DRAFT

WEST ANACOCO CREEK WATERSHED TMDL
FOR BIOCHEMICAL OXYGEN-DEMANDING SUBSTANCES AND NUTRIENTS

SUBSEGMENTS 110501

SURVEYED June 28 – 30, 2005

TMDL REPORT

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EXECUTIVE SUMMARY

This report presents the results of a watershed based, calibrated modeling analysis of West Anacoco Creek. The modeling was conducted to establish a TMDL for biochemical oxygen-demanding pollutants for the West Anacoco Creek watershed. The model extends from Roy Lee Snell Road near Hornbeck to Vernon Lake in Anacoco. West Anacoco Creek from its headwaters to Roy Lee Snell Road could not be surveyed because it is located on the Fort Polk Military Reservation. In the interest of national security, LDEQ was not allowed access to this area. West Anacoco Creek is located in north Louisiana and this subsegment includes an unnamed tributary at Highway 392, Big Branch Creek, Log Branch Creek, Brushy Creek, Elder Branch Creek, and Little Sandy Branch Creek as tributaries. West Anacoco Creek is in the Sabine River Basin and this study includes Water Quality Subsegment 110501. The area is sparsely populated and land use is dominated by forestry. West Anacoco Creek is mostly comprised of riparian forest with some wetland near the bottom of the subsegment. The creek is fed by rainwater with the exception of one spring on the lower western side of the subsegment.

There is one permitted discharger located within this subsegment, the Town of Hornbeck. This discharger is located on an unnamed ditch that connects with Brushy Creek and then onto West Anacoco Creek. In addition to the discharger being too far away from the main stem, Brushy Creek was not flowing at the time of the survey, indicating the discharger was not having any impact on West Anacoco Creek. In these situations, limits for these facilities are generally set by state policy. This discharger is accounted for as nonpoint loading through the process of calibration. Therefore, the limits to the Town of Hornbeck will remain the same.

Input data for the calibration model was developed from data collected during the June 2005 intensive survey; data collected by LDEQ monitoring stations in the watershed; USGS drainage area and low flow publications; and data garnered from several previous LDEQ studies on nonpoint source loadings. 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 ambient temperature and dissolved oxygen records. The Louisiana Total Maximum Daily Load Technical Procedures, 09/22/2003, have been followed in this study.

The various spreadsheets that were used in conjunction with the modeling program may be found in the appendices. Projections are adjusted to meet the dissolved oxygen criteria by reducing total nonpoint source loads. For West Anacoco Creek, the stream could not meet a 5.0 mg/L standard for dissolved oxygen even at background conditions. Therefore, alternative projections were run for 3.0 and 4.0 mg/L dissolved oxygen standards.

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.

West Anacoco Creek, Subsegment 110501, was on the 2004 303(d) list. Subsegment 110501 is found to be "not supporting" its designated use of Primary Contact Recreation and Fish and Wildlife Propagation. It is found to be “fully supporting” its designated use of Secondary Contact Recreation. West Anacoco Creek was subsequently scheduled for TMDL development with other listed waters in

the Sabine River Basin. The suspected causes of impairment are low dissolved oxygen and total fecal coliform. The suspected sources are managed pasture grazing and natural sources.

This TMDL establishes load limitations for oxygen-demanding substances and goals for reduction of those pollutants. LDEQ's position, as supported by the declaratory ruling issued by Secretary Givens in response to the lawsuit regarding water quality criteria for nutrients (Sierra Club v. Givens, 710 So.2d 249 (La. App. 1st Cir. 1997), writ denied, 705 So.2d 1106 (La. 1998), is that when oxygen-demanding substances are controlled and limited in order to ensure that the dissolved oxygen criterion is supported, nutrients are also controlled and limited. The implementation of this TMDL through wastewater discharge permits and implementation of best management practices to control and reduce runoff of soil and oxygen-demanding pollutants from nonpoint sources in the watershed will also control and reduce the nutrient loading from those sources.

A calibrated water quality model for the watershed was developed and projections were modeled to quantify the non-point source load reductions which would be necessary in order for West Anacoco Creek, subsegment 110501 to comply with its established water quality standards and criteria. This report presents the results of that analysis.

The results of the projection modeling for subsegment 110501 show that the water quality standard of 5.0 mg/l for dissolved oxygen cannot be maintained even at background conditions. The No Load Scenario for summer without reduction in natural background pollution yields a minimum DO of 4.39 mg/l. Kisatchie Bayou was the reference stream used to calculate background conditions. Projections for a dissolved oxygen criteria of 4.0 mg/L and 3.0 mg/L were run and the resulting allocations are presented in Table 1 and Table 2.

Table 1. Total Maximum Daily Load (Sum of UCBOD[1], UNBOD, and SOD) for a 4.0 mg/L dissolved oxygen standard

ALLOCATION	SUMMER		WINTER	
	% Reduction Required	(MAR-NOV) (lbs/day)	% Reduction Required	(DEC-FEB) (lbs/day)
Point Source WLA	0	0	0	0
Point Source Reserve MOS (20%)		0		0
Natural Nonpoint Source LA	0	778	0	430
Natural Nonpoint Source Reserve MOS (20%)				
Manmade Nonpoint Source LA	70	560	70	329
Manmade Nonpoint Source Reserve MOS (20%)		139		82
TMDL		1,477		841

***Note1: UCBOD as stated in this allocation is Ultimate CBOD.
UCBOD to $CBOD_5$ ratio = 2.3 for all treatment levels
Permit allocations are generally bas ed on $CBOD_5$***

Table 2. Total Maximum Daily Load (Sum of UCBOD[1], UNBOD, and SOD) for a 3.0 mg/L dissolved oxygen standard

ALLOCATION	SUMMER		WINTER	
	% Reduction Required	(MAR-NOV) (lbs/day)	% Reduction Required	(DEC-FEB) (lbs/day)
Point Source WLA	0	0	0	0
Point Source Reserve MOS (20%)		0		0
Natural Nonpoint Source LA	0	778	0	551
Natural Nonpoint Source Reserve MOS (20%)				
Manmade Nonpoint Source LA	30	1,308	30	767
Manmade Nonpoint Source Reserve MOS (20%)		326		187
TMDL		2,412		1,505

***Note1: UCBOD as stated in this allocation is Ultimate CBOD.
UCBOD to $CBOD_5$ ratio = 2.3 for all treatment levels
Permit allocations are generally based on $CBOD_5$***

The inability of the creek to maintain a 5 mg/L dissolved oxygen standard even at background conditions indicates that the current criterion for subsegment 110501 is inappropriate. A reassessment of the dissolved oxygen criteria for this subsegment is recommended.

