0.00

*

290	51.300	18.03	0.00	32.72	13.15	6.27	9.20	10.08	1.58	0.35	0.50	2.42	0.00	5.84	0.00	0.00
2.21																
291	51.200	17.96	0.00	32.72	13.15	6.28	9.19	10.03	1.58	0.35	0.50	2.42	0.00	5.59	0.00	0.00
2.21																
292	51.100	17.89	0.00	32.72	13.15	6.28	9.18	9.98	1.57	0.35	0.50	2.42	0.00	5.34	0.00	0.00
2.21																
293	51.000	17.82	0.00	32.72	13.15	6.29	9.17	9.93	1.57	0.35	0.50	2.42	0.00	5.08	0.00	0.00
2.21																
294	50.900	17.75	0.00	32.72	13.15	6.30	9.16	9.88	1.57	0.35	0.50	2.42	0.00	4.82	0.00	0.00
2.21																
295	50.800	17.68	0.00	32.72	13.15	6.31	9.15	9.83	1.57	0.35	0.50	2.42	0.00	4.57	0.00	0.00
2.21																
296	50.700	17.61	0.00	32.72	13.15	6.31	9.14	9.78	1.57	0.35	0.50	2.42	0.00	4.32	0.00	0.00
2.21																
297	50.600	17.54	0.00	32.72	13.15	6.32	9.13	9.74	1.57	0.35	0.50	2.42	0.00	4.06	0.00	0.00
2.21																
298	50.500	17.47	0.00	32.72	13.15	6.33	9.12	9.69	1.57	0.35	0.50	2.42	0.00	3.80	0.00	0.00
2.21																
299	50.400	17.40	0.00	32.72	13.15	6.34	9.11	9.64	1.56	0.36	0.50	2.42	0.00	3.55	0.00	0.00
2.21																
300	50.300	17.33	0.00	32.72	13.15	6.35	9.10	9.59	1.56	0.36	0.50	2.42	0.00	3.30	0.00	0.00
2.21																
301	50.200	17.26	0.00	32.72	13.15	6.35	9.09	9.54	1.56	0.36	0.50	2.42	0.00	3.04	0.00	0.00
2.21																
302	50.100	17.19	0.00	32.72	13.15	6.36	9.08	9.49	1.56	0.36	0.50	2.42	0.00	2.78	0.00	0.00
2.21																
303	50.000	17.12	0.00	32.72	13.15	6.37	9.07	9.45	1.56	0.36	0.50	2.42	0.00	2.53	0.00	0.00
2.21																
304	49.900	17.05	0.00	32.72	13.15	6.38	9.06	9.40	1.56	0.36	0.50	2.42	0.00	2.28	0.00	0.00
2.21																
305	49.800	16.98	0.00	32.72	13.15	6.39	9.05	9.35	1.56	0.36	0.50	2.42	0.00	2.02	0.00	0.00
2.21																
306	49.700	16.91	0.00	32.72	13.15	6.40	9.04	9.30	1.56	0.36	0.50	2.42	0.00	1.76	0.00	0.00
2.21																
307	49.600	16.84	0.00	32.72	13.15	6.40	9.03	9.25	1.55	0.36	0.50	2.42	0.00	1.51	0.00	0.00
2.21																
308	49.500	16.77	0.00	32.72	13.15	6.41	9.02	9.21	1.55	0.36	0.50	2.42	0.00	1.25	0.00	0.00
2.21																
309	49.400	16.70	0.00	32.72	13.15	6.42	9.01	9.16	1.55	0.37	0.50	2.42	0.00	1.00	0.00	0.00
2.21																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 8 DAM - CANEY CREEK

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 2.0 MG/L RUN

***** REACH INPUTS

ELEM NCM NO. *	TYPE	FLOW m ³ / *	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
310	UPR RCH	0.22610	16.70	0.00	32.72	13.15	6.42	9.01	9.16	1.55	0.37	0.50	0.00	1.00	0.00
2.21															
310	DAM	DAM AT SITE 7 ADDS 1.82 MG/L DISSOLVED OXYGEN GIVING 8.24 MG/L D.O. FOR THE UPR RCH INPUT													

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
310	49.40	49.30	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
311	49.30	49.20	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
312	49.20	49.10	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
313	49.10	49.00	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
314	49.00	48.90	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
315	48.90	48.80	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
316	48.80	48.70	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
317	48.70	48.60	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
318	48.60	48.50	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
319	48.50	48.40	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
320	48.40	48.30	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
321	48.30	48.20	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
322	48.20	48.10	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
323	48.10	48.00	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
324	48.00	47.90	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
325	47.90	47.80	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016
0.060														
326	47.80	47.70	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016

0.060																		
327	47.70	47.60	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
328	47.60	47.50	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
329	47.50	47.40	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
330	47.40	47.30	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
331	47.30	47.20	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
332	47.20	47.10	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
333	47.10	47.00	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
334	47.00	46.90	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
335	46.90	46.80	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
336	46.80	46.70	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
337	46.70	46.60	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
338	46.60	46.50	0.22610	56.20	0.06009	0.02	0.45	8.30	376.28	830.30	3.76	0.00	0.000	0.016				
0.060																		
TOT																		
AVG					0.06009		0.56			10912.10	24078.84							
CUM							3.57	0.45	8.30			3.76						

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
310	49.300	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
311	49.200	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
312	49.100	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
313	49.000	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
314	48.900	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
315	48.800	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
316	48.700	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00

0.02	0.05																	
317	48.600	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
318	48.500	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
319	48.400	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
320	48.300	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
321	48.200	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
322	48.100	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
323	48.000	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
324	47.900	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
325	47.800	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
326	47.700	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
327	47.600	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
328	47.500	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
329	47.400	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
330	47.300	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
331	47.200	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
332	47.100	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
333	47.000	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
334	46.900	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
335	46.800	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
336	46.700	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
337	46.600	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
338	46.500	9.73	1.44	0.04	0.09	0.00	1.65	1.65	1.65	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.02	0.05																	
20	DEG C RATE			0.05		0.00	2.03			0.02		0.00	0.00	0.00	0.00			0.00
0.02																		
AVG	20 DEG C RATE		1.54		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
310 2.22	49.300	16.70	0.00	32.72	13.15	8.20	8.99	9.14	1.55	0.37	0.50	2.42	0.00	0.99	0.00	0.00
311 2.22	49.200	16.70	0.00	32.72	13.15	8.17	8.98	9.12	1.55	0.37	0.50	2.41	0.00	0.97	0.00	0.00
312 2.22	49.100	16.70	0.00	32.72	13.15	8.13	8.96	9.11	1.55	0.37	0.50	2.41	0.00	0.96	0.00	0.00
313 2.22	49.000	16.70	0.00	32.72	13.15	8.10	8.95	9.09	1.55	0.37	0.50	2.41	0.00	0.94	0.00	0.00
314 2.22	48.900	16.70	0.00	32.72	13.15	8.07	8.93	9.07	1.55	0.37	0.50	2.41	0.00	0.93	0.00	0.00
315 2.22	48.800	16.70	0.00	32.72	13.15	8.04	8.92	9.05	1.55	0.37	0.50	2.41	0.00	0.92	0.00	0.00
316 2.22	48.700	16.70	0.00	32.72	13.15	8.01	8.90	9.04	1.54	0.37	0.50	2.41	0.00	0.90	0.00	0.00
317 2.22	48.600	16.70	0.00	32.72	13.15	7.98	8.89	9.02	1.54	0.37	0.50	2.41	0.00	0.89	0.00	0.00
318 2.23	48.500	16.70	0.00	32.72	13.15	7.95	8.87	9.00	1.54	0.37	0.50	2.41	0.00	0.88	0.00	0.00
319 2.23	48.400	16.70	0.00	32.72	13.15	7.92	8.86	8.99	1.54	0.37	0.50	2.41	0.00	0.86	0.00	0.00
320 2.23	48.300	16.70	0.00	32.72	13.15	7.89	8.84	8.97	1.54	0.37	0.50	2.41	0.00	0.85	0.00	0.00
321 2.23	48.200	16.70	0.00	32.72	13.15	7.87	8.83	8.95	1.54	0.37	0.50	2.41	0.00	0.83	0.00	0.00
322 2.23	48.100	16.70	0.00	32.72	13.15	7.84	8.81	8.93	1.54	0.37	0.50	2.41	0.00	0.82	0.00	0.00
323 2.23	48.000	16.70	0.00	32.72	13.15	7.82	8.80	8.92	1.54	0.37	0.50	2.41	0.00	0.81	0.00	0.00
324 2.23	47.900	16.70	0.00	32.72	13.15	7.79	8.78	8.90	1.53	0.37	0.50	2.41	0.00	0.79	0.00	0.00
325 2.23	47.800	16.70	0.00	32.72	13.15	7.77	8.77	8.88	1.53	0.37	0.50	2.40	0.00	0.78	0.00	0.00
326 2.24	47.700	16.70	0.00	32.72	13.15	7.75	8.75	8.87	1.53	0.37	0.50	2.40	0.00	0.77	0.00	0.00
327 2.24	47.600	16.70	0.00	32.72	13.15	7.73	8.74	8.85	1.53	0.37	0.50	2.40	0.00	0.75	0.00	0.00
328 2.24	47.500	16.70	0.00	32.72	13.15	7.70	8.72	8.83	1.53	0.37	0.50	2.40	0.00	0.74	0.00	0.00
329 2.24	47.400	16.70	0.00	32.72	13.15	7.68	8.71	8.81	1.53	0.37	0.50	2.40	0.00	0.72	0.00	0.00
330 2.24	47.300	16.70	0.00	32.72	13.15	7.66	8.69	8.80	1.53	0.37	0.50	2.40	0.00	0.71	0.00	0.00
331 2.24	47.200	16.70	0.00	32.72	13.15	7.64	8.68	8.78	1.53	0.38	0.50	2.40	0.00	0.70	0.00	0.00
332 2.24	47.100	16.70	0.00	32.72	13.15	7.62	8.66	8.76	1.53	0.38	0.50	2.40	0.00	0.68	0.00	0.00

398	40.60	40.50	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
399	40.50	40.40	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
400	40.40	40.30	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
401	40.30	40.20	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
402	40.20	40.10	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
403	40.10	40.00	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
404	40.00	39.90	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
405	39.90	39.80	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
406	39.80	39.70	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
407	39.70	39.60	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
408	39.60	39.50	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
409	39.50	39.40	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
410	39.40	39.30	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
411	39.30	39.20	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
412	39.20	39.10	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
413	39.10	39.00	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
414	39.00	38.90	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
415	38.90	38.80	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
416	38.80	38.70	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
417	38.70	38.60	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
418	38.60	38.50	0.22610	56.20	0.13668	0.01	0.40	4.10	165.43	410.31	1.65	0.00	0.000	0.032
0.137														
TOT														
AVG					0.13668	0.68				13234.21	32824.38			
CUM						4.24	0.40	4.10				1.65		

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI
NCM	NCM																	
NO.	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY

418	38.500	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
20	DEG C RATE			0.05		0.00	2.44			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG	20	DEG C RATE		1.74		0.10					0.05							
0.05																		

* g/m²/d ** mg/L/day

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

ELEM	ENDING	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	TOTN	PHOS	CHL A	MACRO	COLI
NCM	DIST	DEG C	PPT	*	*	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	**	#/100mL
NO.																
*																
339	46.400	16.70	0.00	32.72	13.15	7.50	8.57	8.66	1.52	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.25																
340	46.300	16.70	0.00	32.72	13.15	7.49	8.56	8.65	1.52	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.26																
341	46.200	16.70	0.00	32.72	13.15	7.47	8.55	8.64	1.52	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.26																
342	46.100	16.70	0.00	32.72	13.15	7.46	8.54	8.63	1.52	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.26																
343	46.000	16.70	0.00	32.72	13.15	7.44	8.53	8.62	1.51	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.26																
344	45.900	16.70	0.00	32.72	13.15	7.43	8.52	8.61	1.51	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.27																
345	45.800	16.70	0.00	32.72	13.15	7.42	8.51	8.60	1.51	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.27																
346	45.700	16.70	0.00	32.72	13.15	7.40	8.50	8.59	1.51	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.27																
347	45.600	16.70	0.00	32.72	13.15	7.39	8.50	8.59	1.51	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.28																
348	45.500	16.70	0.00	32.72	13.15	7.38	8.49	8.58	1.51	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.28																
349	45.400	16.70	0.00	32.72	13.15	7.36	8.48	8.57	1.51	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.28																
350	45.300	16.70	0.00	32.72	13.15	7.35	8.47	8.56	1.51	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.29																
351	45.200	16.70	0.00	32.72	13.15	7.34	8.46	8.55	1.51	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.29																
352	45.100	16.70	0.00	32.72	13.15	7.33	8.45	8.54	1.51	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.29																
353	45.000	16.70	0.00	32.72	13.15	7.32	8.44	8.53	1.51	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.29																
354	44.900	16.70	0.00	32.72	13.15	7.30	8.43	8.52	1.51	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.30																
355	44.800	16.70	0.00	32.72	13.15	7.29	8.43	8.52	1.51	0.38	0.50	2.39	0.00	0.60	0.00	0.00
2.30																
356	44.700	16.70	0.00	32.72	13.15	7.28	8.42	8.51	1.51	0.38	0.50	2.39	0.00	0.60	0.00	0.00

2.30																	
357	44.600	16.70	0.00	32.72	13.15	7.27	8.41	8.50	1.51	0.38	0.50	2.39	0.00	0.60	0.00	0.00	
2.31																	
358	44.500	16.70	0.00	32.72	13.15	7.26	8.40	8.49	1.50	0.38	0.50	2.39	0.00	0.60	0.00	0.00	
2.31																	
359	44.400	16.70	0.00	32.72	13.15	7.25	8.39	8.48	1.50	0.38	0.50	2.39	0.00	0.60	0.00	0.00	
2.31																	
360	44.300	16.70	0.00	32.72	13.15	7.23	8.38	8.47	1.50	0.39	0.50	2.39	0.00	0.60	0.00	0.00	
2.31																	
361	44.200	16.70	0.00	32.72	13.15	7.22	8.37	8.46	1.50	0.39	0.50	2.39	0.00	0.60	0.00	0.00	
2.32																	
362	44.100	16.70	0.00	32.72	13.15	7.21	8.37	8.46	1.50	0.39	0.50	2.39	0.00	0.60	0.00	0.00	
2.32																	
363	44.000	16.70	0.00	32.72	13.15	7.20	8.36	8.45	1.50	0.39	0.50	2.39	0.00	0.60	0.00	0.00	
2.32																	
364	43.900	16.70	0.00	32.72	13.15	7.19	8.35	8.44	1.50	0.39	0.50	2.39	0.00	0.60	0.00	0.00	
2.33																	
365	43.800	16.70	0.00	32.72	13.15	7.18	8.34	8.43	1.50	0.39	0.50	2.39	0.00	0.60	0.00	0.00	
2.33																	
366	43.700	16.70	0.00	32.72	13.15	7.17	8.33	8.42	1.50	0.39	0.50	2.39	0.00	0.60	0.00	0.00	
2.33																	
367	43.600	16.70	0.00	32.72	13.15	7.16	8.32	8.41	1.50	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.33																	
368	43.500	16.70	0.00	32.72	13.15	7.15	8.31	8.40	1.50	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.34																	
369	43.400	16.70	0.00	32.72	13.15	7.14	8.31	8.40	1.50	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.34																	
370	43.300	16.70	0.00	32.72	13.15	7.13	8.30	8.39	1.50	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.34																	
371	43.200	16.70	0.00	32.72	13.15	7.12	8.29	8.38	1.50	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.35																	
372	43.100	16.70	0.00	32.72	13.15	7.11	8.28	8.37	1.50	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.35																	
373	43.000	16.70	0.00	32.72	13.15	7.10	8.27	8.36	1.50	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.35																	
374	42.900	16.70	0.00	32.72	13.15	7.10	8.26	8.35	1.49	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.35																	
375	42.800	16.70	0.00	32.72	13.15	7.09	8.25	8.34	1.49	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.36																	
376	42.700	16.70	0.00	32.72	13.15	7.08	8.25	8.34	1.49	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.36																	
377	42.600	16.70	0.00	32.72	13.15	7.07	8.24	8.33	1.49	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.36																	
378	42.500	16.70	0.00	32.72	13.15	7.06	8.23	8.32	1.49	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.37																	
379	42.400	16.70	0.00	32.72	13.15	7.05	8.22	8.31	1.49	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.37																	
380	42.300	16.70	0.00	32.72	13.15	7.04	8.21	8.30	1.49	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.37																	
381	42.200	16.70	0.00	32.72	13.15	7.03	8.20	8.29	1.49	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.38																	
382	42.100	16.70	0.00	32.72	13.15	7.03	8.19	8.28	1.49	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.38																	
383	42.000	16.70	0.00	32.72	13.15	7.02	8.19	8.28	1.49	0.39	0.50	2.38	0.00	0.60	0.00	0.00	

2.38																	
384	41.900	16.70	0.00	32.72	13.15	7.01	8.18	8.27	1.49	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.38																	
385	41.800	16.70	0.00	32.72	13.15	7.00	8.17	8.26	1.49	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.39																	
386	41.700	16.70	0.00	32.72	13.15	7.00	8.16	8.25	1.49	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.39																	
387	41.600	16.70	0.00	32.72	13.15	6.99	8.15	8.24	1.49	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.39																	
388	41.500	16.70	0.00	32.72	13.15	6.98	8.14	8.23	1.49	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.40																	
389	41.400	16.70	0.00	32.72	13.15	6.97	8.14	8.23	1.48	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.40																	
390	41.300	16.70	0.00	32.72	13.15	6.97	8.13	8.22	1.48	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.40																	
391	41.200	16.70	0.00	32.72	13.15	6.96	8.12	8.21	1.48	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.40																	
392	41.100	16.70	0.00	32.72	13.15	6.95	8.11	8.20	1.48	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.41																	
393	41.000	16.70	0.00	32.72	13.15	6.94	8.10	8.19	1.48	0.39	0.50	2.38	0.00	0.60	0.00	0.00	
2.41																	
394	40.900	16.70	0.00	32.72	13.15	6.94	8.09	8.18	1.48	0.40	0.50	2.38	0.00	0.60	0.00	0.00	
2.41																	
395	40.800	16.70	0.00	32.72	13.15	6.93	8.09	8.18	1.48	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.42																	
396	40.700	16.70	0.00	32.72	13.15	6.92	8.08	8.17	1.48	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.42																	
397	40.600	16.70	0.00	32.72	13.15	6.92	8.07	8.16	1.48	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.42																	
398	40.500	16.70	0.00	32.72	13.15	6.91	8.06	8.15	1.48	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.42																	
399	40.400	16.70	0.00	32.72	13.15	6.90	8.05	8.14	1.48	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.43																	
400	40.300	16.70	0.00	32.72	13.15	6.90	8.04	8.13	1.48	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.43																	
401	40.200	16.70	0.00	32.72	13.15	6.89	8.04	8.13	1.48	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.43																	
402	40.100	16.70	0.00	32.72	13.15	6.89	8.03	8.12	1.48	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.43																	
403	40.000	16.70	0.00	32.72	13.15	6.88	8.02	8.11	1.48	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.44																	
404	39.900	16.70	0.00	32.72	13.15	6.87	8.01	8.10	1.48	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.44																	
405	39.800	16.70	0.00	32.72	13.15	6.87	8.00	8.09	1.47	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.44																	
406	39.700	16.70	0.00	32.72	13.15	6.86	7.99	8.08	1.47	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.45																	
407	39.600	16.70	0.00	32.72	13.15	6.86	7.99	8.08	1.47	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.45																	
408	39.500	16.70	0.00	32.72	13.15	6.85	7.98	8.07	1.47	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.45																	
409	39.400	16.70	0.00	32.72	13.15	6.85	7.97	8.06	1.47	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.45																	
410	39.300	16.70	0.00	32.72	13.15	6.84	7.96	8.05	1.47	0.40	0.50	2.37	0.00	0.60	0.00	0.00	

2.46																	
411	39.200	16.70	0.00	32.72	13.15	6.83	7.95	8.04	1.47	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.46																	
412	39.100	16.70	0.00	32.72	13.15	6.83	7.95	8.04	1.47	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.46																	
413	39.000	16.70	0.00	32.72	13.15	6.82	7.94	8.03	1.47	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.47																	
414	38.900	16.70	0.00	32.72	13.15	6.82	7.93	8.02	1.47	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.47																	
415	38.800	16.70	0.00	32.72	13.15	6.81	7.92	8.01	1.47	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.47																	
416	38.700	16.70	0.00	32.72	13.15	6.81	7.91	8.00	1.47	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.47																	
417	38.600	16.70	0.00	32.72	13.15	6.80	7.91	8.00	1.47	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.48																	
418	38.500	16.70	0.00	32.72	13.15	6.80	7.90	7.99	1.47	0.40	0.50	2.37	0.00	0.60	0.00	0.00	
2.48																	

* CM-I = CHLORIDES
MG/L
** g/m³

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

FINAL REPORT HEADWATER
REACH NO. 10 HURRICANE CR - SITE 10

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m ³ /	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
419	UPR RCH	0.22610	16.70	0.00	32.72	13.15	6.80	7.90	7.99	1.47	0.40	0.50	0.00	0.60	0.00
2.48 EACH	INCR	0.0003	16.70	0.00	6.90	2.70	2.00	5.85	5.85	0.63	0.00	0.09	0.00		0.00
4.52															

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

ELEM MEAN NO.	BEGIN DIST	ENDING DIST	FLOW m ³ /	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
419	38.50	38.40	0.22644	56.11	0.13687	0.01	0.40	4.10	165.44	410.31	1.65	0.00	0.000	0.032
0.137														
420	38.40	38.30	0.22678	56.03	0.13706	0.01	0.40	4.10	165.45	410.32	1.65	0.00	0.000	0.032

419	38.400	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
420	38.300	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
421	38.200	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
422	38.100	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
423	38.000	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
424	37.900	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
425	37.800	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
426	37.700	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
427	37.600	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00
0.03	0.05																	
428	37.500	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
429	37.400	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
430	37.300	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
431	37.200	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
432	37.100	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
433	37.000	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
434	36.900	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
435	36.800	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
436	36.700	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
437	36.600	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
438	36.500	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
439	36.400	9.73	1.62	0.04	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	

20 DEG C RATE 0.05 0.00 2.44 0.03 0.00 0.00 0.00 0.00
0.03
AVG 20 DEG C RATE 1.74 0.10 0.05
0.05

* g/m²/d ** mg/L/day

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

ELEM NCM 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
419	38.400	16.70	0.00	32.68	13.13	6.79	7.89	7.98	1.47	0.40	0.50	2.36	0.00	0.62	0.00	0.00
2.49																
420	38.300	16.70	0.00	32.64	13.12	6.78	7.88	7.98	1.46	0.40	0.50	2.36	0.00	0.65	0.00	0.00
2.49																
421	38.200	16.70	0.00	32.60	13.10	6.76	7.87	7.97	1.46	0.40	0.50	2.36	0.00	0.67	0.00	0.00
2.50																
422	38.100	16.70	0.00	32.56	13.08	6.75	7.86	7.97	1.46	0.40	0.50	2.36	0.00	0.70	0.00	0.00
2.51																
423	38.000	16.70	0.00	32.52	13.07	6.74	7.86	7.96	1.46	0.40	0.50	2.36	0.00	0.72	0.00	0.00
2.51																
424	37.900	16.70	0.00	32.49	13.05	6.73	7.85	7.96	1.46	0.40	0.49	2.35	0.00	0.74	0.00	0.00
2.52																
425	37.800	16.70	0.00	32.45	13.04	6.72	7.84	7.95	1.46	0.40	0.49	2.35	0.00	0.77	0.00	0.00
2.53																
426	37.700	16.70	0.00	32.41	13.02	6.71	7.83	7.95	1.46	0.40	0.49	2.35	0.00	0.79	0.00	0.00
2.54																
427	37.600	16.70	0.00	32.37	13.01	6.70	7.82	7.94	1.46	0.40	0.49	2.35	0.00	0.81	0.00	0.00
2.54																
428	37.500	16.70	0.00	32.34	12.99	6.69	7.81	7.94	1.45	0.40	0.49	2.35	0.00	0.84	0.00	0.00
2.55																
429	37.400	16.70	0.00	32.30	12.98	6.68	7.81	7.94	1.45	0.40	0.49	2.34	0.00	0.86	0.00	0.00
2.56																
430	37.300	16.70	0.00	32.26	12.96	6.67	7.80	7.93	1.45	0.40	0.49	2.34	0.00	0.89	0.00	0.00
2.56																
431	37.200	16.70	0.00	32.22	12.95	6.66	7.79	7.93	1.45	0.40	0.49	2.34	0.00	0.91	0.00	0.00
2.57																
432	37.100	16.70	0.00	32.19	12.93	6.65	7.78	7.92	1.45	0.40	0.49	2.34	0.00	0.93	0.00	0.00
2.58																
433	37.000	16.70	0.00	32.15	12.92	6.64	7.77	7.92	1.45	0.40	0.49	2.34	0.00	0.96	0.00	0.00
2.58																
434	36.900	16.70	0.00	32.11	12.90	6.63	7.77	7.91	1.45	0.40	0.49	2.33	0.00	0.98	0.00	0.00
2.59																
435	36.800	16.70	0.00	32.08	12.89	6.62	7.76	7.91	1.45	0.40	0.49	2.33	0.00	1.00	0.00	0.00
2.60																
436	36.700	16.70	0.00	32.04	12.87	6.61	7.75	7.90	1.45	0.40	0.49	2.33	0.00	1.03	0.00	0.00
2.60																
437	36.600	16.70	0.00	32.00	12.86	6.60	7.74	7.90	1.44	0.40	0.49	2.33	0.00	1.05	0.00	0.00
2.61																
438	36.500	16.70	0.00	31.97	12.84	6.60	7.73	7.90	1.44	0.40	0.49	2.33	0.00	1.08	0.00	0.00
2.62																
439	36.400	16.70	0.00	31.93	12.83	6.59	7.73	7.89	1.44	0.40	0.49	2.32	0.00	1.10	0.00	0.00
2.62																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

449	35.400	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
450	35.300	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
451	35.200	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
452	35.100	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
453	35.000	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
454	34.900	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
455	34.800	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
456	34.700	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
457	34.600	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
458	34.500	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
459	34.400	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
460	34.300	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
461	34.200	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
462	34.100	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
20 DEG C RATE				0.09		0.00	2.44			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG 20 DEG C RATE			1.65		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
440	36.300	16.70	0.00	31.92	12.82	6.58	7.72	7.88	1.44	0.40	0.49	2.32	0.00	1.10	0.00	0.00
2.62																
441	36.200	16.70	0.00	31.90	12.82	6.57	7.71	7.87	1.44	0.40	0.48	2.32	0.00	1.10	0.00	0.00
2.62																
442	36.100	16.70	0.00	31.89	12.81	6.56	7.70	7.86	1.44	0.40	0.48	2.32	0.00	1.10	0.00	0.00
2.62																
443	36.000	16.70	0.00	31.87	12.81	6.55	7.69	7.86	1.44	0.40	0.48	2.32	0.00	1.10	0.00	0.00
2.62																
444	35.900	16.70	0.00	31.86	12.80	6.55	7.68	7.85	1.44	0.40	0.48	2.32	0.00	1.10	0.00	0.00

463	UPR RCH	0.23650	16.70	0.00	31.61	12.70	6.43	7.52	7.69	1.42	0.40	0.48	0.00	1.10	0.00
2.60															
EACH	INCR	0.0002	16.70	0.00	9.20	3.40	2.00	6.19	6.19	0.63	0.00	0.08	0.00		0.00
5.18															

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m ³ / s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
463	34.10	34.00	0.23669	53.68	0.09455	0.01	0.42	5.91	250.33	590.56	2.50	0.00	0.000	0.023
0.095														
464	34.00	33.90	0.23689	53.64	0.09463	0.01	0.42	5.91	250.34	590.57	2.50	0.00	0.000	0.023
0.095														
465	33.90	33.80	0.23708	53.59	0.09470	0.01	0.42	5.91	250.35	590.57	2.50	0.00	0.000	0.023
0.095														
466	33.80	33.70	0.23728	53.55	0.09477	0.01	0.42	5.91	250.36	590.58	2.50	0.00	0.000	0.023
0.095														
467	33.70	33.60	0.23747	53.50	0.09485	0.01	0.42	5.91	250.37	590.58	2.50	0.00	0.000	0.023
0.095														
468	33.60	33.50	0.23766	53.46	0.09492	0.01	0.42	5.91	250.38	590.59	2.50	0.00	0.000	0.023
0.095														
469	33.50	33.40	0.23786	53.42	0.09500	0.01	0.42	5.91	250.39	590.59	2.50	0.00	0.000	0.023
0.095														
470	33.40	33.30	0.23805	53.37	0.09507	0.01	0.42	5.91	250.40	590.60	2.50	0.00	0.000	0.023
0.095														
471	33.30	33.20	0.23825	53.33	0.09514	0.01	0.42	5.91	250.41	590.60	2.50	0.00	0.000	0.023
0.095														
472	33.20	33.10	0.23844	53.29	0.09522	0.01	0.42	5.91	250.42	590.61	2.50	0.00	0.000	0.023
0.095														
473	33.10	33.00	0.23864	53.24	0.09529	0.01	0.42	5.91	250.43	590.61	2.50	0.00	0.000	0.023
0.095														
474	33.00	32.90	0.23883	53.20	0.09536	0.01	0.42	5.91	250.44	590.61	2.50	0.00	0.000	0.023
0.095														
475	32.90	32.80	0.23902	53.16	0.09544	0.01	0.42	5.91	250.45	590.62	2.50	0.00	0.000	0.023
0.095														
476	32.80	32.70	0.23922	53.11	0.09551	0.01	0.42	5.91	250.46	590.62	2.50	0.00	0.000	0.023
0.096														
477	32.70	32.60	0.23941	53.07	0.09559	0.01	0.42	5.91	250.47	590.63	2.50	0.00	0.000	0.023
0.096														
478	32.60	32.50	0.23961	53.03	0.09566	0.01	0.42	5.91	250.47	590.63	2.50	0.00	0.000	0.023
0.096														
479	32.50	32.40	0.23980	52.98	0.09573	0.01	0.42	5.91	250.48	590.64	2.50	0.00	0.000	0.023
0.096														
TOT						0.21			4256.95	10040.21				
AVG					0.09514		0.42	5.91			2.50			

CUM

4.91

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
463	34.000	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
464	33.900	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
465	33.800	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
466	33.700	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
467	33.600	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
468	33.500	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
469	33.400	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
470	33.300	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
471	33.200	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
472	33.100	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
473	33.000	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
474	32.900	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
475	32.800	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
476	32.700	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
477	32.600	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
478	32.500	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
479	32.400	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
20	DEG C RATE			0.09		0.00	2.44			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG	20 DEG C RATE		1.65		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
463	34.000	16.70	0.00	31.59	12.69	6.42	7.51	7.68	1.42	0.40	0.48	2.30	0.00	1.10	0.00	0.00
2.60																
464	33.900	16.70	0.00	31.58	12.68	6.42	7.50	7.67	1.42	0.40	0.48	2.30	0.00	1.10	0.00	0.00
2.60																
465	33.800	16.70	0.00	31.56	12.67	6.41	7.49	7.66	1.41	0.40	0.48	2.29	0.00	1.10	0.00	0.00
2.60																
466	33.700	16.70	0.00	31.54	12.67	6.40	7.48	7.65	1.41	0.40	0.48	2.29	0.00	1.10	0.00	0.00
2.60																
467	33.600	16.70	0.00	31.52	12.66	6.40	7.47	7.64	1.41	0.40	0.48	2.29	0.00	1.10	0.00	0.00
2.60																
468	33.500	16.70	0.00	31.50	12.65	6.39	7.46	7.63	1.41	0.40	0.48	2.29	0.00	1.10	0.00	0.00
2.60																
469	33.400	16.70	0.00	31.49	12.64	6.39	7.45	7.62	1.41	0.40	0.48	2.28	0.00	1.10	0.00	0.00
2.60																
470	33.300	16.70	0.00	31.47	12.64	6.38	7.44	7.61	1.41	0.40	0.48	2.28	0.00	1.10	0.00	0.00
2.60																
471	33.200	16.70	0.00	31.45	12.63	6.38	7.43	7.60	1.40	0.40	0.48	2.28	0.00	1.10	0.00	0.00
2.60																
472	33.100	16.70	0.00	31.43	12.62	6.37	7.42	7.59	1.40	0.40	0.48	2.28	0.00	1.10	0.00	0.00
2.60																
473	33.000	16.70	0.00	31.41	12.61	6.37	7.41	7.58	1.40	0.40	0.48	2.28	0.00	1.10	0.00	0.00
2.60																
474	32.900	16.70	0.00	31.39	12.61	6.36	7.40	7.57	1.40	0.40	0.48	2.27	0.00	1.10	0.00	0.00
2.60																
475	32.800	16.70	0.00	31.38	12.60	6.36	7.39	7.56	1.40	0.40	0.47	2.27	0.00	1.10	0.00	0.00
2.60																
476	32.700	16.70	0.00	31.36	12.59	6.35	7.38	7.55	1.39	0.40	0.47	2.27	0.00	1.10	0.00	0.00
2.60																
477	32.600	16.70	0.00	31.34	12.58	6.35	7.37	7.54	1.39	0.40	0.47	2.27	0.00	1.10	0.00	0.00
2.60																
478	32.500	16.70	0.00	31.32	12.58	6.34	7.36	7.53	1.39	0.40	0.47	2.27	0.00	1.10	0.00	0.00
2.60																
479	32.400	16.70	0.00	31.30	12.57	6.34	7.36	7.52	1.39	0.40	0.47	2.26	0.00	1.10	0.00	0.00
2.60																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 13 BRUSHY CR - RIGHTHAND CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 2.0 MG/L RUN

495	30.800	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
496	30.700	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
497	30.600	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
498	30.500	9.73	1.54	0.08	0.09	0.00	1.98	1.98	1.98	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	

20 DEG C RATE				0.09		0.00	2.44			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG 20 DEG C RATE			1.65		0.10						0.05							
0.05																		

* g/m²/d ** mg/L/day

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

ELEM NCM 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
480	32.300	16.70	0.00	31.29	12.56	6.34	7.35	7.51	1.39	0.40	0.47	2.26	0.00	1.10	0.00	0.00
2.60																
481	32.200	16.70	0.00	31.27	12.56	6.33	7.34	7.51	1.39	0.40	0.47	2.26	0.00	1.10	0.00	0.00
2.60																
482	32.100	16.70	0.00	31.26	12.55	6.33	7.34	7.50	1.38	0.40	0.47	2.26	0.00	1.10	0.00	0.00
2.60																
483	32.000	16.70	0.00	31.24	12.54	6.32	7.33	7.49	1.38	0.40	0.47	2.26	0.00	1.10	0.00	0.00
2.60																
484	31.900	16.70	0.00	31.23	12.54	6.32	7.32	7.49	1.38	0.40	0.47	2.25	0.00	1.10	0.00	0.00
2.60																
485	31.800	16.70	0.00	31.21	12.53	6.32	7.32	7.48	1.38	0.40	0.47	2.25	0.00	1.10	0.00	0.00
2.60																
486	31.700	16.70	0.00	31.19	12.52	6.31	7.31	7.48	1.38	0.40	0.47	2.25	0.00	1.10	0.00	0.00
2.60																
487	31.600	16.70	0.00	31.18	12.52	6.31	7.30	7.47	1.38	0.40	0.47	2.25	0.00	1.10	0.00	0.00
2.60																
488	31.500	16.70	0.00	31.16	12.51	6.31	7.30	7.46	1.37	0.40	0.47	2.25	0.00	1.10	0.00	0.00
2.60																
489	31.400	16.70	0.00	31.15	12.50	6.30	7.29	7.46	1.37	0.40	0.47	2.25	0.00	1.10	0.00	0.00
2.60																
490	31.300	16.70	0.00	31.13	12.50	6.30	7.29	7.45	1.37	0.40	0.47	2.24	0.00	1.10	0.00	0.00
2.60																
491	31.200	16.70	0.00	31.11	12.49	6.30	7.28	7.44	1.37	0.40	0.47	2.24	0.00	1.10	0.00	0.00
2.60																
492	31.100	16.70	0.00	31.10	12.48	6.29	7.27	7.44	1.37	0.40	0.47	2.24	0.00	1.10	0.00	0.00
2.60																
493	31.000	16.70	0.00	31.08	12.48	6.29	7.27	7.43	1.37	0.40	0.47	2.24	0.00	1.10	0.00	0.00
2.60																
494	30.900	16.70	0.00	31.07	12.47	6.29	7.26	7.43	1.36	0.40	0.47	2.24	0.00	1.10	0.00	0.00

2.60																	
495	30.800	16.70	0.00	31.05	12.46	6.29	7.26	7.42	1.36	0.40	0.47	2.23	0.00	1.10	0.00	0.00	
2.60																	
496	30.700	16.70	0.00	31.04	12.46	6.28	7.25	7.41	1.36	0.40	0.47	2.23	0.00	1.10	0.00	0.00	
2.60																	
497	30.600	16.70	0.00	31.02	12.45	6.28	7.24	7.41	1.36	0.40	0.47	2.23	0.00	1.10	0.00	0.00	
2.59																	
498	30.500	16.70	0.00	31.00	12.44	6.28	7.24	7.40	1.36	0.40	0.47	2.23	0.00	1.10	0.00	0.00	
2.59																	

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 14 RIGHTHAND CR - SITE 11

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 2.0 MG/L RUN

***** REACH INPUTS

ELEM NO.	TYPE	FLOW m ³ / *	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
499	UPR RCH	0.24310	16.70	0.00	31.00	12.44	6.28	7.24	7.40	1.36	0.40	0.47	0.00	1.10	0.00
2.59															
EACH	INCR	0.0003	16.70	0.00	9.20	3.40	2.00	6.19	6.19	0.63	0.00	0.08	0.00		0.00
5.18															

***** HYDRAULIC PARAMETER VALUES

ELEM MEAN NO.	BEGIN DIST km	ENDING DIST km	FLOW m ³ / *	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m ³	SURFACE AREA m ²	X-SECT AREA m ²	TIDAL PRISM m ³	TIDAL VELO m/s	DISPRSN m ² /s
499	30.50	30.40	0.24343	52.19	0.09712	0.01	0.42	5.91	250.66	590.72	2.51	0.00	0.000	0.024
0.097														
500	30.40	30.30	0.24376	52.12	0.09724	0.01	0.42	5.91	250.68	590.73	2.51	0.00	0.000	0.024
0.097														
501	30.30	30.20	0.24409	52.05	0.09737	0.01	0.42	5.91	250.69	590.74	2.51	0.00	0.000	0.024
0.097														
502	30.20	30.10	0.24442	51.98	0.09749	0.01	0.42	5.91	250.71	590.75	2.51	0.00	0.000	0.024
0.097														
503	30.10	30.00	0.24475	51.91	0.09762	0.01	0.42	5.91	250.72	590.76	2.51	0.00	0.000	0.024
0.098														
504	30.00	29.90	0.24508	51.84	0.09774	0.01	0.42	5.91	250.74	590.76	2.51	0.00	0.000	0.024

0.098	505	29.90	29.80	0.24541	51.77	0.09787	0.01	0.42	5.91	250.75	590.77	2.51	0.00	0.000	0.024
0.098	506	29.80	29.70	0.24574	51.70	0.09799	0.01	0.42	5.91	250.77	590.78	2.51	0.00	0.000	0.024
0.098	507	29.70	29.60	0.24607	51.63	0.09812	0.01	0.42	5.91	250.79	590.79	2.51	0.00	0.000	0.024
0.098	508	29.60	29.50	0.24640	51.57	0.09825	0.01	0.42	5.91	250.80	590.79	2.51	0.00	0.000	0.024
TOT							0.12			2507.30	5907.60				
AVG						0.09768		0.42	5.91				2.51		
CUM							5.25								

 ***** BIOLOGICAL AND PHYSICAL COEFFICIENTS

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
499	30.400	9.73	1.54	0.08	0.09	0.00	1.71	1.71	1.71	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
500	30.300	9.73	1.54	0.08	0.09	0.00	1.71	1.71	1.71	0.02	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
0.03	0.05																	
501	30.200	9.73	1.54	0.08	0.09	0.00	1.71	1.71	1.71	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
502	30.100	9.73	1.54	0.08	0.09	0.00	1.71	1.71	1.71	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
503	30.000	9.73	1.54	0.08	0.09	0.00	1.71	1.71	1.71	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
504	29.900	9.73	1.54	0.08	0.09	0.00	1.71	1.71	1.71	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
505	29.800	9.73	1.54	0.08	0.09	0.00	1.71	1.71	1.71	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
506	29.700	9.73	1.54	0.08	0.09	0.00	1.71	1.71	1.71	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
507	29.600	9.73	1.54	0.08	0.09	0.00	1.71	1.71	1.71	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
508	29.500	9.73	1.54	0.08	0.09	0.00	1.71	1.71	1.71	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
20	DEG C RATE			0.09		0.00	2.11			0.03		0.00	0.00	0.00	0.00			0.00
0.03																		
AVG	20 DEG C RATE		1.65		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
499 2.60	30.400	16.70	0.00	30.98	12.43	6.28	7.24	7.40	1.36	0.40	0.47	2.23	0.00	1.08	0.00	0.00
500 2.60	30.300	16.70	0.00	30.95	12.42	6.28	7.23	7.39	1.35	0.40	0.47	2.22	0.00	1.06	0.00	0.00
501 2.60	30.200	16.70	0.00	30.92	12.41	6.28	7.23	7.39	1.35	0.40	0.47	2.22	0.00	1.04	0.00	0.00
502 2.60	30.100	16.70	0.00	30.89	12.40	6.29	7.23	7.38	1.35	0.40	0.47	2.22	0.00	1.02	0.00	0.00
503 2.60	30.000	16.70	0.00	30.86	12.38	6.29	7.23	7.38	1.35	0.40	0.47	2.21	0.00	1.00	0.00	0.00
504 2.60	29.900	16.70	0.00	30.83	12.37	6.29	7.23	7.37	1.34	0.40	0.46	2.21	0.00	0.98	0.00	0.00
505 2.60	29.800	16.70	0.00	30.80	12.36	6.29	7.22	7.37	1.34	0.40	0.46	2.21	0.00	0.96	0.00	0.00
506 2.60	29.700	16.70	0.00	30.77	12.35	6.29	7.22	7.36	1.34	0.40	0.46	2.21	0.00	0.94	0.00	0.00
507 2.61	29.600	16.70	0.00	30.74	12.34	6.29	7.22	7.36	1.34	0.40	0.46	2.20	0.00	0.92	0.00	0.00
508 2.61	29.500	16.70	0.00	30.71	12.32	6.30	7.22	7.35	1.34	0.40	0.46	2.20	0.00	0.90	0.00	0.00

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 15 SITE 11 - BOGGY CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 2.0 MG/L RUN

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

ELEM NCM NO. *	TYPE	FLOW m ³ /	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
509 2.61	UPR RCH	0.24640	16.70	0.00	30.71	12.32	6.30	7.22	7.35	1.34	0.40	0.46	0.00	0.90	0.00
EACH 1.96	INCR	0.0001	16.70	0.00	13.60	4.10	2.00	4.19	4.19	0.46	0.00	0.08	0.00		0.00

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

567	23.600	9.73	2.38	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
568	23.500	9.73	2.38	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
569	23.400	9.73	2.38	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
570	23.300	9.73	2.38	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
571	23.200	9.73	2.38	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
572	23.100	9.73	2.38	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
573	23.000	9.73	2.38	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
20	DEG C RATE			0.06		0.00	2.03			0.04		0.00	0.00	0.00	0.00			0.00
0.04																		
AVG	20 DEG C RATE			2.55	0.10					0.05								
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
509	29.400	16.70	0.00	30.70	12.32	6.30	7.22	7.35	1.34	0.40	0.46	2.20	0.00	0.90	0.00	0.00
2.61																
510	29.300	16.70	0.00	30.70	12.31	6.31	7.21	7.35	1.33	0.40	0.46	2.20	0.00	0.90	0.00	0.00
2.60																
511	29.200	16.70	0.00	30.69	12.31	6.32	7.21	7.34	1.33	0.40	0.46	2.20	0.00	0.90	0.00	0.00
2.60																
512	29.100	16.70	0.00	30.68	12.31	6.32	7.20	7.34	1.33	0.40	0.46	2.20	0.00	0.90	0.00	0.00
2.60																
513	29.000	16.70	0.00	30.67	12.30	6.33	7.20	7.33	1.33	0.40	0.46	2.20	0.00	0.90	0.00	0.00
2.60																
514	28.900	16.70	0.00	30.66	12.30	6.34	7.19	7.33	1.33	0.40	0.46	2.19	0.00	0.90	0.00	0.00
2.60																
515	28.800	16.70	0.00	30.65	12.29	6.34	7.19	7.32	1.33	0.40	0.46	2.19	0.00	0.90	0.00	0.00
2.60																
516	28.700	16.70	0.00	30.65	12.29	6.35	7.19	7.32	1.33	0.40	0.46	2.19	0.00	0.90	0.00	0.00
2.60																
517	28.600	16.70	0.00	30.64	12.29	6.35	7.18	7.32	1.33	0.40	0.46	2.19	0.00	0.90	0.00	0.00
2.59																
518	28.500	16.70	0.00	30.63	12.28	6.36	7.18	7.31	1.33	0.40	0.46	2.19	0.00	0.90	0.00	0.00
2.59																
519	28.400	16.70	0.00	30.62	12.28	6.37	7.17	7.31	1.33	0.40	0.46	2.19	0.00	0.90	0.00	0.00
2.59																
520	28.300	16.70	0.00	30.61	12.27	6.37	7.17	7.30	1.33	0.40	0.46	2.19	0.00	0.90	0.00	0.00