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. 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 is continuing to implement a watershed approach to the surface water quality monitoring. In 2004 a four year sampling cycle replaced the previous five year cycle. Approximately one quarter

of the states watersheds will be sampled in each year so that all of the states watersheds will be sampled within the four 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.

Table 3. 110501 Discharger Inventory

							MONTHLY AVERAGE CONCENTRATION LIMITS		MONTHLY AVERAGE MASS LIMITS		
FACILITY	**FILE No.**	**Out-fall No.**	**OUTFALL DESCRIP-TION**	**FACILITY TYPE**	**RECEIVING WATER**	**EXPECTED FLOW GPD**	**BOD5/ CBOD5, mg/L**	**NH_3-N, mg/L**	**BOD, lbs./day**	**NH_3-N, lbs./day**	**MODELING COMMENTS**
Town of Hornbeck	**18805**	**001**	**Point of discharge from oxidation pond**	**Municipality**	**Unnamed ditch, thence into Brushy Creek, thence into West Anacoco Creek**	**43,000**	**20**		**0.032**		**Not Modeled – too far from the named waterbody and Brushy Creek not flowing during the time of the survey.**

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Introduction

West Anacoco Creek, subsegment 110501, of the Sabine River Basin is listed on the 2004 303(d) list. The subsegment is listed as not supporting Primary Contact Recreation and Fish and Wildlife propagation. This subsegment is supporting its designated use of Secondary Contact Recreation. The suspected causes of impairment are low DO and fecal coliform. The suspected sources are managed pasture grazing and natural sources. Because of the impairment, this subsegment requires the development of a total maximum daily load (TMDL) for oxygen demand substances and nutrients. A calibrated water quality model for the West Anacoco Creek, subsegment 110501 watershed was developed and projections for current dissolved oxygen standards were run to quantify the wasteload required to meet established dissolved oxygen criteria. This report presents the model development and results.

2. Study Area Description

2.1 General Information

"The Sabine River Basin lies along the Texas – Louisiana border, encompassing more than 2,900 square miles of drainage area within Louisiana. The basin stretches from the Texas State line near Shreveport to the Gulf of Mexico. It is bounded on the east by the Red River Basin and Calcasieu River Basin. Characteristic vegetation ranges from mixed forests in the upper basin to hardwoods in the mid-section and brackish and saline marshes in the lower end." (LA DEQ, 1996)

This TMDL addresses West Anacoco Creek located in the Sabine River Basin from Roy Lee Snell Road near Hornbeck to Vernon Lake in Anacoco. West Anacoco Creek from its headwaters to Roy Lee Snell Road could not be surveyed because it is located on the Fort Polk Military Reservation. In the interest of national security, LDEQ was not allowed access to this area. This area is typical of the upper basin and is primarily forest as documented in Table 3 (LADEQ, 1999). There is a spring located in the southwestern area of the subsegment. The spring was sampled from a pipe built directly into the spring that flows into Little Sandy Creek. This pipe was added by the Louisiana Department of Transportation and Development (DOTD) when building the bridge at Highway 392 over Little Sandy Creek. The pipe allows the water to flow freely from the spring into Little Sandy Creek without being harmed by the addition of the bridge.

Additionally, at the lower end, West Anacoco Creek becomes very braided around the subsegment boundary and inaccessible by boat or vehicle. At the very bottom of the surveyed area, which fell below the subsegment boundary, it becomes considerably wider and deeper. A detailed land cover map of Subsegment 110501 is also included in Appendix H2. Average annual precipitation in the segment, based on the nearest Louisiana Climatic Station, is 52 inches based on a 30-year period of record (LSU, 1999). There is a Louisiana average annual precipitation map located in Appendix H3.

Table 4. Land Uses in Segment 110501

Land Type	Acres 110501	Percent Land use 110501
Upland Forest Evergreen	10642.47	37.27
Upland S/S Mixed	4775.48	16.42
Upland Forest Mixed	3201.37	11.21
Upland Forest Deciduous	2545.97	8.92
Agriculture/Cropland/Grassland	2529.96	8.86
Wetland Forest Deciduous	1473.59	5.16
Dense Pine Thicket	1243.19	4.35
Upland S/S Evergreen	1190.26	4.17
Water	642.28	2.25
Upland Barren	208.83	0.73
Wetland Forest Mixed	82.95	0.29
Upland S/S Deciduous	18.68	0.07

Figure 1. Model Layout

West Anacoco Creek Model Layout Subsegment 110501 RKM 16.8 to RKM 0.0

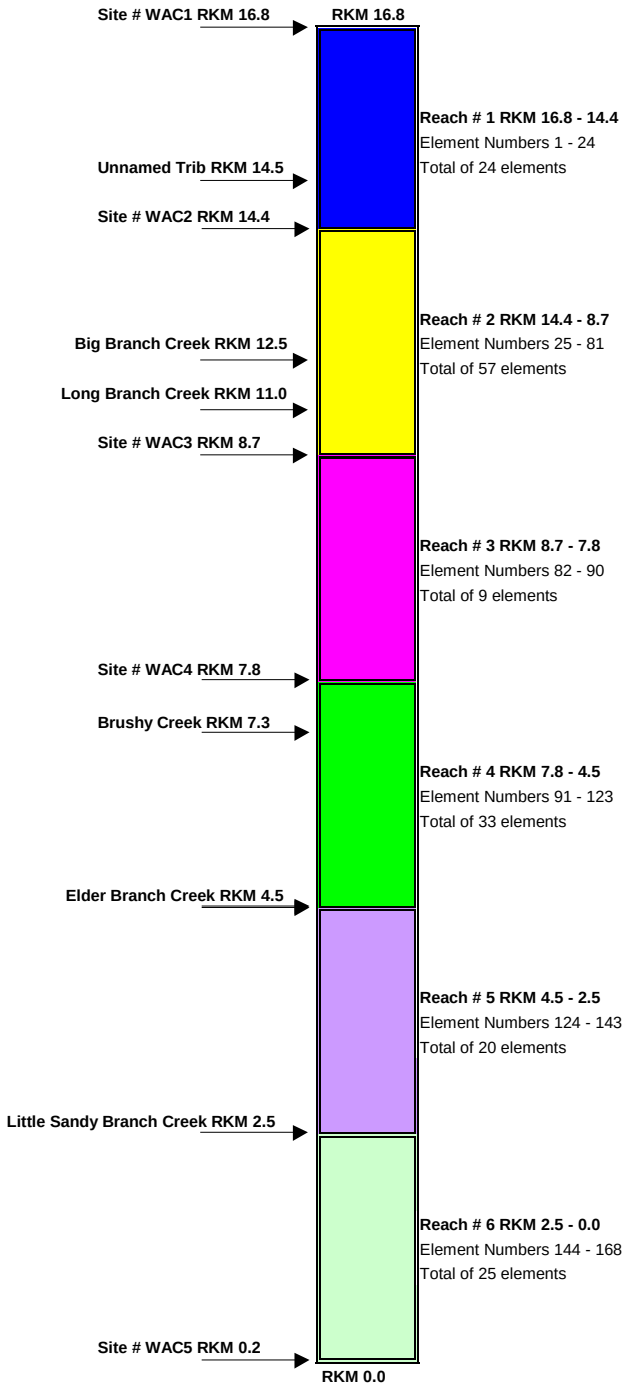
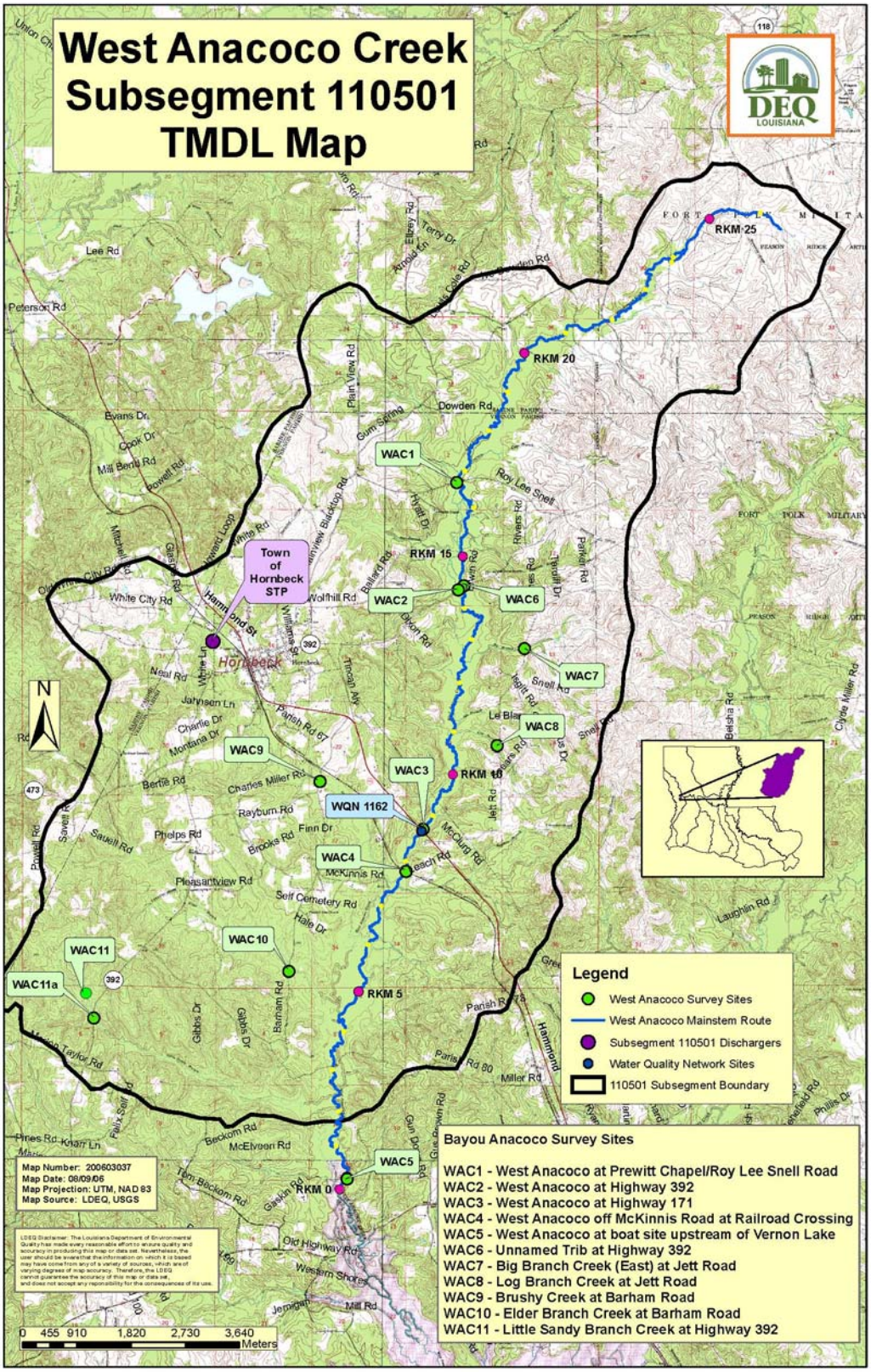


Figure 2. Map of Study Area



2.2 Water Quality Standards

The Water Quality criteria and designated uses for West Anacoco Creek Watershed are shown in Table 4. As noted in the table, West Anacoco Creek, Subsegment 110501 has a year round dissolved oxygen standard of 5.0 mg/L.

Table 5. Water Quality Numerical Criteria and Designated Uses

Parameter	Value
Designated Uses	A B C
DO, mg/L	5.0
Cl, mg/L	15
SO_4, mg/L	10
pH	6.0 – 8.5
BAC	1*
Temperature, deg Celsius	32
TDS, mg/L	90

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 1 – 200 colonies/100mL maximum log mean and no more than 25% of samples exceeding 400 colonies/100mL for the period May through October; 1,000 colonies/100mL maximum log mean and no more than 25% of samples exceeding 2,000 colonies/100mL for the period November through April.

2.3 Wastewater Discharges

There is one permitted discharger located in this subsegment, the Town of Hornbeck. The Town of Hornbeck has a discharge route of an unnamed ditch, thence into Brushy Creek, thence into West Anacoco Creek. This discharger need not be included in a model of this scale because it is unlikely that it is having an impact on the targeted waterbody due to the distance from West Anacoco Creek, which is the waterbody named in the 303(d) lists. Additionally supporting this is the fact that Brushy Creek had no measurable flow into West Anacoco Creek at the time of the survey. This discharger is accounted for as nonpoint loading through the process of calibration. The Town of Hornbeck falls within the Statewide Sanitary Effluent Limitations Policy (SSELP) that governs permit limitations. Current permit information and discharge monitoring reports were reviewed for this facility. Due to the fact that this facility has a minimal impact on the named 303(d) listed waterbody, West Anacoco Creek, it was not modeled and will remain at its current permit limits.