2.59																	
521	28.200	16.70	0.00	30.60	12.27	6.38	7.16	7.30	1.33	0.40	0.46	2.19	0.00	0.90	0.00	0.00	
2.59																	
522	28.100	16.70	0.00	30.60	12.27	6.38	7.16	7.30	1.33	0.40	0.46	2.19	0.00	0.90	0.00	0.00	
2.59																	
523	28.000	16.70	0.00	30.59	12.26	6.39	7.16	7.29	1.33	0.40	0.46	2.19	0.00	0.90	0.00	0.00	
2.59																	
524	27.900	16.70	0.00	30.58	12.26	6.40	7.15	7.29	1.33	0.40	0.46	2.19	0.00	0.90	0.00	0.00	
2.58																	
525	27.800	16.70	0.00	30.57	12.25	6.40	7.15	7.28	1.32	0.40	0.46	2.19	0.00	0.90	0.00	0.00	
2.58																	
526	27.700	16.70	0.00	30.56	12.25	6.41	7.14	7.28	1.32	0.40	0.46	2.18	0.00	0.90	0.00	0.00	
2.58																	
527	27.600	16.70	0.00	30.55	12.25	6.41	7.14	7.27	1.32	0.40	0.46	2.18	0.00	0.90	0.00	0.00	
2.58																	
528	27.500	16.70	0.00	30.55	12.24	6.42	7.14	7.27	1.32	0.40	0.46	2.18	0.00	0.90	0.00	0.00	
2.58																	
529	27.400	16.70	0.00	30.54	12.24	6.42	7.13	7.27	1.32	0.40	0.46	2.18	0.00	0.90	0.00	0.00	
2.58																	
530	27.300	16.70	0.00	30.53	12.23	6.43	7.13	7.26	1.32	0.40	0.46	2.18	0.00	0.90	0.00	0.00	
2.58																	
531	27.200	16.70	0.00	30.52	12.23	6.43	7.12	7.26	1.32	0.40	0.46	2.18	0.00	0.90	0.00	0.00	
2.57																	
532	27.100	16.70	0.00	30.51	12.23	6.44	7.12	7.25	1.32	0.40	0.46	2.18	0.00	0.90	0.00	0.00	
2.57																	
533	27.000	16.70	0.00	30.50	12.22	6.44	7.11	7.25	1.32	0.40	0.46	2.18	0.00	0.90	0.00	0.00	
2.57																	
534	26.900	16.70	0.00	30.50	12.22	6.45	7.11	7.25	1.32	0.40	0.46	2.18	0.00	0.90	0.00	0.00	
2.57																	
535	26.800	16.70	0.00	30.49	12.22	6.45	7.11	7.24	1.32	0.40	0.46	2.18	0.00	0.90	0.00	0.00	
2.57																	
536	26.700	16.70	0.00	30.48	12.21	6.46	7.10	7.24	1.32	0.40	0.46	2.18	0.00	0.90	0.00	0.00	
2.57																	
537	26.600	16.70	0.00	30.47	12.21	6.46	7.10	7.23	1.32	0.40	0.46	2.17	0.00	0.90	0.00	0.00	
2.57																	
538	26.500	16.70	0.00	30.46	12.20	6.47	7.09	7.23	1.32	0.40	0.46	2.17	0.00	0.90	0.00	0.00	
2.56																	
539	26.400	16.70	0.00	30.46	12.20	6.47	7.09	7.23	1.31	0.40	0.46	2.17	0.00	0.90	0.00	0.00	
2.56																	
540	26.300	16.70	0.00	30.45	12.20	6.48	7.09	7.22	1.31	0.40	0.46	2.17	0.00	0.90	0.00	0.00	
2.56																	
541	26.200	16.70	0.00	30.44	12.19	6.48	7.08	7.22	1.31	0.40	0.46	2.17	0.00	0.90	0.00	0.00	
2.56																	
542	26.100	16.70	0.00	30.43	12.19	6.48	7.08	7.21	1.31	0.40	0.46	2.17	0.00	0.90	0.00	0.00	
2.56																	
543	26.000	16.70	0.00	30.42	12.18	6.49	7.07	7.21	1.31	0.40	0.46	2.17	0.00	0.90	0.00	0.00	
2.56																	
544	25.900	16.70	0.00	30.41	12.18	6.49	7.07	7.20	1.31	0.40	0.46	2.17	0.00	0.90	0.00	0.00	
2.56																	
545	25.800	16.70	0.00	30.41	12.18	6.50	7.07	7.20	1.31	0.40	0.46	2.17	0.00	0.90	0.00	0.00	
2.56																	
546	25.700	16.70	0.00	30.40	12.17	6.50	7.06	7.20	1.31	0.40	0.46	2.17	0.00	0.90	0.00	0.00	
2.55																	
547	25.600	16.70	0.00	30.39	12.17	6.51	7.06	7.19	1.31	0.40	0.46	2.17	0.00	0.90	0.00	0.00	

20 DEG C RATE 0.06 0.00 2.03 0.04 0.00 0.00 0.00 0.00 0.00
 0.04
 AVG 20 DEG C RATE 2.54 0.10 0.05
 0.05

* g/m²/d ** mg/L/day

***** WATER QUALITY CONSTITUENT VALUES

ELEM NCM 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
574	22.900	16.70	0.00	29.68	11.83	6.46	6.87	7.00	1.28	0.39	0.44	2.11	0.00	0.90	0.00	0.00

* CM-I = CHLORIDES MG/L CM-II = SULFATES MG/L NCM = CBOD2 mg/L
 ** g/m³

FINAL REPORT HEADWATER
 REACH NO. 17 WOLF CR - UNNAMED CREEK

BARNES CREEK WATERSHED MODEL
 BARNES CREEK WINTER 2.0 MG/L RUN

***** REACH INPUTS

ELEM NCM NO.*	TYPE	FLOW m³/	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
575	UPR RCH	0.26220	16.70	0.00	29.68	11.83	6.46	6.87	7.00	1.28	0.39	0.44	0.00	0.90	0.00
EACH	INCR	0.0005	16.70	0.00	13.60	4.10	2.00	4.19	4.19	0.46	0.00	0.08	0.00		0.00

***** HYDRAULIC PARAMETER VALUES

ELEM MEAN NO.	BEGIN DIST	ENDING DIST	FLOW m³/	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s
575	22.90	22.80	0.26269	48.37	0.23188	0.00	0.28	4.11	113.29	411.17	1.13	0.00	0.000	0.040

579	22.400	9.73	2.37	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
580	22.300	9.73	2.37	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
581	22.200	9.73	2.37	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
582	22.100	9.73	2.37	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
583	22.000	9.73	2.37	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
584	21.900	9.73	2.37	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
585	21.800	9.73	2.37	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
586	21.700	9.73	2.37	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
587	21.600	9.73	2.37	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
588	21.500	9.73	2.37	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
589	21.400	9.73	2.37	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
590	21.300	9.73	2.37	0.05	0.09	0.00	1.65	1.65	1.65	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
20	DEG C RATE			0.06		0.00	2.03			0.04		0.00	0.00	0.00	0.00			0.00
0.04																		
AVG	20 DEG C RATE	2.54			0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
575	22.800	16.70	0.00	29.65	11.81	6.46	6.86	7.00	1.28	0.39	0.44	2.11	0.00	0.90	0.00	0.00
2.50																
576	22.700	16.70	0.00	29.62	11.80	6.46	6.86	6.99	1.28	0.39	0.44	2.11	0.00	0.90	0.00	0.00
2.50																
577	22.600	16.70	0.00	29.59	11.78	6.46	6.86	6.99	1.28	0.39	0.44	2.11	0.00	0.90	0.00	0.00
2.51																
578	22.500	16.70	0.00	29.56	11.77	6.46	6.85	6.99	1.28	0.39	0.44	2.10	0.00	0.90	0.00	0.00
2.51																
579	22.400	16.70	0.00	29.53	11.76	6.46	6.85	6.98	1.28	0.39	0.44	2.10	0.00	0.90	0.00	0.00
2.51																
580	22.300	16.70	0.00	29.50	11.74	6.45	6.84	6.98	1.28	0.39	0.44	2.10	0.00	0.90	0.00	0.00
2.51																
581	22.200	16.70	0.00	29.47	11.73	6.45	6.84	6.98	1.28	0.39	0.43	2.10	0.00	0.90	0.00	0.00

2.51																	
582	22.100	16.70	0.00	29.44	11.71	6.45	6.84	6.97	1.27	0.39	0.43	2.10	0.00	0.90	0.00	0.00	0.00
2.52																	
583	22.000	16.70	0.00	29.41	11.70	6.45	6.83	6.97	1.27	0.39	0.43	2.09	0.00	0.90	0.00	0.00	0.00
2.52																	
584	21.900	16.70	0.00	29.38	11.68	6.45	6.83	6.97	1.27	0.39	0.43	2.09	0.00	0.90	0.00	0.00	0.00
2.52																	
585	21.800	16.70	0.00	29.36	11.67	6.45	6.83	6.96	1.27	0.38	0.43	2.09	0.00	0.90	0.00	0.00	0.00
2.52																	
586	21.700	16.70	0.00	29.33	11.66	6.44	6.82	6.96	1.27	0.38	0.43	2.09	0.00	0.90	0.00	0.00	0.00
2.52																	
587	21.600	16.70	0.00	29.30	11.64	6.44	6.82	6.95	1.27	0.38	0.43	2.08	0.00	0.90	0.00	0.00	0.00
2.53																	
588	21.500	16.70	0.00	29.27	11.63	6.44	6.82	6.95	1.27	0.38	0.43	2.08	0.00	0.90	0.00	0.00	0.00
2.53																	
589	21.400	16.70	0.00	29.24	11.62	6.44	6.81	6.95	1.27	0.38	0.43	2.08	0.00	0.90	0.00	0.00	0.00
2.53																	
590	21.300	16.70	0.00	29.21	11.60	6.44	6.81	6.94	1.27	0.38	0.43	2.08	0.00	0.90	0.00	0.00	0.00
2.53																	

* CM-I = CHLORIDES
MG/L
** g/m³

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

FINAL REPORT HEADWATER
REACH NO. 18 UNNAMED CR - SITE 12

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 2.0 MG/L RUN

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

ELEM NCM NO. *	TYPE	FLOW m³/ *	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
591	UPR RCH	0.27010	16.70	0.00	29.21	11.60	6.44	6.81	6.94	1.27	0.38	0.43	0.00	0.90	0.00
2.53 EACH 1.96	INCR	0.0002	16.70	0.00	13.60	4.10	2.00	4.19	4.19	0.46	0.00	0.08	0.00		0.00

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

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m³/ m/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s
591	21.30	21.20	0.27029	47.01	0.23810	0.00	0.28	4.11	113.52	411.35	1.14	0.00	0.000	0.041

0.238														
592	21.20	21.10	0.27049	46.97	0.23825	0.00	0.28	4.11	113.53	411.35	1.14	0.00	0.000	0.041
0.238														
593	21.10	21.00	0.27068	46.94	0.23841	0.00	0.28	4.11	113.53	411.36	1.14	0.00	0.000	0.041
0.238														
594	21.00	20.90	0.27087	46.91	0.23857	0.00	0.28	4.11	113.54	411.36	1.14	0.00	0.000	0.041
0.239														
595	20.90	20.80	0.27106	46.87	0.23872	0.00	0.28	4.11	113.55	411.37	1.14	0.00	0.000	0.041
0.239														
596	20.80	20.70	0.27126	46.84	0.23888	0.00	0.28	4.11	113.55	411.37	1.14	0.00	0.000	0.041
0.239														
597	20.70	20.60	0.27145	46.81	0.23904	0.00	0.28	4.11	113.56	411.37	1.14	0.00	0.000	0.041
0.239														
598	20.60	20.50	0.27164	46.77	0.23920	0.00	0.28	4.11	113.56	411.38	1.14	0.00	0.000	0.041
0.239														
599	20.50	20.40	0.27183	46.74	0.23935	0.00	0.28	4.11	113.57	411.38	1.14	0.00	0.000	0.041
0.239														
600	20.40	20.30	0.27203	46.71	0.23951	0.00	0.28	4.11	113.58	411.39	1.14	0.00	0.000	0.041
0.240														
601	20.30	20.20	0.27222	46.67	0.23967	0.00	0.28	4.11	113.58	411.39	1.14	0.00	0.000	0.041
0.240														
602	20.20	20.10	0.27241	46.64	0.23983	0.00	0.28	4.11	113.59	411.40	1.14	0.00	0.000	0.041
0.240														
603	20.10	20.00	0.27260	46.61	0.23998	0.00	0.28	4.11	113.59	411.40	1.14	0.00	0.000	0.041
0.240														
604	20.00	19.90	0.27280	46.58	0.24014	0.00	0.28	4.11	113.60	411.40	1.14	0.00	0.000	0.041
0.240														
605	19.90	19.80	0.27299	46.54	0.24030	0.00	0.28	4.11	113.60	411.41	1.14	0.00	0.000	0.041
0.240														
606	19.80	19.70	0.27318	46.51	0.24045	0.00	0.28	4.11	113.61	411.41	1.14	0.00	0.000	0.041
0.240														
607	19.70	19.60	0.27338	46.48	0.24061	0.00	0.28	4.11	113.62	411.42	1.14	0.00	0.000	0.041
0.241														
608	19.60	19.50	0.27357	46.44	0.24077	0.00	0.28	4.11	113.62	411.42	1.14	0.00	0.000	0.041
0.241														
609	19.50	19.40	0.27376	46.41	0.24093	0.00	0.28	4.11	113.63	411.43	1.14	0.00	0.000	0.041
0.241														
610	19.40	19.30	0.27395	46.38	0.24108	0.00	0.28	4.11	113.63	411.43	1.14	0.00	0.000	0.041
0.241														
611	19.30	19.20	0.27415	46.35	0.24124	0.00	0.28	4.11	113.64	411.44	1.14	0.00	0.000	0.041
0.241														
612	19.20	19.10	0.27434	46.31	0.24140	0.00	0.28	4.11	113.65	411.44	1.14	0.00	0.000	0.041
0.241														
613	19.10	19.00	0.27453	46.28	0.24156	0.00	0.28	4.11	113.65	411.44	1.14	0.00	0.000	0.041
0.242														
614	19.00	18.90	0.27472	46.25	0.24171	0.00	0.28	4.11	113.66	411.45	1.14	0.00	0.000	0.041
0.242														
615	18.90	18.80	0.27492	46.22	0.24187	0.00	0.28	4.11	113.66	411.45	1.14	0.00	0.000	0.041
0.242														
616	18.80	18.70	0.27511	46.18	0.24203	0.00	0.28	4.11	113.67	411.46	1.14	0.00	0.000	0.041
0.242														
617	18.70	18.60	0.27530	46.15	0.24218	0.00	0.28	4.11	113.67	411.46	1.14	0.00	0.000	0.041
0.242														
618	18.60	18.50	0.27549	46.12	0.24234	0.00	0.28	4.11	113.68	411.47	1.14	0.00	0.000	0.042

0.242																		
619	18.50	18.40	0.27569	46.09	0.24250	0.00	0.28	4.11	113.69	411.47	1.14	0.00	0.000	0.042				
0.242																		
620	18.40	18.30	0.27588	46.06	0.24266	0.00	0.28	4.11	113.69	411.47	1.14	0.00	0.000	0.042				
0.243																		
621	18.30	18.20	0.27607	46.02	0.24281	0.00	0.28	4.11	113.70	411.48	1.14	0.00	0.000	0.042				
0.243																		
622	18.20	18.10	0.27627	45.99	0.24297	0.00	0.28	4.11	113.70	411.48	1.14	0.00	0.000	0.042				
0.243																		
623	18.10	18.00	0.27646	45.96	0.24313	0.00	0.28	4.11	113.71	411.49	1.14	0.00	0.000	0.042				
0.243																		
624	18.00	17.90	0.27665	45.93	0.24328	0.00	0.28	4.11	113.72	411.49	1.14	0.00	0.000	0.042				
0.243																		
625	17.90	17.80	0.27684	45.90	0.24344	0.00	0.28	4.11	113.72	411.50	1.14	0.00	0.000	0.042				
0.243																		
626	17.80	17.70	0.27704	45.86	0.24360	0.00	0.28	4.11	113.73	411.50	1.14	0.00	0.000	0.042				
0.244																		
627	17.70	17.60	0.27723	45.83	0.24375	0.00	0.28	4.12	113.73	411.50	1.14	0.00	0.000	0.042				
0.244																		
628	17.60	17.50	0.27742	45.80	0.24391	0.00	0.28	4.12	113.74	411.51	1.14	0.00	0.000	0.042				
0.244																		
629	17.50	17.40	0.27761	45.77	0.24407	0.00	0.28	4.12	113.74	411.51	1.14	0.00	0.000	0.042				
0.244																		
630	17.40	17.30	0.27781	45.74	0.24423	0.00	0.28	4.12	113.75	411.52	1.14	0.00	0.000	0.042				
0.244																		
631	17.30	17.20	0.27800	45.70	0.24438	0.00	0.28	4.12	113.76	411.52	1.14	0.00	0.000	0.042				
0.244																		
TOT																		
AVG					0.24123		0.20			4659.23		16868.83						
CUM							5.87	0.28	4.11					1.14				

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

ELEM NCM NO. DECAY	ENDING NCM DIST SETT	SAT D.O. mg/L	REAER RATE 1/da	CBOD DECAY 1/da	CBOD SETT 1/da	ANBOD DECAY 1/da	BKGD SOD *	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
591	21.200	9.73	2.37	0.05	0.09	0.00	1.49	1.49	1.49	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
592	21.100	9.73	2.37	0.05	0.09	0.00	1.49	1.49	1.49	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
593	21.000	9.73	2.37	0.05	0.09	0.00	1.49	1.49	1.49	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
594	20.900	9.73	2.37	0.05	0.09	0.00	1.49	1.49	1.49	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
595	20.800	9.73	2.37	0.05	0.09	0.00	1.49	1.49	1.49	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.03	0.05																	
596	20.700	9.73	2.37	0.05	0.09	0.00	1.49	1.49	1.49	0.03	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00

628	17.500	16.70	0.00	28.80	11.40	6.63	6.71	6.84	1.25	0.38	0.42	2.05	0.00	0.90	0.00	0.00
2.54																
629	17.400	16.70	0.00	28.79	11.40	6.63	6.71	6.84	1.25	0.38	0.42	2.05	0.00	0.90	0.00	0.00
2.54																
630	17.300	16.70	0.00	28.78	11.39	6.64	6.70	6.84	1.25	0.38	0.42	2.05	0.00	0.90	0.00	0.00
2.54																
631	17.200	16.70	0.00	28.77	11.39	6.64	6.70	6.84	1.25	0.38	0.42	2.05	0.00	0.90	0.00	0.00
2.54																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 19 SITE 12 - CLEAR CR

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 2.0 MG/L RUN

***** REACH INPUTS

ELEM NCM NO. *	TYPE	FLOW m³/ *	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
632 2.54	UPR RCH	0.27800	16.70	0.00	28.77	11.39	6.64	6.70	6.84	1.25	0.38	0.42	0.00	0.90	0.00

***** HYDRAULIC PARAMETER VALUES

ELEM MEAN NO. VELO m/s	BEGIN DIST km	ENDING DIST km	FLOW m³/ m/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s
632 0.156	17.20	17.10	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
633 0.156	17.10	17.00	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
634 0.156	17.00	16.90	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
635 0.156	16.90	16.80	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
636 0.156	16.80	16.70	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
637 0.156	16.70	16.60	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028
638 0.156	16.60	16.50	0.27800	45.70	0.15616	0.01	0.29	6.22	178.02	621.52	1.78	0.00	0.000	0.028

695	10.800	9.73	2.28	0.06	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
696	10.700	9.73	2.28	0.06	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
697	10.600	9.73	2.28	0.06	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
698	10.500	9.73	2.28	0.06	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
699	10.400	9.73	2.28	0.06	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
700	10.300	9.73	2.28	0.06	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
701	10.200	9.73	2.28	0.06	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
702	10.100	9.73	2.28	0.06	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0.02	0.05																	
20 DEG C RATE				0.07		0.00	2.36			0.02		0.00	0.00	0.00	0.00			0.00
0.02																		
AVG 20 DEG C RATE			2.44		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
632	17.100	16.70	0.00	28.77	11.39	6.64	6.70	6.84	1.25	0.38	0.42	2.05	0.00	0.90	0.00	0.00
2.54																
633	17.000	16.70	0.00	28.77	11.39	6.64	6.70	6.83	1.25	0.38	0.42	2.05	0.00	0.90	0.00	0.00
2.54																
634	16.900	16.70	0.00	28.77	11.39	6.64	6.70	6.83	1.25	0.38	0.42	2.05	0.00	0.90	0.00	0.00
2.54																
635	16.800	16.70	0.00	28.77	11.39	6.64	6.70	6.83	1.25	0.38	0.42	2.05	0.00	0.90	0.00	0.00
2.54																
636	16.700	16.70	0.00	28.77	11.39	6.64	6.70	6.83	1.25	0.38	0.42	2.05	0.00	0.90	0.00	0.00
2.54																
637	16.600	16.70	0.00	28.77	11.39	6.64	6.70	6.83	1.25	0.38	0.42	2.05	0.00	0.90	0.00	0.00
2.53																
638	16.500	16.70	0.00	28.77	11.39	6.64	6.69	6.83	1.25	0.38	0.42	2.05	0.00	0.90	0.00	0.00
2.53																
639	16.400	16.70	0.00	28.77	11.39	6.64	6.69	6.83	1.25	0.38	0.42	2.05	0.00	0.90	0.00	0.00
2.53																
640	16.300	16.70	0.00	28.77	11.39	6.64	6.69	6.83	1.25	0.38	0.42	2.05	0.00	0.90	0.00	0.00
2.53																
641	16.200	16.70	0.00	28.77	11.39	6.64	6.69	6.83	1.25	0.38	0.42	2.05	0.00	0.90	0.00	0.00
2.53																
642	16.100	16.70	0.00	28.77	11.39	6.64	6.69	6.83	1.25	0.38	0.42	2.05	0.00	0.90	0.00	0.00

2.49																	
697	10.600	16.70	0.00	28.77	11.39	6.62	6.64	6.77	1.24	0.39	0.42	2.04	0.00	0.90	0.00	0.00	0.00
2.49																	
698	10.500	16.70	0.00	28.77	11.39	6.62	6.64	6.77	1.24	0.39	0.42	2.04	0.00	0.90	0.00	0.00	0.00
2.49																	
699	10.400	16.70	0.00	28.77	11.39	6.62	6.64	6.77	1.24	0.39	0.42	2.04	0.00	0.90	0.00	0.00	0.00
2.49																	
700	10.300	16.70	0.00	28.77	11.39	6.62	6.64	6.77	1.24	0.39	0.42	2.04	0.00	0.90	0.00	0.00	0.00
2.49																	
701	10.200	16.70	0.00	28.77	11.39	6.62	6.64	6.77	1.24	0.39	0.42	2.04	0.00	0.90	0.00	0.00	0.00
2.49																	
702	10.100	16.70	0.00	28.76	11.39	6.62	6.63	6.77	1.24	0.39	0.42	2.04	0.00	0.90	0.00	0.00	0.00
2.49																	

* CM-I = CHLORIDES MG/L CM-II = SULFATES MG/L NCM = CBOD2 mg/L
 ** g/m³

FINAL REPORT HEADWATER BARNES CREEK WATERSHED MODEL
 REACH NO. 20 CLEAR CR - BEAR CR BARNES CREEK WINTER 2.0 MG/L RUN

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

ELEM NO.	TYPE	FLOW m³/	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
703	UPR RCH	0.27800	16.70	0.00	28.76	11.39	6.62	6.63	6.77	1.24	0.39	0.42	0.00	0.90	0.00
2.49															
703	WSTLD	0.02800	16.70	0.00	5.50	1.30	8.50	5.55	5.55	0.75	0.00	0.06	0.00	4.30	0.00
3.76															

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

ELEM MEAN NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s
703	10.10	10.00	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
0.171														
704	10.00	9.90	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
0.171														
705	9.90	9.80	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
0.171														
706	9.80	9.70	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030

723	8.000	16.70	0.00	26.64	10.47	6.63	6.52	6.65	1.19	0.36	0.38	1.94	0.00	0.90	0.00	0.00
2.58																
724	7.900	16.70	0.00	26.64	10.47	6.63	6.52	6.65	1.19	0.36	0.38	1.94	0.00	0.90	0.00	0.00
2.58																
725	7.800	16.70	0.00	26.64	10.47	6.62	6.52	6.65	1.19	0.36	0.38	1.94	0.00	0.90	0.00	0.00
2.58																
726	7.700	16.70	0.00	26.64	10.47	6.61	6.52	6.65	1.19	0.36	0.38	1.94	0.00	0.90	0.00	0.00
2.58																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

FINAL REPORT HEADWATER
REACH NO. 21 BEAR CR - SITE 13

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 2.0 MG/L RUN

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

ELEM NCM NO.	TYPE	FLOW m³/	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
727 2.58	UPR RCH	0.30600	16.70	0.00	26.64	10.47	6.61	6.52	6.65	1.19	0.36	0.38	0.00	0.90	0.00

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

ELEM MEAN NO. VELO	BEGIN DIST	ENDING DIST	FLOW m³/	PCT EFF	ADVCTV VELO	TRAVEL TIME	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA	X-SECT AREA	TIDAL PRISM	TIDAL VELO	DISPRSN m²/s
727 0.171	7.70	7.60	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
728 0.171	7.60	7.50	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
729 0.171	7.50	7.40	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
730 0.171	7.40	7.30	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
731 0.171	7.30	7.20	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
732 0.171	7.20	7.10	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030
733 0.171	7.10	7.00	0.30600	50.67	0.17079	0.01	0.29	6.22	179.16	622.13	1.79	0.00	0.000	0.030

735	6.800	9.73	2.27	0.06	0.09	0.00	2.18	2.18	2.18	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.02	0.05																	
736	6.700	9.73	2.27	0.06	0.09	0.00	2.18	2.18	2.18	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.02	0.05																	
737	6.600	9.73	2.27	0.06	0.09	0.00	2.18	2.18	2.18	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.02	0.05																	
738	6.500	9.73	2.27	0.06	0.09	0.00	2.18	2.18	2.18	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.02	0.05																	
739	6.400	9.73	2.27	0.06	0.09	0.00	2.18	2.18	2.18	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.02	0.05																	
740	6.300	9.73	2.27	0.06	0.09	0.00	2.18	2.18	2.18	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.02	0.05																	
741	6.200	9.73	2.27	0.06	0.09	0.00	2.18	2.18	2.18	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.02	0.05																	
742	6.100	9.73	2.27	0.06	0.09	0.00	2.18	2.18	2.18	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.02	0.05																	
743	6.000	9.73	2.27	0.06	0.09	0.00	2.18	2.18	2.18	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.02	0.05																	
744	5.900	9.73	2.27	0.06	0.09	0.00	2.18	2.18	2.18	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.02	0.05																	
20 DEG C RATE				0.07		0.00	2.68			0.02		0.00	0.00	0.00	0.00			0.00
0.02																		
AVG 20 DEG C RATE			2.43		0.10						0.05							
0.05																		

* g/m²/d

** mg/L/day

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

ELEM NCM 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
727	7.600	16.70	0.00	26.64	10.47	6.61	6.51	6.66	1.20	0.36	0.38	1.94	0.00	0.96	0.00	0.00
2.58																
728	7.500	16.70	0.00	26.64	10.47	6.60	6.51	6.66	1.20	0.36	0.38	1.94	0.00	1.01	0.00	0.00
2.57																
729	7.400	16.70	0.00	26.64	10.47	6.60	6.51	6.67	1.20	0.36	0.38	1.94	0.00	1.07	0.00	0.00
2.57																
730	7.300	16.70	0.00	26.64	10.47	6.59	6.51	6.68	1.20	0.36	0.38	1.94	0.00	1.12	0.00	0.00
2.57																
731	7.200	16.70	0.00	26.64	10.47	6.59	6.51	6.68	1.20	0.36	0.38	1.94	0.00	1.18	0.00	0.00
2.57																
732	7.100	16.70	0.00	26.64	10.47	6.58	6.50	6.69	1.20	0.36	0.38	1.94	0.00	1.23	0.00	0.00
2.57																
733	7.000	16.70	0.00	26.64	10.47	6.57	6.50	6.69	1.20	0.36	0.38	1.94	0.00	1.29	0.00	0.00
2.57																
734	6.900	16.70	0.00	26.64	10.47	6.57	6.50	6.70	1.20	0.36	0.38	1.94	0.00	1.34	0.00	0.00
2.57																
735	6.800	16.70	0.00	26.64	10.47	6.56	6.50	6.71	1.20	0.36	0.38	1.94	0.00	1.40	0.00	0.00

0.005	801	0.30	0.20	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005	802	0.20	0.10	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005	803	0.10	0.00	0.30600	50.67	0.00540	0.21	2.37	23.92	5664.53	2392.13	56.65	0.00	0.000	0.006
0.005	TOT						12.64			334207.41	141135.89				
	AVG			0.00540				2.37	23.92			56.65			
	CUM						19.33								

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

ELEM	ENDING	SAT	REAER	CBOD	CBOD	ANBOD	BKGD	FULL	CORR	ORGN	ORGN	NH3	NH3	DENIT	PO4	ALG	MAC	COLI
NCM	NCM																	
NO.	DIST	D.O.	RATE	DECAY	SETT	DECAY	SOD	SOD	SOD	DECAY	SETT	DECAY	SRCE	RATE	SRCE	PROD	PROD	DECAY
DECAY	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																	
745	5.800	9.73	0.28	0.05	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
746	5.700	9.73	0.28	0.05	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
747	5.600	9.73	0.28	0.05	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
748	5.500	9.73	0.28	0.05	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00
0.03	0.05																	
749	5.400	9.73	0.28	0.05	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.03	0.05																	
750	5.300	9.73	0.28	0.05	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.03	0.05																	
751	5.200	9.73	0.28	0.05	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.03	0.05																	
752	5.100	9.73	0.28	0.05	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.03	0.05																	
753	5.000	9.73	0.28	0.05	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.03	0.05																	
754	4.900	9.73	0.28	0.05	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.03	0.05																	
755	4.800	9.73	0.28	0.05	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.03	0.05																	
756	4.700	9.73	0.28	0.05	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.07	0.00	0.00
0.03	0.05																	
757	4.600	9.73	0.28	0.05	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.05																	
758	4.500	9.73	0.28	0.05	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.05																	
759	4.400	9.73	0.28	0.05	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00
0.03	0.05																	
760	4.300	9.73	0.28	0.05	0.09	0.00	1.92	1.92	1.92	0.02	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00

801	0.200	16.70	0.00	26.64	10.47	5.54	5.78	5.79	1.01	0.67	0.37	2.04	0.00	0.06	0.00	0.00
2.62																
802	0.100	16.70	0.00	26.64	10.47	5.54	5.78	5.78	1.00	0.67	0.37	2.05	0.00	0.03	0.00	0.00
2.62																
803	0.000	16.70	0.00	26.64	10.47	5.54	5.78	5.78	1.00	0.68	0.37	2.05	0.00	0.00	0.00	0.00
2.63																

* CM-I = CHLORIDES
MG/L

CM-II = SULFATES
MG/L

NCM = CBOD2
mg/L

** g/m³

STREAM SUMMARY
HEADWATER

BARNES CREEK WATERSHED MODEL
BARNES CREEK WINTER 2.0 MG/L RUN

TRAVEL TIME	=	19.33	DAYS
MAXIMUM EFFLUENT	=	58.93	PERCENT
FLOW	=	0.11560	TO 0.30600 m ³ /s
DISPERSION	=	0.0055	TO 0.0482 m ² /s
VELOCITY	=	0.00540	TO 0.28291 m/s
DEPTH	=	0.17	TO 2.37 m
WIDTH	=	3.16	TO 23.92 m
BOD DECAY	=	0.04	TO 0.16 per day
NH3 DECAY	=	0.00	TO 0.00 per day
SDMNT OXYGEN DMND	=	1.25	TO 2.18 g/m ² /d
NH3 SOURCE	=	0.00	TO 0.00 g/m ² /d
REAERATION	=	0.28	TO 3.92 per day
BOD SETTLING	=	0.09	TO 0.10 per day
ORGN DECAY	=	0.02	TO 0.11 per day
ORGN SETTLING	=	0.05	TO 0.19 per day
TEMPERATURE	=	16.70	TO 18.10 deg C
DISSOLVED OXYGEN	=	5.54	TO 8.46 mg/L

.....EXECUTION COMPLETED

APPENDIX B17 - Proposed 2.0 winter projection justifications

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 3, Program Constants

Description of Constant	Value	Result	Source/Justification
Maximum iteration limit	1000.0		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.
Settled rate units.	2.0	Sets the settled rate to a velocity (m/day).	By making the settling rate a velocity the rate becomes dependent upon the depth.
K2 Max	25.0	Max K2 at 20 C allowed for any computational element	EPA Policy in the absence of a measured value.
Effective BOD due to algae	0.2		
NCM Oxygen Uptake	1.0	Oxygen Uptake Rate per Unit of NBOD decay.	Standard LA modeling procedure

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 9, Advective Hydraulic Coefficients					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	2.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.1	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream
2	Site 2 to Site 3	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	2.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.1	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream
3	Site 3 to Little Barnes Creek	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.10	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.31	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream
4	Little Barnes Creek to Redhead Branch	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.27	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
5	Redhead Branch to Site 6	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	3.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.27	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
6	Site 6 to Little Caney Creek	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.45	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
7	Little Caney Creek to dam	Width Coef "A"	Unitless	2.68	Calibration
		Width Exp "B"	Unitless	0.93	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.62	Calibration
		Depth Exp "E"	Unitless	1.00	Calibration
		Depth Const "F"	Meter	0.45	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
8	dam to Caney Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	8.20	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.38	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
9	Caney Creek to Hurricane Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.33	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
10	Hurricane Creek to Site 10	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.33	Zero flow cross section
		Mannings - N	Unitless	0.27	Value determined by considering sluggish stream.
11	Site 10 to Magnolia Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	4.08	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
12	Magnolia Creek to Brushy Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
13	Brushy Creek to Righthand Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
14	Righthand Creek to Site 11	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	5.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.35	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
15	Site 11 to Boggy Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 9, Advective Hydraulic Coefficients					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.2	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
16	Boggy Creek to Wolf Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	4.08	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.2	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
17	Wolf Creek to Unnamed Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.2	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
18	Unnamed Creek to Site 12	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	4.00	Zero flow cross section
		Depth Coef "D"	Unitless	4.08	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.2	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
19	Site 12 to Clear Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	6.10	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.21	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
20	Clear Creek to Bear Creek	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	6.10	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.21	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
21	Bear Creek to Site 13	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	6.10	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	0.21	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.
22	Site 13 to Calcasieu River	Width Coef "A"	Unitless	0.23	Calibration
		Width Exp "B"	Unitless	0.54	Calibration
		Width Const "C"	Meter	23.80	Zero flow cross section
		Depth Coef "D"	Unitless	0.10	Calibration
		Depth Exp "E"	Unitless	0.21	Calibration
		Depth Const "F"	Meter	2.29	Zero flow cross section
		Mannings - N	Unitless	0.027	Value determined by considering sluggish stream.

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 11, INITIAL CONDITIONS

Reach #	REACH DESCRIPTION	Initial Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2
		Chlorophyll a	mg/l	2.6	Site 2
2	Site 2 to Site 3	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2
		Chlorophyll a	mg/l	2.6	Site 2
3	Site 3 to Little Barnes Creek	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 3
		Nitrate Nitrite	mg/l	0.37	Site 3
		Chlorophyll a	mg/l	2	Site 3
4	Little Barnes Creek to Redhead Branch	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 4
		Nitrate Nitrite	mg/l	0.09	Site 4
		Chlorophyll a	mg/l	1.9	Site 4
5	Redhead Branch to Site 6	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 4
		Nitrate Nitrite	mg/l	0.09	Site 4
		Chlorophyll a	mg/l	1.9	Site 4
6	Site 6 to Little Caney Creek	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 6
		Nitrate Nitrite	mg/l	0.1	Site 6
		Chlorophyll a	mg/l	6.1	Site 6
7	Little Caney Creek to dam	Temperature	°Celsius	18.1	90th percentile Temperature from Ambient Site 0837
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0837
		Ammonia N	mg/l	0	Site 6
		Nitrate Nitrite	mg/l	0.1	Site 6
		Chlorophyll a	mg/l	6.1	Site 6
8	dam to Caney Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 7
		Nitrate Nitrite	mg/l	0.07	Site 7
		Chlorophyll a	mg/l	1	Site 7
9	Caney Creek to Hurricane Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 8
		Nitrate Nitrite	mg/l	0.09	Site 8
		Chlorophyll a	mg/l	0.6	Site 8

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 11, INITIAL CONDITIONS

Reach #	REACH DESCRIPTION	Initial Parameter	Units	Value	Source/Justification
10	Hurricane Creek to Site 10	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 8
		Nitrate Nitrite	mg/l	0.09	Site 8
		Chlorophyll a	mg/l	0.6	Site 8
11	Site 10 to Magnolia Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
12	Magnolia Creek to Brushy Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
13	Brushy Creek to Righthand Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
14	Righthand Creek to Site 11	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 10
		Nitrate Nitrite	mg/l	0.08	Site 10
		Chlorophyll a	mg/l	1.1	Site 10
15	Site 11 to Boggy Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
16	Boggy Creek to Wolf Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
17	Wolf Creek to Unnamed Creek	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11
18	Unnamed Creek to Site 12	Temperature	°Celsius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 11
		Nitrate Nitrite	mg/l	0.08	Site 11
		Chlorophyll a	mg/l	0.9	Site 11

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 11, INITIAL CONDITIONS

Reach #	REACH DESCRIPTION	Initial Parameter	Units	Value	Source/Justification
19	Site 12 to Clear Creek	Temperature	°Celcius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
20	Clear Creek to Bear Creek	Temperature	°Celcius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
21	Bear Creek to Site 13	Temperature	°Celcius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 12
		Nitrate Nitrite	mg/l	0.1	Site 12
		Chlorophyll a	mg/l	0.9	Site 12
22	Site 13 to Calcasieu River	Temperature	°Celcius	16.7	90th percentile Temperature from Ambient Site 0838
		Dissolved O ₂	mg/l	7.2	90 percent of DO Sat from Ambient Site 0838
		Ammonia N	mg/l	0	Site 13
		Nitrate Nitrite	mg/l	0.06	Site 13
		Chlorophyll a	mg/l	1.9	Site 13

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 12, Reaeration, Sediment Oxygen Demand and BOD Coeff.

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.79	35% Reduction
		Aerobic BOD decay	1/day	0.18	Bottle Rate for Site 2
		BOD Settling rate	m/day	0.1	Calibration
2	Site 2 to Site 3	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.46	35% Reduction
		Aerobic BOD decay	1/day	0.18	Bottle Rate for Site 2
		BOD Settling rate	m/day	0.1	Calibration
3	Site 3 to Little Barnes Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.46	35% Reduction
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 3
		BOD Settling rate	m/day	0.1	Calibration
4	Little Barnes Creek to Redhead Branch	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.03	35% Reduction
		Aerobic BOD decay	1/day	0.1	Bottle Rate for Site 4
		BOD Settling rate	m/day	0.1	Calibration
5	Redhead Branch to Site 6	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.19	35% Reduction
		Aerobic BOD decay	1/day	0.1	Bottle Rate for Site 4
		BOD Settling rate	m/day	0.1	Calibration
6	Site 6 to Little Caney Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.63	35% Reduction
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 6
		BOD Settling rate	m/day	0.1	Calibration
7	Little Caney Creek to dam	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.54	35% Reduction
		Aerobic BOD decay	1/day	0.13	Bottle Rate for Site 6
		BOD Settling rate	m/day	0.1	Calibration

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 12, Reaeration, Sediment Oxygen Demand and BOD Coeff.

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
8	dam to Caney Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.03	35% Reduction
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 7
		BOD Settling rate	m/day	0.1	Calibration
9	Caney Creek to Hurricane Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.44	35% Reduction
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 8
		BOD Settling rate	m/day	0.1	Calibration
10	Hurricane Creek to Site 10	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.44	35% Reduction
		Aerobic BOD decay	1/day	0.05	Bottle Rate for Site 8
		BOD Settling rate	m/day	0.1	Calibration
11	Site 10 to Magnolia Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.44	35% Reduction
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
12	Magnolia Creek to Brushy Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.44	35% Reduction
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
13	Brushy Creek to Righthand Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.44	35% Reduction
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
14	Righthand Creek to Site 11	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.11	35% Reduction
		Aerobic BOD decay	1/day	0.09	Bottle Rate for Site 10
		BOD Settling rate	m/day	0.1	Calibration
15	Site 11 to Boggy Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.03	35% Reduction
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
16	Boggy Creek to Wolf Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 12, Reaeration, Sediment Oxygen Demand and BOD Coeff.