Table 6. Discharger Inventory for West Anacoco Creek Subsegment 110501

							MONTHLY AVERAGE CONCENTRATION LIMITS		MONTHLY AVERAGE MASS LIMITS		
FACILITY	**FILE No.**	**Out-fall No.**	**OUTFALL DESCRIP-TION**	**FACILITY TYPE**	**RECEIVING WATER**	**EXPECTED FLOW GPD**	**BOD5/ CBOD5, mg/L**	**NH_3-N, mg/L**	**BOD, lbs./day**	**NH_3-N, lbs./day**	**MODELING COMMENTS**
Town of Hornbeck	**18805**	**001**	**Point of discharge from oxidation pond**	**Municipality**	**Unnamed ditch, thence into Brushy Creek, thence into West Anacoco Creek**	**43,000**	**20**		**0.032**		**Not Modeled – too far from the named waterbody and Brushy Creek not flowing during the time of the survey.**

2.4 Water Quality Conditions/Assessment

West Anacoco Creek, subsegment 110501, of the Sabine River Basin is listed on the 2004 303(d) list. This subsegment is listed as not supporting Primary Contact Recreation and Fish and Wildlife Propagation. It is supporting its designated use of Secondary Contact Recreation. The suspected causes of impairment are low dissolved oxygen and fecal coliform. The suspected sources are managed pasture grazing and natural sources. Because of the impairment, this subsegment requires the development of a total maximum daily load (TMDL) for oxygen demanding substances and nutrients.

2.5 Prior Studies

LDEQ has one monthly water quality sampling station on West Anacoco Creek. LDEQ Water Quality Site 1162, West Anacoco Creek at US Highway 171, has a period of record from January 2002 to December 2002. Data collected during the Eularian survey conducted in June 2005, included discharge data, cross-section data, field in-situ data, continuous monitor data, and lab water quality data. This data was used to establish the input for the model calibration and is presented in Appendix F.

3. Documentation 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 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 a 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.

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 which were not or could not be measured in the field. These estimated variables are adjusted in sequential runs of the model until the model reproduces the field conditions which were measured. In other words, the model produces a value of dissolved oxygen, temperature, or other parameter which matches the measured value within an acceptable margin of error at the locations along the stream where the measurements were actually made. When this happens, the model is said to be calibrated to the actual stream conditions. At this point, the model should confirm that there is an impairment and give some indications of the causes of the impairment. If a second set of measurements is available for slightly different conditions, the calibrated model is run with these conditions to see of the calibration holds for both sets of data. When this happens, the model is said to be verified.

Stage 3 covers the projection modeling which results in the TMDL. The critical conditions of flow and temperature are determined for the waterbody and the maximum pollutant discharge conditions from the point sources are determined. These conditions are then substituted into the model along with any related condition changes which are required to perform worst case scenario predictions. At this point, the loadings from the point and nonpoint sources (increased by an acceptable margin of safety) are run

at various levels and distributions until the model output shows that dissolved oxygen criteria are achieved. It is critical that a balanced distribution of the point and nonpoint source loads be made in order to predict any success in future achievement of water quality standards. At the end of Stage 3, a TMDL is produced which shows the point source permit limits and the amount of reduction in man-made nonpoint source pollution which must be achieved to attain water quality standards. The man-made portion of the NPS pollution is estimated from the difference between the calibration loads and the loads observed on reference or least impacted streams.

3.2 Input Data Documentation

Data collected during an intensive survey conducted from June 28-30, 2005, was used to establish the input for the model calibration. The data is presented in Appendix F. The flows in each reach were based on the measured survey discharges. A minimal headwater flow was calculated based upon the cross sectional area at WAC1.

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 F5 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 CBOD1 and CBOD2 in the LAQUAL model. NBOD simulated 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 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.

3.2.1 Model Schematics and Maps

A vector diagram of the modeled area is presented in Figure 1 and Appendix C1. The vector diagram shows the locations of survey stations, the reach/element design, and the locations of the tributaries. An ARCVIEW map of the stream and subsegment showing river kilometers, survey stations, subsegment boundary and other points of interest are also included in Figure 2 and Appendix H1.

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 and 2, nitrogenous biochemical oxygen demand, chloride, and conductivity. The continuous monitors did show small diurnal swings indicative of algal activity. The algae 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 Program Constants, Data Type 3

A minimum K_L value of 0.7 m/day was used. This value is a conversion from 2.3 ft/day which is a Louisiana standard minimum. The K_2 maximum was set to 25 1/day at 20° C which is the EPA Policy in the absence of a measured value.

The inihibition control value was set to option 3 which is all rates but sediment oxygen demand. The water column dissolved oxygen demand is assumed to come primarily from facultative bacteria under anoxic conditions and SOD is not influenced by modeled dissolved oxygen levels in the upper water column.

The hydraulic calculation method was set to option 2 or "widths and depths." This was done because the low slopes in these waterbodies cause a substantial amount of water to be present in some reaches during critical flow. Using a modified Leopold relationship allows the model to predict a more accurate depth and width during low flow.

The settling rate units were set to option 2 which is 1/day. By making the settling rate a velocity, the rate becomes dependent upon the depth.

The algae oxygen production was set to zero and the effective BOD due to algae was set to 0.15 in order to model to a wide variation in dissolved oxygen.

3.2.4 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, 2004). For this model all values used were LAQUAL default values.

3.2.5 Reach Identification Data, Data Type 8

A diagram of the modeled area is presented in Appendix C1. The vector diagram shows the reach/element design and the location of an unnamed trib, Big Branch Creek, Long Branch Creek, Brushy Creek, Elder Branch Creek, and Little Sandy Branch Creek. The modeled area is characterized by 8 sample sites. The model begins at Roy Snell Road near Hornbeck and extends to Vernon Lake in Anacoco. This calibrated model includes 6 reaches, 168 elements, one headwater, and 2 tributaries. A

digitized map of the stream showing river kilometers and the June 2005 survey sampling sites are included in Figure 2 and Appendix H1.

3.2.6 Advective Hydraulic Coefficients, Data Type 9

Louisiana streams typically do not empty out when the flow in the stream goes to zero. Therefore, hydraulic calculation method two was used for this stream to more accurately depict the geometry. The modified Leopold equations were utilized in this model for calibration. The measured widths and depths were obtained from the survey cross sections. These cross sections were used as the constants in data type 9. The coefficients and exponents were then acheived through calibration.

3.2.7 Dispersive Hydraulic Coefficients, Data Type 10

A dye study was attempted. However, the dye failed to reach the two dye monitors due to lack of flow and thus no data could be recorded. In the absence of data no dispersive coefficients were used.

3.2.8 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(s) located closest to the reach.

When the continuous monitoring dissolved oxygen (DO) data for at least one diurnal cycle is available, it is standard practice to calibrate to the mean DO. In this case, a diurnal variation of greater than 2mg/L was encountered. The standard DEQ practice for this is as follows:

1. Calibrate without simulating algal production as follows:

Range of DO cycle	Calibrate
0 – 2 mg/l	Mean DO for one or more full cycles
2 – 9 mg/l	One mg/l over minimum DO
>9 mg/l	0.11*DO cycle over minimum DO

These practices were followed for this model. The input data and sources are shown in Appendix B2.

Chlorophyll a values were also used since the mild effects of algae on the dissolved oxygen concentrations were also simulated with this model. The initial conditions are only a starting point for the model, therefore, all values were set to the measured values. The input data and sources are shown in Appendix B2.

3.2.9 Reaeration Rates, Data Type 12

The applicability of the various reaeration equations was examined. The Texas Equation was the most applicable to West Anacoco Creek for the Reaches 1, 2, and 3. For Reach 4 where the creek dramatically widens and deepens, O'Connor-Dobbins was determined most applicable.

3.2.10 Sediment Oxygen Demand, Data Type 12

The SOD values were achieved through calibration. The SOD value for each reach is shown in Appendix B2. The values were considered to be reasonable for this type of stream. A large part of the stream is high canopy. The high canopy means large amounts of leaf fall to the stream are present, leaving bottom sediments. The conversion ratio of settled CBOD and settled NBOD to SOD was considered to be zero for all reaches due to the resuspension of bottom sediments.

3.2.11 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 0.16 to 0.47 per day. The second component had substantial lag times ranging from 5.25 to 24.54 days and decay rates from 0.029 to 0.047 per day. The total CBOD curves presented in Appendix F5 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 components were modeled separately as CBOD1 and CBOD2 in the LAQUAL model. The decay and settling rates used for each reach are shown in Appendix F5.

3.2.12 Nitrogenous BOD Decay and Settling Rates, Data Type 15

These rates are labeled NBOD Decay and Settling in the model. The decay rates used were based on the bottle rates from the survey. NBOD decay rates were fairly consistent with main stem rates ranging from 0.005 to 0.301. The decay and settling rates used for each reach are shown in Appendix F5.

3.2.13 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 presence of a spring in the southwest corner subsegment 110501, and an evaluation of the water chemistry that groundwater inflow could be assumed. The temperature, salinity, dissolved oxygen, CBOD1, CBOD2, and NBOD were assumed to be the measurements obtained from a spring site, WAC11a located along Little Sandy Creek. The data and its source for each reach are presented in Appendix B2.

3.2.14 Nonpoint Sources, Data Type 19

Nonpoint source loads which are not associated with a 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 NBOD loads. These values are achieved through calibration. The loads determined through calibration were reasonable for this type of waterbody and geometry.

3.2.15 Headwaters, Data Types 20, 21, and 22

There were no headwater flow measurements taken. Thus, the headwater flow was determined by using the maximum immeasurable flow at BDL1 which was 0.0023 cms. The data and sources are presented in Appendix B2.

3.2.16 Wasteloads, Data Types 23, 24, and 25

There is one permitted discharger located within this subsegment, the Town of Hornbeck. This discharger is located on an unnamed ditch that connects with Brushy Creek and then onto West Anacoco Creek. In addition to the discharger being too far away from the main stem, Brushy Creek had no measurable flow into West Anacoco Creek at the time of the survey, indicating the discharger was not having any impact on West Anacoco Creek. In these situations, limits for these facilities are generally set by state policy. This discharger is accounted for as nonpoint loading through the process of calibration. The Town of Hornbeck falls within the Statewide Sanitary Effluent Limitations Policy (SSELP) that govern permit limitations. Due to the fact that this facility has a minimal impact on the named 303(d) listed waterbody, West Anacoco Creek, it was not modeled and will remain at its current permit limits.

There were two tributaries flowing at the time of the survey, Elder Branch Creek (WAC10) and Little Sandy Creek (WAC11 and WAC11a). Little Sandy Creek had two survey sites. The first, (WAC11), was upstream of Highway 392 on Little Sandy Creek. The second, (WAC11a), was a pipe connected to a spring flowing into Little Sandy Creek located at Highway 392 downstream of WAC11. The water quality from WAC11 was used for direct model inputs for Little Sandy Creek. The flow measurements from WAC11 and WAC11a were added together to obtain the flow used in the model for Little Sandy Creek.

3.2.17 Boundary Conditions, Data Type 27

The lower boundary conditions were assumed to be equivalent to the measurements taken at survey station WAC5.