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
		Background SOD	g/m ² -day	2.03	35% Reduction
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
17	Wolf Creek to Unnamed Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.03	35% Reduction
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
18	Unnamed Creek to Site 12	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	1.83	35% Reduction
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 11
		BOD Settling rate	m/day	0.1	Calibration
19	Site 12 to Clear Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.36	35% Reduction
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
20	Clear Creek to Bear Creek	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.68	35% Reduction
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
21	Bear Creek to Site 13	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.68	35% Reduction
		Aerobic BOD decay	1/day	0.07	Bottle Rate for Site 12
		BOD Settling rate	m/day	0.1	Calibration
22	Site 13 to Calcasieu River	K ₂ option	Unitless	20	0.7/Depth
		Oxygen Transfer Coefficient	m/day	0.7	Louisiana Standard in metric units
		Background SOD	g/m ² -day	2.36	35% Reduction
		Aerobic BOD decay	1/day	0.06	Bottle Rate for Site 13
		BOD Settling rate	m/day	0.1	Calibration

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 13, Nitrogen and Phosphorus

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 2
		Org-N Settling rate	m/day	0.20	Calibration
2	Site 2 to Site 3	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 2
		Org-N Settling rate	m/day	0.2	Calibration
3	Site 3 to Little Barnes Creek	Org-N Decay	1/day	0.13	NBOD Bottle Rate Site 3
		Org-N Settling rate	m/day	0.2	Calibration
4	Little Barnes Creek to Redhead Branch	Org-N Decay	1/day	0.05	NBOD Bottle Rate Site 4
		Org-N Settling rate	m/day	0.05	Calibration
5	Redhead Branch to Site 6	Org-N Decay	1/day	0.05	NBOD Bottle Rate Site 4
		Org-N Settling rate	m/day	0.05	Calibration
6	Site 6 to Little Caney Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 6
		Org-N Settling rate	m/day	0.05	Calibration
7	Little Caney Creek to dam	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 6
		Org-N Settling rate	m/day	0.05	Calibration
8	dam to Caney Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 7
		Org-N Settling rate	m/day	0.05	Calibration
9	Caney Creek to Hurricane Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 8
		Org-N Settling rate	m/day	0.05	Calibration
10	Hurricane Creek to Site 10	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 8
		Org-N Settling rate	m/day	0.05	Calibration
11	Site 10 to Magnolia Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
12	Magnolia Creek to Brushy Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
13	Brushy Creek to Righthand Creek	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
14	Righthand Creek to Site 11	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 10
		Org-N Settling rate	m/day	0.05	Calibration
15	Site 11 to Boggy Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
16	Boggy Creek to Wolf Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
17	Wolf Creek to Unnamed Creek	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
18	Unnamed Creek to Site 12	Org-N Decay	1/day	0.04	NBOD Bottle Rate Site 11
		Org-N Settling rate	m/day	0.05	Calibration
19	Site 12 to Clear Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
20	Clear Creek to Bear Creek	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
21	Bear Creek to Site 13	Org-N Decay	1/day	0.02	NBOD Bottle Rate Site 12
		Org-N Settling rate	m/day	0.05	Calibration
22	Site 13 to Calcasieu River	Org-N Decay	1/day	0.03	NBOD Bottle Rate Site 13
		Org-N Settling rate	m/day	0.05	Calibration

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 15, Coliform and Nonconservative Coefficients

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	NCM Decay	1/day	0.13	Bottle Rate Site 2
		NCM Settling Rate	m/day	0.05	Calibration
2	Site 2 to Site 3	NCM Decay	1/day	0.13	Bottle Rate Site 2
		NCM Settling Rate	m/day	0.05	Calibration
3	Site 3 to Little Barnes Creek	NCM Decay	1/day	0.13	Bottle Rate Site 3
		NCM Settling Rate	m/day	0.05	Calibration
4	Little Barnes Creek to Redhead Branch	NCM Decay	1/day	0.05	Bottle Rate Site 4
		NCM Settling Rate	m/day	0.05	Calibration
5	Redhead Branch to Site 6	NCM Decay	1/day	0.05	Bottle Rate Site 4
		NCM Settling Rate	m/day	0.05	Calibration
6	Site 6 to Little Caney Creek	NCM Decay	1/day	0.04	Bottle Rate Site 6
		NCM Settling Rate	m/day	0.05	Calibration
7	Little Caney Creek to dam	NCM Decay	1/day	0.04	Bottle Rate Site 6
		NCM Settling Rate	m/day	0.05	Calibration
8	dam to Caney Creek	NCM Decay	1/day	0.02	Bottle Rate Site 7
		NCM Settling Rate	m/day	0.05	Calibration
9	Caney Creek to Hurricane Creek	NCM Decay	1/day	0.03	Bottle Rate Site 8
		NCM Settling Rate	m/day	0.05	Calibration
10	Hurricane Creek to Site 10	NCM Decay	1/day	0.03	Bottle Rate Site 8
		NCM Settling Rate	m/day	0.05	Calibration
11	Site 10 to Magnolia Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
12	Magnolia Creek to Brushy Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
13	Brushy Creek to Righthand Creek	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
14	Righthand Creek to Site 11	NCM Decay	1/day	0.03	Bottle Rate Site 10
		NCM Settling Rate	m/day	0.05	Calibration
15	Site 11 to Boggy Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
16	Boggy Creek to Wolf Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
17	Wolf Creek to Unnamed Creek	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
18	Unnamed Creek to Site 12	NCM Decay	1/day	0.04	Bottle Rate Site 11
		NCM Settling Rate	m/day	0.05	Calibration
19	Site 12 to Clear Creek	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
20	Clear Creek to Bear Creek	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 15, Coliform and Nonconservative Coefficients					
Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
21	Bear Creek to Site 13	NCM Decay	1/day	0.02	Bottle Rate Site 12
		NCM Settling Rate	m/day	0.05	Calibration
22	Site 13 to Calcasieu River	NCM Decay	1/day	0.03	Bottle Rate Site 13
		NCM Settling Rate	m/day	0.05	Calibration

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 16, Incremental Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Incremental Outflow	m ³ /s	-0.0272	
		Incremental Inflow	m ³ /s		
		Temperature	°Celsius	26	90th percentile Temperature from Ambient Site 0837
		Salinity	ppt		
		Conservative Matl. I	mg/l	33.9	Site 2
		Conservative Matl. II	mg/l	12.4	Site 2
3	Site 3 to Little Barnes Creek	Incremental Outflow	m ³ /s	-0.0204	
		Incremental Inflow	m ³ /s		
		Temperature	°Celsius	26	90th percentile Temperature from Ambient Site 0837
		Salinity	ppt		
		Conservative Matl. I	mg/l	33.6	Site 3
		Conservative Matl. II	mg/l	11	Site 3
4	Little Barnes Creek to Redhead Branch	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0057	
		Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	30.2	Site 4
		Conservative Matl. II	mg/l	7.9	Site 4
5	Redhead Branch to Site 6	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0057	
		Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	30.2	Site 4
		Conservative Matl. II	mg/l	7.9	Site 4
6	Site 6 to Little Caney Creek	Incremental Outflow	m ³ /s	-0.0317	
		Incremental Inflow	m ³ /s		
		Temperature	°Celsius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	23.6	Site 6
		Conservative Matl. II	mg/l	6	Site 6

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 16, Incremental Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
7	Little Caney Creek to dam	Incremental Outflow	m ³ /s	-0.0317	
		Incremental Inflow	m ³ /s		
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	23.6	Site 6
		Conservative Matl. II	mg/l	6	Site 6
8	dam to Caney Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0442	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	8.8	Site 7
		Conservative Matl. II	mg/l	3.2	Site 7
10	Hurricane Creek to Site 10	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0071	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	6.9	Site 8
		Conservative Matl. II	mg/l	2.7	Site 8
11	Site 10 to Magnolia Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	9.2	Site 10
		Conservative Matl. II	mg/l	3.4	Site 10
12	Magnolia Creek to Brushy Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	9.2	Site 10
		Conservative Matl. II	mg/l	3.4	Site 10

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 16, Incremental Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
13	Brushy Creek to Righthand Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	9.2	Site 10
		Conservative Matl. II	mg/l	3.4	Site 10
14	Righthand Creek to Site 11	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0033	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	9.2	Site 10
		Conservative Matl. II	mg/l	3.4	Site 10
15	Site 11 to Boggy Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	13.6	Site 11
		Conservative Matl. II	mg/l	4.1	Site 11
16	Boggy Creek to Wolf Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	13.6	Site 11
		Conservative Matl. II	mg/l	4.1	Site 11
17	Wolf Creek to Unnamed Creek	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	13.6	Site 11
		Conservative Matl. II	mg/l	4.1	Site 11

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 16, Incremental Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
18	Unnamed Creek to Site 12	Incremental Outflow	m ³ /s		
		Incremental Inflow	m ³ /s	0.0079	
		Temperature	°Celcius	26.7	90th percentile Temperature from Ambient Site 0838
		Salinity	ppt		
		Conservative Matl. I	mg/l	13.6	Site 11
		Conservative Matl. II	mg/l	4.1	Site 11

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 17, Incremental Data for DO, BOD, Nitrogen

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.92	35% reduction in total nonpoint
		Org.-N	mg/l	1.06	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 2
		NO ₂₊₃ - N	mg/l	0.56	Site 2
3	Site 3 to Little Barnes Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.83	35% reduction in total nonpoint
		Org.-N	mg/l	0.57	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 3
		NO ₂₊₃ - N	mg/l	0.37	Site 3
4	Little Barnes Creek to Redhead Branch	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.7	35% reduction in total nonpoint
		Org.-N	mg/l	0.33	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 4
		NO ₂₊₃ - N	mg/l	0.09	Site 4
5	Redhead Branch to Site 6	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.7	35% reduction in total nonpoint
		Org.-N	mg/l	0.33	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 4
		NO ₂₊₃ - N	mg/l	0.09	Site 4
6	Site 6 to Little Caney Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	6.95	35% reduction in total nonpoint
		Org.-N	mg/l	0.57	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 6
		NO ₂₊₃ - N	mg/l	0.1	Site 6
7	Little Caney Creek to dam	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	6.95	35% reduction in total nonpoint
		Org.-N	mg/l	0.57	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 6
		NO ₂₊₃ - N	mg/l	0.1	Site 6
8	dam to Caney Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.54	35% reduction in total nonpoint
		Org.-N	mg/l	0.07	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 7
		NO ₂₊₃ - N	mg/l	0.07	Site 7

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 17, Incremental Data for DO, BOD, Nitrogen

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
10	Hurricane Creek to Site 10	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	5.85	35% reduction in total nonpoint
		Org.-N	mg/l	0.63	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 8
		NO ₂₊₃ - N	mg/l	0.09	Site 8
11	Site 10 to Magnolia Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	6.19	35% reduction in total nonpoint
		Org.-N	mg/l	0.63	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ - N	mg/l	0.08	Site 10
12	Magnolia Creek to Brushy Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	6.19	35% reduction in total nonpoint
		Org.-N	mg/l	0.63	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ - N	mg/l	0.08	Site 10
13	Brushy Creek to Righthand Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	6.19	35% reduction in total nonpoint
		Org.-N	mg/l	0.63	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ - N	mg/l	0.08	Site 10
14	Righthand Creek to Site 11	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	6.19	35% reduction in total nonpoint
		Org.-N	mg/l	0.63	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 10
		NO ₂₊₃ - N	mg/l	0.08	Site 10
15	Site 11 to Boggy Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.19	35% reduction in total nonpoint
		Org.-N	mg/l	0.46	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ - N	mg/l	0.08	Site 11
16	Boggy Creek to Wolf Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.19	35% reduction in total nonpoint
		Org.-N	mg/l	0.46	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ - N	mg/l	0.08	Site 11

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 17, Incremental Data for DO, BOD, Nitrogen

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
17	Wolf Creek to Unnamed Creek	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.19	35% reduction in total nonpoint
		Org.-N	mg/l	0.46	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ - N	mg/l	0.08	Site 11
18	Unnamed Creek to Site 12	Dissolved O ₂	mg/l	2	Groundwater
		BOD	mg/l	4.19	35% reduction in total nonpoint
		Org.-N	mg/l	0.46	35% reduction in total nonpoint
		NH ₃ -N	mg/l	0	Site 11
		NO ₂₊₃ - N	mg/l	0.08	Site 11

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 18, Incremental Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
2	Site 2 to Site 3	Chlorophyll a	ug/l	4.3	Site 2
		NCM	mg/l	3.4	Site 2
3	Site 3 to Little Barnes Creek	Chlorophyll a	ug/l	4.46	Site 3
		NCM	mg/l	3.45	Site 3
4	Little Barnes Creek to Redhead Branch	Chlorophyll a	ug/l	4.23	Site 4
		NCM	mg/l	3.48	Site 4
5	Redhead Branch to Site 6	Chlorophyll a	ug/l	4.23	Site 4
		NCM	mg/l	3.48	Site 4
6	Site 6 to Little Caney Creek	Chlorophyll a	ug/l	3.01	Site 6
		NCM	mg/l	5.05	Site 6
7	Little Caney Creek to dam	Chlorophyll a	ug/l	3.01	Site 6
		NCM	mg/l	5.05	Site 6
8	dam to Caney Creek	Chlorophyll a	ug/l	3.72	Site 7
		NCM	mg/l	4.03	Site 7
10	Hurricane Creek to Site 10	Chlorophyll a	ug/l	2.68	Site 8
		NCM	mg/l	4.52	Site 8
11	Site 10 to Magnolia Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
12	Magnolia Creek to Brushy Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
13	Brushy Creek to Righthand Creek	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
14	Righthand Creek to Site 11	Chlorophyll a	ug/l	2.44	Site 10
		NCM	mg/l	5.18	Site 10
15	Site 11 to Boggy Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
16	Boggy Creek to Wolf Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
17	Wolf Creek to Unnamed Creek	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11
18	Unnamed Creek to Site 12	Chlorophyll a	ug/l	2.58	Site 11
		NCM	mg/l	1.96	Site 11

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 19, Nonpoint Source Data

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Site 2	CBOD1	kg/day	2.25	35% reduction in total nonpoint
		CBOD2	kg/day	7.5	35% reduction in total nonpoint
		O-N	kg/day	2.25	35% reduction in total nonpoint
2	Site 2 to Site 3	CBOD1	kg/day	0	35% reduction in total nonpoint
		CBOD2	kg/day	2.25	35% reduction in total nonpoint
		O-N	kg/day	0	35% reduction in total nonpoint
3	Site 3 to Little Barnes Creek	CBOD1	kg/day	12	35% reduction in total nonpoint
		CBOD2	kg/day	7.5	35% reduction in total nonpoint
		O-N	kg/day	0	35% reduction in total nonpoint
4	Little Barnes Creek to Redhead Branch	CBOD1	kg/day	2.25	35% reduction in total nonpoint
		CBOD2	kg/day	3.75	35% reduction in total nonpoint
		O-N	kg/day	0.75	35% reduction in total nonpoint
5	Redhead Branch to Site 6	CBOD1	kg/day	0	35% reduction in total nonpoint
		CBOD2	kg/day	5.62	35% reduction in total nonpoint
		O-N	kg/day	0.75	35% reduction in total nonpoint
6	Site 6 to Little Caney Creek	CBOD1	kg/day	15	35% reduction in total nonpoint
		CBOD2	kg/day	3	35% reduction in total nonpoint
		O-N	kg/day	1.5	35% reduction in total nonpoint
7	Little Caney Creek to dam	CBOD1	kg/day	10.5	35% reduction in total nonpoint
		CBOD2	kg/day	1.5	35% reduction in total nonpoint
		O-N	kg/day	0.45	35% reduction in total nonpoint
8	dam to Caney Creek	CBOD1	kg/day	4.5	35% reduction in total nonpoint
		CBOD2	kg/day	2.25	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
9	Caney Creek to Hurricane Creek	CBOD1	kg/day	1.5	35% reduction in total nonpoint
		CBOD2	kg/day	6.75	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
10	Hurricane Creek to Site 10	CBOD1	kg/day	1.5	35% reduction in total nonpoint
		CBOD2	kg/day	2.25	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
11	Site 10 to Magnolia Creek	CBOD1	kg/day	3.75	35% reduction in total nonpoint
		CBOD2	kg/day	0	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
12	Magnolia Creek to Brushy Creek	CBOD1	kg/day	2.25	35% reduction in total nonpoint
		CBOD2	kg/day	0	35% reduction in total nonpoint
		O-N	kg/day	0	35% reduction in total nonpoint
13	Brushy Creek to Righthand Creek	CBOD1	kg/day	3.75	35% reduction in total nonpoint
		CBOD2	kg/day	0	35% reduction in total nonpoint
		O-N	kg/day	0	35% reduction in total nonpoint

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 19, Nonpoint Source Data

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
14	Righthand Creek to Site 11	CBOD1	kg/day	3	35% reduction in total nonpoint
		CBOD2	kg/day	0	35% reduction in total nonpoint
		O-N	kg/day	0	35% reduction in total nonpoint
15	Site 11 to Boggy Creek	CBOD1	kg/day	3.75	35% reduction in total nonpoint
		CBOD2	kg/day	0	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
16	Boggy Creek to Wolf Creek	CBOD1	kg/day	0	35% reduction in total nonpoint
		CBOD2	kg/day	0	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
17	Wolf Creek to Unnamed Creek	CBOD1	kg/day	2.25	35% reduction in total nonpoint
		CBOD2	kg/day	1.5	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
18	Unnamed Creek to Site 12	CBOD1	kg/day	3.75	35% reduction in total nonpoint
		CBOD2	kg/day	1.5	35% reduction in total nonpoint
		O-N	kg/day	0.64	35% reduction in total nonpoint
19	Site 12 to Clear Creek	CBOD1	kg/day	11.25	35% reduction in total nonpoint
		CBOD2	kg/day	0.75	35% reduction in total nonpoint
		O-N	kg/day	0.64	35% reduction in total nonpoint
20	Clear Creek to Bear Creek	CBOD1	kg/day	3.75	35% reduction in total nonpoint
		CBOD2	kg/day	0	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
21	Bear Creek to Site 13	CBOD1	kg/day	2.25	35% reduction in total nonpoint
		CBOD2	kg/day	0	35% reduction in total nonpoint
		O-N	kg/day	0.38	35% reduction in total nonpoint
22	Site 13 to Calcasieu River	CBOD1	kg/day	268.13	35% reduction in total nonpoint
		CBOD2	kg/day	63.75	35% reduction in total nonpoint
		O-N	kg/day	20.25	35% reduction in total nonpoint

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 20, Headwater Data for Flow, Temperature, Salinity, and Conservatives

Reach #	REACH DESCRIPTION	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	
		Headwater name		Barnes Creek	
		Headwater flow	cms	0.0351	Projected flow for summer critical
		Temperature	°Celcius	26.00	90th percentile Temperature from Ambient Site 0837
		Conservative Matl. I	mg/l	33.90	Site 2
		Conservative Matl. II	mg/l	12.40	Site 2

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 21, Headwater Data for DO, BOD, and Nitrogen

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	Site 2
		Dissolved O ₂	mg/l	7.3	90 percent of DO Sat from Ambient Site 0837
		BOD	mg/l	2.47	35% reduction in total nonpoint
		O-N	mg/l	1.03	35% reduction in total nonpoint
		NH ₃	mg/l	0	Site 2
		Nitrate Nitrite	mg/l	0.56	Site 2

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 22, Headwater Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives

Reach #	NAME	Parameter	Units	Value	Source/Justification
1	Headwater - Little Barnes Creek	Element # of input		1	
		Chlorophyll a	mg/l	2.6	Site 2
		CBOD 2	mg/l	3.4	Site 2

Barnes Creek Winter Projection Model Input Description For 2.0 DO In 030602

DATA TYPE 27, Lower Boundary Conditions

Reach #	NAME	Parameter	Units	Value	Source/Justification
36	Sandy Creek - Hwy 124	Temperature	°Celcius	26	90th percentile Temperature from Ambient Site 0837
		Salinity	ppt		
		Conservative Matl. I	mg/l		
		Conservative Matl. II			
		Dissolved O ₂	mg/l		
		BOD	mg/l		
		Org.- N	mg/l		
		NH ₃ -N	mg/l		
		NO ₂₊₃ -N	mg/l		
		Chlorophyll a	ug/l	1.9	Site 13
		Nonconservative	mg/l		

APPENDIX B18 - Proposed 2.0 winter loading calculations

Proposed 2.0 DO Standard Winter TMDL calculations and Projection model calculations for Incremental loads:

Barnes Creek - 030601 and 030602

Shaded cells are input values for calculations.
Values to be used in the projection models.

Incremental Load Determinations:																	
Reach Description and #	Calibration Load determinations:										Percentage Reduction calculations:			Projection Model Input determinations:			
	Projection Flow (cms)	Calb. UCBOC conc. (mg/l)	Unadjusted UCBOC (kg/day)	Calb. UNBOD conc. (mg/l)	Unadjusted UNBOD (kg/day)	Background Conc. UCBOC (mg/l)	Background Conc. UNBOD (mg/l)	Background % Reduction	Background Load UCBOC (kg/day)	Background Load UNBOD (kg/day)	Actual % Reduction of Man-Made Loads	Increm. UCBOC Load Adjusted For % Reduction (LA load)	Increm. UNBOD Load Adjusted For % Reduction (LA load)	Increm. UCBOC Adjusted for MOS (kg/day) (1)	Increm. UNBOD Adjusted for MOS (kg/day) (1)	Projection UCBOC conc. (mg/l)	Projection UNBOD conc. (mg/l)
	A	B	C = (86.4)(A)(B)	D	E = (86.4)(A)(D)	F	G	H1	H = (1-H1) (86.4)(A)(F)	I = (1-H1) (86.4)(A)(G)	J, Note 1	K = (C-H)(1-J) + H	L = (E-I)(1-J) + I	M = (K-H) / (1-MOS) + H	N = (L-I) / (1-MOS) + I	M / [(A)(86.4)]	N / [(A)(86.4)]
1								0%			35%						
2	-0.0272	6.05	-14.22	1.30	-3.06			0%	0.00	0.00	35%	-9.24	-1.99	-12	-2	4.92	1.06
3	-0.0204	5.94	-10.47	0.70	-1.23			0%	0.00	0.00	35%	-6.81	-0.80	-9	-1	4.83	0.57
4	0.0057	7.01	3.45	0.41	0.20			0%	0.00	0.00	35%	2.24	0.13	3	0	5.70	0.33
5	0.0057	7.01	3.45	0.41	0.20			0%	0.00	0.00	35%	2.24	0.13	3	0	5.70	0.33
6	-0.0096	8.55	-7.09	0.70	-0.58			0%	0.00	0.00	35%	-4.61	-0.38	-6	0	6.95	0.57
7	-0.0096	8.55	-7.09	0.70	-0.58			0%	0.00	0.00	35%	-4.61	-0.38	-6	0	6.95	0.57
8								0%			35%						
9								0%			35%						
10	0.0071	7.20	4.42	0.77	0.47			0%	0.00	0.00	35%	2.87	0.31	4	0	5.85	0.63
11	0.0033	7.62	2.17	0.78	0.22			0%	0.00	0.00	35%	1.41	0.14	2	0	6.19	0.63
12	0.0033	7.62	2.17	0.78	0.22			0%	0.00	0.00	35%	1.41	0.14	2	0	6.19	0.63
13	0.0033	7.62	2.17	0.78	0.22			0%	0.00	0.00	35%	1.41	0.14	2	0	6.19	0.63
14	0.0033	7.62	2.17	0.78	0.22			0%	0.00	0.00	35%	1.41	0.14	2	0	6.19	0.63
15	0.0079	5.16	3.52	0.57	0.39			0%	0.00	0.00	35%	2.29	0.25	3	0	4.19	0.46
16	0.0079	5.16	3.52	0.57	0.39			0%	0.00	0.00	35%	2.29	0.25	3	0	4.19	0.46
17	0.0079	5.16	3.52	0.57	0.39			0%	0.00	0.00	35%	2.29	0.25	3	0	4.19	0.46
18	0.0079	5.16	3.52	0.57	0.39			0%	0.00	0.00	35%	2.29	0.25	3	0	4.19	0.46
19								0%			35%						
20								0%			35%						
21								0%			35%						
22								0%			35%						
Sub-Total benthic loading									0	0		-3	-1	-4	-2		

Note 1: The percentage reduction values are taken from the "Non-Point Benthic Load Input and TMDL Calculations" worksheet.

EXPLICIT MARGINS:
MARGIN OF SAFETY (MOS) (%) = **20%**

Proposed 2.0 DO Standard Winter TMDL Calculations for Point Source loads:

Barnes Creek - 030601 and 030602

Input data into the shaded cells.

Point Source Loading Calculations																		
Pt. Source / Facility Description and Reach #	Receiving Stream	Included in the Projection Model (Yes/No)	Anticipated/ design flow (cms)	Flow with MOS (cms)	Proposed Permit Limits			UCBOD				UNBOD				Sub-total of Point Source Loads		
					CBOD ₅ (mg/l)	NH ₃ N (mg/l)	MOS (%)	Ultimate Conc. (mg/l) (2)	Loads (kg/day) (1)	WLA (kg/day)	Reserve/ MOS Load (kg/day)	Ultimate Conc. (mg/l) (2)	Loads (kg/day) (1)	WLA (kg/day)	Reserve/ MOS Load (kg/day)	Loads (kg/day)	WLA (kg/day)	Reserve/ MOS (kg/day)
			A	A1 = A/(1-D)	B	C	D	E = 2.3 x B	F = (86.4)(A1)(E)	G = (1-D) x F	H = (D)(F)	I = 4.3 x B	J = (86.4)(A1)(I)	K = (1-D) x J	L = (D)(J)	F + J	G + K	H + L
City of DeRidder	Unnamed Ditch to Barnes Creek	Yes	0.132752	0.165940	10.00	5.00	0.20	23.00	329.76	263.81	65.95	21.50	308.25	246.60	61.65	638.01	510.41	127.60
Evergreen Mobile Home Park	Unnamed ditch to Little Barnes Creek to Barnes Creek	No	0.000700	0.000875	30.00	15.00	0.20	69.00	5.22	4.17	1.04	64.50	4.88	3.90	0.98	10.09	8.07	2.02
Beauregard Fire Prot Dist #2	Unnamed ditch to unnamed trib to Barnes Creek	No	0.000020	0.000025	30.00	15.00	0.20	69.00	0.15	0.12	0.03	64.50	0.14	0.11	0.03	0.29	0.23	0.06
Broadlands Fire Dept Station #1	Unnamed ditch to Little Barnes Creek to Barnes Creek	No	0.000020	0.000025	30.00	15.00	0.20	69.00	0.15	0.12	0.03	64.50	0.14	0.11	0.03	0.29	0.23	0.06
SUB-TOTAL Loads			0.133492						335.27	268.22	67.05		313.41	250.72	62.68	648.68	518.94	129.74

(1) - Load(kg/day) = 86.4 x Ultimate Conc.(mg/l) x Modeled Flow(cms)
 (2) - [UCBOD conc. = CBOD5(mg/l) x 2.3] and [UNBOD conc. = NH3N(mg/l) x 4.3]

APPENDIX B19 - Critical temperature do saturation calculations

Critical Temperature and DO Sat Determinations for Current DO Standard:

Site Description: Barnes Creek north of Longville, Louisiana Ambient Site #0837

Raw Data				
Date			DO	Temperature
Mo	D	Yr	(mg/l)	(C°)
12	14	1999	4.58	12.68
11	9	1999	6.65	13.97
10	12	1999	4.13	22.31
9	15	1999	3.91	22.93
8	10	1999	3.2	27.44
7	13	1999	5.7	24.62
6	8	1999	3.25	24.64
5	11	1999	5.88	20.8
4	13	1999	4.42	19.62
3	9	1999	5.37	16.58
2	9	1999	9.18	8.35
1	12	1999	8.62	9.52

Input values into shaded area

Summer Chlorinity	0
Winter Chlorinity	0
Summer Season 90th Percentile, Temperature(°C):	26.0
Winter Season 90th Percentile, Temperature(°C):	18.1
Summer Season 90 percent DO Sat	7.3
Winter Season 90 percent DO Sat	8.5

Summer Season

- 5
- 6
- 7
- 8
- 9
- 10
-
-
-
-

Winter Season

- 11
- 12
- 1
- 2
- 3
- 4
-
-
-
-

Critical Temperature and DO Sat Determinations for Current DO Standard:

Site Description: Barnes Creek south of Reeves, Louisiana Ambient Site #0838

Raw Data					Input values into shaded area
Date			DO	Temperature	
Mo	D	Yr	(mg/l)	(C°)	
12	22	1999	9.05	9.08	Summer Chlorinity: 0
11	17	1999	4.56	14.7	Winter Chlorinity: 0
10	20	1999	3.06	19.1	
9	22	1999	3.85	22.28	
8	18	1999	2.71	27.39	Summer Season 90th Percentile, Temperature(°C): 26.7
7	21	1999	2.32	25.92	Winter Season 90th Percentile, Temperature(°C): 16.7
6	16	1999	5.02	24.8	
5	19	1999	2.66	23.77	
4	21	1999	1.92	18.73	
3	17	1999	6.47	12.83	
2	18	1999	5.3	14.37	Summer Season 90 percent DO Sat: 7.2
1	20	1999	5.36	14.22	Winter Season 90 percent DO Sat: 8.8

Summer Season
5
6
7
8
9
10

Winter Season
11
12
1
2
3
4

APPENDIX C - Survey Data Measurements and Analysis Results

APPENDIX C1 - Overview of survey water quality data

Tuesday, November 27, 2001

**LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY SERVICES DIVISION
WATER LABORATORY**

**8618 GSRI ROAD
BATON ROUGE, LOUISIANA 70810
(225) 765-2405**

ELAINE SORBET, LABORATORY MANAGER

Name of Survey: Barnes Creek

Site:	Lab ID:	Analysis	Resul	Date Started:	Date Read:	Analyst:
BC2ABLK	AD18548	TSS	ND ppm	08/09/2001	08/10/2001	DBH
		TDS	ND ppm	08/08/2001	08/10/2001	DBH
		Alkalinity	ND ppm	08/20/2001	08/20/2001	BSF
		Turbidity	ND NTU	08/09/2001	08/09/2001	LIT
		Specific Conductance	ND umhos/cm	08/20/2001	08/20/2001	BSF
		True Color	ND PCU	08/09/2001	08/09/2001	LIT
		Chloride, Ion Chromatograph	ND ppm	08/25/2001	08/25/2001	CLJ
		Sulfate	ND ppm		08/25/2001	CLJ
		Sodium	1.5 ppm	08/28/2001	08/28/2001	CHR
		BC2BBLK	AD18549	Hardness	ND ppm	08/22/2001
Nitrate+Nitrite Nitrogen	ND ppm			08/15/2001	08/15/2001	ASC
BC2CBLK	AD18550	TP	0.09 ppm	08/20/2001	08/20/2001	ASC
		TKN	ND ppm		08/20/2001	ASC
		Ammonia-Nitrogen	ND ppm	08/15/2001	08/15/2001	NVA
BC2TOCBL	AD18551	TOC	ND ppm	08/16/2001	08/17/2001	MSR
BC2UBODB	AD18552	pH, Ultimate BOD survey	6.00 pH units	10/08/2001	10/08/2001	SBW
		TOC (60 Day BOD)	ND ppm	10/11/2001	10/12/2001	SBW
		TKN (60 Day BOD)	0.40 ppm	10/10/2001	10/10/2001	ASC
		NO2NO3 - Initial Reading	ND ppm	08/16/2001	08/16/2001	ASC
		NO2NO3 - Reading 1	ND ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 2	ND ppm		08/23/2001	ASC
		NO2NO3 - Reading 3	ND ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 4	ND ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 5	ND ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 6	ND ppm		08/30/2001	ASC
		NO2NO3 - Reading 7	ND ppm	09/13/2001	09/13/2001	ASC
		NO2NO3 - Reading 8	ND ppm	09/21/2001	09/21/2001	SBW
		NO2NO3 - Reading 9	ND ppm	10/03/2001	10/03/2001	ASC
		NO2NO3 - Final	ND ppm	10/12/2001	10/12/2001	ASC
		Non-Filtered BOD 60 - Reading 1	0.1 ppm	08/09/2001	08/10/2001	SBW
		Non-Filtered BOD 60 - Reading 2	0.1 ppm		08/13/2001	SBW
		Non-Filtered BOD 60 - Reading 3	0.1 ppm		08/16/2001	SBW
		Non-Filtered BOD 60 - Reading 4	0.3 ppm		08/21/2001	SBW
		Non-Filtered BOD 60 - Reading 5	0.3 ppm		08/24/2001	SBW
		Non-Filtered BOD 60 - Reading 6	0.3 ppm		08/29/2001	MSR
Non-Filtered BOD 60 - Reading 7	0.3 ppm		09/06/2001	SBW		
Non-Filtered BOD 60 - Reading 8	0.4 ppm		09/18/2001	SBW		
Non-Filtered BOD 60 - Reading 9	0.4 ppm		09/28/2001	SBW		

Site:	Lab ID:	Analysis	Resul		Date Started:	Date Read:	Analyst:
BC2UBODB	AD18552	Non-Filtered BOD 60 - Final	0.4	ppm	08/09/2001	10/08/2001	SBW
BC2A	AD18553	TSS	105	ppm		08/10/2001	DBH
		TDS	200	ppm		08/10/2001	DBH
		Alkalinity	66.7	ppm	08/20/2001	08/20/2001	BSF
		Turbidity	65	NTU	08/09/2001	08/09/2001	LIT
		Specific Conductance	272	umhos/cm	08/20/2001	08/20/2001	BSF
		True Color	30	PCU	08/09/2001	08/09/2001	LIT
		Chloride, Ion Chromatograph	33.9	ppm	08/25/2001	08/25/2001	CLJ
		Sulfate	12.4	ppm		08/25/2001	CLJ
BC2B	AD18554	Sodium	39.8	ppm	08/28/2001	08/28/2001	CHR
BC2C	AD18555	Hardness	39.0	ppm	08/22/2001	08/22/2001	BSF
		Nitrate+Nitrite Nitrogen	0.56	ppm	08/15/2001	08/15/2001	ASC
		TP	1.77	ppm	08/28/2001	08/28/2001	ASC
		TKN	1.30	ppm		08/28/2001	ASC
		Ammonia-Nitrogen	ND	ppm	08/15/2001	08/15/2001	NVA
BC2TOC	AD18556	TOC	3.3	ppm	08/16/2001	08/17/2001	MSR
BC2UBOD	AD18557	pH, Ultimate BOD survey	7.22	pH units	10/08/2001	10/08/2001	SBW
		TOC (60 Day BOD)	4.8	ppm	10/11/2001	10/12/2001	SBW
		TKN (60 Day BOD)	0.77	ppm	10/10/2001	10/10/2001	ASC
		NO2NO3 - Initial Reading	0.58	ppm	08/16/2001	08/16/2001	ASC
		NO2NO3 - Reading 1	0.53	ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 2	0.57	ppm		08/23/2001	ASC
		NO2NO3 - Reading 3	0.63	ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 4	0.79	ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 5	0.78	ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 6	0.86	ppm	10/12/2001	10/12/2001	ASC
		NO2NO3 - Reading 7	0.93	ppm	09/13/2001	09/13/2001	ASC
		NO2NO3 - Reading 8	0.86	ppm	09/21/2001	09/21/2001	SBW
		NO2NO3 - Reading 9	0.9	ppm	10/03/2001	10/03/2001	ASC
		NO2NO3 - Final	0.93	ppm	10/12/2001	10/12/2001	ASC
		Non-Filtered BOD 60 - Reading 1	0.3	ppm	08/09/2001	08/10/2001	SBW
		Non-Filtered BOD 60 - Reading 2	1.2	ppm		08/13/2001	SBW
		Non-Filtered BOD 60 - Reading 3	2.2	ppm		08/16/2001	SBW
		Non-Filtered BOD 60 - Reading 4	3.3	ppm		08/21/2001	SBW
		Non-Filtered BOD 60 - Reading 5	3.6	ppm		08/24/2001	SBW
		Non-Filtered BOD 60 - Reading 6	3.9	ppm		08/29/2001	MSR
		Non-Filtered BOD 60 - Reading 7	4.7	ppm		09/06/2001	SBW
		Non-Filtered BOD 60 - Reading 8	5.4	ppm		09/18/2001	SBW
		Non-Filtered BOD 60 - Reading 9	5.8	ppm		09/28/2001	SBW
		Non-Filtered BOD 60 - Final	6.2	ppm		10/08/2001	SBW
BC3A	AD18558	TSS	12.0	ppm		08/10/2001	DBH
		TDS	195	ppm		08/10/2001	DBH
		Alkalinity	68.3	ppm	08/20/2001	08/20/2001	BSF
		Turbidity	11	NTU	08/09/2001	08/09/2001	LIT
		Specific Conductance	270	umhos/cm	08/20/2001	08/20/2001	BSF
		True Color	34	PCU	08/09/2001	08/09/2001	LIT
		Chloride, Ion Chromatograph	33.6	ppm	08/25/2001	08/25/2001	CLJ

Site:	Lab ID:	Analysis	Result		Date Started:	Date Read:	Analyst:
BC3A	AD18558	Sulfate	11.0	ppm	08/25/2001	08/25/2001	CLJ
BC3B	AD18559	Sodium	39.2	ppm	08/28/2001	08/28/2001	CHR
BC3C	AD18560	Hardness	39.6	ppm	08/22/2001	08/22/2001	BSF
		Nitrate+Nitrite Nitrogen	0.37	ppm	08/15/2001	08/15/2001	ASC
		TP	1.62	ppm	08/28/2001	08/28/2001	ASC
		TKN	0.70	ppm		08/28/2001	ASC
		Ammonia-Nitrogen	ND	ppm	08/20/2001	08/20/2001	NVA
BC3TOC	AD18561	TOC	4.9	ppm	08/16/2001	08/17/2001	MSR
BC3UBOD	AD18562	pH, Ultimate BOD survey	7.45	pH units	10/08/2001	10/08/2001	SBW
		TOC (60 Day BOD)	3.3	ppm	10/11/2001	10/12/2001	SBW
		TKN (60 Day BOD)	0.70	ppm	10/10/2001	10/10/2001	ASC
		NO2NO3 - Initial Reading	0.38	ppm	08/16/2001	08/16/2001	ASC
		NO2NO3 - Reading 1	0.36	ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 2	0.33	ppm		08/23/2001	ASC
		NO2NO3 - Reading 3	0.36	ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 4	0.43	ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 5	0.45	ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 6	0.50	ppm		08/30/2001	ASC
		NO2NO3 - Reading 7	0.55	ppm	09/13/2001	09/13/2001	ASC
		NO2NO3 - Reading 8	0.51	ppm	09/21/2001	09/21/2001	SBW
		NO2NO3 - Reading 9	0.55	ppm	10/03/2001	10/03/2001	ASC
		NO2NO3 - Final	0.55	ppm	10/12/2001	10/12/2001	ASC
		Non-Filtered BOD 60 - Reading 1	0.3	ppm	08/09/2001	08/10/2001	SBW
		Non-Filtered BOD 60 - Reading 2	0.9	ppm		08/13/2001	SBW
		Non-Filtered BOD 60 - Reading 3	1.4	ppm		08/16/2001	SBW
		Non-Filtered BOD 60 - Reading 4	2.3	ppm		08/21/2001	SBW
		Non-Filtered BOD 60 - Reading 5	2.6	ppm		08/24/2001	SBW
		Non-Filtered BOD 60 - Reading 6	2.8	ppm		08/29/2001	MSR
		Non-Filtered BOD 60 - Reading 7	3.5	ppm		09/06/2001	SBW
		Non-Filtered BOD 60 - Reading 8	4.1	ppm		09/18/2001	SBW
		Non-Filtered BOD 60 - Reading 9	4.5	ppm		09/28/2001	SBW
		Non-Filtered BOD 60 - Final	4.9	ppm		10/08/2001	SBW
BC4A	AD18563	TSS	7.0	ppm		08/10/2001	DBH
		TDS	154	ppm		08/10/2001	DBH
		Alkalinity	56.9	ppm	08/20/2001	08/20/2001	BSF
		Turbidity	14	NTU	08/09/2001	08/09/2001	LIT
		Specific Conductance	224	umhos/cm	08/20/2001	08/20/2001	BSF
		True Color	60	PCU	08/09/2001	08/09/2001	LIT
		Chloride, Ion Chromatograph	30.2	ppm	08/25/2001	08/25/2001	CLJ
		Sulfate	7.9	ppm		08/25/2001	CLJ
BC4B	AD18564	Sodium	34.1	ppm	08/28/2001	08/28/2001	CHR
BC4C	AD18565	Hardness	29.8	ppm	08/22/2001	08/22/2001	BSF
		Nitrate+Nitrite Nitrogen	0.09	ppm	08/15/2001	08/15/2001	ASC
		TP	2.56	ppm	08/22/2001	08/22/2001	ASC
		TKN	0.41	ppm	08/20/2001	08/20/2001	ASC
		Ammonia-Nitrogen	ND	ppm		08/20/2001	NVA
BC4TOC	AD18566	TOC	5.8	ppm	08/16/2001	08/17/2001	MSR

Site:	Lab ID:	Analysis	Resul		Date Started:	Date Read:	Analyst:		
BC4UBOD	AD18567	pH, Ultimate BOD survey	7.18	pH units	10/08/2001	10/08/2001	SBW		
		TOC (60 Day BOD)	6.3	ppm	10/11/2001	10/12/2001	SBW		
		TKN (60 Day BOD)	0.64	ppm	10/10/2001	10/10/2001	ASC		
		NO2NO3 - Initial Reading	0.10	ppm	08/16/2001	08/16/2001	ASC		
		NO2NO3 - Reading 1	0.07	ppm	08/23/2001	08/23/2001	ASC		
		NO2NO3 - Reading 2	0.07	ppm		08/23/2001	ASC		
		NO2NO3 - Reading 3	0.10	ppm	08/30/2001	08/30/2001	ASC		
		NO2NO3 - Reading 4	0.11	ppm	08/23/2001	08/23/2001	ASC		
		NO2NO3 - Reading 5	0.17	ppm	08/30/2001	08/30/2001	ASC		
		NO2NO3 - Reading 6	0.23	ppm		08/30/2001	ASC		
		NO2NO3 - Reading 7	0.20	ppm	09/13/2001	09/13/2001	ASC		
		NO2NO3 - Reading 8	0.26	ppm	09/21/2001	09/21/2001	SBW		
		NO2NO3 - Reading 9	0.3	ppm	10/03/2001	10/03/2001	ASC		
		NO2NO3 - Final	0.30	ppm	10/12/2001	10/12/2001	ASC		
		Non-Filtered BOD 60 - Reading 1	0.4	ppm	08/09/2001	08/10/2001	SBW		
		Non-Filtered BOD 60 - Reading 2	1.2	ppm		08/13/2001	SBW		
		Non-Filtered BOD 60 - Reading 3	1.7	ppm		08/16/2001	SBW		
		Non-Filtered BOD 60 - Reading 4	2.6	ppm		08/21/2001	SBW		
		Non-Filtered BOD 60 - Reading 5	3.1	ppm		08/24/2001	SBW		
		Non-Filtered BOD 60 - Reading 6	3.5	ppm		08/29/2001	MSR		
		Non-Filtered BOD 60 - Reading 7	4.3	ppm		09/06/2001	SBW		
		Non-Filtered BOD 60 - Reading 8	5.1	ppm		09/18/2001	SBW		
		Non-Filtered BOD 60 - Reading 9	5.6	ppm		09/28/2001	SBW		
		Non-Filtered BOD 60 - Final	6.1	ppm		10/08/2001	SBW		
		BC6A	AD18568	TSS	46.7	ppm		08/10/2001	DBH
				TDS	139	ppm		08/10/2001	DBH
				Alkalinity	39.6	ppm	08/20/2001	08/20/2001	BSF
				Turbidity	29	NTU	08/09/2001	08/09/2001	LIT
				Specific Conductance	163	umhos/cm	08/20/2001	08/20/2001	BSF
				True Color	100	PCU	08/09/2001	08/09/2001	LIT
				Chloride, Ion Chromatograph	23.6	ppm	08/25/2001	08/25/2001	CLJ
				Sulfate	6.0	ppm		08/25/2001	CLJ
				Sodium	22.8	ppm	08/28/2001	08/28/2001	CHR
		BC6B	AD18569	Hardness	25.2	ppm	08/23/2001	08/23/2001	BSF
Nitrate+Nitrite Nitrogen	0.10			ppm	08/15/2001	08/15/2001	ASC		
BC6C	AD18570	TP	0.97	ppm	08/20/2001	08/20/2001	ASC		
		TKN	0.70	ppm		08/20/2001	ASC		
		Ammonia-Nitrogen	ND	ppm		08/20/2001	NVA		
BC6TOC	AD18571	TOC	16.0	ppm	08/16/2001	08/17/2001	MSR		
BC6UBOD	AD18572	pH, Ultimate BOD survey	7.25	pH units	10/08/2001	10/08/2001	SBW		
		TOC (60 Day BOD)	9.6	ppm	10/11/2001	10/12/2001	SBW		
		TKN (60 Day BOD)	0.47	ppm	10/10/2001	10/10/2001	ASC		
		NO2NO3 - Initial Reading	0.10	ppm	08/16/2001	08/16/2001	ASC		
		NO2NO3 - Reading 1	0.08	ppm	08/23/2001	08/23/2001	ASC		
		NO2NO3 - Reading 2	0.08	ppm		08/23/2001	ASC		
		NO2NO3 - Reading 3	0.11	ppm	08/30/2001	08/30/2001	ASC		
		NO2NO3 - Reading 4	0.16	ppm	08/23/2001	08/23/2001	ASC		

Site:	Lab ID:	Analysis	Result		Date Started:	Date Read:	Analyst:			
BC6UBOD	AD18572	NO2NO3 - Reading 5	0.20	ppm		08/30/2001	08/30/2001	ASC		
		NO2NO3 - Reading 6	0.24	ppm			08/30/2001	ASC		
		NO2NO3 - Reading 7	0.14	ppm		09/13/2001	09/13/2001	ASC		
		NO2NO3 - Reading 8	0.24	ppm		09/21/2001	09/21/2001	SBW		
		NO2NO3 - Reading 9	0.27	ppm		10/03/2001	10/03/2001	ASC		
		NO2NO3 - Final	0.28	ppm		10/12/2001	10/12/2001	ASC		
		Non-Filtered BOD 60 - Reading 1	0.4	ppm		08/09/2001	08/10/2001	SBW		
		Non-Filtered BOD 60 - Reading 2	1.2	ppm			08/13/2001	SBW		
		Non-Filtered BOD 60 - Reading 3	1.8	ppm			08/16/2001	SBW		
		Non-Filtered BOD 60 - Reading 4	3.0	ppm			08/21/2001	SBW		
		Non-Filtered BOD 60 - Reading 5	3.4	ppm			08/24/2001	SBW		
		Non-Filtered BOD 60 - Reading 6	3.9	ppm			08/29/2001	MSR		
		Non-Filtered BOD 60 - Reading 7	4.9	ppm			09/06/2001	SBW		
		Non-Filtered BOD 60 - Reading 8	6.0	ppm			09/18/2001	SBW		
		Non-Filtered BOD 60 - Reading 9	6.8	ppm			09/28/2001	SBW		
		Non-Filtered BOD 60 - Final	7.5	ppm			10/08/2001	SBW		
		BC7ABLK	AD18573	TSS	ND	ppm			08/10/2001	DBH
				TDS	ND	ppm			08/10/2001	DBH
				Alkalinity	ND	ppm		08/20/2001	08/20/2001	BSF
Turbidity	ND			NTU		08/09/2001	08/09/2001	LIT		
Specific Conductance	ND			umhos/cm		08/20/2001	08/20/2001	BSF		
True Color	ND			PCU		08/09/2001	08/09/2001	LIT		
Chloride, Ion Chromatograph	ND			ppm		08/25/2001	08/25/2001	CLJ		
Sulfate	ND			ppm			08/25/2001	CLJ		
BC7BBLK	AD18574	Sodium	ND	ppm		08/28/2001	08/28/2001	CHR		
		Hardness	ND	ppm		08/22/2001	08/22/2001	BSF		
BC7CBLK	AD18575	Nitrate+Nitrite Nitrogen	ND	ppm		08/15/2001	08/15/2001	ASC		
		TP	ND	ppm		08/20/2001	08/20/2001	ASC		
		TKN	ND	ppm		08/22/2001	08/22/2001	ASC		
		Ammonia-Nitrogen	ND	ppm		08/20/2001	08/20/2001	NVA		
		TOC	ND	ppm		08/16/2001	08/17/2001	MSR		
BC7TOCBL BC7UBODB	AD18576 AD18577	pH, Ultimate BOD survey	5.58	pH units		10/08/2001	10/08/2001	SBW		
		TOC (60 Day BOD)	ND	ppm		10/11/2001	10/12/2001	SBW		
		TKN (60 Day BOD)	ND	ppm		10/10/2001	10/10/2001	ASC		
		NO2NO3 - Initial Reading	ND	ppm		08/16/2001	08/16/2001	ASC		
		NO2NO3 - Reading 1	ND	ppm		08/23/2001	08/23/2001	ASC		
		NO2NO3 - Reading 2	ND	ppm			08/23/2001	ASC		
		NO2NO3 - Reading 3	ND	ppm		08/30/2001	08/30/2001	ASC		
		NO2NO3 - Reading 4	ND	ppm		08/23/2001	08/23/2001	ASC		
		NO2NO3 - Reading 5	ND	ppm		08/30/2001	08/30/2001	ASC		
		NO2NO3 - Reading 6	ND	ppm			08/30/2001	ASC		
		NO2NO3 - Reading 7	ND	ppm		09/13/2001	09/13/2001	ASC		
		NO2NO3 - Reading 8	ND	ppm		09/21/2001	09/21/2001	SBW		
		NO2NO3 - Reading 9	ND	ppm		10/03/2001	10/03/2001	ASC		
		NO2NO3 - Final	0.05	ppm		10/12/2001	10/12/2001	ASC		
		Non-Filtered BOD 60 - Reading 1	0.1	ppm		08/09/2001	08/10/2001	SBW		
Non-Filtered BOD 60 - Reading 2	0.1	ppm			08/13/2001	SBW				

Site:	Lab ID:	Analysis	Result		Date Started:	Date Read:	Analyst:
BC7UBODB	AD18577	Non-Filtered BOD 60 - Reading 3	0.1	ppm	08/09/2001	08/16/2001	SBW
		Non-Filtered BOD 60 - Reading 4	0.2	ppm		08/21/2001	SBW
		Non-Filtered BOD 60 - Reading 5	0.2	ppm		08/24/2001	SBW
		Non-Filtered BOD 60 - Reading 6	0.3	ppm		08/29/2001	MSR
		Non-Filtered BOD 60 - Reading 7	0.3	ppm		09/06/2001	SBW
		Non-Filtered BOD 60 - Reading 8	0.3	ppm		09/18/2001	SBW
		Non-Filtered BOD 60 - Reading 9	0.3	ppm		09/28/2001	SBW
		Non-Filtered BOD 60 - Final	0.3	ppm		10/08/2001	SBW
		BC7A	AD18578	TSS		13.3	ppm
TDS	111			ppm	08/10/2001	DBH	
Alkalinity	24.7			ppm	08/20/2001	BSF	
Turbidity	26			NTU	08/09/2001	LIT	
Specific Conductance	88.2			umhos/cm	08/20/2001	BSF	
True Color	120			PCU	08/09/2001	LIT	
Chloride, Ion Chromatograph	8.8			ppm	08/25/2001	CLJ	
Sulfate	3.2			ppm	08/25/2001	CLJ	
Sodium	7.9			ppm	08/28/2001	CHR	
BC7B	AD18579	Hardness	23.6	ppm	08/23/2001	08/23/2001	BSF
BC7C	AD18580	Nitrate+Nitrite Nitrogen	0.07	ppm	08/15/2001	08/15/2001	ASC
		TP	0.43	ppm	08/20/2001	08/20/2001	ASC
		TKN	0.88	ppm	08/20/2001	08/20/2001	ASC
		Ammonia-Nitrogen	ND	ppm	08/20/2001	08/20/2001	NVA
		TOC	15.5	ppm	08/16/2001	08/17/2001	MSR
BC7TOC	AD18581	TOC	15.5	ppm	08/16/2001	08/17/2001	MSR
BC7UBOD	AD18582	pH, Ultimate BOD survey	6.80	pH units	10/08/2001	10/08/2001	SBW
		TOC (60 Day BOD)	13.5	ppm	10/11/2001	10/12/2001	SBW
		TKN (60 Day BOD)	0.54	ppm	10/10/2001	10/10/2001	ASC
		NO2NO3 - Initial Reading	0.08	ppm	08/16/2001	08/16/2001	ASC
		NO2NO3 - Reading 1	0.05	ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 2	0.06	ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 3	0.10	ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 4	0.10	ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 5	0.14	ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 6	0.17	ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 7	0.06	ppm	09/13/2001	09/13/2001	ASC
		NO2NO3 - Reading 8	0.17	ppm	09/21/2001	09/21/2001	SBW
		NO2NO3 - Reading 9	0.21	ppm	10/03/2001	10/03/2001	ASC
		NO2NO3 - Final	0.22	ppm	10/12/2001	10/12/2001	ASC
		Non-Filtered BOD 60 - Reading 1	0.3	ppm	08/09/2001	08/10/2001	SBW
		Non-Filtered BOD 60 - Reading 2	0.9	ppm	08/13/2001	08/13/2001	SBW
		Non-Filtered BOD 60 - Reading 3	1.4	ppm	08/16/2001	08/16/2001	SBW
		Non-Filtered BOD 60 - Reading 4	2.5	ppm	08/21/2001	08/21/2001	SBW
		Non-Filtered BOD 60 - Reading 5	3.0	ppm	08/24/2001	08/24/2001	SBW
		Non-Filtered BOD 60 - Reading 6	3.8	ppm	08/29/2001	08/29/2001	MSR
		Non-Filtered BOD 60 - Reading 7	5.1	ppm	09/06/2001	09/06/2001	SBW
		Non-Filtered BOD 60 - Reading 8	6.4	ppm	09/18/2001	09/18/2001	SBW
		Non-Filtered BOD 60 - Reading 9	7.4	ppm	09/28/2001	09/28/2001	SBW
		Non-Filtered BOD 60 - Final	8.2	ppm	10/08/2001	10/08/2001	SBW

Site:	Lab ID:	Analysis	Resul	Date Started:	Date Read:	Analyst:		
BC7ADUP	AD18583	TSS	22.0 ppm	08/09/2001	08/10/2001	DBH		
		TDS	104 ppm		08/10/2001	DBH		
		Alkalinity	24.5 ppm	08/20/2001	08/20/2001	BSF		
		Turbidity	26 NTU	08/09/2001	08/09/2001	LIT		
		Specific Conductance	86.0 umhos/cm	08/20/2001	08/20/2001	BSF		
		True Color	120 PCU	08/09/2001	08/09/2001	LIT		
		Chloride, Ion Chromatograph	8.6 ppm	08/28/2001	08/28/2001	CLJ		
		Sulfate	3.3 ppm		08/28/2001	CLJ		
		BC7BDUP	AD18584	Sodium	7.9 ppm		08/28/2001	CHR
		BC7CDUP	AD18585	Hardness	23.9 ppm	08/23/2001	08/23/2001	BSF
Nitrate+Nitrite Nitrogen	0.07 ppm			08/15/2001	08/15/2001	ASC		
TP	0.45 ppm			08/20/2001	08/20/2001	ASC		
TKN	0.96 ppm				08/20/2001	ASC		
		Ammonia-Nitrogen	ND ppm		08/20/2001	NVA		
BC7TOCDU	AD18586	TOC	12.7 ppm	08/16/2001	08/17/2001	MSR		
BC7UBODD	AD18587	pH, Ultimate BOD survey	6.88 pH units	10/08/2001	10/08/2001	SBW		
		TOC (60 Day BOD)	11.6 ppm	10/11/2001	10/12/2001	SBW		
		TKN (60 Day BOD)	0.64 ppm	10/10/2001	10/10/2001	ASC		
		NO2NO3 - Initial Reading	0.08 ppm	08/16/2001	08/16/2001	ASC		
		NO2NO3 - Reading 1	0.05 ppm	08/23/2001	08/23/2001	ASC		
		NO2NO3 - Reading 2	0.06 ppm		08/23/2001	ASC		
		NO2NO3 - Reading 3	0.10 ppm	08/30/2001	08/30/2001	ASC		
		NO2NO3 - Reading 4	0.11 ppm	08/23/2001	08/23/2001	ASC		
		NO2NO3 - Reading 5	0.14 ppm	08/30/2001	08/30/2001	ASC		
		NO2NO3 - Reading 6	0.17 ppm		08/30/2001	ASC		
		NO2NO3 - Reading 7	0.08 ppm	09/13/2001	09/13/2001	ASC		
		NO2NO3 - Reading 8	0.18 ppm	09/21/2001	09/21/2001	SBW		
		NO2NO3 - Reading 9	0.2 ppm	10/03/2001	10/03/2001	ASC		
		NO2NO3 - Final	0.23 ppm	10/12/2001	10/12/2001	ASC		
		Non-Filtered BOD 60 - Reading 1	0.3 ppm	08/09/2001	08/10/2001	SBW		
		Non-Filtered BOD 60 - Reading 2	0.9 ppm		08/13/2001	SBW		
		Non-Filtered BOD 60 - Reading 3	1.5 ppm		08/16/2001	SBW		
		Non-Filtered BOD 60 - Reading 4	2.6 ppm		08/21/2001	SBW		
		Non-Filtered BOD 60 - Reading 5	3.2 ppm		08/24/2001	SBW		
		Non-Filtered BOD 60 - Reading 6	3.9 ppm		08/29/2001	MSR		
		Non-Filtered BOD 60 - Reading 7	5.3 ppm		09/06/2001	SBW		
		Non-Filtered BOD 60 - Reading 8	6.8 ppm		09/18/2001	SBW		
		Non-Filtered BOD 60 - Reading 9	7.8 ppm		09/28/2001	SBW		
Non-Filtered BOD 60 - Final	8.6 ppm		10/08/2001	SBW				
BC7AA	AD18588	TSS	4.0 ppm		08/10/2001	DBH		
		TDS	110 ppm		08/10/2001	DBH		
		Alkalinity	25.3 ppm	08/20/2001	08/20/2001	BSF		
		Turbidity	22 NTU	08/09/2001	08/09/2001	LIT		
		Specific Conductance	89.8 umhos/cm	08/20/2001	08/20/2001	BSF		
		True Color	120 PCU	08/09/2001	08/09/2001	LIT		
		Chloride, Ion Chromatograph	8.6 ppm	08/28/2001	08/28/2001	CLJ		
		Sulfate	3.5 ppm		08/28/2001	CLJ		

Site:	Lab ID:	Analysis	Result	Units	Date Started:	Date Read:	Analyst:
BC7AB	AD18589	Sodium	7.8	ppm	08/28/2001	08/28/2001	CHR
BC7AC	AD18590	Hardness	22.0	ppm	08/23/2001	08/23/2001	BSF
		Nitrate+Nitrite Nitrogen	ND	ppm	08/15/2001	08/15/2001	ASC
		TP	0.38	ppm	08/20/2001	08/20/2001	ASC
		TKN	0.71	ppm		08/20/2001	ASC
		Ammonia-Nitrogen	ND	ppm		08/20/2001	NVA
BC7ATOC	AD18591	TOC	17.5	ppm	08/16/2001	08/17/2001	MSR
BC7AUBOD	AD18592	pH, Ultimate BOD survey	6.92	pH units	10/08/2001	10/08/2001	SBW
		TOC (60 Day BOD)	12.2	ppm	10/11/2001	10/12/2001	SBW
		TKN (60 Day BOD)	0.60	ppm	10/10/2001	10/10/2001	ASC
		NO2NO3 - Initial Reading	0.06	ppm	08/16/2001	08/16/2001	ASC
		NO2NO3 - Reading 1	ND	ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 2	ND	ppm		08/23/2001	ASC
		NO2NO3 - Reading 3	0.06	ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 4	ND	ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 5	0.11	ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 6	0.19	ppm		08/30/2001	ASC
		NO2NO3 - Reading 7	0.11	ppm	09/13/2001	09/13/2001	ASC
		NO2NO3 - Reading 8	0.21	ppm	09/21/2001	09/21/2001	SBW
		NO2NO3 - Reading 9	0.25	ppm	10/03/2001	10/03/2001	ASC
		NO2NO3 - Final	0.27	ppm	10/12/2001	10/12/2001	ASC
		Non-Filtered BOD 60 - Reading 1	0.5	ppm	08/09/2001	08/10/2001	SBW
		Non-Filtered BOD 60 - Reading 2	1.4	ppm		08/13/2001	SBW
		Non-Filtered BOD 60 - Reading 3	2.0	ppm		08/16/2001	SBW
		Non-Filtered BOD 60 - Reading 4	3.1	ppm		08/21/2001	SBW
		Non-Filtered BOD 60 - Reading 5	3.9	ppm		08/24/2001	SBW
		Non-Filtered BOD 60 - Reading 6	4.7	ppm		08/29/2001	MSR
		Non-Filtered BOD 60 - Reading 7	6.2	ppm		09/06/2001	SBW
		Non-Filtered BOD 60 - Reading 8	7.6	ppm		09/18/2001	SBW
		Non-Filtered BOD 60 - Reading 9	8.7	ppm		09/28/2001	SBW
		Non-Filtered BOD 60 - Final	9.6	ppm		10/08/2001	SBW
BC8A	AD18593	TSS	ND	ppm		08/10/2001	DBH
		TDS	97.33	ppm		08/10/2001	DBH
		Alkalinity	24.3	ppm	08/20/2001	08/20/2001	BSF
		Turbidity	21	NTU	08/09/2001	08/09/2001	LIT
		Specific Conductance	80.3	umhos/cm	08/20/2001	08/20/2001	BSF
		True Color	120	PCU	08/09/2001	08/09/2001	LIT
		Chloride, Ion Chromatograph	6.9	ppm	08/28/2001	08/28/2001	CLJ
		Sulfate	2.7	ppm		08/28/2001	CLJ
BC8B	AD18594	Sodium	6.2	ppm		08/28/2001	CHR
BC8C	AD18595	Hardness	22.7	ppm	08/22/2001	08/22/2001	BSF
		Nitrate+Nitrite Nitrogen	0.09	ppm	08/15/2001	08/15/2001	ASC
		TP	0.34	ppm	08/20/2001	08/20/2001	ASC
		TKN	0.77	ppm		08/20/2001	ASC
		Ammonia-Nitrogen	ND	ppm		08/20/2001	NVA
BC8TOC	AD18596	TOC	13.5	ppm	08/16/2001	08/17/2001	MSR
BC8UBOD	AD18597	pH, Ultimate BOD survey	7.00	pH units	10/08/2001	10/08/2001	SBW

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BC8UBOD	AD18597	TOC (60 Day BOD)	13.7	ppm	10/11/2001	10/12/2001	SBW		
		TKN (60 Day BOD)	0.46	ppm	10/12/2001	10/12/2001	ASC		
		NO2NO3 - Initial Reading	0.10	ppm	08/16/2001	08/16/2001	ASC		
		NO2NO3 - Reading 1	0.07	ppm	08/23/2001	08/23/2001	ASC		
		NO2NO3 - Reading 2	0.08	ppm		08/23/2001	ASC		
		NO2NO3 - Reading 3	0.10	ppm	08/30/2001	08/30/2001	ASC		
		NO2NO3 - Reading 4	0.08	ppm	08/23/2001	08/23/2001	ASC		
		NO2NO3 - Reading 5	0.11	ppm	08/30/2001	08/30/2001	ASC		
		NO2NO3 - Reading 6	0.15	ppm		08/30/2001	ASC		
		NO2NO3 - Reading 7	0.08	ppm	09/13/2001	09/13/2001	ASC		
		NO2NO3 - Reading 8	0.18	ppm	09/21/2001	09/21/2001	SBW		
		NO2NO3 - Reading 9	0.2	ppm	10/03/2001	10/03/2001	ASC		
		NO2NO3 - Final	0.22	ppm	10/12/2001	10/12/2001	ASC		
		Non-Filtered BOD 60 - Reading 1	0.3	ppm	08/09/2001	08/10/2001	SBW		
		Non-Filtered BOD 60 - Reading 2	0.9	ppm		08/13/2001	SBW		
		Non-Filtered BOD 60 - Reading 3	1.2	ppm		08/16/2001	SBW		
		Non-Filtered BOD 60 - Reading 4	1.9	ppm		08/21/2001	SBW		
		Non-Filtered BOD 60 - Reading 5	2.4	ppm		08/24/2001	SBW		
		Non-Filtered BOD 60 - Reading 6	3.1	ppm		08/29/2001	MSR		
		Non-Filtered BOD 60 - Reading 7	4.5	ppm		09/06/2001	SBW		
		Non-Filtered BOD 60 - Reading 8	5.8	ppm		09/18/2001	SBW		
		Non-Filtered BOD 60 - Reading 9	6.8	ppm		09/28/2001	SBW		
		Non-Filtered BOD 60 - Final	7.6	ppm		10/08/2001	SBW		
		BC10ABLK	AD18609	TSS	ND	ppm		08/10/2001	DBH
				TDS	ND	ppm		08/10/2001	DBH
				Alkalinity	ND	ppm	08/20/2001	08/20/2001	BSF
				Turbidity	ND	NTU	08/09/2001	08/09/2001	LIT
				Specific Conductance	ND	umhos/cm	08/20/2001	08/20/2001	BSF
				True Color	ND	PCU	08/09/2001	08/09/2001	LIT
				Chloride, Ion Chromatograph	ND	ppm	08/28/2001	08/28/2001	CLJ
				Sulfate	ND	ppm		08/28/2001	CLJ
		BC10BBLK	AD18610	Sodium	1.3	ppm		08/28/2001	CHR
		BC10CBLK	AD18611	Hardness	ND	ppm	08/22/2001	08/22/2001	BSF
Nitrate+Nitrite Nitrogen	ND			ppm	08/15/2001	08/15/2001	ASC		
TP	ND			ppm	08/20/2001	08/20/2001	ASC		
TKN	ND			ppm		08/20/2001	ASC		
Ammonia-Nitrogen	ND			ppm		08/20/2001	NVA		
BC10TOCB	AD18612	TOC	ND	ppm	08/16/2001	08/17/2001	MSR		
BC10UBOB	AD18613	pH, Ultimate BOD survey	5.48	pH units	10/08/2001	10/08/2001	SBW		
		TOC (60 Day BOD)	ND	ppm	10/11/2001	10/12/2001	SBW		
		TKN (60 Day BOD)	ND	ppm	10/10/2001	10/10/2001	ASC		
		NO2NO3 - Initial Reading	ND	ppm	08/16/2001	08/16/2001	ASC		
		NO2NO3 - Reading 1	ND	ppm	08/23/2001	08/23/2001	ASC		
		NO2NO3 - Reading 2	ND	ppm		08/23/2001	ASC		
		NO2NO3 - Reading 3	ND	ppm	08/30/2001	08/30/2001	ASC		
		NO2NO3 - Reading 4	ND	ppm	08/23/2001	08/23/2001	ASC		
		NO2NO3 - Reading 5	ND	ppm	08/30/2001	08/30/2001	ASC		

Site:	Lab ID:	Analysis	Result	Date Started:	Date Read:	Analyst:
BC10UBOB	AD18613	NO2NO3 - Reading 6	ND ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 7	ND ppm	09/13/2001	09/13/2001	ASC
		NO2NO3 - Reading 8	ND ppm	09/21/2001	09/21/2001	SBW
		NO2NO3 - Reading 9	ND ppm	10/03/2001	10/03/2001	ASC
		NO2NO3 - Final	ND ppm	10/12/2001	10/12/2001	ASC
		Non-Filtered BOD 60 - Reading 1	0.2 ppm	08/09/2001	08/10/2001	SBW
		Non-Filtered BOD 60 - Reading 2	0.2 ppm		08/13/2001	SBW
		Non-Filtered BOD 60 - Reading 3	0.2 ppm		08/16/2001	SBW
		Non-Filtered BOD 60 - Reading 4	0.3 ppm		08/21/2001	SBW
		Non-Filtered BOD 60 - Reading 5	0.3 ppm		08/24/2001	SBW
		Non-Filtered BOD 60 - Reading 6	0.3 ppm		08/29/2001	MSR
		Non-Filtered BOD 60 - Reading 7	0.4 ppm		09/06/2001	SBW
		Non-Filtered BOD 60 - Reading 8	0.4 ppm		09/18/2001	SBW
		Non-Filtered BOD 60 - Reading 9	0.4 ppm		09/28/2001	SBW
		BC10A	AD18614	Non-Filtered BOD 60 - Final	0.5 ppm	
TSS	ND ppm				08/10/2001	DBH
TDS	98.0 ppm				08/10/2001	DBH
Alkalinity	29.2 ppm			08/20/2001	08/20/2001	BSF
Turbidity	13 NTU			08/09/2001	08/09/2001	LIT
Specific Conductance	99.6 umhos/cm			08/20/2001	08/20/2001	BSF
True Color	100 PCU			08/09/2001	08/09/2001	LIT
Chloride, Ion Chromatograph	9.2 ppm			08/28/2001	08/28/2001	CLJ
Sulfate	3.4 ppm				08/28/2001	CLJ
BC10B	AD18615			Sodium	9.5 ppm	
BC10C	AD18616	Hardness	24.2 ppm	08/23/2001	08/23/2001	BSF
		Nitrate+Nitrite Nitrogen	0.08 ppm	08/15/2001	08/15/2001	ASC
		TP	0.23 ppm	08/20/2001	08/20/2001	ASC
		TKN	0.78 ppm		08/20/2001	ASC
		Ammonia-Nitrogen	ND ppm		08/20/2001	NVA
BC10TOC	AD18617	TOC	16 ppm	08/16/2001	08/17/2001	MSR
BC10UBOD	AD18618	pH, Ultimate BOD survey	6.82 pH units	10/08/2001	10/08/2001	SBW
		TOC (60 Day BOD)	10.0 ppm	10/11/2001	10/12/2001	SBW
		TKN (60 Day BOD)	0.38 ppm	10/10/2001	10/10/2001	ASC
		NO2NO3 - Initial Reading	0.09 ppm	08/16/2001	08/16/2001	ASC
		NO2NO3 - Reading 1	0.06 ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 2	0.06 ppm		08/23/2001	ASC
		NO2NO3 - Reading 3	0.09 ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 4	0.07 ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 5	0.09 ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 6	0.15 ppm		08/30/2001	ASC
		NO2NO3 - Reading 7	0.15 ppm	09/13/2001	09/13/2001	ASC
		NO2NO3 - Reading 8	0.23 ppm	09/21/2001	09/21/2001	SBW
		NO2NO3 - Reading 9	NR ppm	10/12/2001	10/12/2001	ASC
		NO2NO3 - Final	0.27 ppm		10/12/2001	ASC
		Non-Filtered BOD 60 - Reading 1	0.4 ppm	08/09/2001	08/10/2001	SBW
Non-Filtered BOD 60 - Reading 2	1.2 ppm		08/13/2001	SBW		
Non-Filtered BOD 60 - Reading 3	1.5 ppm		08/16/2001	SBW		

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BC10UBOD	AD18618	Non-Filtered BOD 60 - Reading 4	2.3 ppm	08/09/2001	08/21/2001	SBW		
		Non-Filtered BOD 60 - Reading 5	2.7 ppm		08/24/2001	SBW		
		Non-Filtered BOD 60 - Reading 6	3.4 ppm		08/29/2001	MSR		
		Non-Filtered BOD 60 - Reading 7	4.8 ppm		09/06/2001	SBW		
		Non-Filtered BOD 60 - Reading 8	5.9 ppm		09/18/2001	SBW		
		Non-Filtered BOD 60 - Reading 9	6.7 ppm		09/28/2001	SBW		
		Non-Filtered BOD 60 - Final	7.4 ppm		10/08/2001	SBW		
		BC11A	AD18619		TSS	4.5 ppm	08/20/2001	08/10/2001
TDS	118 ppm			08/10/2001	DBH			
Alkalinity	35.7 ppm			08/20/2001	08/20/2001	BSF		
Turbidity	14 NTU			08/09/2001	08/09/2001	LIT		
Specific Conductance	126 umhos/cm			08/20/2001	08/20/2001	BSF		
True Color	110 PCU			08/09/2001	08/09/2001	LIT		
Chloride, Ion Chromatograph	13.6 ppm			08/28/2001	08/28/2001	CLJ		
Sulfate	4.1 ppm				08/28/2001	CLJ		
BC11B	AD18620	Sodium	15.2 ppm		08/28/2001	CHR		
BC11C	AD18621	Hardness	25.8 ppm	08/24/2001	08/24/2001	BSF		
		Nitrate+Nitrite Nitrogen	0.08 ppm	08/23/2001	08/23/2001	ASC		
		TP	0.41 ppm	08/20/2001	08/20/2001	ASC		
		TKN	0.57 ppm		08/20/2001	ASC		
		Ammonia-Nitrogen	ND ppm		08/20/2001	NVA		
BC11TOC	AD18622	TOC	10.2 ppm	08/16/2001	08/17/2001	MSR		
BC11UBOD	AD18623	pH, Ultimate BOD survey	7.07 pH units	10/08/2001	10/08/2001	SBW		
		TOC (60 Day BOD)	9.8 ppm	10/11/2001	10/12/2001	SBW		
		TKN (60 Day BOD)	0.45 ppm	10/10/2001	10/10/2001	ASC		
		NO2NO3 - Initial Reading	0.09 ppm	08/16/2001	08/16/2001	ASC		
		NO2NO3 - Reading 1	0.07 ppm	08/23/2001	08/23/2001	ASC		
		NO2NO3 - Reading 2	0.08 ppm		08/23/2001	ASC		
		NO2NO3 - Reading 3	0.10 ppm	08/30/2001	08/30/2001	ASC		
		NO2NO3 - Reading 4	0.08 ppm	08/23/2001	08/23/2001	ASC		
		NO2NO3 - Reading 5	0.12 ppm	08/30/2001	08/30/2001	ASC		
		NO2NO3 - Reading 6	NR ppm	10/12/2001	10/12/2001	ASC		
		NO2NO3 - Reading 7	0.08 ppm	09/13/2001	09/13/2001	ASC		
		NO2NO3 - Reading 8	0.22 ppm	09/21/2001	09/21/2001	SBW		
		NO2NO3 - Reading 9	0.26 ppm	10/03/2001	10/03/2001	ASC		
		NO2NO3 - Final	0.27 ppm	10/12/2001	10/12/2001	ASC		
		Non-Filtered BOD 60 - Reading 1	0.4 ppm	08/09/2001	08/10/2001	SBW		
		Non-Filtered BOD 60 - Reading 2	1.0 ppm		08/13/2001	SBW		
		Non-Filtered BOD 60 - Reading 3	1.4 ppm		08/16/2001	SBW		
		Non-Filtered BOD 60 - Reading 4	2.1 ppm		08/21/2001	SBW		
		Non-Filtered BOD 60 - Reading 5	2.5 ppm		08/24/2001	SBW		
		Non-Filtered BOD 60 - Reading 6	3.2 ppm		08/29/2001	MSR		
		Non-Filtered BOD 60 - Reading 7	4.3 ppm		09/06/2001	SBW		
		Non-Filtered BOD 60 - Reading 8	5.5 ppm		09/18/2001	SBW		
		Non-Filtered BOD 60 - Reading 9	6.1 ppm		09/28/2001	SBW		
		Non-Filtered BOD 60 - Final	6.7 ppm		10/08/2001	SBW		
		BC12A	AD18624	TSS	9.5 ppm		08/10/2001	DBH

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BC12A	AD18624	TDS	126 ppm	08/09/2001	08/10/2001	DBH
		Alkalinity	32.1 ppm	08/20/2001	08/20/2001	BSF
		Turbidity	14 NTU	08/09/2001	08/09/2001	LIT
		Specific Conductance	142 umhos/cm	08/20/2001	08/20/2001	BSF
		True Color	100 PCU	08/09/2001	08/09/2001	LIT
		Chloride, Ion Chromatograph	20.9 ppm	08/28/2001	08/28/2001	CLJ
		Sulfate	5.0 ppm		08/28/2001	CLJ
		Sodium	18.1 ppm		08/28/2001	CHR
		Hardness	25.4 ppm	08/23/2001	08/23/2001	BSF
		Nitrate+Nitrite Nitrogen	0.10 ppm		08/23/2001	ASC
BC12B	AD18625	TP	0.16 ppm	08/20/2001	08/20/2001	ASC
		TKN	0.79 ppm		08/20/2001	ASC
BC12C	AD18626	Ammonia-Nitrogen	ND ppm		08/20/2001	NVA
		TOC	10.2 ppm	08/16/2001	08/17/2001	MSR
BC12TOC	AD18627	TOC	10.2 ppm	08/16/2001	08/17/2001	MSR
BC12UBOD	AD18628	pH, Ultimate BOD survey	6.89 pH units	10/08/2001	10/08/2001	SBW
		TOC (60 Day BOD)	7.8 ppm	10/11/2001	10/12/2001	SBW
		TKN (60 Day BOD)	0.36 ppm	10/10/2001	10/10/2001	ASC
		NO2NO3 - Initial Reading	0.12 ppm	08/16/2001	08/16/2001	ASC
		NO2NO3 - Reading 1	0.10 ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 2	0.10 ppm		08/23/2001	ASC
		NO2NO3 - Reading 3	0.12 ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 4	0.11 ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 5	0.16 ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 6	NR ppm	10/12/2001	10/12/2001	ASC
		NO2NO3 - Reading 7	0.16 ppm	09/13/2001	09/13/2001	ASC
		NO2NO3 - Reading 8	0.27 ppm	09/21/2001	09/21/2001	SBW
		NO2NO3 - Reading 9	0.32 ppm	10/03/2001	10/03/2001	ASC
		NO2NO3 - Final	0.32 ppm	10/12/2001	10/12/2001	ASC
		Non-Filtered BOD 60 - Reading 1	0.4 ppm	08/09/2001	08/10/2001	SBW
		Non-Filtered BOD 60 - Reading 2	1.2 ppm		08/13/2001	SBW
		Non-Filtered BOD 60 - Reading 3	1.6 ppm		08/16/2001	SBW
		Non-Filtered BOD 60 - Reading 4	2.4 ppm		08/21/2001	SBW
		Non-Filtered BOD 60 - Reading 5	2.9 ppm		08/24/2001	SBW
		Non-Filtered BOD 60 - Reading 6	3.7 ppm		08/29/2001	MSR
Non-Filtered BOD 60 - Reading 7	4.8 ppm		09/06/2001	SBW		
Non-Filtered BOD 60 - Reading 8	5.7 ppm		09/18/2001	SBW		
Non-Filtered BOD 60 - Reading 9	6.4 ppm		09/28/2001	SBW		
Non-Filtered BOD 60 - Final	7.0 ppm		10/08/2001	SBW		
BC13ABLK	AD18629	TSS	ND ppm		08/10/2001	DBH
		TDS	ND ppm		08/10/2001	DBH
		Alkalinity	ND ppm	08/20/2001	08/20/2001	BSF
		Turbidity	ND NTU	08/09/2001	08/09/2001	LIT
		Specific Conductance	ND umhos/cm	08/20/2001	08/20/2001	BSF
		True Color	ND PCU	08/09/2001	08/09/2001	LIT
		Chloride, Ion Chromatograph	ND ppm	08/28/2001	08/28/2001	CLJ
		Sulfate	ND ppm		08/28/2001	CLJ
BC13BBLK	AD18630	Sodium	ND ppm		08/28/2001	CHR

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BC13CBLK	AD18631	Hardness	ND ppm	08/22/2001	08/22/2001	BSF
		Nitrate+Nitrite Nitrogen	ND ppm	08/23/2001	08/23/2001	ASC
		TP	ND ppm	08/20/2001	08/20/2001	ASC
		TKN	ND ppm	08/22/2001	08/22/2001	ASC
		Ammonia-Nitrogen	ND ppm	08/20/2001	08/20/2001	NVA
BC13TOCB	AD18632	TOC	ND ppm	08/16/2001	08/17/2001	MSR
BC13UBOB	AD18633	pH, Ultimate BOD survey	6.10 pH units	10/08/2001	10/08/2001	SBW
		TOC (60 Day BOD)	ND ppm	10/11/2001	10/12/2001	SBW
		TKN (60 Day BOD)	ND ppm	10/10/2001	10/10/2001	ASC
		NO2NO3 - Initial Reading	ND ppm	08/16/2001	08/16/2001	ASC
		NO2NO3 - Reading 1	ND ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 2	ND ppm		08/23/2001	ASC
		NO2NO3 - Reading 3	ND ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 4	ND ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 5	ND ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 6	NR ppm	10/12/2001	10/12/2001	ASC
		NO2NO3 - Reading 7	ND ppm	09/13/2001	09/13/2001	ASC
		NO2NO3 - Reading 8	ND ppm	09/21/2001	09/21/2001	SBW
		NO2NO3 - Reading 9	ND ppm	10/03/2001	10/03/2001	ASC
		NO2NO3 - Final	ND ppm	10/12/2001	10/12/2001	ASC
		Non-Filtered BOD 60 - Reading 1	0.1 ppm	08/09/2001	08/10/2001	SBW
		Non-Filtered BOD 60 - Reading 2	0.1 ppm		08/13/2001	SBW
		Non-Filtered BOD 60 - Reading 3	0.1 ppm		08/16/2001	SBW
		Non-Filtered BOD 60 - Reading 4	0.2 ppm		08/21/2001	SBW
		Non-Filtered BOD 60 - Reading 5	0.2 ppm		08/24/2001	SBW
		Non-Filtered BOD 60 - Reading 6	0.2 ppm		08/29/2001	MSR
		Non-Filtered BOD 60 - Reading 7	0.2 ppm		09/06/2001	SBW
		Non-Filtered BOD 60 - Reading 8	0.2 ppm		09/18/2001	SBW
		Non-Filtered BOD 60 - Reading 9	0.2 ppm		09/28/2001	SBW
		Non-Filtered BOD 60 - Final	0.2 ppm		10/08/2001	SBW
BC13A	AD18634	TSS	18.5 ppm		08/10/2001	DBH
		TDS	101 ppm		08/10/2001	DBH
		Alkalinity	29.2 ppm	08/20/2001	08/20/2001	BSF
		Turbidity	24 NTU	08/09/2001	08/09/2001	LIT
		Specific Conductance	93.3 umhos/cm	08/20/2001	08/20/2001	BSF
		True Color	100 PCU	08/09/2001	08/09/2001	LIT
		Chloride, Ion Chromatograph	9.3 ppm	08/28/2001	08/28/2001	CLJ
		Sulfate	2.7 ppm		08/28/2001	CLJ
BC13B	AD18635	Sodium	9.5 ppm		08/28/2001	CHR
BC13C	AD18636	Hardness	23.5 ppm	08/23/2001	08/23/2001	BSF
		Nitrate+Nitrite Nitrogen	0.06 ppm		08/23/2001	ASC
		TP	0.14 ppm	08/20/2001	08/20/2001	ASC
		TKN	0.78 ppm		08/20/2001	ASC
		Ammonia-Nitrogen	ND ppm		08/20/2001	NVA
BC13TOC	AD18637	TOC	8.4 ppm	08/16/2001	08/17/2001	MSR
BC13UBOD	AD18638	pH, Ultimate BOD survey	6.92 pH units	10/08/2001	10/08/2001	SBW
		TOC (60 Day BOD)	7.3 ppm	10/11/2001	10/12/2001	SBW

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BC13UBOD	AD18638	TKN (60 Day BOD)	0.39	ppm	10/10/2001	10/10/2001	ASC
		NO2NO3 - Initial Reading	0.08	ppm	08/16/2001	08/16/2001	ASC
		NO2NO3 - Reading 1	0.05	ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 2	0.05	ppm		08/23/2001	ASC
		NO2NO3 - Reading 3	0.08	ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 4	0.07	ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 5	0.15	ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 6	NR	ppm	10/12/2001	10/12/2001	ASC
		NO2NO3 - Reading 7	0.13	ppm	09/13/2001	09/13/2001	ASC
		NO2NO3 - Reading 8	0.26	ppm	09/21/2001	09/21/2001	SBW
		NO2NO3 - Reading 9	0.31	ppm	10/03/2001	10/03/2001	ASC
		NO2NO3 - Final	0.31	ppm	10/12/2001	10/12/2001	ASC
		Non-Filtered BOD 60 - Reading 1	0.4	ppm	08/09/2001	08/10/2001	SBW
		Non-Filtered BOD 60 - Reading 2	1.3	ppm		08/13/2001	SBW
		Non-Filtered BOD 60 - Reading 3	1.7	ppm		08/16/2001	SBW
		Non-Filtered BOD 60 - Reading 4	2.7	ppm		08/21/2001	SBW
		Non-Filtered BOD 60 - Reading 5	3.4	ppm		08/24/2001	SBW
		Non-Filtered BOD 60 - Reading 6	4.1	ppm		08/29/2001	MSR
		Non-Filtered BOD 60 - Reading 7	5.1	ppm		09/06/2001	SBW
		Non-Filtered BOD 60 - Reading 8	6.1	ppm		09/18/2001	SBW
		Non-Filtered BOD 60 - Reading 9	6.8	ppm		09/28/2001	SBW
		Non-Filtered BOD 60 - Final	7.3	ppm		10/08/2001	SBW
		BC13ADUP	AD18639	TSS	19.0	ppm	08/10/2001
TDS	104			ppm	08/09/2001	08/10/2001	DBH
Alkalinity	29.1			ppm	08/20/2001	08/20/2001	BSF
Turbidity	24			NTU	08/09/2001	08/09/2001	LIT
Specific Conductance	93.3			umhos/cm	08/20/2001	08/20/2001	BSF
True Color	100			PCU	08/09/2001	08/09/2001	LIT
Chloride, Ion Chromatograph	9.3			ppm	08/28/2001	08/28/2001	CLJ
Sulfate	2.8			ppm		08/28/2001	CLJ
BC13BDUP	AD18640	Sodium	9.5	ppm		08/28/2001	CHR
BC13CDUP	AD18641	Hardness	24.3	ppm	08/23/2001	08/23/2001	BSF
		Nitrate+Nitrite Nitrogen	0.06	ppm		08/23/2001	ASC
		TP	0.14	ppm	08/20/2001	08/20/2001	ASC
		TKN	1.16	ppm		08/20/2001	ASC
		Ammonia-Nitrogen	ND	ppm		08/20/2001	NVA
BC13TOCD	AD18642	TOC	12.4	ppm	08/16/2001	08/17/2001	MSR
BC13UBDD	AD18643	pH, Ultimate BOD survey	6.92	pH units	10/08/2001	10/08/2001	SBW
		TOC (60 Day BOD)	7.7	ppm	10/11/2001	10/12/2001	SBW
		TKN (60 Day BOD)	0.39	ppm	10/10/2001	10/10/2001	ASC
		NO2NO3 - Initial Reading	0.08	ppm	08/16/2001	08/16/2001	ASC
		NO2NO3 - Reading 1	0.05	ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 2	0.05	ppm		08/23/2001	ASC
		NO2NO3 - Reading 3	0.08	ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 4	0.07	ppm	08/23/2001	08/23/2001	ASC
NO2NO3 - Reading 5	0.14	ppm	08/30/2001	08/30/2001	ASC		
NO2NO3 - Reading 6	NR	ppm	10/12/2001	10/12/2001	ASC		

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BC13UBDD	AD18643	NO2NO3 - Reading 7	0.10	ppm	09/13/2001	09/13/2001	ASC
		NO2NO3 - Reading 8	0.24	ppm	09/21/2001	09/21/2001	SBW
		NO2NO3 - Reading 9	0.28	ppm	10/03/2001	10/03/2001	ASC
		NO2NO3 - Final	0.29	ppm	10/12/2001	10/12/2001	ASC
		Non-Filtered BOD 60 - Reading 1	0.4	ppm	08/09/2001	08/10/2001	SBW
		Non-Filtered BOD 60 - Reading 2	1.2	ppm		08/13/2001	SBW
		Non-Filtered BOD 60 - Reading 3	1.6	ppm		08/16/2001	SBW
		Non-Filtered BOD 60 - Reading 4	2.5	ppm		08/21/2001	SBW
		Non-Filtered BOD 60 - Reading 5	3.2	ppm		08/24/2001	SBW
		Non-Filtered BOD 60 - Reading 6	3.9	ppm		08/29/2001	MSR
		Non-Filtered BOD 60 - Reading 7	4.9	ppm		09/06/2001	SBW
		Non-Filtered BOD 60 - Reading 8	5.9	ppm		09/18/2001	SBW
		Non-Filtered BOD 60 - Reading 9	6.5	ppm		09/28/2001	SBW
		Non-Filtered BOD 60 - Final	7.0	ppm		10/08/2001	SBW
		BC15A	AD18644	TSS	ND	ppm	08/10/2001
TDS	179			ppm	08/09/2001	08/10/2001	DBH
Alkalinity	63.1			ppm	08/20/2001	08/20/2001	BSF
Turbidity	1.7			NTU	08/09/2001	08/09/2001	LIT
Specific Conductance	265			umhos/cm	08/20/2001	08/20/2001	BSF
True Color	15			PCU	08/09/2001	08/09/2001	LIT
Chloride, Ion Chromatograph	32.1			ppm	08/28/2001	08/28/2001	CLJ
Sulfate	14.1			ppm		08/28/2001	CLJ
BC15B	AD18645	Sodium	36.5	ppm		08/28/2001	CHR
BC15C	AD18646	Hardness	35.6	ppm	08/22/2001	08/22/2001	BSF
		Nitrate+Nitrite Nitrogen	0.46	ppm	08/23/2001	08/23/2001	ASC
		TP	1.52	ppm	08/28/2001	08/28/2001	ASC
		TKN	0.87	ppm		08/28/2001	ASC
		Ammonia-Nitrogen	ND	ppm	08/20/2001	08/20/2001	NVA
BC15TOC	AD18647	TOC	6.5	ppm	08/16/2001	08/17/2001	MSR
BC15UBOD	AD18648	pH, Ultimate BOD survey	7.32	pH units	10/08/2001	10/08/2001	SBW
		TOC (60 Day BOD)	3.1	ppm	10/11/2001	10/12/2001	SBW
		TKN (60 Day BOD)	0.35	ppm	10/10/2001	10/10/2001	ASC
		NO2NO3 - Initial Reading	0.48	ppm	08/16/2001	08/16/2001	ASC
		NO2NO3 - Reading 1	0.43	ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 2	0.49	ppm		08/23/2001	ASC
		NO2NO3 - Reading 3	0.50	ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 4	0.63	ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 5	0.61	ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 6	NR	ppm	10/12/2001	10/12/2001	ASC
		NO2NO3 - Reading 7	0.70	ppm	09/13/2001	09/13/2001	ASC
		NO2NO3 - Reading 8	0.69	ppm	09/21/2001	09/21/2001	SBW
		NO2NO3 - Reading 9	0.76	ppm	10/03/2001	10/03/2001	ASC
		NO2NO3 - Final	0.75	ppm	10/12/2001	10/12/2001	ASC
		Non-Filtered BOD 60 - Reading 1	0.3	ppm	08/09/2001	08/10/2001	SBW
		Non-Filtered BOD 60 - Reading 2	0.9	ppm		08/13/2001	SBW
		Non-Filtered BOD 60 - Reading 3	1.4	ppm		08/16/2001	SBW
Non-Filtered BOD 60 - Reading 4	2.2	ppm		08/21/2001	SBW		

Site:	Lab ID:	Analysis	Result	Date Started:	Date Read:	Analyst:
BC15UBOD	AD18648	Non-Filtered BOD 60 - Reading 5	2.5 ppm	08/09/2001	08/24/2001	SBW
		Non-Filtered BOD 60 - Reading 6	2.6 ppm		08/29/2001	MSR
		Non-Filtered BOD 60 - Reading 7	3.2 ppm		09/06/2001	SBW
		Non-Filtered BOD 60 - Reading 8	3.6 ppm		09/18/2001	SBW
		Non-Filtered BOD 60 - Reading 9	3.9 ppm		09/28/2001	SBW
		Non-Filtered BOD 60 - Final	4.1 ppm		10/08/2001	SBW
BC28AA	AD18649	TSS	11.3 ppm	08/10/2001	08/13/2001	MSR
		TDS	89.3 ppm	08/09/2001	08/10/2001	DBH
		Alkalinity	24.9 ppm	08/20/2001	08/20/2001	BSF
		Turbidity	16 NTU	08/09/2001	08/09/2001	LIT
		Specific Conductance	69.8 umhos/cm	08/20/2001	08/20/2001	BSF
		True Color	100 PCU	08/09/2001	08/09/2001	LIT
		Chloride, Ion Chromatograph	5.5 ppm	08/28/2001	08/28/2001	CLJ
BC28AB	AD18650	Sulfate	1.3 ppm		08/28/2001	CLJ
		Sodium	6.6 ppm		08/28/2001	CHR
BC28AC	AD18651	Hardness	19.4 ppm	08/23/2001	08/23/2001	BSF
		Nitrate+Nitrite Nitrogen	0.06 ppm		08/23/2001	ASC
		TP	0.07 ppm	08/20/2001	08/20/2001	ASC
		TKN	0.75 ppm		08/20/2001	ASC
		Ammonia-Nitrogen	ND ppm		08/20/2001	NVA
BC28ATOC	AD18652	TOC	7.1 ppm	08/16/2001	08/17/2001	MSR
BC28AUBO	AD18653	pH, Ultimate BOD survey	6.97 pH units	10/08/2001	10/08/2001	SBW
		TOC (60 Day BOD)	7.3 ppm	10/11/2001	10/12/2001	SBW
		TKN (60 Day BOD)	0.30 ppm	10/10/2001	10/10/2001	ASC
		NO2NO3 - Initial Reading	0.08 ppm	08/16/2001	08/16/2001	ASC
		NO2NO3 - Reading 1	0.06 ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 2	0.06 ppm		08/23/2001	ASC
		NO2NO3 - Reading 3	0.09 ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 4	0.10 ppm	08/23/2001	08/23/2001	ASC
		NO2NO3 - Reading 5	0.19 ppm	08/30/2001	08/30/2001	ASC
		NO2NO3 - Reading 6	NR ppm	10/12/2001	10/12/2001	ASC
		NO2NO3 - Reading 7	0.13 ppm	09/13/2001	09/13/2001	ASC
		NO2NO3 - Reading 8	0.26 ppm	09/21/2001	09/21/2001	SBW
		NO2NO3 - Reading 9	0.31 ppm	10/03/2001	10/03/2001	ASC
		NO2NO3 - Final	0.31 ppm	10/12/2001	10/12/2001	ASC
		Non-Filtered BOD 60 - Reading 1	0.4 ppm	08/09/2001	08/10/2001	SBW
		Non-Filtered BOD 60 - Reading 2	1.4 ppm		08/13/2001	SBW
		Non-Filtered BOD 60 - Reading 3	1.9 ppm		08/16/2001	SBW
		Non-Filtered BOD 60 - Reading 4	3.2 ppm		08/21/2001	SBW
		Non-Filtered BOD 60 - Reading 5	3.9 ppm		08/24/2001	SBW
		Non-Filtered BOD 60 - Reading 6	4.5 ppm		08/29/2001	MSR
		Non-Filtered BOD 60 - Reading 7	5.5 ppm		09/06/2001	SBW
		Non-Filtered BOD 60 - Reading 8	6.7 ppm		09/18/2001	SBW
		Non-Filtered BOD 60 - Reading 9	7.4 ppm		09/28/2001	SBW
Non-Filtered BOD 60 - Final	8.0 ppm		10/08/2001	SBW		
BC2CH	AD18654	Chlorophyll A (calculated)	2.6 ug/L	08/23/2001	08/24/2001	CLP
		Chlorophyll A (raw)	64.7 ug/L		08/24/2001	CLP

Site:	Lab ID:	Analysis	Result	Date Started:	Date Read:	Analyst:
BC2CH	AD18654	Volume of sample, Chlorophyll A (raw)	250 ml	08/23/2001	08/24/2001	CLP
BC3CH	AD18655	Chlorophyll A (calculated)	2.0 ug/L		08/24/2001	CLP
		Chlorophyll A (raw)	49.4 ug/L		08/24/2001	CLP
		Volume of sample, Chlorophyll A (raw)	250 ml		08/24/2001	CLP
BC4CH	AD18656	Chlorophyll A (calculated)	1.9 ug/L		08/24/2001	CLP
		Chlorophyll A (raw)	47.1 ug/L		08/24/2001	CLP
		Volume of sample, Chlorophyll A (raw)	250 ml		08/24/2001	CLP
BC6CH	AD18657	Chlorophyll A (calculated)	6.1 ug/L		08/24/2001	CLP
		Chlorophyll A (raw)	153 ug/L		08/24/2001	CLP
		Volume of sample, Chlorophyll A (raw)	250 ml		08/24/2001	CLP
BC7CH	AD18658	Chlorophyll A (calculated)	1.0 ug/L		08/24/2001	CLP
		Chlorophyll A (raw)	24.8 ug/L		08/24/2001	CLP
		Volume of sample, Chlorophyll A (raw)	250 ml		08/24/2001	CLP
BC7CHDUP	AD18659	Chlorophyll A (calculated)	0.9 ug/L		08/24/2001	CLP
		Chlorophyll A (raw)	23.3 ug/L		08/24/2001	CLP
		Volume of sample, Chlorophyll A (raw)	250 ml		08/24/2001	CLP
BC7ACH	AD18660	Chlorophyll A (calculated)	0.8 ug/L		08/24/2001	CLP
		Chlorophyll A (raw)	20.7 ug/L		08/24/2001	CLP
		Volume of sample, Chlorophyll A (raw)	250 ml		08/24/2001	CLP
BC8CH	AD18661	Chlorophyll A (calculated)	0.6 ug/L		08/24/2001	CLP
		Chlorophyll A (raw)	15 ug/L		08/24/2001	CLP
		Volume of sample, Chlorophyll A (raw)	250 ml		08/24/2001	CLP
BC10CH	AD18662	Chlorophyll A (calculated)	1.1 ug/L	08/24/2001	08/24/2001	CLP
		Chlorophyll A (raw)	26.6 ug/L		08/24/2001	CLP
		Volume of sample, Chlorophyll A (raw)	250 ml		08/24/2001	CLP
BC11CH	AD18663	Chlorophyll A (calculated)	0.9 ug/L		08/24/2001	CLP
		Chlorophyll A (raw)	23.2 ug/L		08/24/2001	CLP
		Volume of sample, Chlorophyll A (raw)	250 ml		08/24/2001	CLP
BC12CH	AD18664	Chlorophyll A (calculated)	0.9 ug/L		08/24/2001	CLP
		Chlorophyll A (raw)	22.4 ug/L		08/24/2001	CLP
		Volume of sample, Chlorophyll A (raw)	250 ml		08/24/2001	CLP
BC13CH	AD18665	Chlorophyll A (calculated)	1.9 ug/L		08/24/2001	CLP
		Chlorophyll A (raw)	42.4 ug/L		08/24/2001	CLP
		Volume of sample, Chlorophyll A (raw)	220 ml		08/24/2001	CLP
BC13CHDU	AD18666	Chlorophyll A (calculated)	5.3 ug/L		08/24/2001	CLP
		Chlorophyll A (raw)	107 ug/L		08/24/2001	CLP
		Volume of sample, Chlorophyll A (raw)	200 ml		08/24/2001	CLP
BC15CH	AD18667	Chlorophyll A (calculated)	0.9 ug/L		08/24/2001	CLP
		Chlorophyll A (raw)	22.3 ug/L		08/24/2001	CLP
		Volume of sample, Chlorophyll A (raw)	250 ml		08/24/2001	CLP
BC28ACH	AD18668	Chlorophyll A (calculated)	4.3 ug/L		08/24/2001	CLP
		Chlorophyll A (raw)	85.5 ug/L		08/24/2001	CLP
		Volume of sample, Chlorophyll A (raw)	200 ml		08/24/2001	CLP

Site:	Lab ID:	Analysis	Result	Date Started:	Date Read:	Analyst:
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APPENDIX C2 - Survey cross-section and discharge sheets

STREAM DISCHARGE SPREADSHEET

Site Number: BC2 Subsegment: 030601 Waterbody: Barnes Creek

Site Description: 20 yards downstream of Hunting Club Rd.