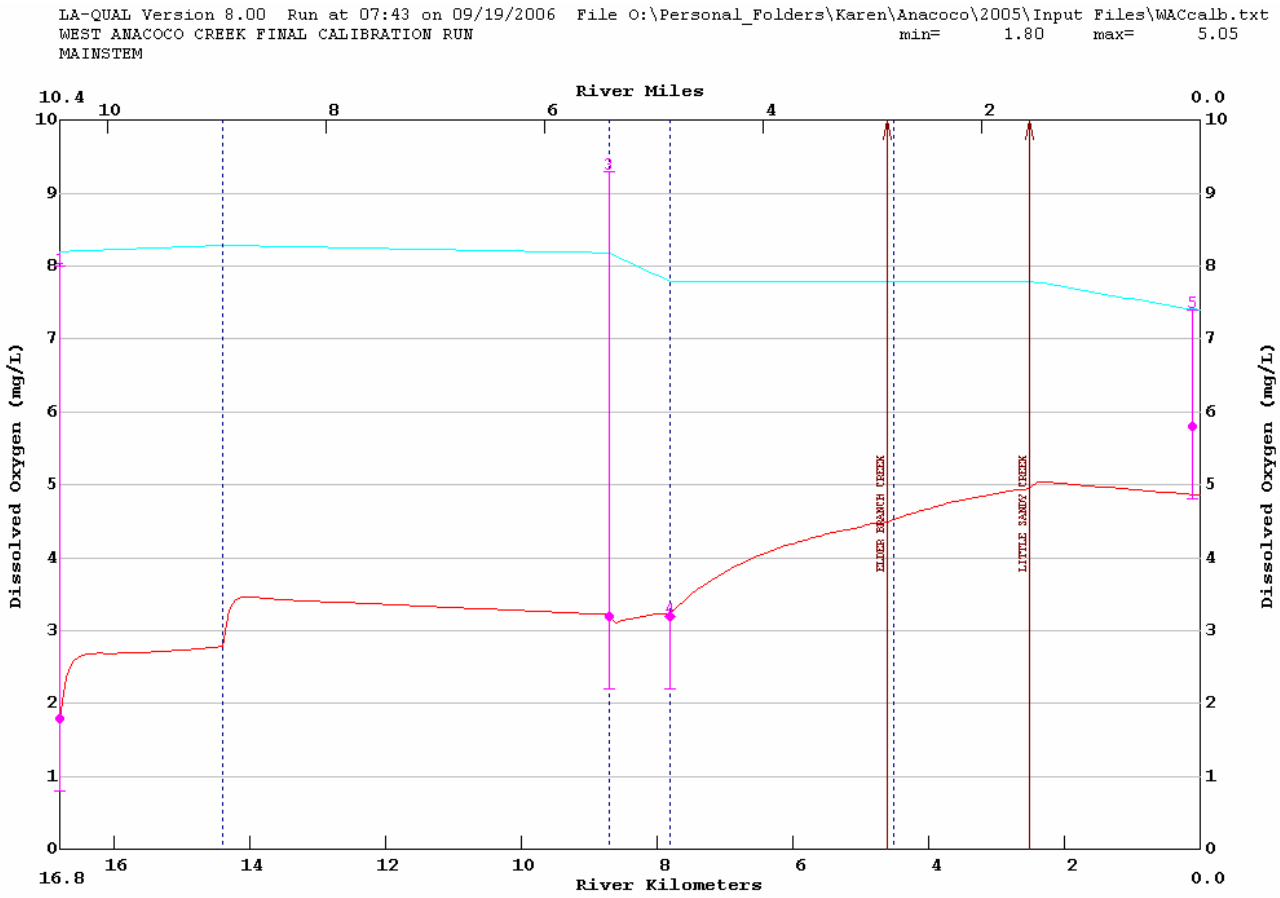
3.3 Model Discussion and Results

The calibration model input and output is presented in Appendix B. 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 points for dissolved oxygen and temperature were calculated based on the average continuous monitor readings wherever possible. Insitu DO readings are also plotted. The calibration points for CBOD1, CBOD2, and NBOD were the measured values from the water quality samples. The calibration points for conductivity were the insitu readings. The calibration points for the chlorides and chlorophyll A were the measured values from the water quality samples. Kisatchie Bayou was determined to be an adequate reference stream to determine background conditions for the model.

A good calibration was achieved for DO, UCBOD1, UCBOD2, and NBOD on the main stem. The calibration model shows that during June 2005 survey period, the DO standard of 5 mg/l was not being met in subsegment 110501 in any of the reaches. The calibration model minimum DO on the main

stem was 1.80 mg/l. The low dissolved oxygen levels can mainly be attributed to the naturally dystrophic conditions present.

Figure 3. 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. Water Quality Projections

Since the calibrated model indicated that the DO criterion was not being met in West Anacoco Creek, at numerous locations, a no load summer scenario was performed. The no load summer scenario indicated that the stream cannot meet a 5.0 mg/L dissolved oxygen standard even at background conditions. The traditional summer critical projection loading scenario could not be performed at the current annual DO standard. In lieu of the traditional projections, summer and winter projections were performed for DO standards of 4.0 mg/L and 3.0 mg/L. This scenario was based on reduced nonpoint

loads at summer season critical conditions (ie. 90th percentile seasonal temperatures and 7Q10 flows) in accordance with the LTP. A winter projection was run based on the percent reduction of nonpoint loads used for summer critical projections.

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. For the West Anacoco Creek, subsegment 110501 TMDL, an analysis of LDEQ ambient data has been employed to determine critical seasonal conditions and an appropriate margin of safety.

Critical conditions for dissolved oxygen were determined for West Anacoco Creek using water quality data from West Anacoco Creek water quality site number 1162 on the LDEQ Ambient Monitoring Network. The 90th percentile temperature for each season and the corresponding 90% of saturation DO was determined. Ambient temperature data, critical temperature and DO saturation determinations are shown in Appendix G1.

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 non-point 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 West Anacoco Creek, subsegment 110501 dissolved oxygen TMDL projection modeling by using the LTP seasonal defaults for all flows, and the 90th

percentile temperature. For the headwater DO, the 90% of DO Sat from the ambient monitoring site was used.

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 and BMP efficiencies. 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

The LTP states that the flow for summer conditions should be 0.1 cfs or the 7Q10, whichever is greater. In the absence of historical data, a 7Q10 value could not be determined for West Anacoco Creek. Therefore, the critical flow was set to 0.1 cfs.

Critical conditions include dissolved oxygen, temperature and flow. Pollutant loading is adjusted in the projection models to meet the dissolved oxygen criteria.

The calibration values were retained for the remaining parameters and used as input values in the summer and winter projections. The model adjusts the input values for SOD, CBODU decay, and NBODU decay based upon the input temperature. The model projects the width and depth values based upon the streamflow.

4.2.1 Model Options, Data Type 2

Four constituents were modeled during the projection process. These were dissolved oxygen, the two components of carbonaceous biochemical oxygen demand, and nitrogenous biochemical oxygen demand.

4.2.2 Temperature Correction of Kinetics, Data Type 4

The temperature correction factors specified in the LTP are 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.

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. For summer, the temperature was set to 25.23^{o}C. For winter, the temperature was set to 17.20^{o}C. The dissolved oxygen values for the initial conditions were set at the stream criteria (5mg/L) with the exception of the headwater dissolved oxygen value. The headwater DO was set to 90% DO Sat for WQN 1162. The headwater DO for summer was set to 7.41 mg/L. The headwater DO for winter was set to 8.66 mg/L.

4.2.6 Reaeration Rates, Carbonaceous BOD Decay and Settling Rates, Nitrogenous BOD Decay and Settling Rates, Data Type 12 and 15

The reaeration rate equations, CBOD1 and CBOD2 decay and settling rates, NBOD decay and settling rates, and the fractions converting settled CBOD and settled NBOD to SOD were not changed from the calibration.

4.2.8 Sediment Oxygen Demand, Nonpoint Sources, Headwaters, Wasteloads, Data Type 12, 19, 20, 21, 22, 24, 25, and 26

The NPS values were calculated for each projection scenario using a load equivalent spreadsheet. An analysis was made of the calibration NPS and SOD loads in terms of loading in units of gm-O_2/m^2/day. The same spreadsheet also calculated load reductions for the headwaters and wasteloads. The values and sources of the input data and the load analyses are presented in Appendix D for each of the projection runs.

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 run-off 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 non-point source oxygen demand loading as resuspended benthic load and SOD. The calibrated non-point 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 water body'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 which 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. A new method was found in Standard Methods for testing long term BODs and was implemented in 2000. This new method was necessary because the nitrogen 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.

This proposed method is a sixty day test which 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 implemented the new test method during the 2000 survey season. 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 methods. 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. Again, background values can not be quantified for West Anacoco Creek.

Bayou Anacoco could not meet the 5 mg/L dissolved oxygen standard even at background conditions, therefore no summer or winter critical projections were run for this criteria. 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 proposed summer water quality criterion of 4 mg/L dissolved oxygen. The resuspended total nonpoint CBOD1, CBOD2, and NBOD loading was reduced by 30% for all reaches in the summer critical projection scenario to meet the proposed summer water quality criterion of 3 mg/L 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, and NBOD. 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, NBOD, and SOD. The percentage reduction within the 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 NBOD for each projection run are presented in Appendix F5.

4.2.12 Boundary Conditions, Data Type 27

The lower boundary conditions were set at the 90th percentile critical season temperature, the dissolved oxygen criteria, and the measured stream UCBOD and UNBOD loads for all projections and scenarios.