Type of Meter: Price A:A 1:1 Pygmy Price A:A 5:1

Standard: Standard 1 Standard 2

Type of Equipment: Wading Bridge Board Boat Board

Initial Bank: RDB LDB

Tapedown: _____

Gauge Height: _____

Date: 08/08/2001

Start Time: 11:10 End Time: 11:40

WIDTH ¹ (ft):	9.20
AREA ² (ft ²):	2.92
AVG. DEPTH ³ (ft):	0.32
DISCHARGE ⁴ (cfs):	3.52
AVG. VELOCITY ⁵ (fps):	1.20

Subsection	Distance from initial point (ft)	Width of element ⁶ (ft)	Depth of element (ft)	Area of element ⁷ (ft ²)	Velocity of element (fps)				Adjusted Angle ⁹	Discharge through element ¹⁰ (cfs)	Element discharge at % of total discharge ¹¹
					.2D	.6D	.8D	Average ⁸			
1	0.4	0.20	0.00	0.00		0.00		0.00		0.00	0.00%
2	0.8	0.40	0.10	0.04		0.12		0.12		0.00	0.13%
3	1.2	0.40	0.15	0.06		0.56		0.56		0.03	0.96%
4	1.6	0.40	0.35	0.14		1.26		1.26		0.18	5.02%
5	2.0	0.40	0.45	0.18		0.55		0.55		0.10	2.81%
6	2.4	0.40	0.50	0.20		1.32		1.32		0.26	7.51%
7	2.8	0.40	0.55	0.22		0.73		0.73		0.16	4.55%
8	3.2	0.40	0.50	0.20		1.07		1.07		0.21	6.06%
9	3.6	0.40	0.40	0.16		1.22		1.22		0.20	5.57%
10	4.0	0.40	0.35	0.14		0.84		0.84		0.12	3.36%
11	4.4	0.40	0.45	0.18		1.30		1.30		0.23	6.63%
12	4.8	0.40	0.50	0.20		1.46		1.46		0.29	8.32%
13	5.2	0.40	0.40	0.16		1.52		1.52		0.24	6.93%
14	5.6	0.40	0.30	0.12		1.52		1.52		0.18	5.17%
15	6.0	0.40	0.30	0.12		1.80		1.80		0.22	6.13%
16	6.4	0.40	0.30	0.12		1.91		1.91		0.23	6.53%
17	6.8	0.40	0.35	0.14		1.74		1.74		0.24	6.92%
18	7.2	0.40	0.20	0.08		1.12		1.12		0.09	2.54%
19	7.6	0.40	0.30	0.12		1.22		1.22		0.15	4.18%
20	8.0	0.40	0.30	0.12		1.20		1.20		0.14	4.11%
21	8.4	0.40	0.25	0.10		1.08		1.08		0.11	3.06%
22	8.8	0.40	0.20	0.08		1.22		1.22		0.10	2.77%
23	9.2	0.40	0.10	0.04		0.67		0.67		0.03	0.77%
24	9.6	0.20	0.00	0.00		0.00		0.00		0.00	0.00%
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
Total		9.20		2.92						3.52	100.00%

Data Collection Crew		Office Data Work	
Measurement made by:	<u>Jamie P.</u>	Data Inputted by / Date:	<u>Jamie P. 08/09/01</u>
Notetaker/Recorder:	<u>Ryan F.</u>	Data Input Checked by / Date:	<u>Bill B. 08/09/01</u>
Other:			

Note 1: WIDTH (ft) = sum of the width column
 Note 2: AREA (ft²) = sum of the area column
 Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
 Note 4: DISCHARGE (cfs) = sum of the discharge column
 Note 5: AVG. VELOCITY (fps) = discharge/area (using the values from this table)
 Note 6: Width of element
 Note 7: Area = width*depth for element. These areas are generally not representative of the stream.
 Note 8: Average velocity = Use 0.6D velocity if depth is less than 2.5 ft or the average of 0.2D and 0.8D velocities if depth is greater than 2.5 ft.
 Note 9: If blank assume 1
 Note 10: Discharge through element = area of element*average velocity of element
 Note 11: Element discharge percent = discharge through element/total discharge X 100%. Element discharge should not exceed 10%.

Stream Discharge Spreadsheet revised 07/14/00

STREAM DISCHARGE SPREADSHEET

Site Number: BC3 Subsegment: 030601 Waterbody Barnes Creek
 Site Description: 10 ft. upstream of Mennonite Rd. Bridge
 Type of Meter: Price A:A 1:1 Pygmy Price A:A 5:1 Standard: Standard 1 Standard 2
 Type of Equipment: Wading Bridge Board Boat Board
 Initial Bank: RDB LDB
 Tapedown: 11.98 ft.
 Gauge Height: _____
 Date: 08/08/2001
 Start Time: 05/24/1903 End Time: 07/23/1903

WIDTH ¹ (ft):	10.20
AREA ² (ft ²):	10.26
AVG. DEPTH ³ (ft):	1.01
DISCHARGE ⁴ (cfs):	2.56
AVG. VELOCITY ⁵ (fps):	0.25

Subsection	Distance from initial point (ft)	Width of element ⁶ (ft)	Depth of element (ft)	Area of element ⁷ (ft ²)	Velocity of element (fps)				Adjusted Angle ⁹	Discharge through element ¹⁰ (cfs)	Element discharge at % of total discharge ¹¹
					.2D	.6D	.8D	Average ⁸			
1	0.2	0.15	0.00	0.00		0.00		0.00		0.00	0.00%
2	0.5	0.40	0.65	0.26		0.00		0.00		0.00	0.00%
3	1.0	0.50	0.75	0.38		0.18		0.18		0.07	2.62%
4	1.5	0.50	1.10	0.55		0.18		0.18		0.10	3.78%
5	2.0	0.50	1.05	0.53		0.16		0.16		0.08	3.20%
6	2.5	0.50	1.10	0.55		0.16		0.16		0.09	3.48%
7	3.0	0.50	1.10	0.55		0.24		0.24		0.13	5.13%
8	3.5	0.50	1.20	0.60		0.24		0.24		0.14	5.62%
9	4.0	0.50	1.25	0.63		0.28		0.28		0.17	6.78%
10	4.5	0.50	1.20	0.60		0.31		0.31		0.19	7.26%
11	5.0	0.50	1.25	0.63		0.29		0.29		0.18	7.00%
12	5.5	0.50	1.25	0.63		0.29		0.29		0.18	7.05%
13	6.0	0.50	1.30	0.65		0.29		0.29		0.19	7.43%
14	6.5	0.50	1.30	0.65		0.31		0.31		0.20	7.78%
15	7.0	0.50	1.20	0.60		0.30		0.30		0.18	7.07%
16	7.5	0.50	1.10	0.55		0.31		0.31		0.17	6.61%
17	8.0	0.50	1.00	0.50		0.31		0.31		0.16	6.05%
18	8.5	0.50	1.00	0.50		0.31		0.31		0.16	6.12%
19	9.0	0.50	0.80	0.40		0.27		0.27		0.11	4.17%
20	9.5	0.50	0.65	0.33		0.23		0.23		0.07	2.88%
21	10.0	0.45	0.45	0.20		0.00		0.00		0.00	0.00%
22	10.4	0.20	0.00	0.00		0.00		0.00		0.00	0.00%
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
Total		10.20		10.26						2.56	100.00%

Data Collection Crew		Office Data Work	
Measurement made by:	<u>Guy L.</u>	Data Inputted by / Date:	<u>Jamie P. 08/09/01</u>
Notetaker/Recorder:	<u>Jamie P.</u>	Data Input Checked by / Date:	<u>Carrick B.08/09/01</u>
Other:			

Note 1: WIDTH (ft) = sum of the width column
 Note 2: AREA (ft²) = sum of the area column
 Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
 Note 4: DISCHARGE (cfs) = sum of the discharge column
 Note 5: AVG. VELOCITY (fps) = discharge/area (using the values from this table)
 Note 6: Width of element
 Note 7: Area = width*depth for element. These areas are generally not representative of the stream.
 Note 8: Average velocity = Use 0.6D velocity if depth is less than 2.5 ft or the average of 0.2D and 0.8D velocities if depth is greater than 2.5 ft.
 Note 9: If blank assume 1
 Note 10: Discharge through element = area of element*average velocity of element
 Note 11: Element discharge percent = discharge through element/total discharge X 100%. Element discharge should not exceed 10%.
 Stream Discharge Spreadsheet revised 07/14/00

STREAM DISCHARGE SPREADSHEET

Site Number: BC-4 **Subsegment:** 030601 **Waterbody:** Barnes Creek
Site Description: at hwy190/ 171 bridge
Type of Meter: Price A:A 1:1 Pygmy Price A:A 5:1 **Standard:** Standard 1 Standard 2
Type of Equipment: Wading Bridge Board Boat Board
Initial Bank: RDB LDB
Tapedown: N/A
Guage Height: N/A
Date: 08/08/2001
Start Time: 1340 hrs **End Time:** 1405 hrs

WIDTH¹ (ft):	10.50
AREA² (ft²):	9.32
AVG. DEPTH³ (ft):	0.89
DISCHARGE⁴ (cfs):	1.84
AVG. VELOCITY⁵ (fps):	0.20

Subsection	Distance from initial point (ft)	Width of element ⁶ (ft)	Depth of element (ft)	Area of element ⁷ (ft ²)	Velocity of element (fps)				Adjusted Angle ⁹	Discharge through element ¹⁰ (cfs)	Element discharge at % of total discharge ¹¹
					.2D	.6D	.8D	Average ⁸			
1	1.0	0.25	0.00	0.00		0.00		0.00		0.00	0.00%
2	1.5	0.50	0.30	0.15		0.00		0.00		0.00	0.00%
3	2.0	0.50	0.50	0.25		0.00		0.00		0.00	0.00%
4	2.5	0.50	0.60	0.30		0.00		0.00		0.00	0.00%
5	3.0	0.50	0.60	0.30		0.16		0.16		0.05	2.55%
6	3.5	0.50	0.70	0.35		0.19		0.19		0.07	3.54%
7	4.0	0.50	0.90	0.45		0.32		0.32		0.14	7.89%
8	4.5	0.50	1.00	0.50		0.33		0.33		0.17	9.06%
9	5.0	0.40	1.00	0.40		0.49		0.49		0.19	10.56%
10	5.3	0.25	1.00	0.25		0.57		0.57		0.14	7.74%
11	5.5	0.25	1.10	0.28		0.51		0.51		0.14	7.65%
12	5.8	0.25	1.20	0.30		0.46		0.46		0.14	7.58%
13	6.0	0.35	1.20	0.42		0.40		0.40		0.17	9.12%
14	6.5	0.50	1.30	0.65		0.27		0.27		0.17	9.48%
15	7.0	0.50	1.30	0.65		0.13		0.13		0.09	4.67%
16	7.5	0.50	1.30	0.65		0.16		0.16		0.10	5.66%
17	8.0	0.50	1.20	0.60		0.14		0.14		0.09	4.67%
18	8.5	0.50	1.20	0.60		0.18		0.18		0.11	6.01%
19	9.0	0.50	1.10	0.55		0.13		0.13		0.07	3.83%
20	9.5	0.50	1.00	0.50		0.00		0.00		0.00	0.00%
21	10.0	0.50	0.90	0.45		0.00		0.00		0.00	0.00%
22	10.5	0.50	0.80	0.40		0.00		0.00		0.00	0.00%
23	11.0	0.50	0.50	0.25		0.00		0.00		0.00	0.00%
24	11.5	0.25	0.30	0.08		0.00		0.00		0.00	0.00%
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
Total		10.50		9.32						1.84	100.00%

*** This data does not meet the requirements in the SOP for stream discharges***

Data Collection Crew	Office Data Work
Measurement made by: <u>J. Severson</u>	Data Inputted by / Date: <u>A. Grezaffi/ 8/09/01</u>
Notetaker/Recorder: <u>A. Grezaffi</u>	Data Input Checked by / Date: <u>M. Cooley/ 8/09/01</u>
Other:	

- Note 1: WIDTH (ft) = sum of the width column
 - Note 2: AREA (ft²) = sum of the area column
 - Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
 - Note 4: DISCHARGE (cfs) = sum of the discharge column
 - Note 5: AVG. VELOCITY (fps) = discharge/area (using the values from this table)
 - Note 6: Width of element
 - Note 7: Area = width*depth for element. These areas are generally not representative of the stream.
 - Note 8: Average velocity = Use 0.6D velocity if depth is less than 2.5 ft or the average of 0.2D and 0.8D velocities if depth is greater than 2.5 ft.
 - Note 9: If blank assume 1
 - Note 10: Discharge through element = area of element*average velocity of element
 - Note 11: Element discharge percent = discharge through element/total discharge X 100%. Element discharge should not exceed 10%.
- Stream Discharge Spreadsheet revised 07/14/00

STREAM DISCHARGE SPREADSHEET

Site Number: BC 6 Subsegment: 030602 Waterbody Barnes Creek
 Site Description: 40 yds downstream of bridge
 Type of Meter: Price A:A 1:1 Pygmy Price A:A 5:1 Standard: Standard 1 Standard 2
 Type of Equipment: Wading Bridge Board Boat Board
 Initial Bank: RDB LDB
 Tapedown: 16.9
 Guage Height: N/A
 Date: 08/08/2001
 Start Time: 11:45 a.m. End Time: 12:25 p.m

WIDTH ¹ (ft):	12.50
AREA ² (ft ²):	7.08
AVG. DEPTH ³ (ft):	0.57
DISCHARGE ⁴ (cfs):	2.24
AVG. VELOCITY ⁵ (fps):	0.32

Subsection	Distance from initial point (ft)	Width of element ⁶ (ft)	Depth of element (ft)	Area of element ⁷ (ft ²)	Velocity of element (fps)				Adjusted Angle ⁹	Discharge through element ¹⁰ (cfs)	Element discharge at % of total discharge ¹¹
					.2D	.6D	.8D	Average ⁸			
1	0.0	0.25	0.00	0.00		0.00		0.00			
2	0.5	0.50	0.00	0.00		0.00		0.00		0.00	0.00%
3	1.0	0.50	0.70	0.35		0.09		0.09		0.03	1.36%
4	1.5	0.50	0.70	0.35		0.13		0.13		0.04	1.99%
5	2.0	0.50	0.75	0.38		0.48		0.48		0.18	8.05%
6	2.5	0.50	0.80	0.40		0.53		0.53		0.21	9.42%
7	3.0	0.40	0.75	0.30		0.74		0.74		0.22	9.98%
8	3.3	0.30	0.80	0.24		0.88		0.88		0.21	9.45%
9	3.6	0.30	0.80	0.24		0.91		0.91		0.22	9.79%
10	3.9	0.30	0.85	0.26		0.83		0.83		0.21	9.44%
11	4.2	0.30	0.85	0.26		0.71		0.71		0.18	8.04%
12	4.5	0.30	0.80	0.24		0.53		0.53		0.13	5.72%
13	4.8	0.30	0.80	0.24		0.39		0.39		0.09	4.19%
14	5.1	0.30	0.75	0.23		0.10		0.10		0.02	1.05%
15	5.4	0.30	0.70	0.21		0.08		0.08		0.02	0.73%
16	5.7	0.30	0.70	0.21		0.12		0.12		0.03	1.15%
17	6.0	0.40	0.65	0.26		0.10		0.10		0.03	1.19%
18	6.5	0.50	0.60	0.30		0.11		0.11		0.03	1.42%
19	7.0	0.50	0.55	0.28		0.11		0.11		0.03	1.35%
20	7.5	0.50	0.50	0.25		0.24		0.24		0.06	2.68%
21	8.0	0.50	0.50	0.25		0.26		0.26		0.07	2.94%
22	8.5	0.50	0.60	0.30		0.35		0.35		0.11	4.75%
23	9.0	0.50	0.50	0.25		0.32		0.32		0.08	3.53%
24	9.5	0.50	0.50	0.25		0.10		0.10		0.03	1.14%
25	10.0	0.50	0.40	0.20		0.00		0.00		0.00	0.00%
26	10.5	0.50	0.40	0.20		0.07		0.07		0.01	0.66%
27	11.0	0.50	0.50	0.25		0.00		0.00		0.00	0.00%
28	11.5	0.50	0.50	0.25		0.00		0.00		0.00	0.00%
29	12.0	0.50	0.30	0.15		0.00		0.00		0.00	0.00%
30	12.5	0.25	0.00	0.00		0.00		0.00		0.00	0.00%
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
Total		12.50		7.08						2.24	100.00%

Data Collection Crew		Office Data Work	
Measurement made by:	<u>B. Balwin</u>	Data Inputted by / Date:	<u>C. Schwartzburg / 8/13/01</u>
Notetaker/Recorder:	<u>D. Lanthier</u>	Data Input Checked by / Date:	<u>B. Baldwin / 8/13/01</u>
Other:	<u>C. Schwartzburg</u>		

Note 1: WIDTH (ft) = sum of the width column
 Note 2: AREA (ft²) = sum of the area column
 Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
 Note 4: DISCHARGE (cfs) = sum of the discharge column
 Note 5: AVG. VELOCITY (fps) = discharge/area (using the values from this table)
 Note 6: Width of element
 Note 7: Area = width*depth for element. These areas are generally not representative of the stream.
 Note 8: Average velocity = Use 0.6D velocity if depth is less than 2.5 ft or the average of 0.2D and 0.8D velocities if depth is greater than 2.5 ft.
 Note 9: If blank assume 1
 Note 10: Discharge through element = area of element*average velocity of element
 Note 11: Element discharge percent = discharge through element/total discharge X 100%. Element discharge should not exceed 10%.
 Stream Discharge Spreadsheet revised 07/14/00

STREAM CROSS-SECTION SPREADSHEET

Site Number: BC 6 Subsegment: 030602 Waterbody: Barnes Creek

Site Description: 15 yds upstream of bridge

Type of Equipment: Fathometer Hydrotrac Manual

Initial Bank: RDB LDB

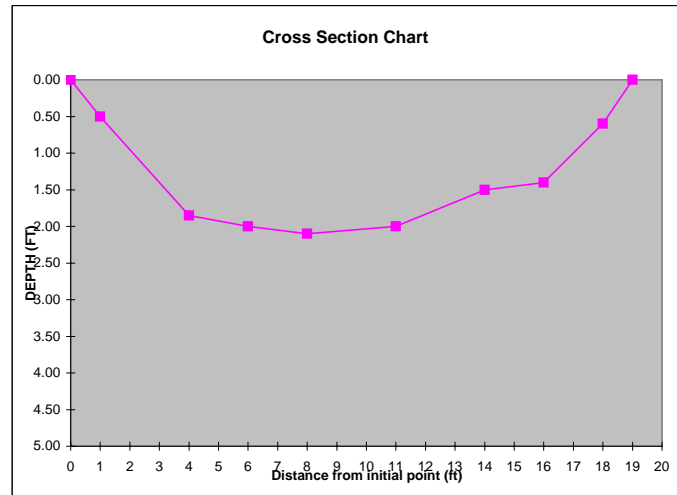
Tapedown: 16.90

Guage Height: N/A

Date: 08/08/2001

WIDTH ¹ (ft):	19.00
AREA ² (ft ²):	28.33
AVG. DEPTH ³ (ft):	1.49

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	0.0	0.50	0.00	0.00	
2	1.0	2.00	0.50	1.00	3.53%
3	4.0	2.50	1.85	4.63	16.33%
4	6.0	2.00	2.00	4.00	14.12%
5	8.0	2.50	2.10	5.25	18.53%
6	11.0	3.00	2.00	6.00	21.18%
7	14.0	2.50	1.50	3.75	13.24%
8	16.0	2.00	1.40	2.80	9.89%
9	18.0	1.50	0.60	0.90	3.18%
10	19.0	0.50	0.00	0.00	0.00%
11					
12					
13					
14					
15					
16					
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		19.00		28.33	100.00%



Data Collection Crew		Office Data Work	
Measurement made by:	B. Baldwin	Data Inputted by / Date:	C. Schwartzburg / 8/13/01
Notetaker/Recorder:	D. Lathier	Data Input Checked by / Date:	B. Baldwin / 8/13/01
Other:	C. Schwartzburg		

- 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.
- Note 8: Blank fields are cleared from all calculations.
- Note 9: The cross sections are taken at areas representative of the stream.

STREAM CROSS-SECTION SPREADSHEET

Site Number: BC 7 Subsegment: 030602 Waterbody: Barnes Creek

Site Description: Longville Rd. below dam

Type of Equipment: Fathometer Hydrotrac Manual

Initial Bank: RDB LDB

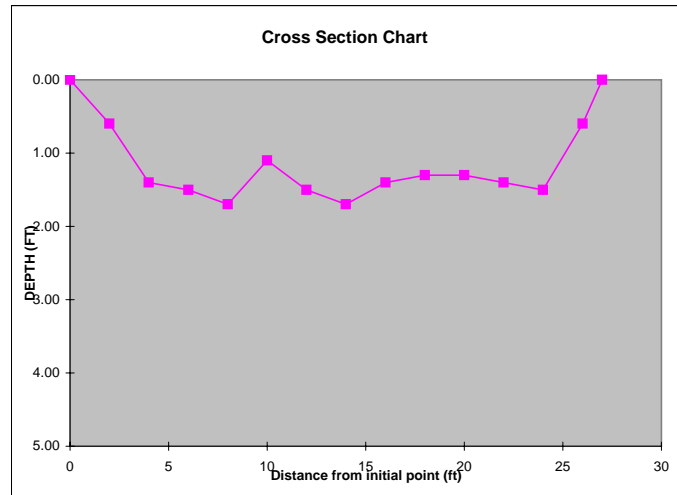
Tapedown: N/A

Guage Height: N/A

Date: 08/08/2001

WIDTH ¹ (ft):	27.00
AREA ² (ft ²):	33.70
AVG. DEPTH ³ (ft):	1.25

Subsection	Distance from initial point (ft)	Width ⁴ (ft)	Depth (ft)	Area ⁵ (sq.ft.)	Area of element as % of Total Area ^{6,8,7}
1	0.0	1.00	0.00	0.00	
2	2.0	2.00	0.60	1.20	3.56%
3	4.0	2.00	1.40	2.80	8.31%
4	6.0	2.00	1.50	3.00	8.90%
5	8.0	2.00	1.70	3.40	10.09%
6	10.0	2.00	1.10	2.20	6.53%
7	12.0	2.00	1.50	3.00	8.90%
8	14.0	2.00	1.70	3.40	10.09%
9	16.0	2.00	1.40	2.80	8.31%
10	18.0	2.00	1.30	2.60	7.72%
11	20.0	2.00	1.30	2.60	7.72%
12	22.0	2.00	1.40	2.80	8.31%
13	24.0	2.00	1.50	3.00	8.90%
14	26.0	1.50	0.60	0.90	2.67%
15	27.0	0.50	0.00	0.00	0.00%
16					
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		27.00		33.70	100.00%



Data Collection Crew		Office Data Work	
Measurement made by:	B. Baldwin	Data Inputted by / Date:	C. Schwartzenburg / 8/13/01
Notetaker/Recorder:	D. Lanthier	Data Input Checked by / Date:	B. Baldwin / 8/13/01
Other:	C. Schwartzenburg		

- 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.
- Note 8: Blank fields are cleared from all calculations.
- Note 9: The cross sections are taken at areas representative of the stream.

STREAM CROSS-SECTION SPREADSHEET

Site Number: BC 7A Subsegment: 030601-02 Waterbody: Barnes Creek

Site Description: 40 yards upstream of bridge

Type of Equipment: Fathometer Hydrotrac Manual

Initial Bank: RDB LDB

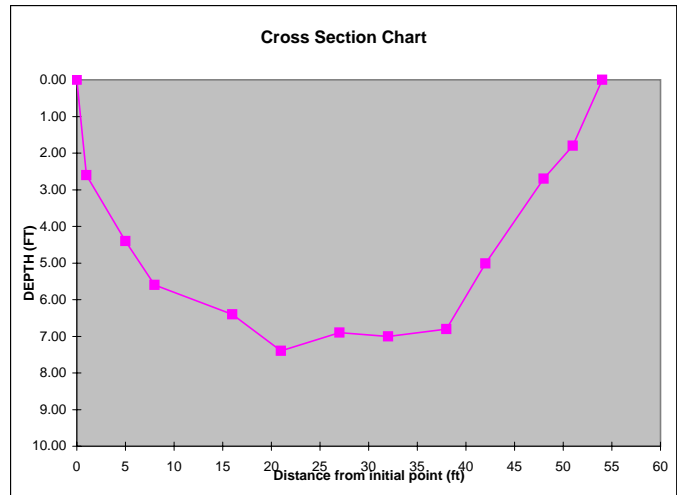
Tapedown: _____

Guage Height: _____

Date: 08/08/2001

WIDTH ⁴ (ft):	54.00
AREA ⁵ (sq.ft.):	288.05
AVG. DEPTH ³ (ft):	5.33

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	0.0	0.50	0.00	0.00	
2	1.0	2.50	2.60	6.50	2.26%
3	5.0	3.50	4.40	15.40	5.35%
4	8.0	5.50	5.60	30.80	10.69%
5	16.0	6.50	6.40	41.60	14.44%
6	21.0	5.50	7.40	40.70	14.13%
7	27.0	5.50	6.90	37.95	13.17%
8	32.0	5.50	7.00	38.50	13.37%
9	38.0	5.00	6.80	34.00	11.80%
10	42.0	5.00	5.01	25.05	8.70%
11	48.0	4.50	2.70	12.15	4.22%
12	51.0	3.00	1.80	5.40	1.87%
13	54.0	1.50	0.00	0.00	0.00%
14					
15					
16					
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		54.00		288.05	100.00%



Data Collection Crew	Office Data Work
Measurement made by: <u>Baldwin</u>	Data Inputted by / Date: <u>Baldwin 8/13/01</u>
Notetaker/Recorder: <u>Lanthier</u>	Data Input Checked by / Date: _____
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.
- Note 8: Blank fields are cleared from all calculations.
- Note 9: The cross sections are taken at areas representative of the stream.

STREAM DISCHARGE SPREADSHEET

Site Number: BC8 Subsegment: 030602 Waterbody: Barnes Creek

Site Description: at wooden bridge off Burnett Rd.

Type of Meter: Price A:A 1:1 Pygmy Price A:A 5:1

Standard: Standard 1 Standard 2

Type of Equipment: Wading Bridge Board Boat Board

WIDTH ¹ (ft):	13.00
AREA ² (ft ²):	13.89
AVG. DEPTH ³ (ft):	1.07
DISCHARGE ⁴ (cfs):	1.56
AVG. VELOCITY ⁵ (fps):	0.11

Initial Bank: RDB LDB

Tapedown: N/A

Guage Height: N/A

Date: 08/08/2001

Start Time: 10:25 End Time: 11:00

Subsection	Distance from initial point (ft)	Width of element ⁶ (ft)	Depth of element (ft)	Area of element ⁷ (ft ²)	Velocity of element (fps)				Adjusted Angle ⁹	Discharge through element ¹⁰ (cfs)	Element discharge at % of total discharge ¹¹
					.2D	.6D	.8D	Average ⁸			
1	2.0	0.25	0.00	0.00		0.00		0.00		0.00	0.00%
2	2.5	0.50	0.50	0.25		0.00		0.00		0.00	0.00%
3	3.0	0.50	0.65	0.33		0.00		0.00		0.00	0.00%
4	3.5	0.50	0.70	0.35		0.00		0.00		0.00	0.00%
5	4.0	0.50	0.90	0.45		0.00		0.00		0.00	0.00%
6	4.5	0.50	1.10	0.55		0.12		0.12		0.07	4.30%
7	5.0	0.50	1.20	0.60		0.13		0.13		0.08	5.03%
8	5.5	0.50	1.30	0.65		0.13		0.13		0.08	5.28%
9	6.0	0.50	1.20	0.60		0.37		0.37		0.22	14.13%
10	6.5	0.50	1.25	0.63		0.32		0.32		0.20	12.60%
11	7.0	0.38	1.25	0.47		0.32		0.32		0.15	9.54%
12	7.3	0.25	1.30	0.33		0.38		0.38		0.12	7.84%
13	7.5	0.25	1.35	0.34		0.35		0.35		0.12	7.56%
14	7.8	0.25	1.35	0.34		0.37		0.37		0.13	8.08%
15	8.0	0.25	1.40	0.35		0.31		0.31		0.11	7.03%
16	8.3	0.25	1.50	0.38		0.28		0.28		0.11	6.72%
17	8.5	0.38	1.45	0.54		0.17		0.17		0.09	5.78%
18	9.0	0.50	1.35	0.68		0.14		0.14		0.10	6.09%
19	9.5	0.50	1.40	0.70		0.00		0.00		0.00	0.00%
20	10.0	0.50	1.40	0.70		0.00		0.00		0.00	0.00%
21	10.5	0.50	1.40	0.70		0.00		0.00		0.00	0.00%
22	11.0	0.50	1.40	0.70		0.00		0.00		0.00	0.00%
23	11.5	0.50	1.40	0.70		0.00		0.00		0.00	0.00%
24	12.0	0.50	1.30	0.65		0.00		0.00		0.00	0.00%
25	12.5	0.50	1.15	0.58		0.00		0.00		0.00	0.00%
26	13.0	0.50	1.00	0.50		0.00		0.00		0.00	0.00%
27	13.5	0.50	0.70	0.35		0.00		0.00		0.00	0.00%
28	14.0	0.50	0.60	0.30		0.00		0.00		0.00	0.00%
29	14.5	0.50	0.40	0.20		0.00		0.00		0.00	0.00%
30	15.0	0.25	0.00	0.00		0.00		0.00		0.00	0.00%
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
Total		13.00		13.89						1.56	100.00%

*** THIS DATA DOES NOT MEET THE REQUIREMENTS IN THE SOP FOR STREAM DISCHARGES

Data Collection Crew		Office Data Work	
Measurement made by:	<u>A. Grezaffi</u>	Data Inputted by / Date:	<u>J. Severson/ 8-9-01</u>
Notetaker/Recorder:	<u>J. Severson</u>	Data Input Checked by / Date:	<u>R. Brignac/ 8-9-01</u>
Other:			

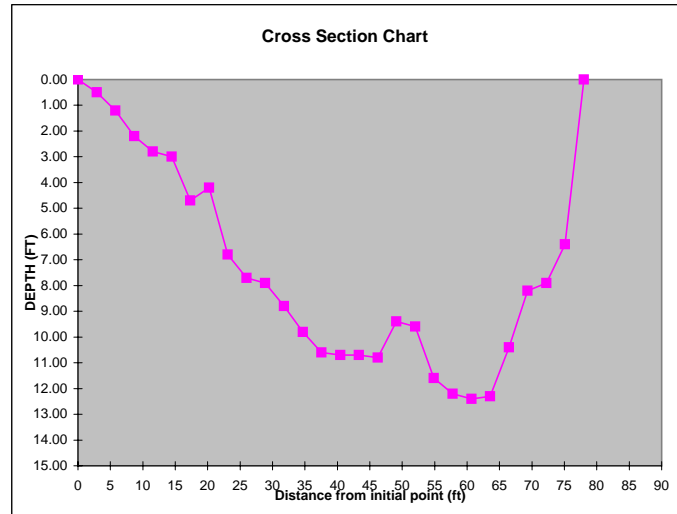
Note 1: WIDTH (ft) = sum of the width column
 Note 2: AREA (ft²) = sum of the area column
 Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
 Note 4: DISCHARGE (cfs) = sum of the discharge column
 Note 5: AVG. VELOCITY (fps) = discharge/area (using the values from this table)
 Note 6: Width of element
 Note 7: Area = width*depth for element. These areas are generally not representative of the stream.
 Note 8: Average velocity = Use 0.6D velocity if depth is less than 2.5 ft or the average of 0.2D and 0.8D velocities if depth is greater than 2.5 ft.
 Note 9: If blank assume 1
 Note 10: Discharge through element = area of element*average velocity of element
 Note 11: Element discharge percent = discharge through element/total discharge X 100%. Element discharge should not exceed 10%.
 Stream Discharge Spreadsheet revised 07/14/00

STREAM CROSS-SECTION SPREADSHEET

Site Number: BC13 Subsegment: 030601 Waterbody: Barnes Creek
 Site Description: 50 yards upstream of Martin Tram Rd bridge
 Type of Equipment: Fathometer Hydrotrac Manual
 Initial Bank: RDB LDB
 Tapedown: 19.53'
 Gauge Height: N/A
 Date: 08/08/2001

WIDTH ¹ (ft):	78.00
AREA ² (ft ²):	585.87
AVG. DEPTH ³ (ft):	7.51

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	0.0	1.44	0.00	0.00	
2	2.9	2.89	0.50	1.44	0.25%
3	5.8	2.89	1.20	3.47	0.59%
4	8.7	2.89	2.20	6.36	1.08%
5	11.6	2.89	2.80	8.09	1.38%
6	14.4	2.89	3.00	8.67	1.48%
7	17.3	2.89	4.70	13.58	2.32%
8	20.2	2.89	4.20	12.13	2.07%
9	23.1	2.89	6.80	19.64	3.35%
10	26.0	2.89	7.70	22.24	3.80%
11	28.9	2.89	7.90	22.82	3.90%
12	31.8	2.89	8.80	25.42	4.34%
13	34.7	2.89	9.80	28.31	4.83%
14	37.6	2.89	10.60	30.62	5.23%
15	40.4	2.89	10.70	30.91	5.28%
16	43.3	2.89	10.70	30.91	5.28%
17	46.2	2.89	10.80	31.20	5.33%
18	49.1	2.89	9.40	27.16	4.64%
19	52.0	2.89	9.60	27.73	4.73%
20	54.9	2.89	11.60	33.51	5.72%
21	57.8	2.89	12.20	35.24	6.02%
22	60.7	2.89	12.40	35.82	6.11%
23	63.6	2.89	12.30	35.53	6.07%
24	66.4	2.89	10.40	30.04	5.13%
25	69.3	2.89	8.20	23.69	4.04%
26	72.2	2.89	7.90	22.82	3.90%
27	75.1	2.89	6.40	18.49	3.16%
28	78.0	1.44	0.00	0.00	0.00%
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
Total		78.00		585.87	100.00%



Data Collection Crew	Office Data Work
Measurement made by: <u>Blanchard/Garner</u>	Data Inputted by / Date <u>Blanchard/ 08/10/01</u>
Notetaker/Recorder: <u>Blanchard/Garner</u>	Data Input Checked by / I <u>Baldwin/ 08/13/01</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.
- Note 8: Blank fields are cleared from all calculations.
- Note 9: The cross sections are taken at areas representative of the stream.

STREAM DISCHARGE SPREADSHEET

Site Number: BC 12 Subsegment: 030602 Waterbody: Barnes Creek

Site Description: Barnes Creek- 100 yards upstream of Topsy Bel Road

Type of Meter: Price A:A 1:1 Pygmy Price A:A 5:1
 Type of Equipment: Wading Bridge Board Boat Board

Standard: Standard 1 Standard 2

Initial Bank: RDB LDB

Tapedown: 22.89

Guage Height: N/A

Date: 08/08/2001

Start Time: 3:12 PM

End Time: 3:44 PM

WIDTH ¹ (ft):	20.00
AREA ² (ft ²):	13.50
AVG. DEPTH ³ (ft):	0.68
DISCHARGE ⁴ (cfs):	3.39
AVG. VELOCITY ⁵ (fps):	0.25

Subsection	Distance from initial point (ft)	Width of element ⁶ (ft)	Depth of element (ft)	Area of element ⁷ (ft ²)	Velocity of element (fps)				Adjusted Angle ⁹	Discharge through element ¹⁰ (cfs)	Element discharge at % of total discharge ¹¹
					.2D	.6D	.8D	Average ⁸			
1	2.0	0.50	0.00	0.00		0.00		0.00		0.00	0.00%
2	3.0	1.00	0.20	0.20		0.11		0.11		0.02	0.64%
3	4.0	1.00	0.20	0.20		0.16		0.16		0.03	0.94%
4	5.0	1.00	0.40	0.40		0.19		0.19		0.08	2.24%
5	6.0	1.00	0.50	0.50		0.18		0.18		0.09	2.65%
6	7.0	1.00	0.50	0.50		0.20		0.20		0.10	2.98%
7	8.0	1.00	0.50	0.50		0.25		0.25		0.12	3.61%
8	9.0	1.00	0.60	0.60		0.25		0.25		0.15	4.35%
9	10.0	1.00	0.70	0.70		0.20		0.20		0.14	4.17%
10	11.0	1.00	0.90	0.90		0.31		0.31		0.28	8.12%
11	12.0	1.00	0.90	0.90		0.35		0.35		0.31	9.23%
12	13.0	1.00	1.00	1.00		0.34		0.34		0.34	9.96%
13	14.0	1.00	0.90	0.90		0.36		0.36		0.32	9.50%
14	15.0	1.00	1.00	1.00		0.30		0.30		0.30	8.72%
15	16.0	1.00	1.00	1.00		0.27		0.27		0.27	8.05%
16	17.0	1.00	1.00	1.00		0.22		0.22		0.22	6.57%
17	18.0	1.00	1.10	1.10		0.22		0.22		0.24	7.10%
18	19.0	1.00	0.90	0.90		0.26		0.26		0.23	6.82%
19	20.0	1.00	0.70	0.70		0.12		0.12		0.08	2.50%
20	21.0	1.00	0.50	0.50		0.13		0.13		0.06	1.86%
21	22.0	0.50	0.00	0.00		0.00		0.00		0.00	0.00%
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
Total		20.00		13.50						3.39	100.00%

Data Collection Crew		Office Data Work	
Measurement made by:	<u>K. Blanchard</u>	Data Input by / Date:	<u>E. Garner 8/13/01</u>
Notetaker/Recorder:	<u>E. Garner</u>	Data Input Checked by / Date:	<u>K. Blanchard 8/13/01</u>
Other:			

- Note 1: WIDTH (ft) = sum of the width column
- Note 2: AREA (ft²) = sum of the area column
- Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
- Note 4: DISCHARGE (cfs) = sum of the discharge column
- Note 5: AVG. VELOCITY (fps) = discharge/area (using the values from this table)
- Note 6: Width of element
- Note 7: Area = width*depth for element. These areas are generally not representative of the stream.
- Note 8: Average velocity = Use 0.6D velocity if depth is less than 2.5 ft or the average of 0.2D and 0.8D velocities if depth is greater than 2.5 ft.
- Note 9: If blank assume 1
- Note 10: Discharge through element = area of element*average velocity of element
- Note 11: Element discharge percent = discharge through element/total discharge X 100%. Element discharge should not exceed 10%.

STREAM DISCHARGE SPREADSHEET

Site Number: BC 11 Subsegment: 030602 Waterbody: Barnes Creek
 Site Description: Barnes Creek at Hwy 190 - approx 30 yards downstream
 Type of Meter: Price A:A 1:1 Pygmy Price A:A 5:1 Standard: Standard 1 Standard 2
 Type of Equipment: Wading Bridge Board Boat Board
 Initial Bank: RDB LDB
 Tapedown: 26.92
 Gauge Height: N/A
 Date: 08/08/2001
 Start Time: 1:43 PM End Time: 2:14 PM

WIDTH ¹ (ft):	13.00
AREA ² (ft ²):	8.65
AVG. DEPTH ³ (ft):	0.67
DISCHARGE ⁴ (cfs):	2.27
AVG. VELOCITY ⁵ (fps):	0.26

Subsection	Distance from initial point (ft)	Width of element ⁶ (ft)	Depth of element (ft)	Area of element ⁷ (ft ²)	Velocity of element (fps)				Adjusted Angle ⁹	Discharge through element ¹⁰ (cfs)	Element discharge at % of total discharge ¹¹
					.2D	.6D	.8D	Average ⁸			
					1	3.0	0.25	0.00			
2	3.5	0.50	0.20	0.10		0.18		0.18		0.02	0.77%
3	4.0	0.50	0.30	0.15		0.26		0.26		0.04	1.74%
4	4.5	0.50	0.40	0.20		0.25		0.25		0.05	2.17%
5	5.0	0.50	0.50	0.25		0.23		0.23		0.06	2.55%
6	5.5	0.50	0.60	0.30		0.23		0.23		0.07	3.09%
7	6.0	0.50	0.80	0.40		0.26		0.26		0.10	4.49%
8	6.5	0.50	0.80	0.40		0.30		0.30		0.12	5.21%
9	7.0	0.50	0.90	0.45		0.30		0.30		0.14	5.94%
10	7.5	0.50	0.90	0.45		0.30		0.30		0.13	5.88%
11	8.0	0.50	1.00	0.50		0.26		0.26		0.13	5.81%
12	8.5	0.50	1.00	0.50		0.23		0.23		0.12	5.08%
13	9.0	0.50	1.00	0.50		0.26		0.26		0.13	5.79%
14	9.5	0.50	1.00	0.50		0.29		0.29		0.15	6.45%
15	10.0	0.50	1.00	0.50		0.30		0.30		0.15	6.60%
16	10.5	0.50	0.90	0.45		0.28		0.28		0.13	5.60%
17	11.0	0.50	0.90	0.45		0.29		0.29		0.13	5.82%
18	11.5	0.50	0.90	0.45		0.26		0.26		0.12	5.13%
19	12.0	0.50	0.80	0.40		0.18		0.18		0.07	3.13%
20	12.5	0.50	0.70	0.35		0.28		0.28		0.10	4.25%
21	13.0	0.50	0.70	0.35		0.29		0.29		0.10	4.45%
22	13.5	0.50	0.60	0.30		0.26		0.26		0.08	3.46%
23	14.0	0.50	0.50	0.25		0.21		0.21		0.05	2.35%
24	14.5	0.50	0.40	0.20		0.20		0.20		0.04	1.77%
25	15.0	0.50	0.30	0.15		0.24		0.24		0.04	1.55%
26	15.5	0.50	0.20	0.10		0.21		0.21		0.02	0.90%
27	16.0	0.25	0.00	0.00		0.00		0.00		0.00	0.00%
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
Total		13.00		8.65						2.27	100.00%

Data Collection Crew		Office Data Work	
Measurement made by:	<u>K. Blanchard</u>	Data Input by / Date:	<u>E. Garner 8/13/01</u>
Notetaker/Recorder:	<u>E. Garner</u>	Data Input Checked by / Date:	<u>K. Blanchard 8/13/01</u>
Other:			

- Note 1: WIDTH (ft) = sum of the width column
- Note 2: AREA (ft²) = sum of the area column
- Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
- Note 4: DISCHARGE (cfs) = sum of the discharge column
- Note 5: AVG. VELOCITY (fps) = discharge/area (using the values from this table)
- Note 6: Width of element
- Note 7: Area = width*depth for element. These areas are generally not representative of the stream.
- Note 8: Average velocity = Use 0.6D velocity if depth is less than 2.5 ft or the average of 0.2D and 0.8D velocities if depth is greater than 2.5 ft.
- Note 9: If blank assume 1
- Note 10: Discharge through element = area of element*average velocity of element
- Note 11: Element discharge percent = discharge through element/total discharge X 100%. Element discharge should not exceed 10%.

STREAM DISCHARGE SPREADSHEET

Site Number: BC10 Subsegment: 030602 Waterbody: Barnes Creek

Site Description: at Hunt Rd.

Type of Meter: Price A:A 1:1 Pygmy Price A:A 5:1
 Type of Equipment: Wading Bridge Board Boat Board

Standard: Standard 1 Standard 2

Initial Bank: RDB LDB

Tapedown: 20.29 feet

Guage Height: N/A

Date: 08/08/2001

Start Time: 9:10

End Time: 9:40

WIDTH ¹ (ft):	19.00
AREA ² (ft ²):	22.05
AVG. DEPTH ³ (ft):	1.16
DISCHARGE ⁴ (cfs):	1.81
AVG. VELOCITY ⁵ (fps):	0.08

Subsection	Distance from initial point (ft)	Width of element ⁶ (ft)	Depth of element (ft)	Area of element ⁷ (ft ²)	Velocity of element (fps)				Adjusted Angle ⁹	Discharge through element ¹⁰ (cfs)	Element discharge at % of total discharge ¹¹
					.2D	.6D	.8D	Average ⁸			
1	2.0	0.25	0.00	0.00		0.00		0.00		0.00	0.00%
2	2.5	0.50	0.30	0.15		0.00		0.00		0.00	0.00%
3	3.0	0.50	0.50	0.25		0.00		0.00		0.00	0.00%
4	3.5	0.50	0.50	0.25		0.00		0.00		0.00	0.00%
5	4.0	0.50	0.70	0.35		0.00		0.00		0.00	0.00%
6	4.5	0.50	0.70	0.35		0.00		0.00		0.00	0.00%
7	5.0	0.50	0.70	0.35		0.00		0.00		0.00	0.00%
8	5.5	0.50	0.70	0.35		0.00		0.00		0.00	0.00%
9	6.0	0.50	0.70	0.35		0.00		0.00		0.00	0.00%
10	6.5	0.50	0.80	0.40		0.00		0.00		0.00	0.00%
11	7.0	0.50	1.00	0.50		0.00		0.00		0.00	0.00%
12	7.5	0.50	1.10	0.55		0.00		0.00		0.00	0.00%
13	8.0	0.50	1.10	0.55		0.11		0.11		0.06	3.35%
14	8.5	0.50	1.20	0.60		0.10		0.10		0.06	3.19%
15	9.0	0.50	1.30	0.65		0.00		0.00		0.00	0.00%
16	9.5	0.50	1.30	0.65		0.00		0.00		0.00	0.00%
17	10.0	0.50	1.30	0.65		0.14		0.14		0.09	4.86%
18	10.5	0.50	1.30	0.65		0.14		0.14		0.09	4.86%
19	11.0	0.50	1.30	0.65		0.15		0.15		0.10	5.51%
20	11.5	0.50	1.30	0.65		0.17		0.17		0.11	6.08%
21	12.0	0.50	1.40	0.70		0.17		0.17		0.12	6.55%
22	12.5	0.50	1.40	0.70		0.16		0.16		0.11	6.32%
23	13.0	0.50	1.30	0.65		0.18		0.18		0.12	6.51%
24	13.5	0.50	1.20	0.60		0.15		0.15		0.09	5.12%
25	14.0	0.50	1.50	0.75		0.16		0.16		0.12	6.64%
26	14.5	0.50	1.70	0.85		0.10		0.10		0.09	4.85%
27	15.0	0.50	1.60	0.80		0.12		0.12		0.10	5.36%
28	15.5	0.50	1.50	0.75		0.14		0.14		0.11	5.90%
29	16.0	0.50	1.60	0.80		0.13		0.13		0.10	5.63%
30	16.5	0.50	1.60	0.80		0.13		0.13		0.10	5.54%
31	17.0	0.50	1.60	0.80		0.11		0.11		0.08	4.65%
32	17.5	0.50	1.50	0.75		0.11		0.11		0.08	4.65%
33	18.0	0.50	1.50	0.75		0.11		0.11		0.08	4.44%
34	18.5	0.50	1.50	0.75		0.00		0.00		0.00	0.00%
35	19.0	0.50	1.50	0.75		0.00		0.00		0.00	0.00%
36	19.5	0.50	1.40	0.70		0.00		0.00		0.00	0.00%
37	20.0	0.50	1.60	0.80		0.00		0.00		0.00	0.00%
38	20.5	0.50	0.90	0.45		0.00		0.00		0.00	0.00%
39	21.0	0.25	0.00	0.00		0.00		0.00		0.00	0.00%
40											
41											
42											
43											
44											
45											
Total		19.00		22.05						1.81	100.00%

Data Collection Crew		Office Data Work	
Measurement made by:	<u>R. Gianelloni</u>	Data Inputted by / Date:	<u>J. Severson/ 8-9-01</u>
Notetaker/Recorder:	<u>J. Severson</u>	Data Input Checked by / Date:	
Other:			

Note 1: WIDTH (ft) = sum of the width column
 Note 2: AREA (ft²) = sum of the area column
 Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
 Note 4: DISCHARGE (cfs) = sum of the discharge column
 Note 5: AVG. VELOCITY (fps) = discharge/area (using the values from this table)
 Note 6: Width of element
 Note 7: Area = width*depth for element. These areas are generally not representative of the stream.
 Note 8: Average velocity = Use 0.6D velocity if depth is less than 2.5 ft or the average of 0.2D and 0.8D velocities if depth is greater than 2.5 ft.
 Note 9: If blank assume 1
 Note 10: Discharge through element = area of element*average velocity of element
 Note 11: Element discharge percent = discharge through element/total discharge X 100%. Element discharge should not exceed 10%.
 Stream Discharge Spreadsheet revised 07/14/00

STREAM DISCHARGE SPREADSHEET

Site Number: BC15 Subsegment: 030601 Waterbody: Effluent ditch off of Ball Rd.