4.3 Model Discussion and Results

The projection model input and output data sets are presented in Appendix D.

4.3.1 No-Load Projection

Under this Scenario, the SOD, NPS, headwater and wasteload values were reduced to reference stream values except where the calibration value was less than the reference stream value. The No Load summer run revealed that 100% removal of man-made nonpoint sources would result in a minimum DO of 4.39 mg/l. The stream cannot meet the current dissolved oxygen standard of 5.0 mg/L even at background conditions. It is recommended that the current DO criterion be reevaluated. A graph of the dissolved oxygen concentration versus river kilometer for the summer no-load projection is presented in Figure 4.

4.3.2 Summer Projection

Summer critical season projections could not be run for the current standard of 5.0 mg/L May – November. Alternate summer critical season projections were run at different standards.

For the 4.0 mg/L standard, a 70% reduction in man-made loading is required. For the 3.0 mg/L standard a 30% reduction in man-made loading is required.

Figure 4. No Load Scenario with 100% Removal of Man-Made NPS Loads

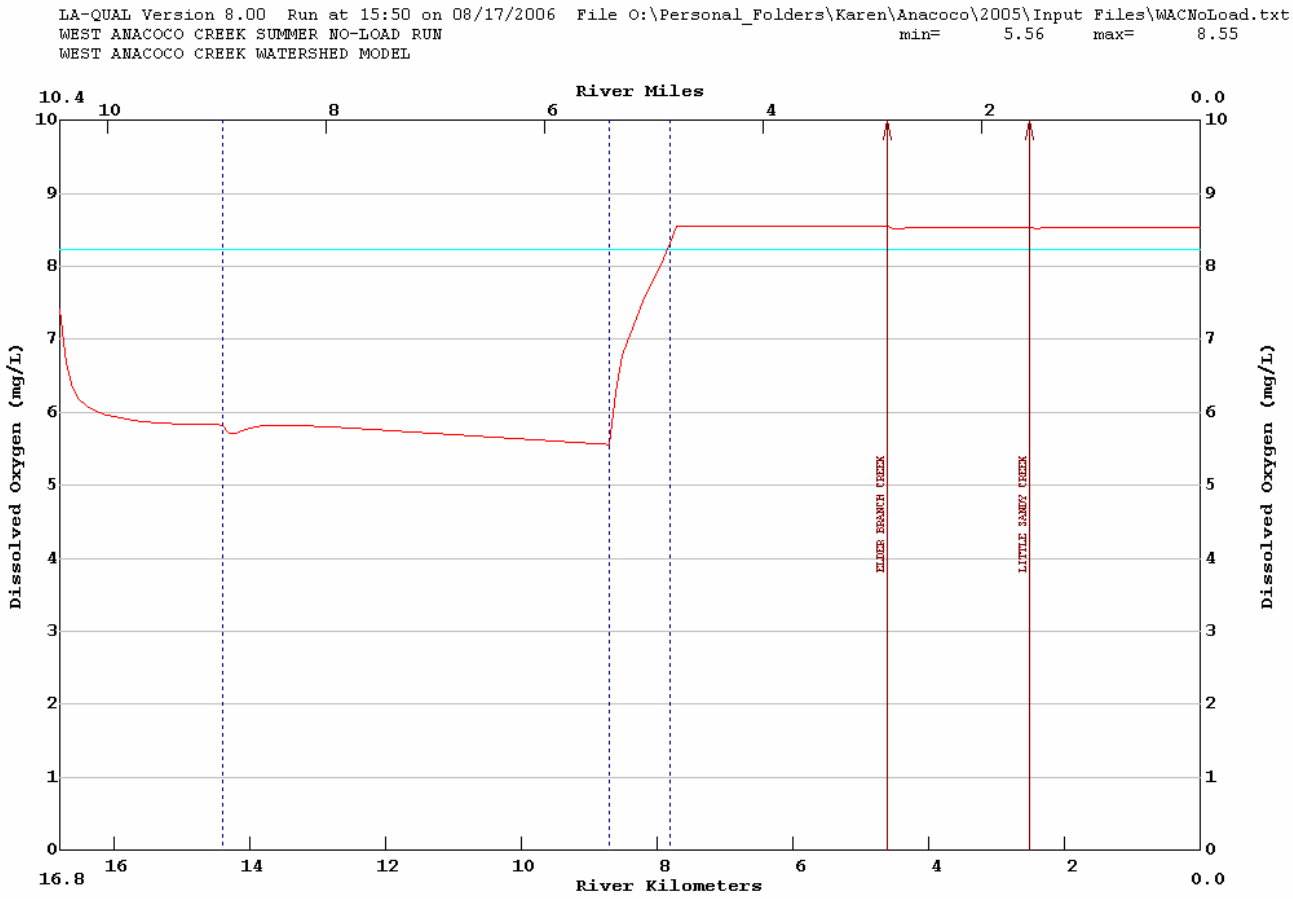


Figure 5. Summer Projection at 70% Removal of Man-Made NPS Loads to meet 4 mg/L DO Criteria