Site Description: 50 yds. Downstream of Ball Rd.

Type of Meter: Price A:A 1:1 Pygmy Price A:A 5:1

Standard: Standard 1 Standard 2

Type of Equipment: Wading Bridge Board Boat Board

Initial Bank: RDB LDB

Tapedown: N/A

Guage Height: N/A

Date: 08/08/2001

Start Time: 10:00

End Time: 10:30

WIDTH ¹ (ft):	8.00
AREA ² (ft ²):	5.33
AVG. DEPTH ³ (ft):	0.67
DISCHARGE ⁴ (cfs):	2.28
AVG. VELOCITY ⁵ (fps):	0.43

Subsection	Distance from initial point (ft)	Width of element ⁶ (ft)	Depth of element (ft)	Area of element ⁷ (ft ²)	Velocity of element (fps)				Adjusted Angle ⁹	Discharge through element ¹⁰ (cfs)	Element discharge at % of total discharge ¹¹
					.2D	.6D	.8D	Average ⁸			
1	0.0	0.25	0.00	0.00		0.00		0.00			
2	0.5	0.50	0.55	0.28		0.07		0.07		0.02	0.84%
3	1.0	0.50	0.80	0.40		0.34		0.34		0.14	5.93%
4	1.5	0.50	1.00	0.50		0.73		0.73		0.36	15.95%
5	2.0	0.50	1.00	0.50		0.73		0.73		0.36	15.95%
6	2.5	0.50	1.00	0.50		0.40		0.40		0.20	8.75%
7	3.0	0.50	0.90	0.45		0.25		0.25		0.11	4.92%
8	3.5	0.50	0.80	0.40		0.17		0.17		0.07	2.98%
9	4.0	0.50	0.75	0.38		0.29		0.29		0.11	4.82%
10	4.5	0.50	0.70	0.35		0.64		0.64		0.22	9.83%
11	5.0	0.50	0.70	0.35		0.38		0.38		0.13	5.80%
12	5.5	0.50	0.65	0.33		0.61		0.61		0.20	8.64%
13	6.0	0.50	0.55	0.28		0.54		0.54		0.15	6.53%
14	6.5	0.50	0.55	0.28		0.35		0.35		0.10	4.20%
15	7.0	0.50	0.40	0.20		0.43		0.43		0.09	3.78%
16	7.5	0.50	0.30	0.15		0.16		0.16		0.02	1.08%
17	8.0	0.25	0.00	0.00		0.00		0.00		0.00	0.00%
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
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34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
Total		8.00		5.33						2.28	100.00%

*** THIS DATA DOES NOT MEET THE REQUIREMENTS IN THE SOP FOR STREAM DISCHARGES

Data Collection Crew		Office Data Work	
Measurement made by:	<u>C. Boffy</u>	Data Inputted by / Date:	<u>J. Severson/ 8-9-01</u>
Notetaker/Recorder:	<u>R. Farlow</u>	Data Input Checked by / Date:	<u>R. Gianelloni/ 8-9-01</u>
Other:			

Note 1: WIDTH (ft) = sum of the width column
 Note 2: AREA (ft²) = sum of the area column
 Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
 Note 4: DISCHARGE (cfs) = sum of the discharge column
 Note 5: AVG. VELOCITY (fps) = discharge/area (using the values from this table)
 Note 6: Width of element
 Note 7: Area = width*depth for element. These areas are generally not representative of the stream.
 Note 8: Average velocity = Use 0.6D velocity if depth is less than 2.5 ft or the average of 0.2D and 0.8D velocities if depth is greater than 2.5 ft.
 Note 9: If blank assume 1
 Note 10: Discharge through element = area of element*average velocity of element
 Note 11: Element discharge percent = discharge through element/total discharge X 100%. Element discharge should not exceed 10%
 Stream Discharge Spreadsheet revised 07/14/00

STREAM DISCHARGE SPREADSHEET

Site Number: BC 28A Subsegment: 030602 Waterbody Clear Creek
 Site Description: Clear Creek @ Hwy 190
 Type of Meter: Price A:A 1:1 Pygmy Price A:A 5:1 Standard: Standard 1 Standard 2
 Type of Equipment: Wading Bridge Board Boat Board
 Initial Bank: RDB LDB
 Tapedown: 25.4
 Guage Height: N/A
 Date: 08/08/2001
 Start Time: 1220 hrs End Time: 1310 hrs

WIDTH ¹ (ft):	10.00
AREA ² (ft ²):	3.44
AVG. DEPTH ³ (ft):	0.34
DISCHARGE ⁴ (cfs):	0.31
AVG. VELOCITY ⁵ (fps):	0.09

Subsection	Distance from initial point (ft)	Width of element ⁶ (ft)	Depth of element (ft)	Area of element ⁷ (ft ²)	Velocity of element (fps)				Adjusted Angle ⁹	Discharge through element ¹⁰ (cfs)	Element discharge at % of total discharge ¹¹
					.2D	.6D	.8D	Average ⁸			
1	1.0	0.50	0.00	0.00		0.00		0.00		0.00	0.00%
2	2.0	0.75	0.30	0.23		0.00		0.00		0.00	0.00%
3	2.5	0.50	0.30	0.15		0.00		0.00		0.00	0.00%
4	3.0	0.50	0.40	0.20		0.00		0.00		0.00	0.00%
5	3.5	0.50	0.40	0.20		0.00		0.00		0.00	0.00%
6	4.0	0.50	0.40	0.20		0.00		0.00		0.00	0.00%
7	4.5	0.40	0.40	0.16		0.11		0.11		0.02	5.72%
8	4.8	0.25	0.40	0.10		0.10		0.10		0.01	3.19%
9	5.0	0.20	0.40	0.08		0.13		0.13		0.01	3.22%
10	5.2	0.20	0.40	0.08		0.21		0.21		0.02	5.36%
11	5.4	0.20	0.40	0.08		0.23		0.23		0.02	5.97%
12	5.6	0.20	0.50	0.10		0.27		0.27		0.03	8.64%
13	5.8	0.20	0.50	0.10		0.27		0.27		0.03	8.64%
14	6.0	0.20	0.60	0.12		0.28		0.28		0.03	10.83%
15	6.2	0.20	0.60	0.12		0.23		0.23		0.03	8.80%
16	6.4	0.20	0.60	0.12		0.15		0.15		0.02	5.86%
17	6.6	0.20	0.60	0.12		0.17		0.17		0.02	6.66%
18	6.8	0.20	0.60	0.12		0.09		0.09		0.01	3.56%
19	7.0	0.20	0.60	0.12		0.11		0.11		0.01	4.21%
20	7.2	0.20	0.50	0.10		0.11		0.11		0.01	3.64%
21	7.4	0.20	0.50	0.10		0.10		0.10		0.01	3.19%
22	7.6	0.20	0.40	0.08		0.08		0.08		0.01	2.04%
23	7.8	0.20	0.40	0.08		0.13		0.13		0.01	3.19%
24	8.0	0.20	0.30	0.06		0.11		0.11		0.01	2.11%
25	8.2	0.20	0.30	0.06		0.09		0.09		0.01	1.72%
26	8.4	0.40	0.30	0.12		0.09		0.09		0.01	3.45%
27	9.0	0.80	0.30	0.24		0.00		0.00		0.00	0.00%
28	10.0	1.00	0.20	0.20		0.00		0.00		0.00	0.00%
29	11.0	0.50	0.00	0.00		0.00		0.00		0.00	0.00%
30											
31											
32	ESTIMATE BASED ON SUCH LOW FLOW.									0.00	0.00%
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
Total		10.00		3.44						0.31	100.00%

Data Collection Crew		Office Data Work	
Measurement made by:	<u>Blanchard</u>	Data Inputted by / Date:	<u>Blanchard/08/13/01</u>
Notetaker/Recorder:	<u>Garner</u>	Data Input Checked by / Date:	<u>Garner/08/13/01</u>
Other:			

Note 1: WIDTH (ft) = sum of the width column
 Note 2: AREA (ft²) = sum of the area column
 Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
 Note 4: DISCHARGE (cfs) = sum of the discharge column
 Note 5: AVG. VELOCITY (fps) = discharge/area (using the values from this table)
 Note 6: Width of element
 Note 7: Area = width*depth for element. These areas are generally not representative of the stream.
 Note 8: Average velocity = Use 0.6D velocity if depth is less than 2.5 ft or the average of 0.2D and 0.8D velocities if depth is greater than 2.5 ft.
 Note 9: If blank assume 1
 Note 10: Discharge through element = area of element*average velocity of element
 Note 11: Element discharge percent = discharge through element/total discharge X 100%. Element discharge should not exceed 10%
 Stream Discharge Spreadsheet revised 07/14/00

APPENDIX C3 - Survey field notes

**Barnes Creek Subsegment 030601-02
Field Notes**

Site BC 7A

Baldwin, Schwartzenburg, Lanthier
40 yds upstream of the dam
Time 0930
Batt: 7.1
Secchi: 2ft
Temp: 25.55
DO%: 7.2
DO: 0.57
Cond: 82.1
PH: 6.71
Sal: 0.03

BC 7A & 7 Elevation Measurement

Dam Height= 4.93
Water behind the dam (7A)= 4.94
Water height @ front of Dam (7)= 9.68

BC 7A Flow

Drouge moved 10ft in 35 min (upstream of the dam)

BC 7

X-sect 120 yards upstream of the bridge
Blank and duplicate taken
Water quality and Insitu taken @ 1040 hrs
DO= 4.03 DO%= 50.2 pH= 6.87 Temp= 25.70 Cond= 84.6
Battery= 7.1
Secchi Disc: 1.5 ft (bottom)
Sample depth 1.5 ft
No visible flow
Drouge did not move

BC 6 X section 15yards upstream of the bridge

- water quality
in-situ reading @ 1145hrs
pH 6.90 temp 26.42 DO 3.01 DO% 37.1 Cond 160.1 Batt 7.0

Secchi Disc: 2ft (bottom)
Sample depth 1ft

Discharge taken @ 1145 20yards downstream of bridge
Tapedown 16.9ft

BC 17 no flow dry
BC 18A no flow pooled
BC 19 no flow pooled

Lot # for BC 7, 7A, 6
BOD 00070790
A 0515012lpy032100c99
B 05150012lpy008100c99
C and Chlor A 0601014lpw032503c99
TOC 00070779
Nitric NA-0271080
Sulfuric SA-0271090
HCL HA-0271070

Barnes Creek Survey Field Notes
Subsegment 030601/030602
Survey Dates 8/07/01 to 8/09/01

Monitor Deployment – 8/07/01
Garner, Lanthier

BC 13 – Monitor Deployed at 1125 hrs at 1 meter
SN – 37757
Canopy Cover – 50%
Monitor placed approx 1/3 mile downstream of Martin Tram Road

BC 7 – Monitor Deployed at 1240 hrs at 1.5 feet (mid-depth)
SN – 37759
Canopy Cover – 95%
Monitor placed 75 yards downstream of dam/weir

BC 7A – Monitor Deployed at 1300 hrs at 1 meter
SN – 37756
Canopy Cover – 95%
Monitor placed 20 yards upstream of dam/weir

BC 2 – Monitor Deployed at 1350 hrs at 9 inches (mid-depth)
SN – 37751
Canopy Cover – 95%
Monitor placed at Site BC 2 approx 15 yards downstream of culvert

Monitor Pick Up – 8/09/01

Garner, Lanthier

BC 2 – Monitor picked up at 1120 hrs
SN – 37751

BC 7A – Monitor picked up at 1210 hrs
SN – 37756

BC 7 – Monitor picked up at 1225 hrs
SN – 37759

BC 13 – Monitor picked up at 1335 hrs
SN - 37757

Barnes Creek Survey 8/8/01

LaFleur, Phillippe, Farlow, Boffy

Subsegment: #030601

Lot #'s:

UBOD	051501-4LPC 128500 C99
A	051501-2LPY 032100 C99
B	051501-2 LPY 008100 C99
C	060101-4LPW 032503 C99
TOC	00070779
Chlor. A	060101-4LPW 032503 C99
D.I.	060101-4LPC 320600 C99
Sulfuric	02704
Nitric	02694
Hydrochloric	02684

Site BC15 10:00 A.M.

Discharge & representative cross-section
Water quality & in-situ
GPS'd

Site BC2 11:10 A.M.

Discharge & representative cross-section
Water quality & in-situ
GPS'd

Site BC3 12:35 p.m.

Discharge & representative cross-section

Water quality & in-situ
GPS'd
Tapedown: 11.98

Site BC16
No flow

Site BC5
No flow @ BC16 therefore knocked off this site

Barnes Creek Survey

Blanchard, Garner, Greenwood

Site 13
BC 13 Water Quality, Duplicate and Blank were taken at 1000 hrs

Field parameters 1000 hrs. Mid depth Total depth 4 feet

Temp. 26.12

Ph 6.42

Cond. 91

D.O. 1.38

Batt. 4.0 V

% Sat. 16.6

Monitor Serial # QT 00132 Quanta

-Representative Cross Section taken with Fathometer at 1100 hrs

-Drogue measurement conducted since the velocity was too low to measure with a meter. Drogue moved 53 feet in 26 minutes 30 seconds. The only velocity was in the center of the stream. 78' width at this point

-Secchi disk was 1.5 feet.

-Chlorophyll taken at 2.25 feet

-Tapedown 19.53' at 1040 hrs

-Canopy coverage 50%

Site 29 (BC29) Bear Creek No flow

Site 28A (BC28A) Clear Creek

Water Quality taken at 1215 hrs Taken at Mid depth

Field Parameters 1215 hrs Mid depth Total Depth 1 foot

Temp. 25.56
Ph 6.25
Cond. 71
D.O. 4.38
Batt. 4.0 V
% Sat. 49.7
Monitor Serial # QT 00132 Quanta

-Representative Cross Section is the same as the discharge.
Discharge taken at 1220 hrs.

-Secchi Disk was 1 foot. Total depth was 1 foot
-Chlorophyll taken at mid depth
-Tapedown 25.40' at 1305 hrs. Tapedown is on the downstream side of bridge (Measured to the bottom of red dot below the letters DEQ.
-Canopy coverage 70%

Site 11 (BC11) Barnes Creek @ Hwy 190

Water Quality taken at 1400 hrs Taken at Mid depth

Field Parameters 1400 hrs Mid depth Total Depth 2 feet

Temp. 27.15
Ph 6.69
Cond. 124
D.O. 2.58
Batt. 3.8 V
% Sat. 29.3
Monitor Serial # QT 00132 Quanta

-Representative Cross section is the same as the discharge
-Discharge taken at 1343 hrs
-Secchi Disk 2 feet. Total depth 2 feet.
-Tapedown 26.92' at 1428 hrs
-Canopy coverage 80%

Site 12 (BC12) Barnes Creek at Topsy Bell Road

Water Quality taken at 1520 hrs Taken at Mid depth

Field Parameters 1520 hrs Mid depth Total Depth 1.5 feet

Temp. 27.22
Ph 6.61
Cond. 141
D.O. 3.20
Batt. 3.8 V
% Sat. 36.3

Monitor Serial # QT 00132 Quanta

- Representative Cross Section is the same as the discharge. Discharge taken at 1512 hrs
- Secchi disk 1.5' Total depth 1.5'
- Tapedown 22.89' at 1610 hrs
- Canopy coverage 80%

Site 25 (BC25) Boggy Creek – No Flow

Site 27 (BC27) Unnamed Creek off of Texas Eastern Rd. – No Flow

LOT NUMBERS FOR ALL BOTTLES AND ACIDS USED FOR BARNES CREEK SURVEY

C bottle-060101-4CPW032501C99

B bottle-051501-2LPY008100C99

A bottle-051501-2LPY032100C99

TOC bottle-00070779

UBOD Cubitainer-051501-4LPC128500C99

DI Water Cubitainer-060101-4LPC320600C99

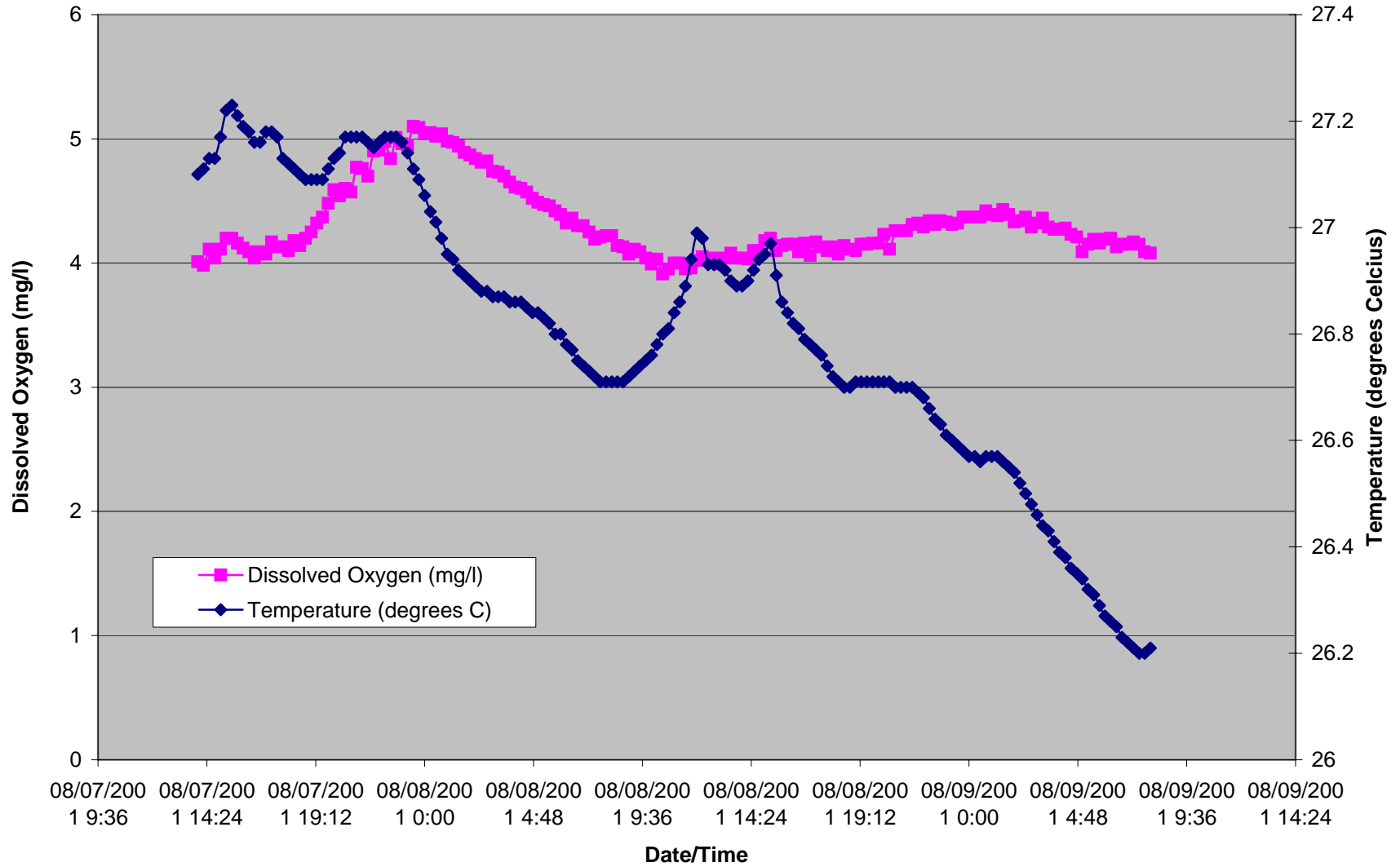
HCL-HA-0271070

H2SO4-SA-0271090

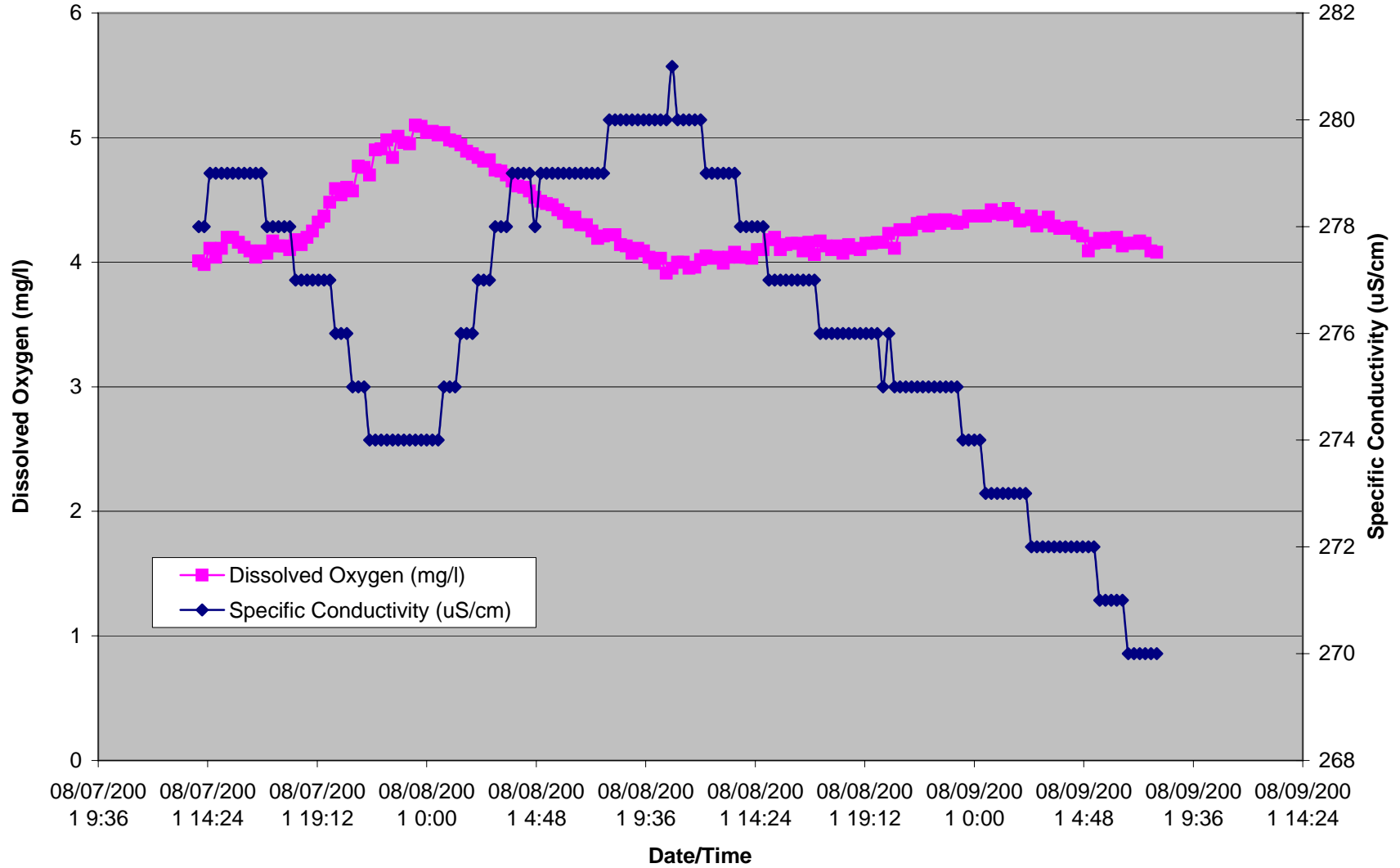
HNO3-NA-0271080

APPENDIX C4 - Continuous monitor graphs

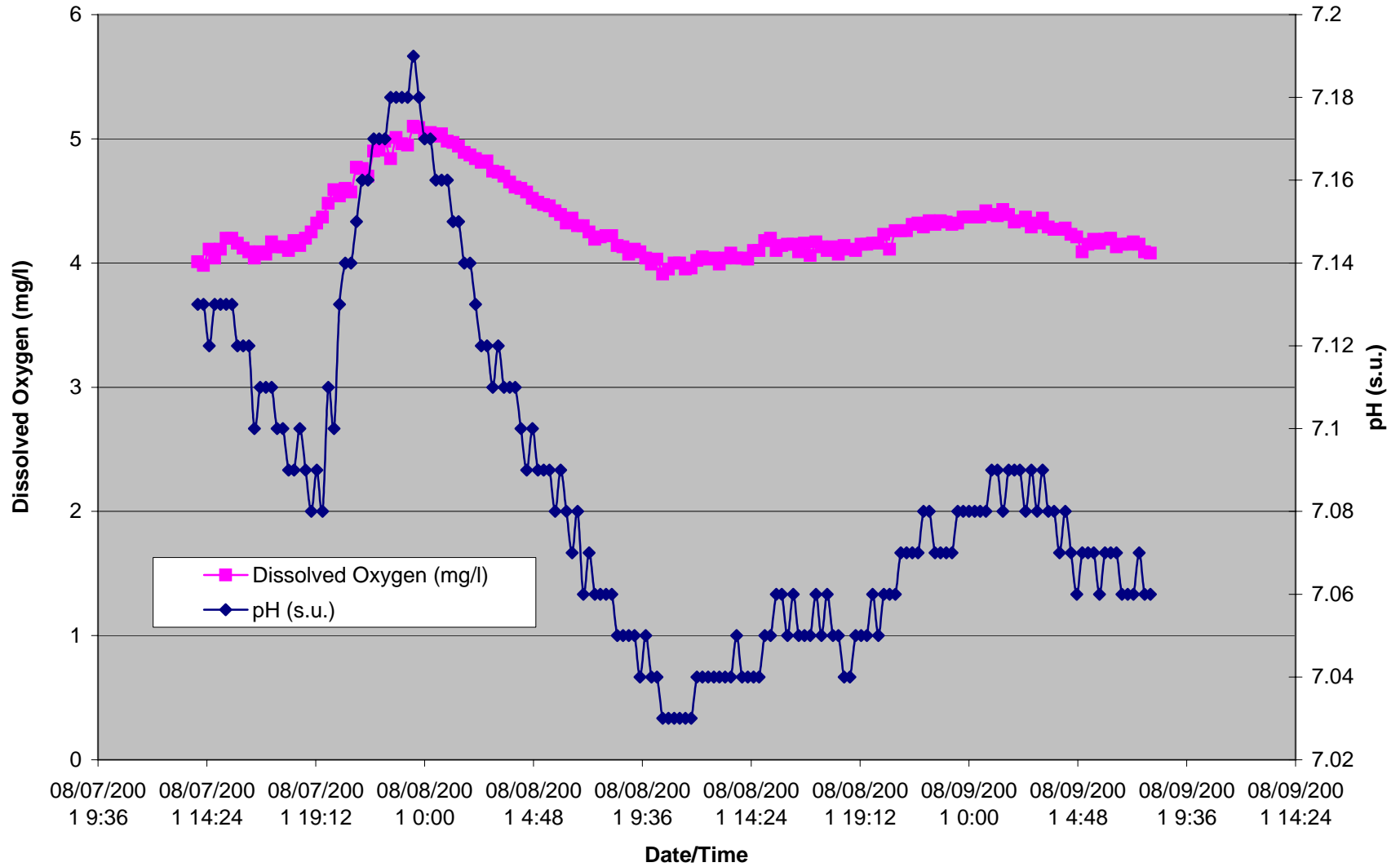
Barnes Creek Site 2



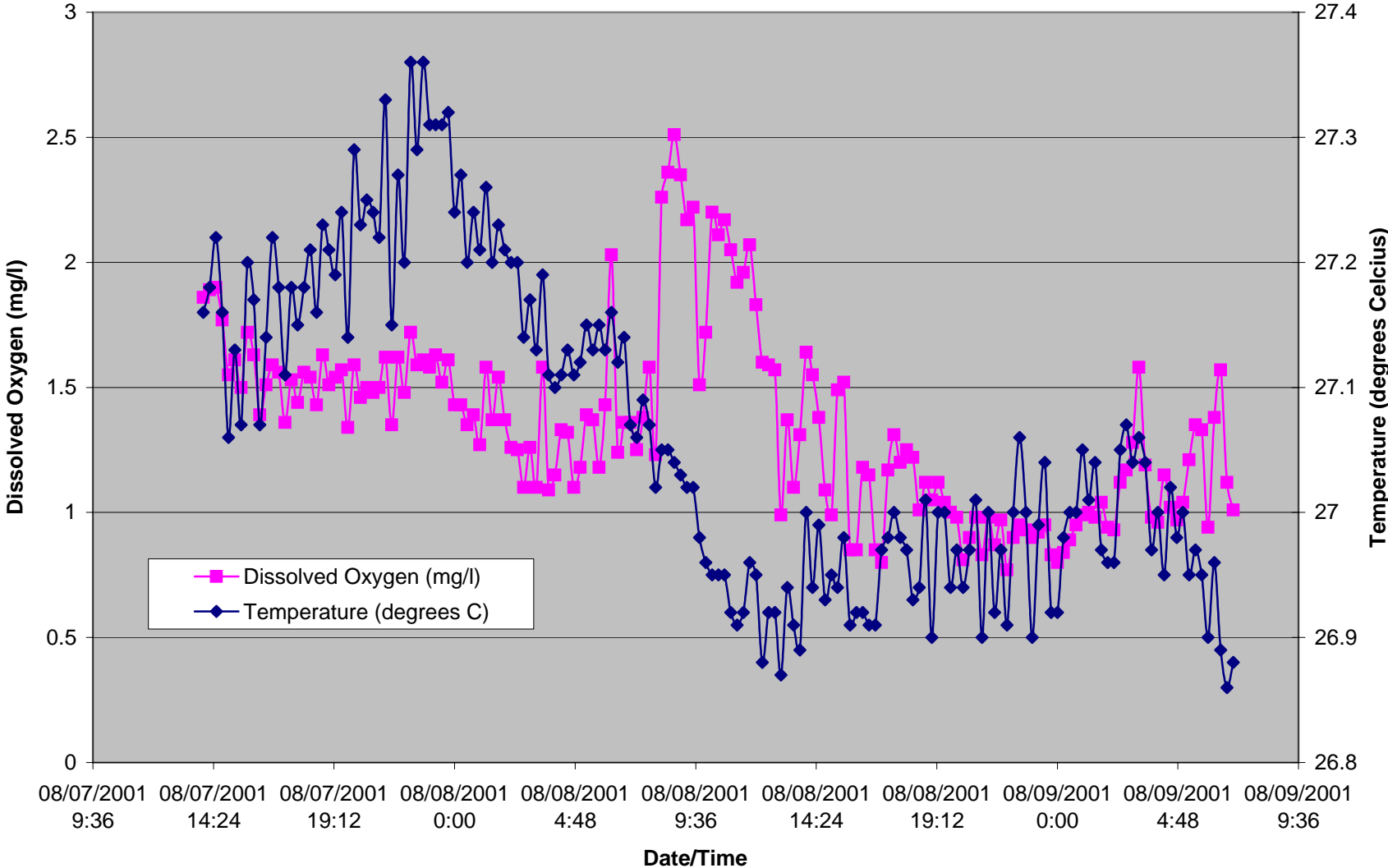
Barnes Creek Site 2



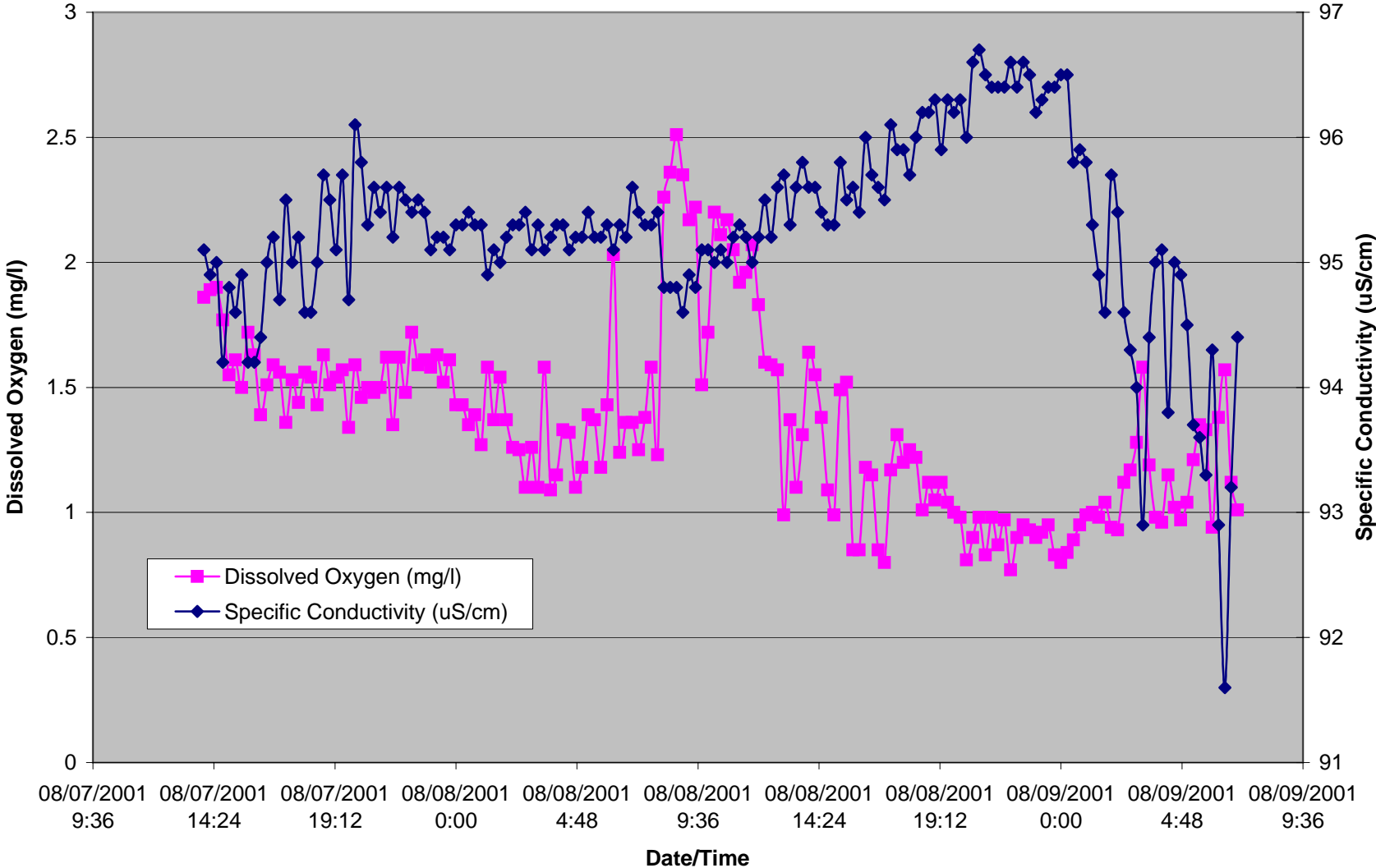
Barnes Creek Site 2



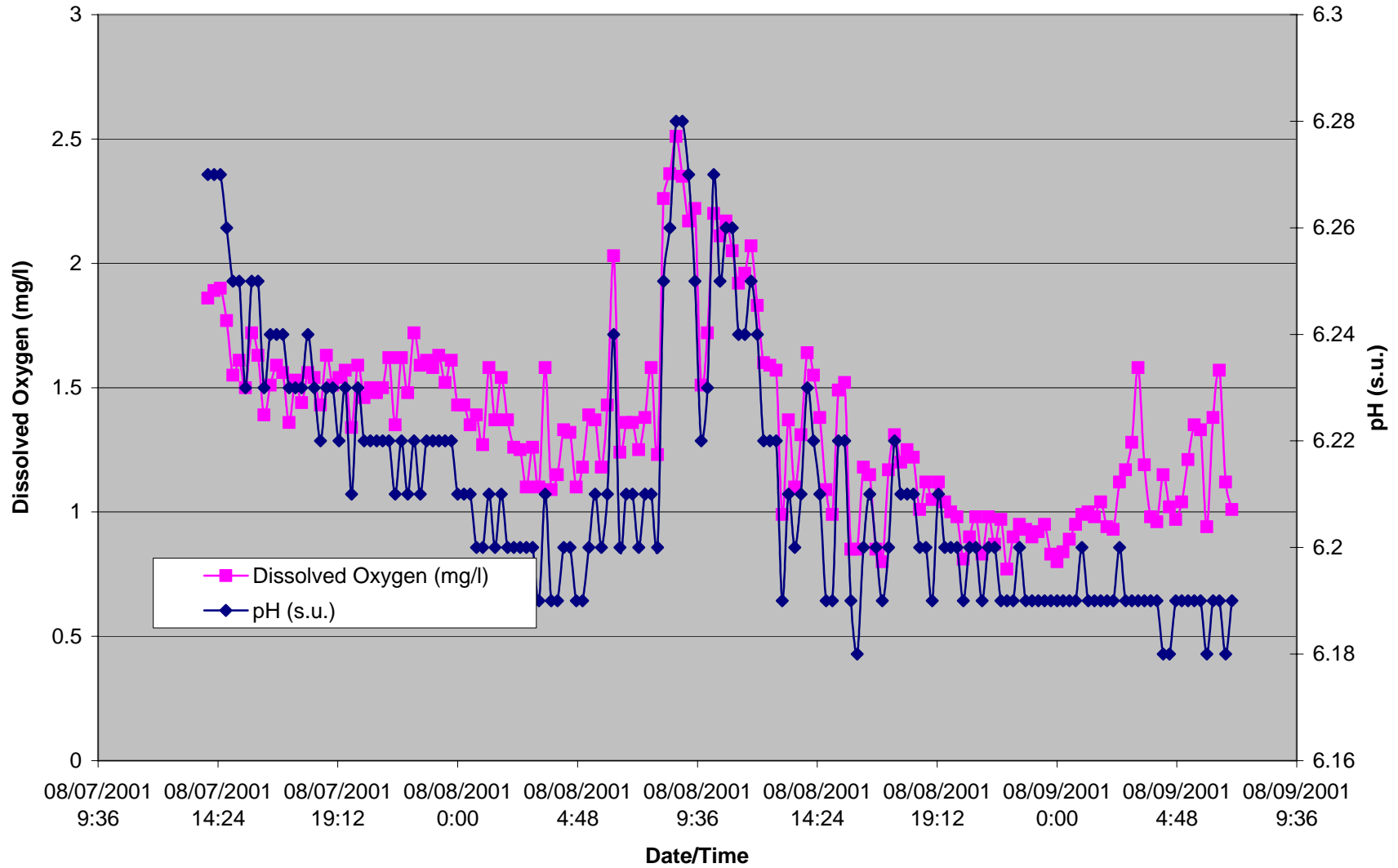
Barnes Creek Site 13



Barnes Creek Site 13



Barnes Creek Site 13

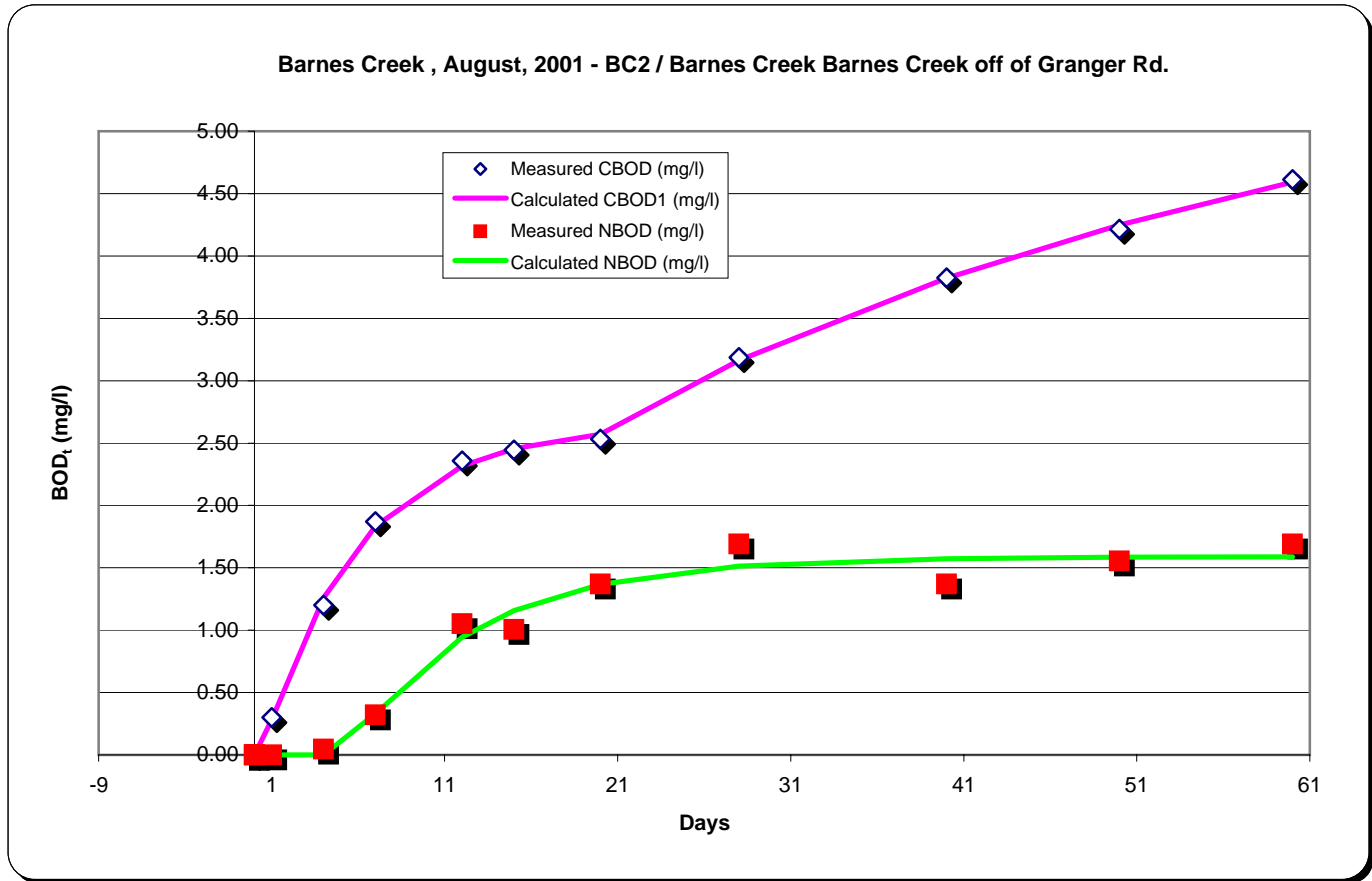


APPENDIX C5 - BOD calculation worksheets

BOD Analysis of the for:

Barnes Creek , August, 2001 - BC2 / Barnes Creek Barnes Creek off of Grand

Measured Data					Calculated Data			
Days	Total BOD (mg/l)	NOx as N (mg/l)	NBOD (mg/l)	CBOD (mg/l)	NBOD (mg/l)	CBOD1 (mg/l)	CBOD2 (mg/l)	Total CBOD (mg/l)
Note 1	Note 2	Note 3	Note 4	Note 5	Note 6	Note 7	Note 7	
0		0.56						
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
1	0.3	0.53	0.00	0.30	0.00	0.28	0.00	0.28
4	1.2	0.57	0.05	1.20	0.00	1.26	0.00	1.26
7	2.2	0.63	0.32	1.87	0.33	1.83	0.00	1.83
12	3.3	0.79	1.05	2.36	0.94	2.32	0.00	2.32
15	3.6	0.78	1.01	2.44	1.16	2.45	0.00	2.45
20	3.9	0.86	1.37	2.53	1.37	2.57	0.00	2.57
28	4.7	0.93	1.69	3.19	1.51	2.63	0.53	3.16
40	5.4	0.86	1.37	3.83	1.57	2.65	1.17	3.82
50	5.8	0.9	1.55	4.21	1.59	2.65	1.60	4.25
60	6.2	0.93	1.69	4.61	1.59	2.65	1.94	4.59
UBOD (mg/l)					1.59	2.65	3.40	6.05
k rate (1/day)					0.13	0.18	0.02	
Lag time (days)					5.25	0.37	20.00	



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.

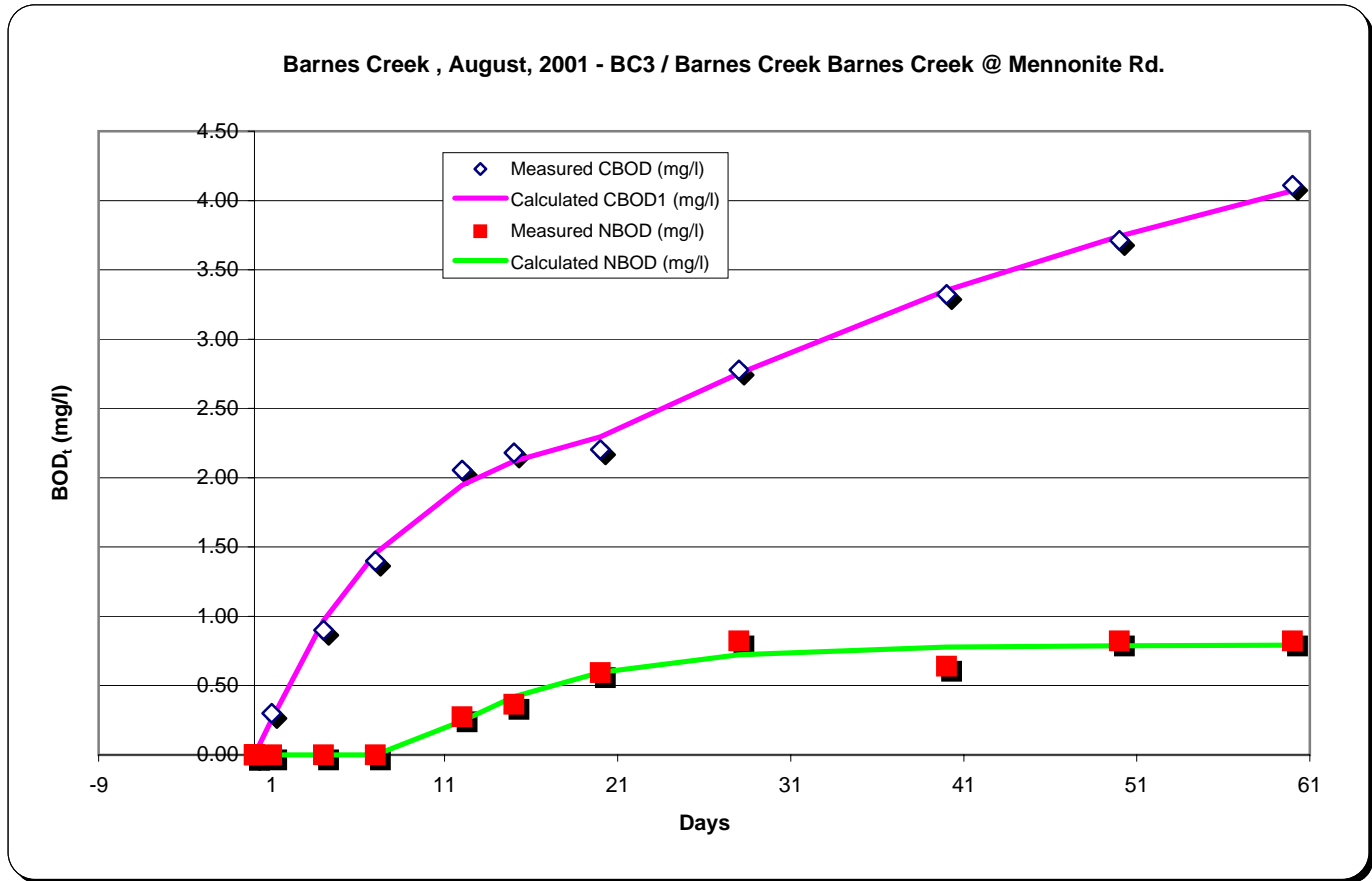
Note 6 - Calculated from the formula $\{NBOD_t = UNBOD[1 - e^{-k(t-lag)}]\}$ using the listed values of UNBOD, k decay rate and lag time.

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.

BOD Analysis of the for:

Barnes Creek , August, 2001 - BC3 / Barnes Creek Barnes Creek @ Mennonite

Measured Data					Calculated Data			
Days	Total BOD (mg/l)	NOx as N (mg/l)	NBOD (mg/l)	CBOD (mg/l)	NBOD (mg/l)	CBOD1 (mg/l)	CBOD2 (mg/l)	Total CBOD (mg/l)
Note 1	Note 2	Note 3	Note 4	Note 5	Note 6	Note 7	Note 7	
0		0.37						
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
1	0.3	0.36	0.00	0.30	0.00	0.26	0.00	0.26
4	0.9	0.33	0.00	0.90	0.00	0.97	0.00	0.97
7	1.4	0.36	0.00	1.40	0.00	1.46	0.00	1.46
12	2.3	0.43	0.27	2.06	0.24	1.95	0.00	1.95
15	2.6	0.45	0.37	2.18	0.42	2.12	0.00	2.12
20	2.8	0.50	0.59	2.20	0.60	2.30	0.00	2.30
28	3.5	0.55	0.82	2.78	0.72	2.42	0.33	2.75
40	4.1	0.51	0.64	3.32	0.78	2.48	0.88	3.35
50	4.5	0.55	0.82	3.71	0.79	2.49	1.26	3.74
60	4.9	0.55	0.82	4.11	0.79	2.49	1.58	4.07
UBOD (mg/l)					0.79	2.49	3.45	5.94
k rate (1/day)					0.13	0.13	0.02	
Lag time (days)					9.14	0.15	21.69	



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.

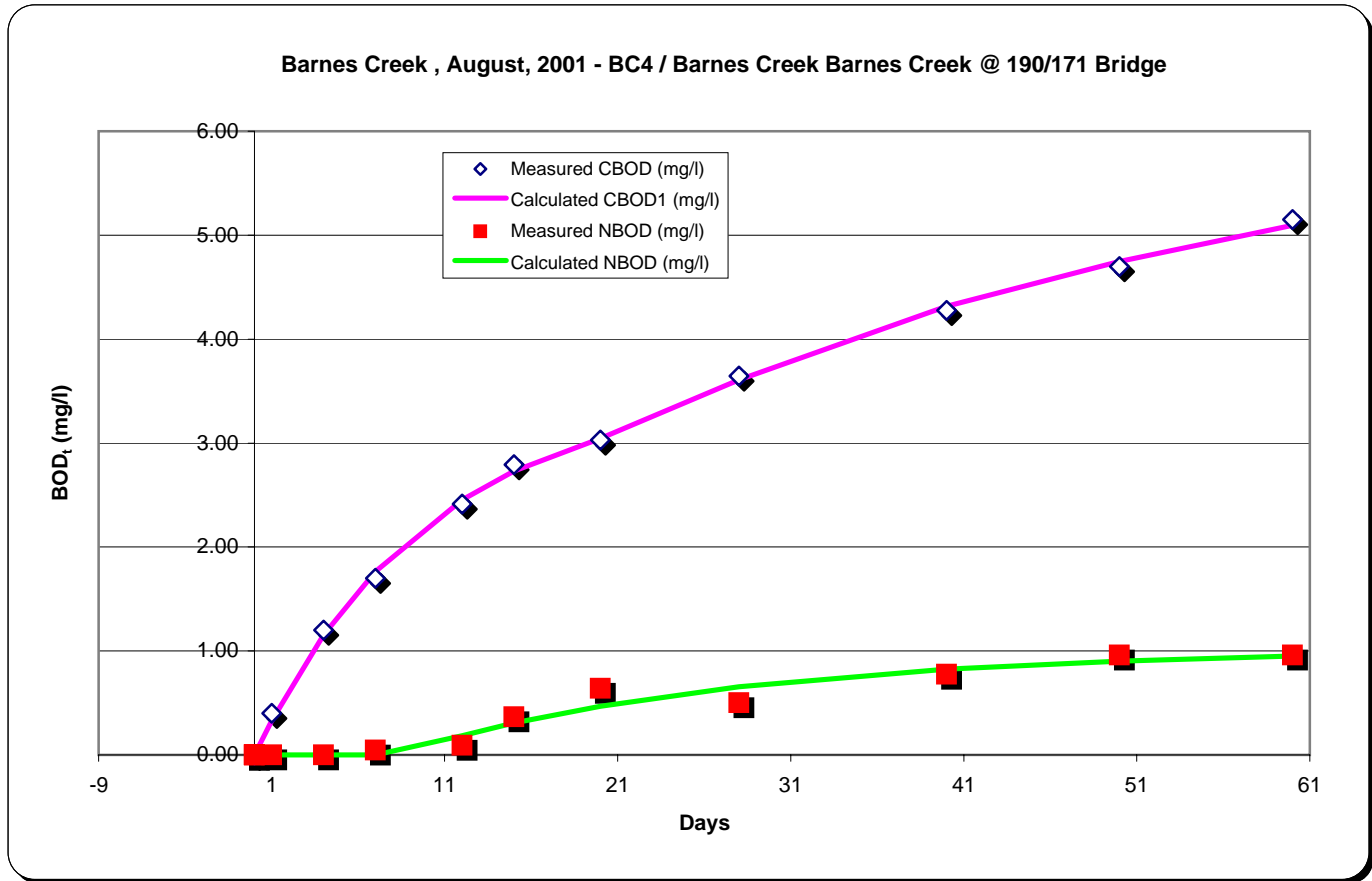
Note 4 - Calculated by multiplying the measured (NO₂ +NO₃ as nitrogen) minus the day zero (NO₂ +NO₃ as nitrogen) by 4.57.

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.

Measured Data					Calculated Data			
Days	Total BOD (mg/l)	NOx as N (mg/l)	NBOD (mg/l)	CBOD (mg/l)	NBOD (mg/l)	CBOD1 (mg/l)	CBOD2 (mg/l)	Total CBOD (mg/l)
Note 1	Note 2	Note 3	Note 4	Note 5	Note 6	Note 7	Note 7	
0		0.09						
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
1	0.4	0.07	0.00	0.40	0.00	0.33	0.00	0.33
4	1.2	0.07	0.00	1.20	0.00	1.15	0.00	1.15
7	1.7	0.10	0.05	1.70	0.00	1.77	0.00	1.77
12	2.6	0.11	0.09	2.41	0.19	2.45	0.00	2.45
15	3.1	0.17	0.37	2.79	0.31	2.73	0.00	2.73
20	3.5	0.23	0.64	3.03	0.47	3.04	0.00	3.04
28	4.3	0.20	0.50	3.64	0.66	3.31	0.30	3.61
40	5.1	0.26	0.78	4.28	0.82	3.46	0.85	4.32
50	5.6	0.3	0.96	4.70	0.90	3.50	1.24	4.75
60	6.1	0.30	0.96	5.15	0.95	3.52	1.57	5.09
UBOD (mg/l)					1.02	3.53	3.48	7.01
k rate (1/day)					0.05	0.10	0.02	
Lag time (days)					8.12	0.01	22.41	



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.

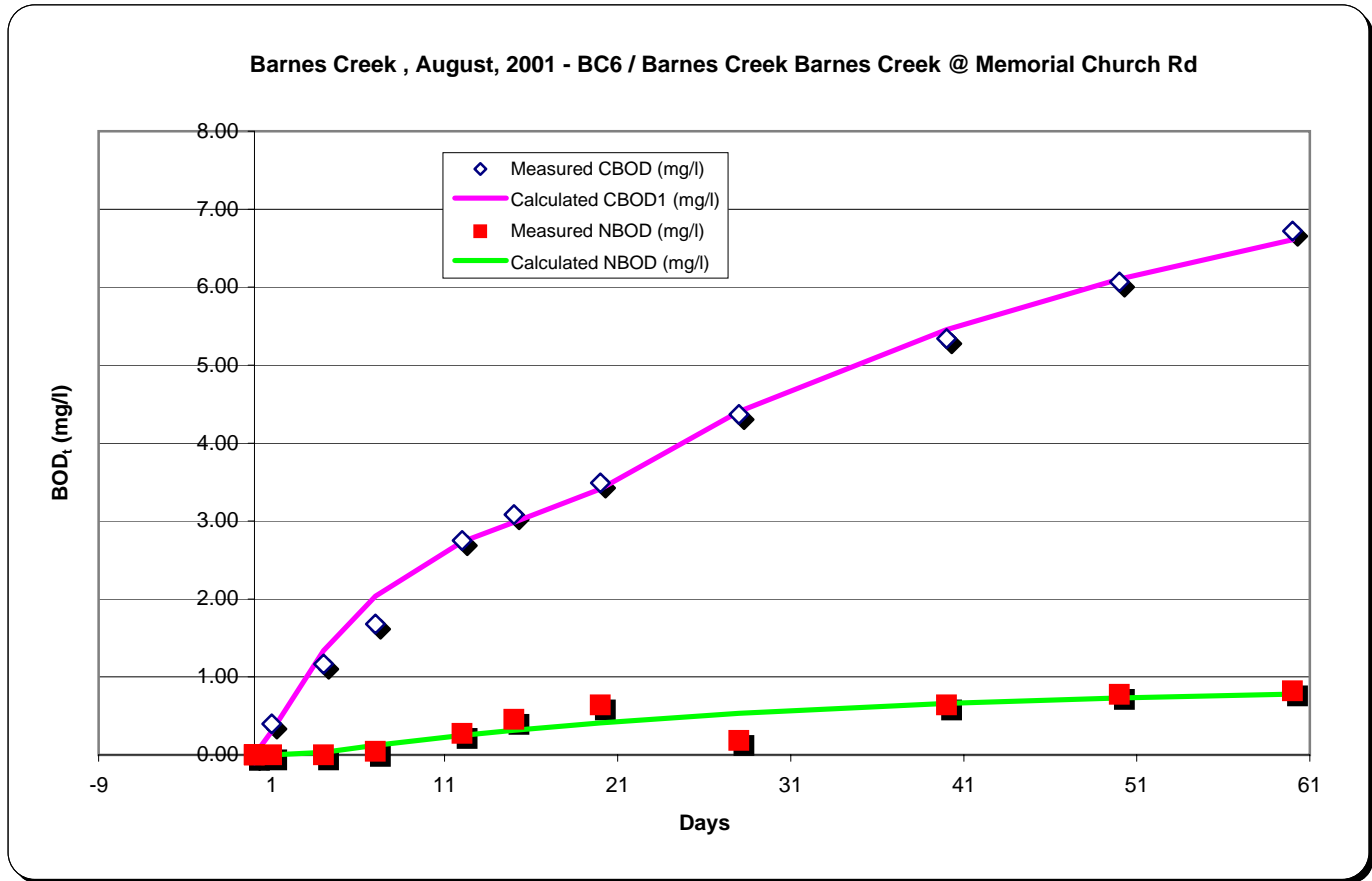
Note 6 - Calculated from the formula {NBOD_t=UNBOD[1-e-(k(t-lag))]} using the listed values of UNBOD, k decay rate and lag time.

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.

BOD Analysis of the for:

Barnes Creek , August, 2001 - BC6 / Barnes Creek Barnes Creek @ Memoria

Measured Data					Calculated Data			
Days	Total BOD (mg/l)	NOx as N (mg/l)	NBOD (mg/l)	CBOD (mg/l)	NBOD (mg/l)	CBOD1 (mg/l)	CBOD2 (mg/l)	Total CBOD (mg/l)
Note 1	Note 2	Note 3	Note 4	Note 5	Note 6	Note 7	Note 7	
0		0.10						
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
1	0.4	0.08	0.00	0.40	0.00	0.30	0.00	0.30
4	1.2	0.08	0.00	1.17	0.03	1.34	0.00	1.34
7	1.8	0.11	0.05	1.68	0.12	2.04	0.00	2.04
12	3.0	0.16	0.27	2.75	0.25	2.74	0.00	2.74
15	3.4	0.20	0.46	3.08	0.32	2.98	0.00	2.98
20	3.9	0.24	0.64	3.49	0.41	3.23	0.18	3.41
28	4.9	0.14	0.18	4.37	0.53	3.40	1.00	4.40
40	6.0	0.24	0.64	5.34	0.66	3.48	1.98	5.46
50	6.8	0.27	0.78	6.07	0.73	3.49	2.61	6.10
60	7.5	0.28	0.82	6.72	0.78	3.50	3.11	6.61
UBOD (mg/l)					0.90	3.50	5.05	8.55
k rate (1/day)					0.04	0.13	0.02	
Lag time (days)					2.92	0.30	18.41	



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.

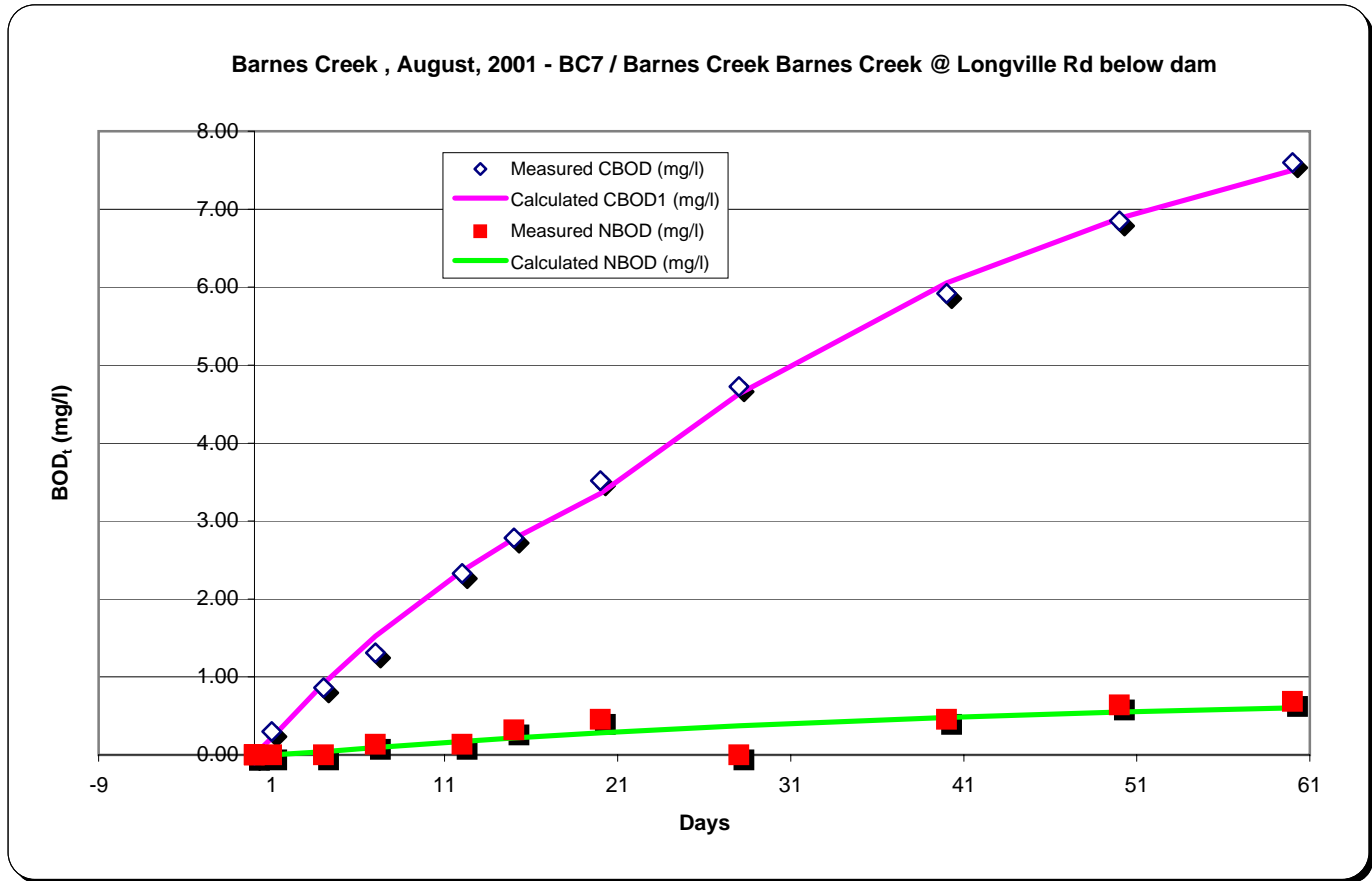
Note 6 - Calculated from the formula {NBOD_t=UNBOD[1-e-(k(t-lag))]} using the listed values of UNBOD, k decay rate and lag time.

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.

BOD Analysis of the for:

Barnes Creek , August, 2001 - BC7 / Barnes Creek Barnes Creek @ Longville

Measured Data					Calculated Data			
Days	Total BOD (mg/l)	NOx as N (mg/l)	NBOD (mg/l)	CBOD (mg/l)	NBOD (mg/l)	CBOD1 (mg/l)	CBOD2 (mg/l)	Total CBOD (mg/l)
Note 1	Note 2	Note 3	Note 4	Note 5	Note 6	Note 7	Note 7	
0		0.07						
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
1	0.3	0.05	0.00	0.30	0.00	0.22	0.00	0.22
4	0.9	0.06	0.00	0.86	0.04	0.92	0.00	0.92
7	1.4	0.10	0.14	1.31	0.09	1.52	0.00	1.52
12	2.5	0.10	0.14	2.33	0.17	2.36	0.00	2.36
15	3.0	0.14	0.32	2.78	0.22	2.78	0.00	2.78
20	3.8	0.17	0.46	3.52	0.28	3.35	0.00	3.35
28	5.1	0.06	0.00	4.73	0.37	4.03	0.60	4.63
40	6.4	0.17	0.46	5.92	0.48	4.68	1.37	6.05
50	7.4	0.21	0.64	6.85	0.55	5.00	1.88	6.88
60	8.2	0.22	0.69	7.60	0.60	5.20	2.29	7.50
UBOD (mg/l)					0.79	5.54	4.03	9.57
k rate (1/day)					0.02	0.05	0.02	
Lag time (days)					1.94	0.14	20.48	



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.

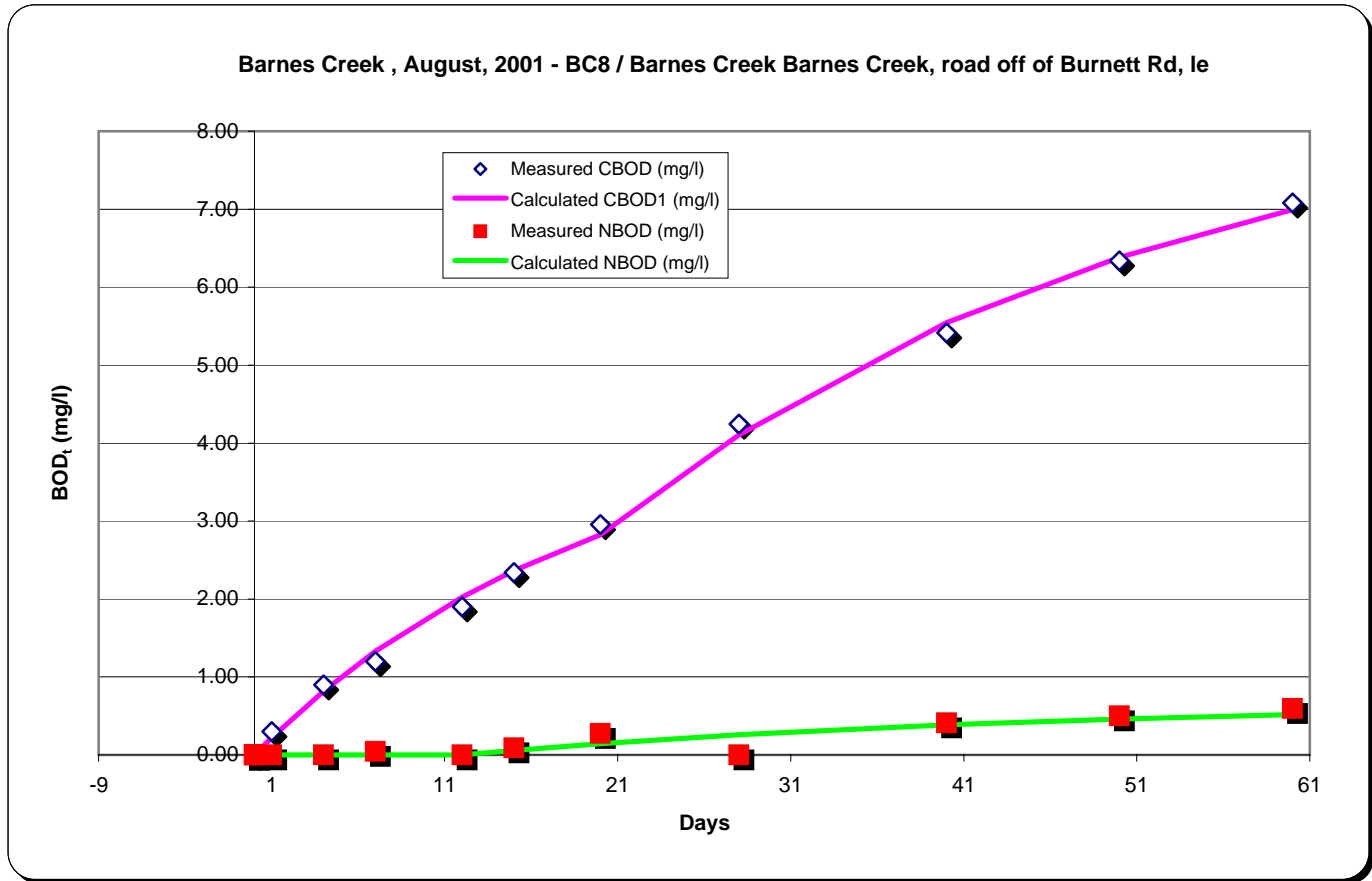
Note 6 - Calculated from the formula {NBOD_t=UNBOD[1-e-(k(t-lag))]} using the listed values of UNBOD, k decay rate and lag time.

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.

BOD Analysis of the for:

Barnes Creek , August, 2001 - BC8 / Barnes Creek Barnes Creek, road off of

Measured Data					Calculated Data			
Days	Total BOD (mg/l)	NOx as N (mg/l)	NBOD (mg/l)	CBOD (mg/l)	NBOD (mg/l)	CBOD1 (mg/l)	CBOD2 (mg/l)	Total CBOD (mg/l)
Note 1	Note 2	Note 3	Note 4	Note 5	Note 6	Note 7	Note 7	
0		0.09						
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
1	0.3	0.07	0.00	0.30	0.00	0.22	0.00	0.22
4	0.9	0.08	0.00	0.90	0.00	0.82	0.00	0.82
7	1.2	0.10	0.05	1.20	0.00	1.33	0.00	1.33
12	1.9	0.08	0.00	1.90	0.00	2.03	0.00	2.03
15	2.4	0.11	0.09	2.34	0.06	2.36	0.00	2.36
20	3.1	0.15	0.27	2.96	0.14	2.82	0.00	2.82
28	4.5	0.08	0.00	4.24	0.26	3.35	0.76	4.11
40	5.8	0.18	0.41	5.42	0.38	3.83	1.72	5.55
50	6.8	0.2	0.50	6.34	0.46	4.05	2.33	6.38
60	7.6	0.22	0.59	7.08	0.52	4.18	2.81	6.99
UBOD (mg/l)					0.69	4.38	4.52	8.90
k rate (1/day)					0.03	0.05	0.02	
Lag time (days)					11.96	0.00	20.58	



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.

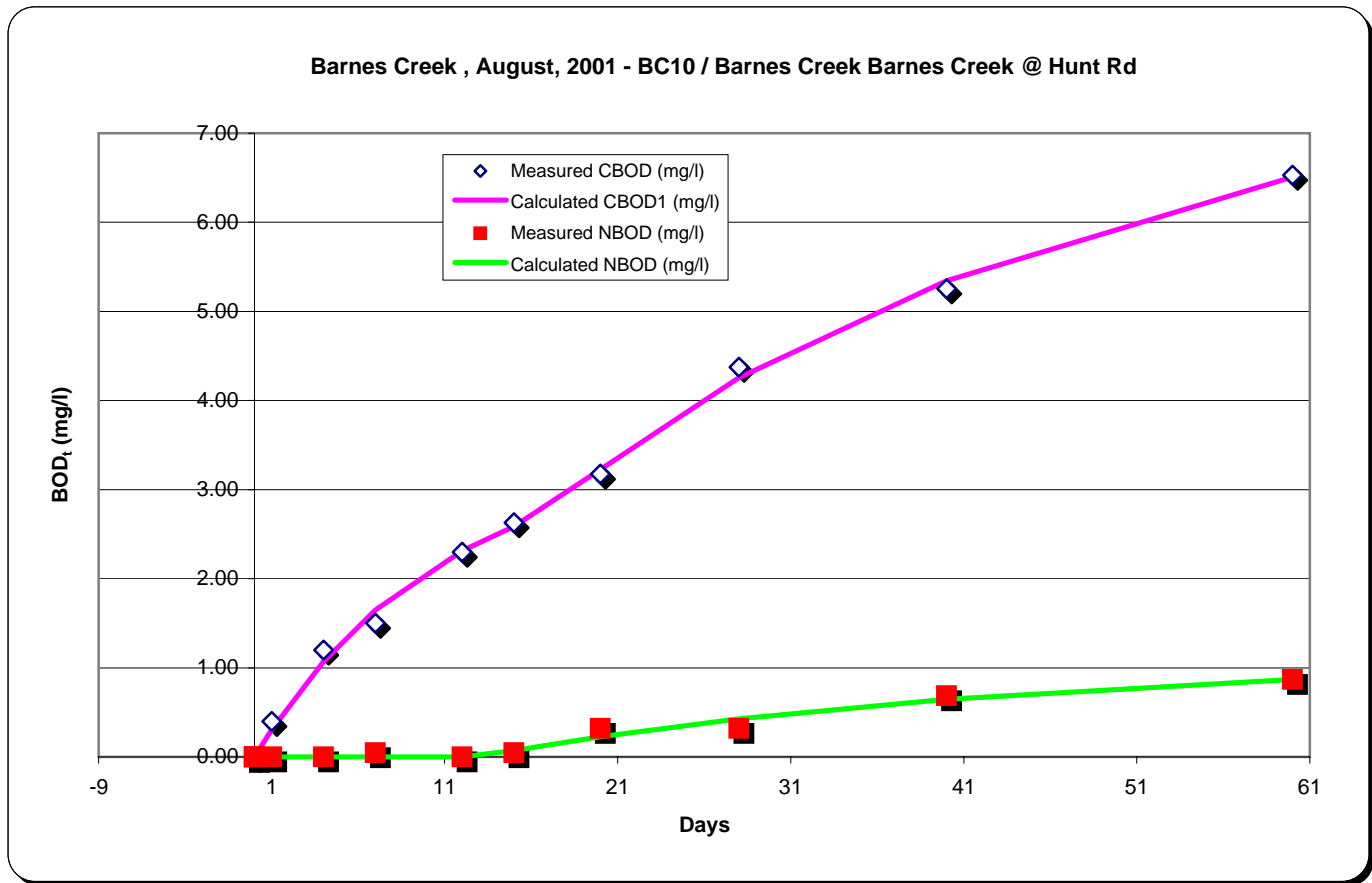
Note 6 - Calculated from the formula {NBOD_t=UNBOD[1-e-(k(t-lag))]} using the listed values of UNBOD, k decay rate and lag time.

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.

BOD Analysis of the for:

Barnes Creek , August, 2001 - BC10 / Barnes Creek Barnes Creek @ Hunt R

Measured Data					Calculated Data			
Days	Total BOD (mg/l)	NOx as N (mg/l)	NBOD (mg/l)	CBOD (mg/l)	NBOD (mg/l)	CBOD1 (mg/l)	CBOD2 (mg/l)	Total CBOD (mg/l)
Note 1	Note 2	Note 3	Note 4	Note 5	Note 6	Note 7	Note 7	
0		0.08						
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
1	0.4	0.06	0.00	0.40	0.00	0.30	0.00	0.30
4	1.2	0.06	0.00	1.20	0.00	1.07	0.00	1.07
7	1.5	0.09	0.05	1.50	0.00	1.65	0.00	1.65
12	2.3	0.07	0.00	2.30	0.00	2.31	0.00	2.31
15	2.7	0.09	0.05	2.63	0.07	2.59	0.00	2.59
20	3.4	0.15	0.32	3.17	0.23	2.90	0.33	3.22
28	4.8	0.15	0.32	4.37	0.43	3.17	1.09	4.26
40	5.9	0.23	0.69	5.25	0.65	3.34	2.01	5.34
60	7.4	0.27	0.87	6.53	0.87	3.40	3.11	6.51
UBOD (mg/l)					1.13	3.41	5.18	8.59
k rate (1/day)					0.03	0.09	0.02	
Lag time (days)					12.88	0.01	16.93	

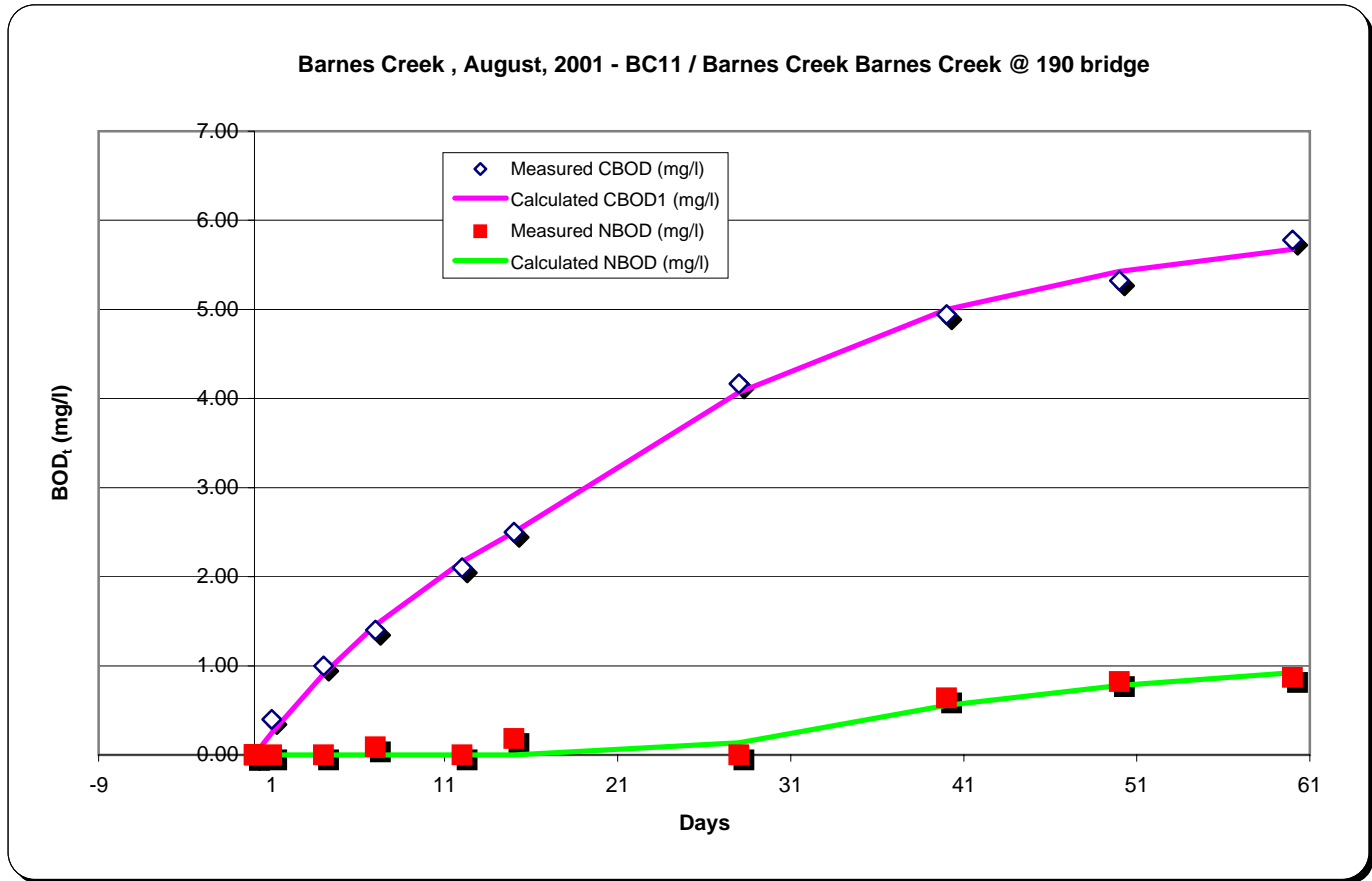


- Note 1 - Days from the BOD test start date.
- Note 2 - Measured total BOD at time in "Days" column.
- Note 3 - Measured (NO₂ + NO₃ as nitrogen) at time in "Days" column.
- Note 4 - Calculated by multiplying the measured (NO₂ +NO₃ as nitrogen) minus the day zero (NO₂ +NO₃ as nitrogen) by 4.57.
- Note 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.

BOD Analysis of the for:

Barnes Creek , August, 2001 - BC11 / Barnes Creek Barnes Creek @ 190 bric

Measured Data					Calculated Data			
Days	Total BOD (mg/l)	NOx as N (mg/l)	NBOD (mg/l)	CBOD (mg/l)	NBOD (mg/l)	CBOD1 (mg/l)	CBOD2 (mg/l)	Total CBOD (mg/l)
Note 1	Note 2	Note 3	Note 4	Note 5	Note 6	Note 7	Note 7	
0		0.08						
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
1	0.4	0.07	0.00	0.40	0.00	0.25	0.00	0.25
4	1.0	0.08	0.00	1.00	0.00	0.91	0.00	0.91
7	1.4	0.10	0.09	1.40	0.00	1.46	0.00	1.46
12	2.1	0.08	0.00	2.10	0.00	2.17	0.00	2.17
15	2.5	0.12	0.18	2.50	0.00	2.50	0.00	2.50
28	4.3	0.08	0.00	4.17	0.13	3.38	0.68	4.07
40	5.5	0.22	0.64	4.94	0.56	3.75	1.25	5.00
50	6.1	0.26	0.82	5.32	0.78	3.91	1.52	5.43
60	6.7	0.27	0.87	5.78	0.92	3.99	1.69	5.68
UBOD (mg/l)					1.20	4.08	1.96	6.04
k rate (1/day)					0.04	0.06	0.05	
Lag time (days)					25.17	0.01	19.15	



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.

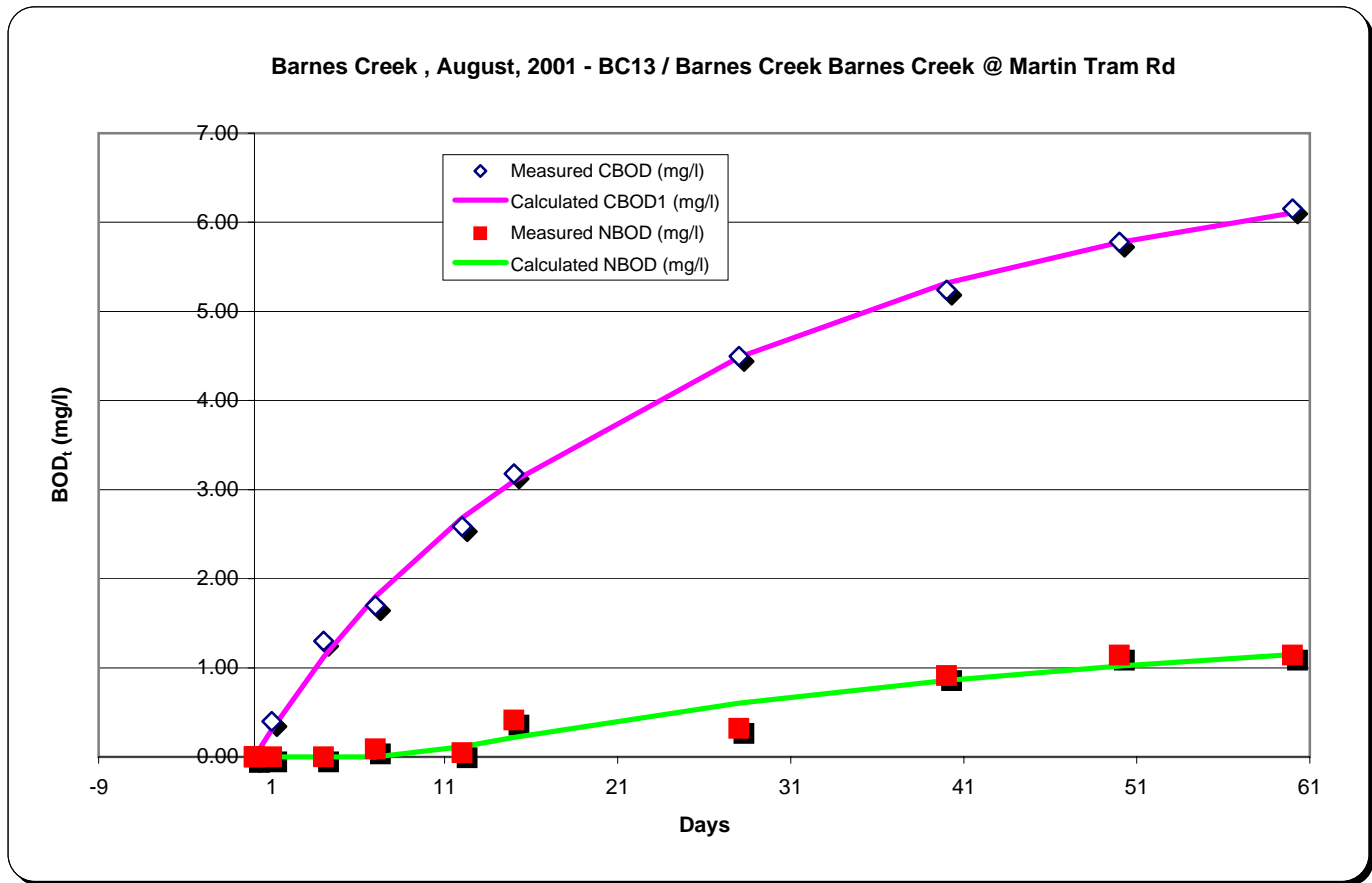
Note 4 - Calculated by multiplying the measured (NO₂ +NO₃ as nitrogen) minus the day zero (NO₂ +NO₃ as nitrogen) by 4.57.

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.

Measured Data					Calculated Data			
Days	Total BOD (mg/l)	NOx as N (mg/l)	NBOD (mg/l)	CBOD (mg/l)	NBOD (mg/l)	CBOD1 (mg/l)	CBOD2 (mg/l)	Total CBOD (mg/l)
Note 1	Note 2	Note 3	Note 4	Note 5	Note 6	Note 7	Note 7	
0		0.06						
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
1	0.4	0.05	0.00	0.40	0.00	0.30	0.00	0.30
4	1.3	0.05	0.00	1.30	0.00	1.12	0.00	1.12
7	1.7	0.08	0.09	1.70	0.00	1.80	0.00	1.80
12	2.7	0.07	0.05	2.59	0.11	2.68	0.00	2.68
15	3.4	0.15	0.41	3.18	0.22	3.10	0.00	3.10
28	5.1	0.13	0.32	4.50	0.60	4.22	0.27	4.49
40	6.1	0.26	0.91	5.24	0.86	4.69	0.63	5.32
50	6.8	0.31	1.14	5.78	1.02	4.89	0.89	5.77
60	7.3	0.31	1.14	6.15	1.15	5.00	1.11	6.11
UBOD (mg/l)					1.59	5.12	2.73	7.85
k rate (1/day)					0.03	0.06	0.01	
Lag time (days)					9.07	0.01	19.96	

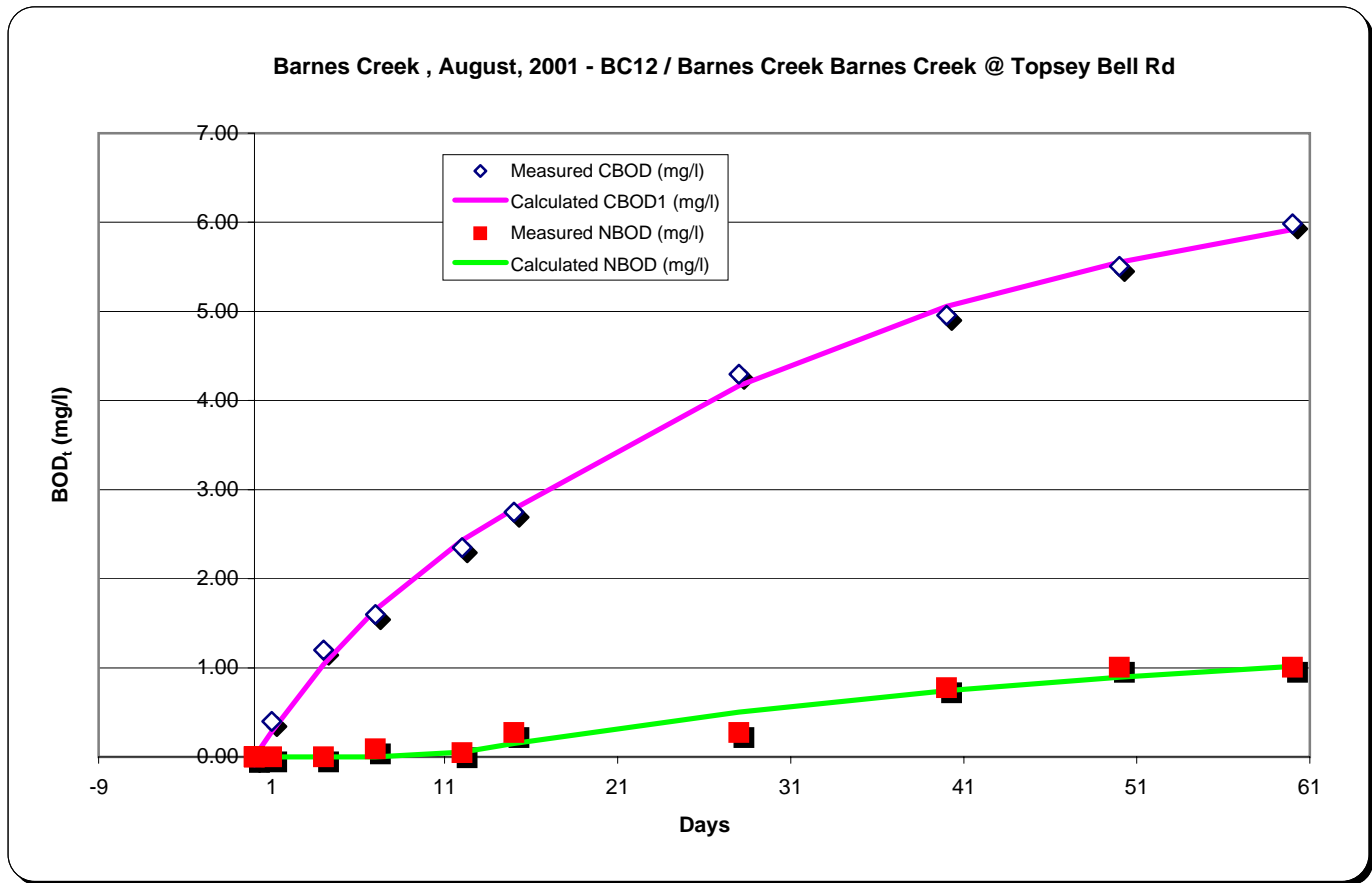


- Note 1 - Days from the BOD test start date.
- Note 2 - Measured total BOD at time in "Days" column.
- Note 3 - Measured (NO₂ + NO₃ as nitrogen) at time in "Days" column.
- Note 4 - Calculated by multiplying the measured (NO₂ +NO₃ as nitrogen) minus the day zero (NO₂ +NO₃ as nitrogen) by 4.57.
- Note 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.

BOD Analysis of the for:

Barnes Creek , August, 2001 - BC12 / Barnes Creek Barnes Creek @ Topsey

Measured Data					Calculated Data			
Days	Total BOD (mg/l)	NOx as N (mg/l)	NBOD (mg/l)	CBOD (mg/l)	NBOD (mg/l)	CBOD1 (mg/l)	CBOD2 (mg/l)	Total CBOD (mg/l)
Note 1	Note 2	Note 3	Note 4	Note 5	Note 6	Note 7	Note 7	
0		0.10						
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
1	0.4	0.10	0.00	0.40	0.00	0.29	0.00	0.29
4	1.2	0.10	0.00	1.20	0.00	1.04	0.00	1.04
7	1.6	0.12	0.09	1.60	0.00	1.65	0.00	1.65
12	2.4	0.11	0.05	2.35	0.05	2.43	0.00	2.43
15	2.9	0.16	0.27	2.75	0.15	2.78	0.00	2.78
28	4.8	0.16	0.27	4.30	0.50	3.69	0.47	4.17
40	5.7	0.27	0.78	4.96	0.74	4.05	1.01	5.06
50	6.4	0.32	1.01	5.50	0.90	4.18	1.37	5.55
60	7.0	0.32	1.01	5.98	1.02	4.25	1.67	5.92
UBOD (mg/l)					1.45	4.32	3.07	7.39
k rate (1/day)					0.02	0.07	0.02	
Lag time (days)					10.50	0.01	19.31	

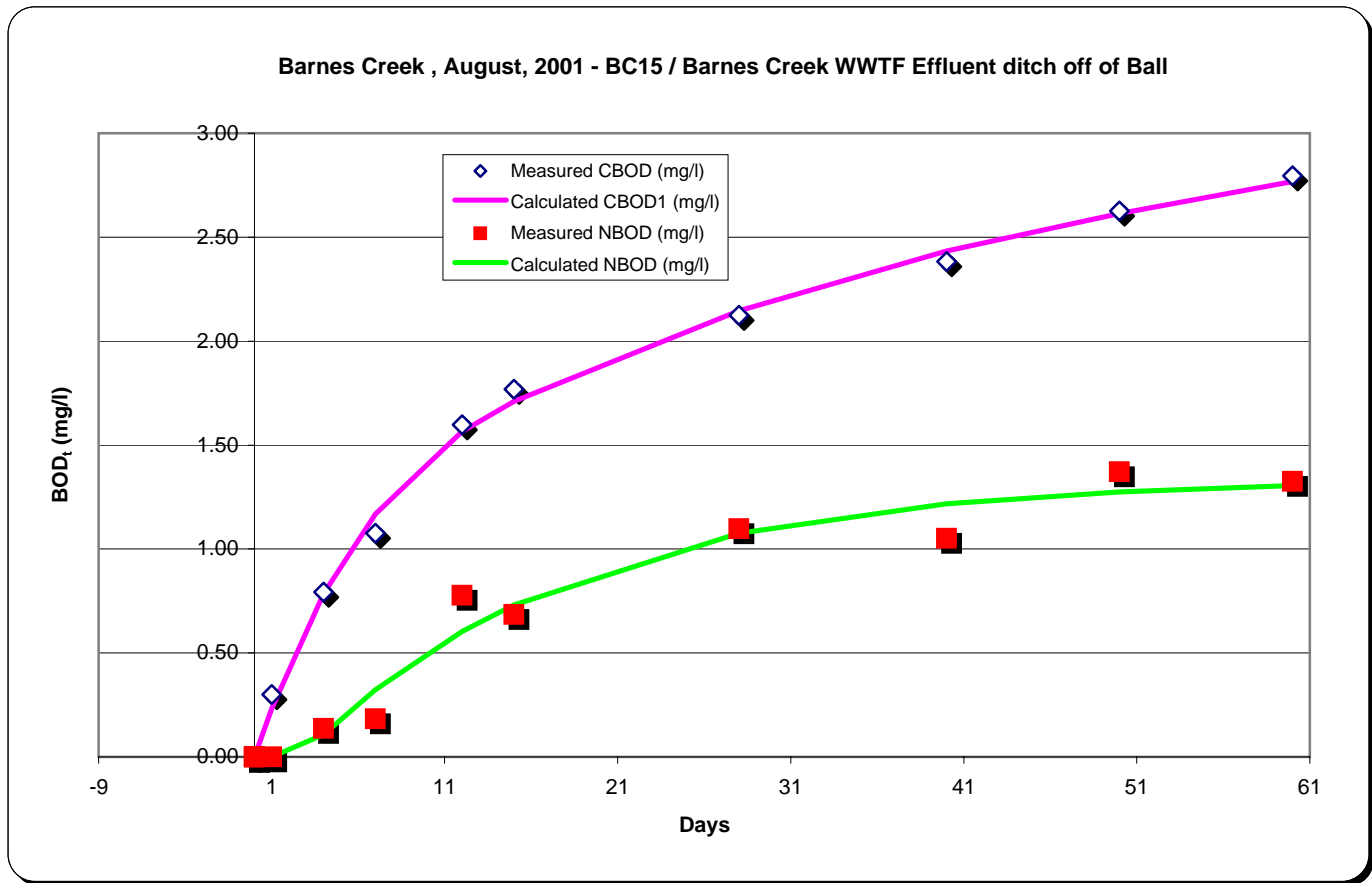


- Note 1 - Days from the BOD test start date.
- Note 2 - Measured total BOD at time in "Days" column.
- Note 3 - Measured (NO₂ + NO₃ as nitrogen) at time in "Days" column.
- Note 4 - Calculated by multiplying the measured (NO₂ +NO₃ as nitrogen) minus the day zero (NO₂ +NO₃ as nitrogen) by 4.57.
- Note 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.

BOD Analysis of the for:

Barnes Creek , August, 2001 - BC15 / Barnes Creek WWTF Effluent ditch off

Measured Data					Calculated Data			
Days	Total BOD (mg/l)	NOx as N (mg/l)	NBOD (mg/l)	CBOD (mg/l)	NBOD (mg/l)	CBOD1 (mg/l)	CBOD2 (mg/l)	Total CBOD (mg/l)
Note 1	Note 2	Note 3	Note 4	Note 5	Note 6	Note 7	Note 7	
0		0.46						
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
1	0.3	0.43	0.00	0.30	0.00	0.23	0.00	0.23
4	0.9	0.49	0.14	0.79	0.11	0.79	0.00	0.79
7	1.4	0.50	0.18	1.08	0.32	1.17	0.00	1.17
12	2.2	0.63	0.78	1.60	0.60	1.57	0.00	1.57
15	2.5	0.61	0.69	1.77	0.73	1.71	0.00	1.71
28	3.2	0.70	1.10	2.12	1.08	1.97	0.18	2.15
40	3.6	0.69	1.05	2.38	1.22	2.02	0.41	2.43
50	3.9	0.76	1.37	2.63	1.27	2.03	0.58	2.61
60	4.1	0.75	1.33	2.80	1.30	2.03	0.73	2.77
UBOD (mg/l)					1.34	2.04	1.80	3.83
k rate (1/day)					0.06	0.12	0.01	
Lag time (days)					2.70	0.01	20.16	



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.

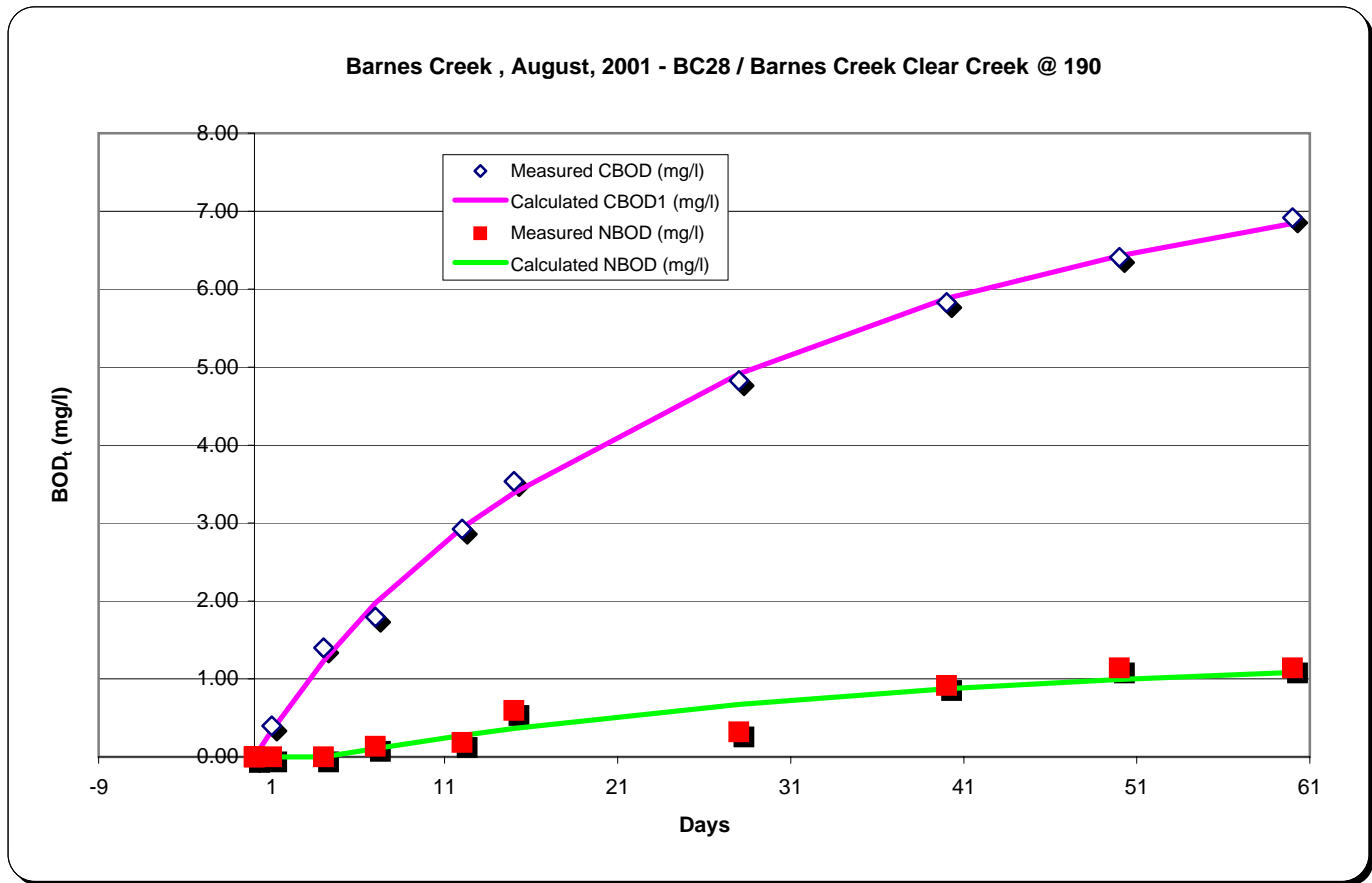
Note 4 - Calculated by multiplying the measured (NO₂ +NO₃ as nitrogen) minus the day zero (NO₂ +NO₃ as nitrogen) by 4.57.

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.

Measured Data					Calculated Data			
Days	Total BOD (mg/l)	NOx as N (mg/l)	NBOD (mg/l)	CBOD (mg/l)	NBOD (mg/l)	CBOD1 (mg/l)	CBOD2 (mg/l)	Total CBOD (mg/l)
Note 1	Note 2	Note 3	Note 4	Note 5	Note 6	Note 7	Note 7	
0		0.06						
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
0	0.00	0.00			0.00	0.00	0.00	0.00
1	0.4	0.06	0.00	0.40	0.00	0.34	0.00	0.34
4	1.4	0.06	0.00	1.40	0.00	1.23	0.00	1.23
7	1.9	0.09	0.14	1.79	0.11	1.97	0.00	1.97
12	3.2	0.10	0.18	2.92	0.28	2.94	0.00	2.94
15	3.9	0.19	0.59	3.53	0.37	3.39	0.00	3.39
28	5.5	0.13	0.32	4.83	0.67	4.60	0.32	4.91
40	6.7	0.26	0.91	5.83	0.87	5.10	0.78	5.88
50	7.4	0.31	1.14	6.41	0.99	5.31	1.12	6.43
60	8.0	0.31	1.14	6.92	1.08	5.43	1.42	6.84
UBOD (mg/l)					1.35	5.55	3.76	9.32
k rate (1/day)					0.03	0.06	0.01	
Lag time (days)					4.13	0.00	20.68	



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 - Historical and Ambient Data

APPENDIX D1 - Ambient data

Input the stream name / location: **Barnes Creek, Site 3**

Sum of Diff. Depth squared	Sum of Diff. Width squared	Sum of diff. Velocity squared
0.00	0.02	0.00

Input the minimum flow rate to be plotted: **0** cms

Input the maximum depth to be plotted: **0.4** m

Input the maximum flow rate to be plotted: **0.1** cms

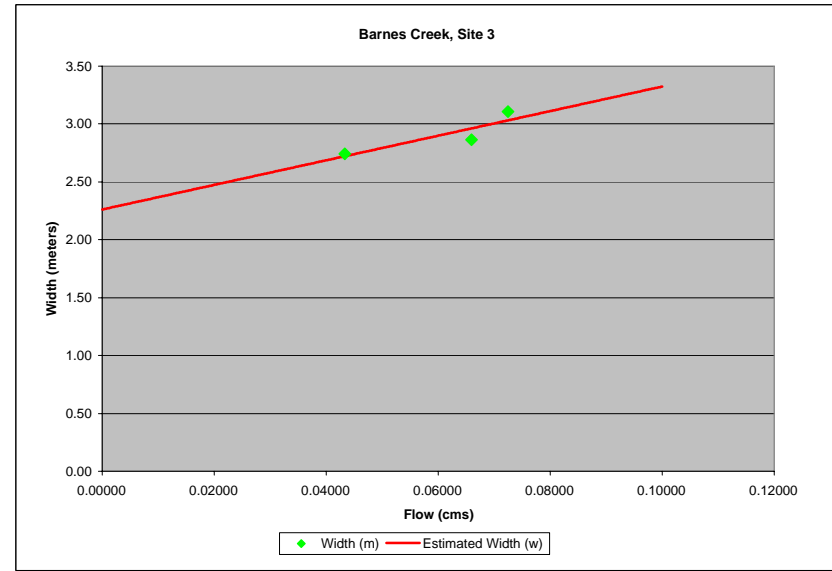
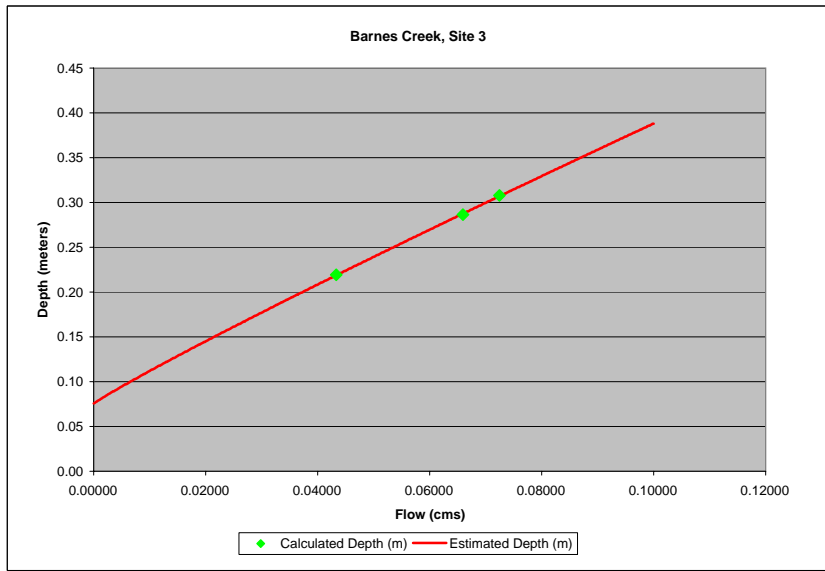
Input the maximum width to be plotted: **1** m

Input the 7Q10 flow rate to be plotted: **0** cms

Input the maximum velocity to be plotted: **0.2** mps

Input values:

Measurement No.	Date	Discharge (cms)	Width (m)	Calculated Depth (m)	Area (m ²)	Calculated Velocity (mps)	No. of Sections	Measurement Rated	Depth coeff. "D"	Depth exp. "E"	Depth const. "F"	Width coeff. "A"	Width exp. "B"	Width const. "C"	Velocity coeff. "G"	Velocity exp. "H"	Estimated Depth (m)	Estimated Width (w)	Estimated Velocity (u)
1	04/11/01	0.07	2.87	0.29	0.820823	0.080	0	0	2.677451	0.932506	0.075383	10.62141	0.999798	2.261505	0.114071	0.143499	0.287678	2.962903	0.077229
2	04/30/01	0.04	2.74	0.22	0.600717	0.072	0	0	2.677451	0.932506	0.075383	10.62141	0.999798	2.261505	0.114071	0.143499	0.218681	2.721704	0.072696
3	08/08/01	0.07	3.11	0.31	0.957572	0.076	0	0	2.677451	0.932506	0.075383	10.62141	0.999798	2.261505	0.114071	0.143499	0.307112	3.031965	0.078277



Input the stream name / location: **Barnes Creek, Site 12**

Sum of Diff. Depth squared	Sum of Diff. Width squared	Sum of diff. Velocity squared
0.00	0.14	0.00

Input the minimum flow rate to be plotted: **0** cms

Input the maximum depth to be plotted: **0.4** m

Input the maximum flow rate to be plotted: **1** cms

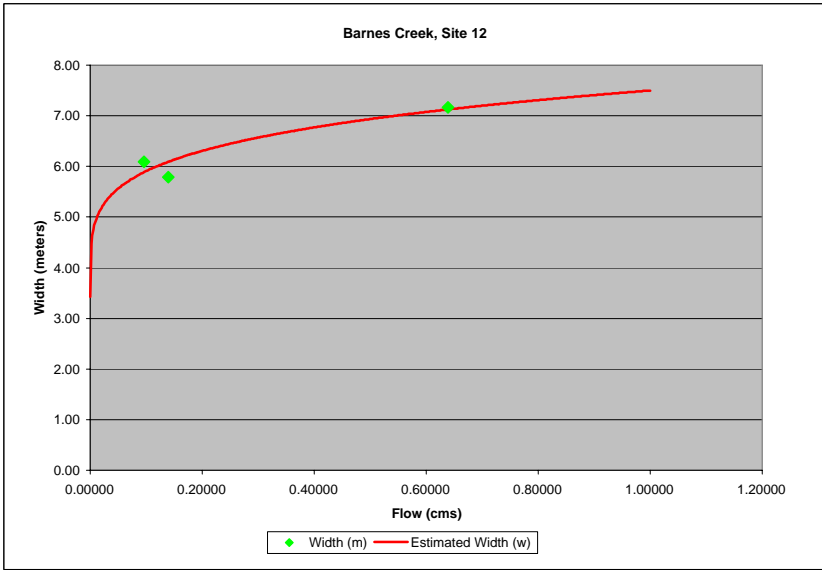
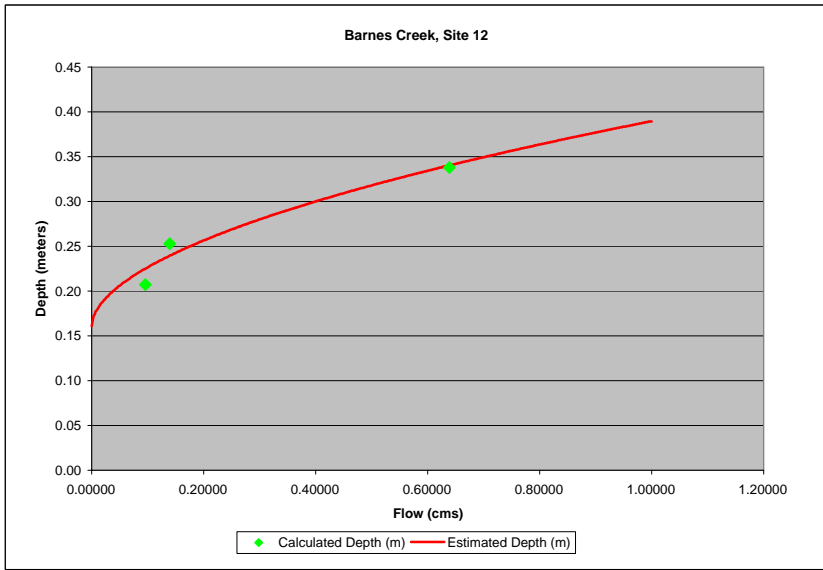
Input the maximum width to be plotted: **7** m

Input the 7Q10 flow rate to be plotted: **0** cms

Input the maximum velocity to be plotted: **1** mps

Input values:

Measurement No.	Date	Discharge (cms)	Width (m)	Calculated Depth (m)	Area (m ²)	Calculated Velocity (mps)	No. of Sections	Measurement Rated	Depth coeff. "D"	Depth exp. "E"	Depth const. "F"	Width coeff. "A"	Width exp. "B"	Width const. "C"	Velocity coeff. "G"	Velocity exp. "H"	Estimated Depth (m)	Estimated Width (w)	Estimated Velocity (u)
1	04/30/01	0.14	5.79	0.25	1.465174	0.095	0	0	0.228582	0.542891	0.161056	4.077458	0.214992	3.422247	0.355099	0.663049	0.239545	6.092463	0.096242
2	08/08/01	0.10	6.10	0.21	1.261872	0.076	0	0	0.228582	0.542891	0.161056	4.077458	0.214992	3.422247	0.355099	0.663049	0.225104	5.885879	0.075078
3	09/26/01	0.64	7.16	0.34	2.421026	0.264	0	0	0.228582	0.542891	0.161056	4.077458	0.214992	3.422247	0.355099	0.663049	0.340303	7.125417	0.263868



APPENDIX D2 - USGS discharge data and 7Q10 results

Barnes Creek

Barnes Creek near Reeves

$$7Q_{10} = 1.0 \text{ cfs}$$

$$DA = 111 \text{ mi}^2$$

Bayou Toro near Toro

$$7Q_{10} = 1.4 \text{ cfs}$$

$$DA = 148 \text{ mi}^2$$

use drainage Area ratio
To transfer data -

~~Ratio of Drainage Areas~~

Barnes Creek at Mouth

$$DA = 204 \text{ mi}^2$$

$$7Q_{10} = \left(\frac{204}{111}\right)^{0.65} \times 1.0 = \underline{1.5} \text{ cfs} \leftarrow$$

Seasonal $7Q_{10}$ for Barnes Creek at mouth using a transfer of data from Bayou Toro:

$$7Q_{10} \text{ for } \underline{\text{May - Oct}} \text{ for Bayou Toro} = 1.15$$

Transfer by ratio of Drainage Areas:

$7Q_{10}$ for Barnes Creek at Mouth:

$$204/148 \times 1.15 = \underline{1.59} \text{ cfs} \leftarrow$$

$$7Q_{10} \text{ for Nov - Apr for Bayou Toro} = 3.68 \text{ cfs}$$

$7Q_{10}$ for Barnes Creek at Mouth:

$$204/148 \times 3.68 = \underline{5.07} \text{ cfs} \leftarrow$$

7 Q10 Calculations for 030601 + 030602

Summary

Barnes Creek at mouth of Little Barnes Creek

$$DA = 30.8 \text{ mi}^2$$

$$7Q_{10} = \underline{0.43} \text{ cfs}$$

$$7Q_{10} \text{ May-Oct} = \underline{0.24} \text{ cfs} = .0068 \text{ cms}$$

$$7Q_{10} \text{ Nov-Apr} = \underline{0.77} \text{ cfs} = .0218 \text{ cms}$$

Barnes Creek ~~near~~ Reeves

$$DA = 111 \text{ mi}^2$$

$$7Q_{10} = \underline{1.0} \text{ cfs}$$

$$7Q_{10} \text{ May-Oct} = \underline{0.86} \text{ cfs}$$

$$7Q_{10} \text{ Nov-Apr} = \underline{2.76} \text{ cfs}$$

Barnes Creek at Mouth

$$DA = 204 \text{ mi}^2$$

$$7Q_{10} = \underline{1.50} \text{ cfs}$$

$$7Q_{10} \text{ May-Oct} = \underline{1.59} \text{ cfs} = .045 \text{ cms}$$

$$7Q_{10} \text{ Nov-Apr} = \underline{5.07} \text{ cfs} = .1436 \text{ cms}$$

Barnes Creek near Reeves

$$7Q_{10} = 1.0 \text{ cfs} \quad \leftarrow$$

$$DA = 111 \text{ mi}^2$$

Seasonal $7Q_{10}$ based on Bayou Toro near Toro -

$7Q_{10}$ for May-Oct:

$$\frac{111}{148} \frac{148}{111} \times 1.15 = \overset{0.86}{1.53} \text{ cfs} \quad \leftarrow$$

$7Q_{10}$ for Nov-Apr:

$$\frac{111}{148} \frac{148}{111} \times 3.68 = \overset{2.76 \text{ cfs}}{4.91} \quad \leftarrow$$

Barnes Creek at mouth of Little Barnes Creek:

$$7Q_{10} = \left(\frac{30.8}{111}\right)^{0.65} \times 1.0 = 0.43 \text{ cfs} \quad \leftarrow$$

$7Q_{10}$ for May-Oct based on Bayou Toro near Toro -

$$7Q_{10} = \frac{30.8}{148} \times 1.15 = 0.24 \text{ cfs} \quad \leftarrow$$

$7Q_{10}$ for Nov-Apr based on Bayou Toro near Toro

$$7Q_{10} = \frac{30.8}{148} \times 3.68 = 0.77 \text{ cfs} \quad \leftarrow$$

Log-Pearson Type III Statistics (formerly USGS Program A193, Jan. 1986)

Note -- Use of Log-Pearson Type III or Pearson-Type III distributions are for preliminary computations. User is responsible for assessment and interpretation.

08025500 BAYOU TORO NEAR TORO

Analysis for -- 6 month period
 starting May 1
 ending October 31
 1956-2001

Parameter is 7-day low value.

0 zero values in data

42 non-zero values in data

0.129	5.157	5.200	5.771	4.314
17.286	2.257	1.086	1.071	1.686
4.629	3.143	8.386	2.071	2.314
2.829	5.143	11.871	8.229	12.571
7.657	4.314	2.186	7.157	2.771
3.500	2.957	11.000	6.900	3.029
9.771	5.200	12.571	5.986	4.443
4.757	5.729	3.771	2.314	1.457
3.200	0.650			

The following 7 statistics are based on non-zero values.

Mean (logs)	0.582
Variance (logs)	0.153
Standard Deviation (logs)	0.391
Skewness (logs)	-1.359
Standard Error of Skewness (logs)	0.365
Serial Correlation Coefficient (logs)	0.243
Coefficient of Variation (logs)	0.671

08025500 BAYOU TORO NEAR TORO

Non-exceedance Probability	Recurrence Interval	Parameter Value
-----	-----	-----
0.0100	100.00	0.206
0.0200	50.00	0.340
0.0500	20.00	0.672
0.1000	10.00	1.148
0.2000	5.00	2.017
0.5000	2.00	4.656
0.8000	1.25	8.098
0.9000	1.11	9.834
0.9600	1.04	11.405
0.9800	1.02	12.217
0.9900	1.01	12.807

Log-Pearson Type III Statistics (formerly USGS Program A193, Jan. 1986)

Note -- Use of Log-Pearson Type III or Pearson-Type III distributions are for preliminary computations. User is responsible for assessment and interpretation.

08025500 BAYOU TORO NEAR TORO

Analysis for -- 6 month period
 starting November 1
 ending April 30
 1957-2001

Parameter is 7-day low value.

0 zero values in data

42 non-zero values in data

4.229	57.143	19.571	6.771	17.286
35.571	6.557	3.743	2.357	5.257
6.986	4.743	25.000	4.257	8.329
2.986	43.429	14.714	61.143	29.143
10.571	8.114	6.029	16.143	3.071
2.643	5.514	11.400	36.000	20.286
7.743	13.143	9.100	31.000	24.571
11.214	28.143	7.629	7.757	10.243
11.857	6.971			

The following 7 statistics are based on non-zero values.

Mean (logs)	1.031
Variance (logs)	0.138
Standard Deviation (logs)	0.372
Skewness (logs)	0.245
Standard Error of Skewness (logs)	0.365
Serial Correlation Coefficient (logs)	0.201
Coefficient of Variation (logs)	0.360

08025500 BAYOU TORO NEAR TORO

Non-exceedance Probability	Recurrence Interval	Parameter Value
-----	-----	-----
0.0100	100.00	1.715
0.0200	50.00	2.079
0.0500	20.00	2.800
0.1000	10.00	3.681
0.2000	5.00	5.188
0.5000	2.00	10.380
0.8000	1.25	21.820
0.9000	1.11	32.830
0.9600	1.04	51.548
0.9800	1.02	69.587
0.9900	1.01	91.680

APPENDIX D3 - Subsegment 030601 and 030602 Land use data

Land Use Summary for 030601

Land Use	COUNT	SUM_AREA	TOTAL_AREA	PCT_AREA
Wetland Forest Deciduous	105	597600.0000	47672100.00000	1.25
Wetland Forest Mixed	329	2640600.0000	47672100.00000	5.54
Upland Forest Deciduous	28	141300.0000	47672100.00000	0.30
Upland Forest Evergreen	258	9315000.0000	47672100.00000	19.54
Upland Forest Mixed	324	2355300.0000	47672100.00000	4.94
Dense Pine Thicket	78	2084400.0000	47672100.00000	4.37
Upland Scrub/Shrub Deciduous	6	30600.0000	47672100.00000	0.06
Upland Scrub/Shrub Evergreen	56	408600.0000	47672100.00000	0.86
Upland Scrub/Shrub Mixed	433	11660400.0000	47672100.00000	24.46
Agriculture/Cropland/Grassland	163	17280900.0000	47672100.00000	36.25
Wetland Barren	9	113400.0000	47672100.00000	0.24
Water	9	1044000.0000	47672100.00000	2.19

Land Use Summary for 030602

Land Use	COUNT	SUM_AREA	TOTAL_AREA	PCT_AREA
Wetland Forest Deciduous	2236	20439900.0000	464374800.00000	4.40
Wetland Forest Mixed	4515	35738100.0000	464374800.00000	7.70
Upland Forest Deciduous	236	1498500.0000	464374800.00000	0.32
Upland Forest Evergreen	2398	110606400.0000	464374800.00000	23.82
Upland Forest Mixed	4114	35632800.0000	464374800.00000	7.67
Dense Pine Thicket	984	16551900.0000	464374800.00000	3.56
Wetland Scrub/Shrub Mixed	15	58500.0000	464374800.00000	0.01
Upland Scrub/Shrub Deciduous	452	3151800.0000	464374800.00000	0.68
Upland Scrub/Shrub Evergreen	1695	11495700.0000	464374800.00000	2.48
Upland Scrub/Shrub Mixed	5011	112490100.0000	464374800.00000	24.22
Agriculture/Cropland/Grassland	2259	108205200.0000	464374800.00000	23.30
Wetland Barren	35	282600.0000	464374800.00000	0.06
Water	23	8223300.0000	464374800.00000	1.77

APPENDIX E - Recommended TMDL

APPENDIX E1 - TMDL for current standards

Summer TMDL Summary:

Barnes Creek - 030601 and 030602

Calculation of the TMDL - Kilograms per day			
Load description	WLA (kg/day)	LA (kg/day)	MOS Load (kg/day)
Point Source loads	518.94		129.74
Headwater / Tributary loads		19.78	0.41
Benthic loads		810.47	202.62
Incremental Loads		-2	-1
SUB-TOTAL	518.94	828.25	331.77
TMDL = WLA + LA + MOS		1,678.96 kg/day	

Calculation of the TMDL - Pounds per day			
Load description	WLA (lbs/day) (1)	LA (lbs/day) (1)	MOS Load (lbs/day) (1)
Point Source loads	1,144.26		286.08
Headwater / Tributary loads		43.61	0.90
Benthic loads		1,787.09	446.78
Incremental Loads		-4.00	-2.00
SUB-TOTAL	1,144.26	1,826.70	731.76
TMDL = WLA + LA + MOS		3,702.72 lbs/day	

Notes:

(1) - Load(lbs/day) = Load(kg/day) x 2.205

Calculation of the TMDL - Kilograms per day			
Load description	WLA (kg/day)	LA (kg/day)	MOS Load (kg/day)
Point Source loads	518.94		129.74
Total Nonpoint Loads		810.00	202.03
SUB-TOTAL	518.94	810.00	331.77
TMDL = WLA + LA + MOS		1,660.71 kg/day	

Calculation of the TMDL - Pounds per day			
Load description	WLA (lbs/day)	LA (lbs/day)	MOS Load (lbs/day)
Point Source loads	1,144.26		286.08
Total Nonpoint Loads		1,786.06	445.48
SUB-TOTAL	1,144.26	1,786.06	731.56
TMDL = WLA + LA + MOS		3,661.88 lbs/day	

Winter TMDL Summary:

Barnes Creek - 030601 and 030602

Calculation of the TMDL - Kilograms per day			
Load description	WLA (kg/day)	LA (kg/day)	MOS Load (kg/day)
Point Source loads	518.94		129.74
Headwater / Tributary loads		59.19	1.29
Benthic loads		544.62	136.15
Incremental Loads		-2	-1
SUB-TOTAL	518.94	601.81	266.18
TMDL = WLA + LA + MOS		1,386.93 kg/day	

Calculation of the TMDL - Pounds per day			
Load description	WLA (lbs/day) (1)	LA (lbs/day) (1)	MOS Load (lbs/day) (1)
Point Source loads	1,144.26		286.08
Headwater / Tributary loads		130.50	2.84
Benthic loads		1,200.89	300.21
Incremental Loads		-4.00	-2.00
SUB-TOTAL	1,144.26	1,327.39	587.13
TMDL = WLA + LA + MOS		3,058.78 lbs/day	

Notes:

(1) - Load(lbs/day) = Load(kg/day) x 2.205

Calculation of the TMDL - Kilograms per day			
Load description	WLA (kg/day)	LA (kg/day)	MOS Load (kg/day)
Point Source loads	518.94		129.74
Total Nonpoint Loads		547.64	136.44
SUB-TOTAL	518.94	547.64	266.18
TMDL = WLA + LA + MOS		1,332.76 kg/day	

Calculation of the TMDL - Pounds per day			
Load description	WLA (lbs/day)	LA (lbs/day)	MOS Load (lbs/day)
Point Source loads	1,144.26		286.08
Total Nonpoint Loads		1,207.56	300.85
SUB-TOTAL	1,144.26	1,207.56	586.93
TMDL = WLA + LA + MOS		2,938.75 lbs/day	

APPENDIX E2 - TMDL for proposed 3.0 DO 030602 criteria change

Proposed 3.0 DO Standard Summer TMDL Summary:

Barnes Creek - 030601 and 030602

Calculation of the TMDL - Kilograms per day			
Load description	WLA (kg/day)	LA (kg/day)	MOS Load (kg/day)
Point Source loads	518.94		129.74
Headwater / Tributary loads		21.16	0.76
Benthic loads		1,485.87	371.47
Incremental Loads		-4	-1
SUB-TOTAL	518.94	1,503.03	500.97
TMDL = WLA + LA + MOS		2,522.94 kg/day	

Calculation of the TMDL - Pounds per day			
Load description	WLA (lbs/day) (1)	LA (lbs/day) (1)	MOS Load (lbs/day) (1)
Point Source loads	1,144.26		286.08
Headwater / Tributary loads		46.65	1.68
Benthic loads		3,276.34	819.09
Incremental Loads		-9.00	-2.00
SUB-TOTAL	1,144.26	3,313.99	1,104.85
TMDL = WLA + LA + MOS		5,563.10 lbs/day	

Notes:

(1) - Load(lbs/day) = Load(kg/day) x 2.205

Calculation of the TMDL - Kilograms per day			
Load description	WLA (kg/day)	LA (kg/day)	MOS Load (kg/day)
Point Source loads	518.94		129.74
Total Nonpoint Loads		1,485.05	371.23
SUB-TOTAL	518.94	1,485.05	500.97
TMDL = WLA + LA + MOS		2,504.96 kg/day	

Calculation of the TMDL - Pounds per day			
Load description	WLA (lbs/day)	LA (lbs/day)	MOS Load (lbs/day)
Point Source loads	1,144.26		286.08
Total Nonpoint Loads		3,274.54	818.56
SUB-TOTAL	1,144.26	3,274.54	1,104.64
TMDL = WLA + LA + MOS		5,523.44 lbs/day	

Proposed 3.0 DO Standard Winter TMDL Summary:

Barnes Creek - 030601 and 030602

Calculation of the TMDL - Kilograms per day			
Load description	WLA (kg/day)	LA (kg/day)	MOS Load (kg/day)
Point Source loads	518.94		129.74
Headwater / Tributary loads		63.48	2.36
Benthic loads		998.46	249.62
Incremental Loads		-4	-1
SUB-TOTAL	518.94	1,057.94	380.72
TMDL = WLA + LA + MOS		1,957.60 kg/day	

Calculation of the TMDL - Pounds per day			
Load description	WLA (lbs/day) (1)	LA (lbs/day) (1)	MOS Load (lbs/day) (1)
Point Source loads	1,144.26		286.08
Headwater / Tributary loads		139.96	5.20
Benthic loads		2,201.60	550.41
Incremental Loads		-9.00	-2.00
SUB-TOTAL	1,144.26	2,332.56	839.69
TMDL = WLA + LA + MOS		4,316.51 lbs/day	

Notes:

(1) - Load(lbs/day) = Load(kg/day) x 2.205

Calculation of the TMDL - Kilograms per day			
Load description	WLA (kg/day)	LA (kg/day)	MOS Load (kg/day)
Point Source loads	518.94		129.74
Total Nonpoint Loads		1,004.05	250.98
SUB-TOTAL	518.94	1,004.05	380.72
TMDL = WLA + LA + MOS		1,903.71 kg/day	

Calculation of the TMDL - Pounds per day			
Load description	WLA (lbs/day)	LA (lbs/day)	MOS Load (lbs/day)
Point Source loads	1,144.26		286.08
Total Nonpoint Loads		2,213.92	553.41
SUB-TOTAL	1,144.26	2,213.92	839.49
TMDL = WLA + LA + MOS		4,197.67 lbs/day	

APPENDIX E3 - TMDL for proposed 2.0 DO 030602 criteria change

Proposed 2.0 DO Standard Summer TMDL Summary:

Barnes Creek - 030601 and 030602

Calculation of the TMDL - Kilograms per day			
Load description	WLA (kg/day)	LA (kg/day)	MOS Load (kg/day)
Point Source loads	518.94		129.74
Headwater / Tributary loads		21.71	0.90
Benthic loads		1,756.03	439.01
Incremental Loads		-4	-1
SUB-TOTAL	518.94	1,773.74	568.65
<i>TMDL = WLA + LA + MOS</i>			
2,861.33 kg/day			

Calculation of the TMDL - Pounds per day			
Load description	WLA (lbs/day) (1)	LA (lbs/day) (1)	MOS Load (lbs/day) (1)
Point Source loads	1,144.26		286.08
Headwater / Tributary loads		47.87	1.98
Benthic loads		3,872.05	968.02
Incremental Loads		-9.00	-2.00
SUB-TOTAL	1,144.26	3,910.92	1,254.08
<i>TMDL = WLA + LA + MOS</i>			
6,309.26 lbs/day			

Notes:

(1) - Load(lbs/day) = Load(kg/day) x 2.205

Calculation of the TMDL - Kilograms per day			
Load description	WLA (kg/day)	LA (kg/day)	MOS Load (kg/day)
Point Source loads	518.94		129.74
Total Nonpoint Loads		1,755.07	438.91
SUB-TOTAL	518.94	1,755.07	568.65
<i>TMDL = WLA + LA + MOS</i>			
2,842.66 kg/day			

Calculation of the TMDL - Pounds per day			
Load description	WLA (lbs/day)	LA (lbs/day)	MOS Load (lbs/day)
Point Source loads	1,144.26		286.08
Total Nonpoint Loads		3,869.93	967.80
SUB-TOTAL	1,144.26	3,869.93	1,253.88
<i>TMDL = WLA + LA + MOS</i>			
6,268.07 lbs/day			

Proposed 2.0 DO Standard Winter TMDL Summary:

Barnes Creek - 030601 and 030602

Calculation of the TMDL - Kilograms per day			
Load description	WLA (kg/day)	LA (kg/day)	MOS Load (kg/day)
Point Source loads	518.94		129.74
Headwater / Tributary loads		65.19	2.79
Benthic loads		1,180.00	295.00
Incremental Loads		-4	-1
SUB-TOTAL	518.94	1,241.19	426.53
TMDL = WLA + LA + MOS		2,186.66 kg/day	

Calculation of the TMDL - Pounds per day			
Load description	WLA (lbs/day) (1)	LA (lbs/day) (1)	MOS Load (lbs/day) (1)
Point Source loads	1,144.26		286.08
Headwater / Tributary loads		143.75	6.15
Benthic loads		2,601.90	650.48
Incremental Loads		-9.00	-2.00
SUB-TOTAL	1,144.26	2,736.65	940.71
TMDL = WLA + LA + MOS		4,821.62 lbs/day	

Notes:

(1) - Load(lbs/day) = Load(kg/day) x 2.205

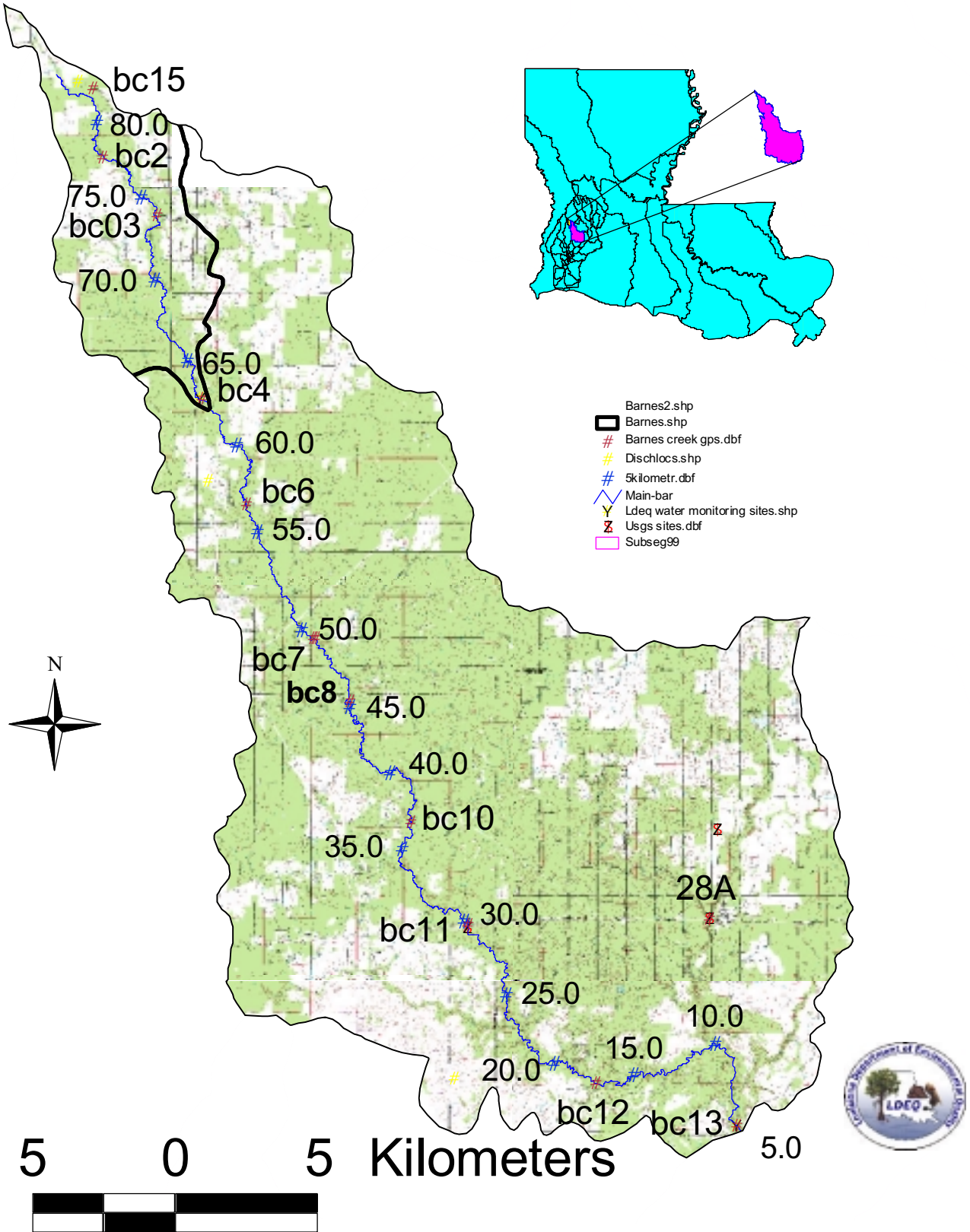
Calculation of the TMDL - Kilograms per day			
Load description	WLA (kg/day)	LA (kg/day)	MOS Load (kg/day)
Point Source loads	518.94		129.74
Total Nonpoint Loads		1,186.62	296.79
SUB-TOTAL	518.94	1,186.62	426.53
TMDL = WLA + LA + MOS		2,132.09 kg/day	

Calculation of the TMDL - Pounds per day			
Load description	WLA (lbs/day)	LA (lbs/day)	MOS Load (lbs/day)
Point Source loads	1,144.26		286.08
Total Nonpoint Loads		2,616.49	654.42
SUB-TOTAL	1,144.26	2,616.49	940.50
TMDL = WLA + LA + MOS		4,701.25 lbs/day	

APPENDIX F - Maps

APPENDIX F1 - Overview map of subsegments 030601 and 030602

Barnes Creek Subsegments 030601 and 030602



Environmental Technology Division/Engineering Group 2
 Map Number: 200203001
 Map Date: 1/18/02
 Map Projection: UTM, NAD 27, Zone 15
 Map Source: LDEQ Survey Data, USGS, ESRI Street Map

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