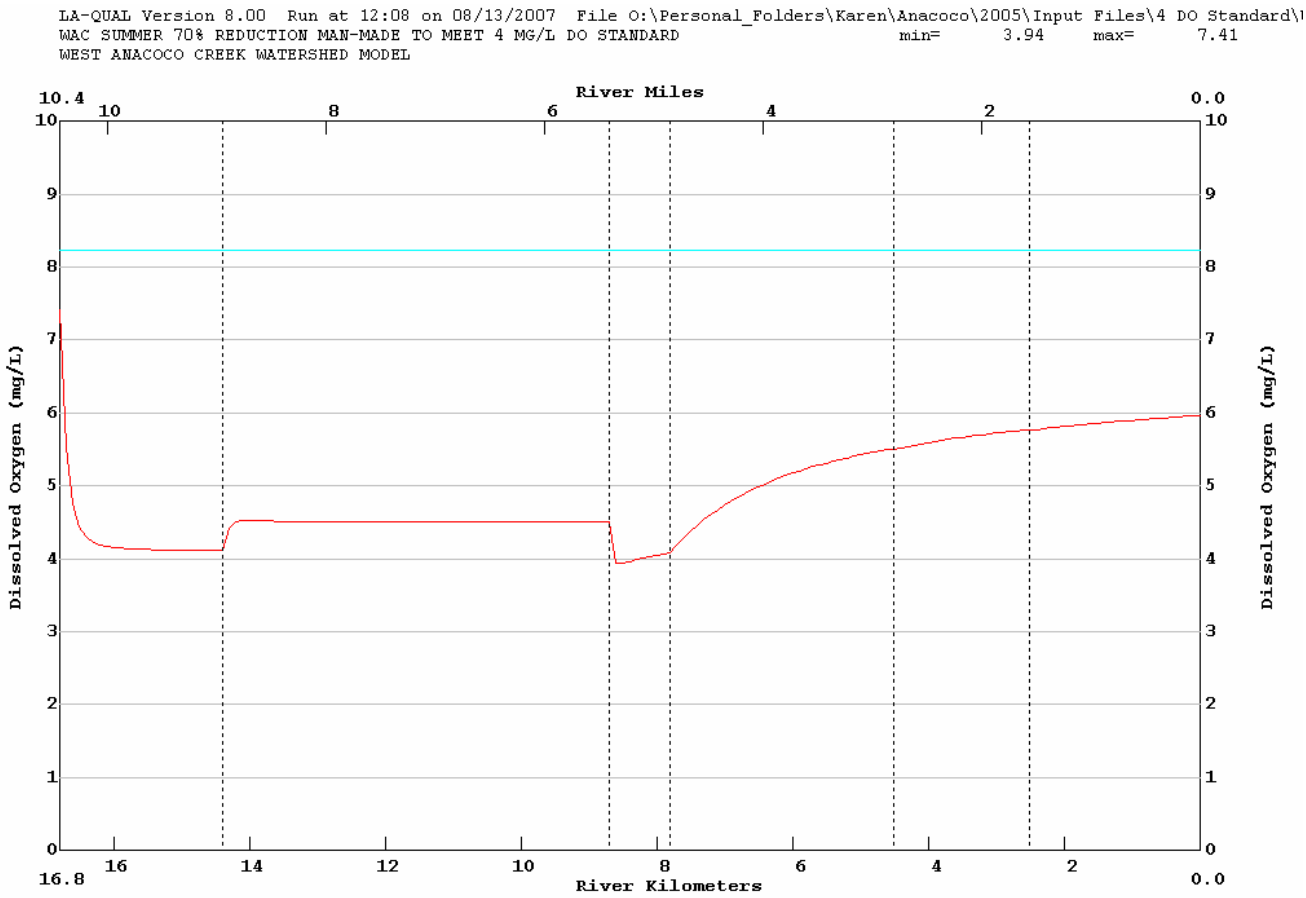
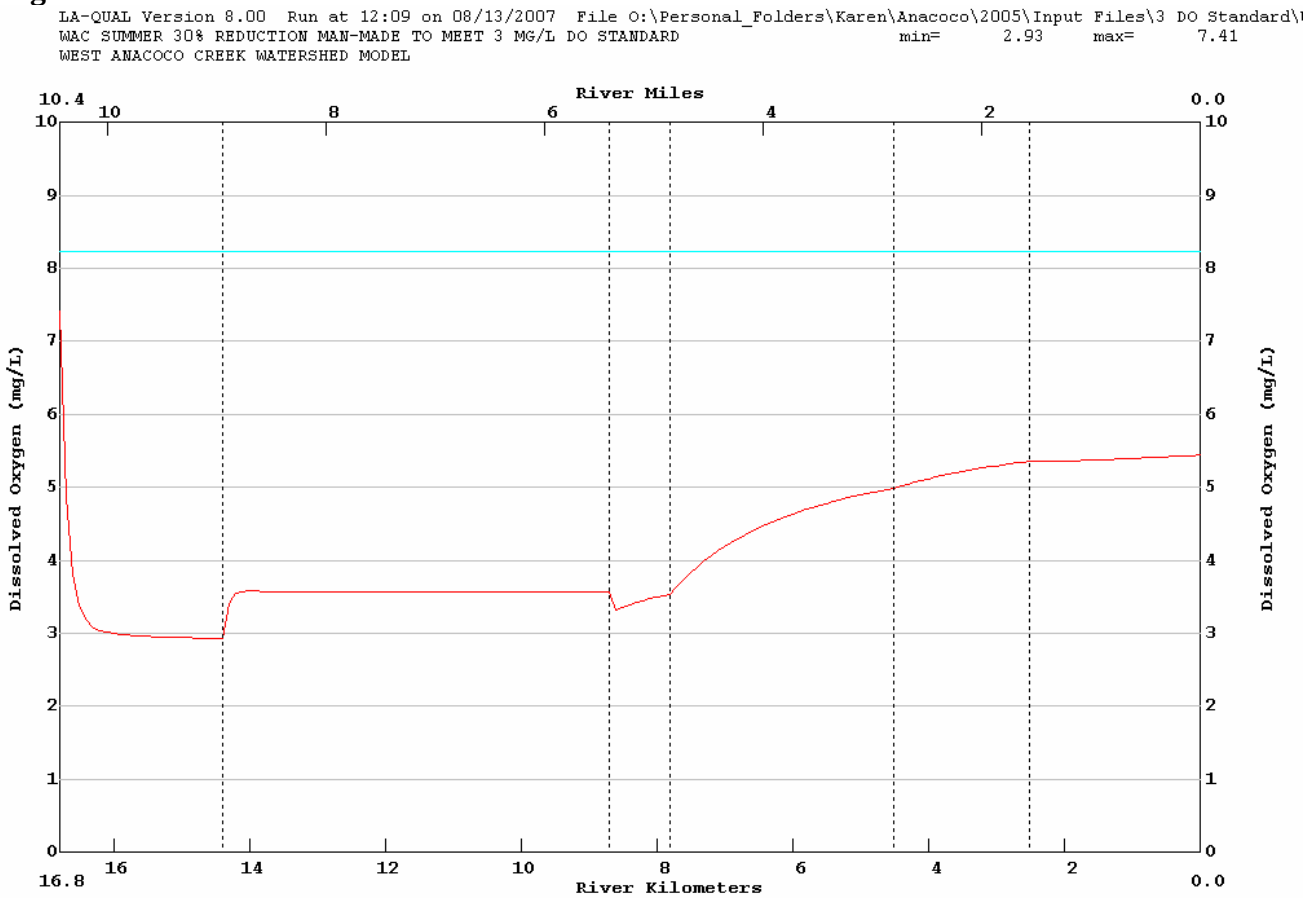


Figure 6. Summer Projection at 30% Removal of Man-Made NPS Loads To meet 3 mg/L DO Criteria



4.3.3 Winter Projection

The results of the model show that the water quality criterion for dissolved oxygen of West Anacoco Creek of 5.0 mg/l cannot be maintained during the summer critical season. Alternate winter runs were made at the same level of reduction as the summer runs. A graph of the dissolved oxygen concentration versus river kilometer for the winter projection at 70% reduction of man-made loading and at 30% reduction man-made loading are presented in Figure 7 and 8 respectively.

Figure 7. Winter Projection at 70% Removal of Man-Made NPS Loads to meet 4 mg/L DO Criteria for Summer Season

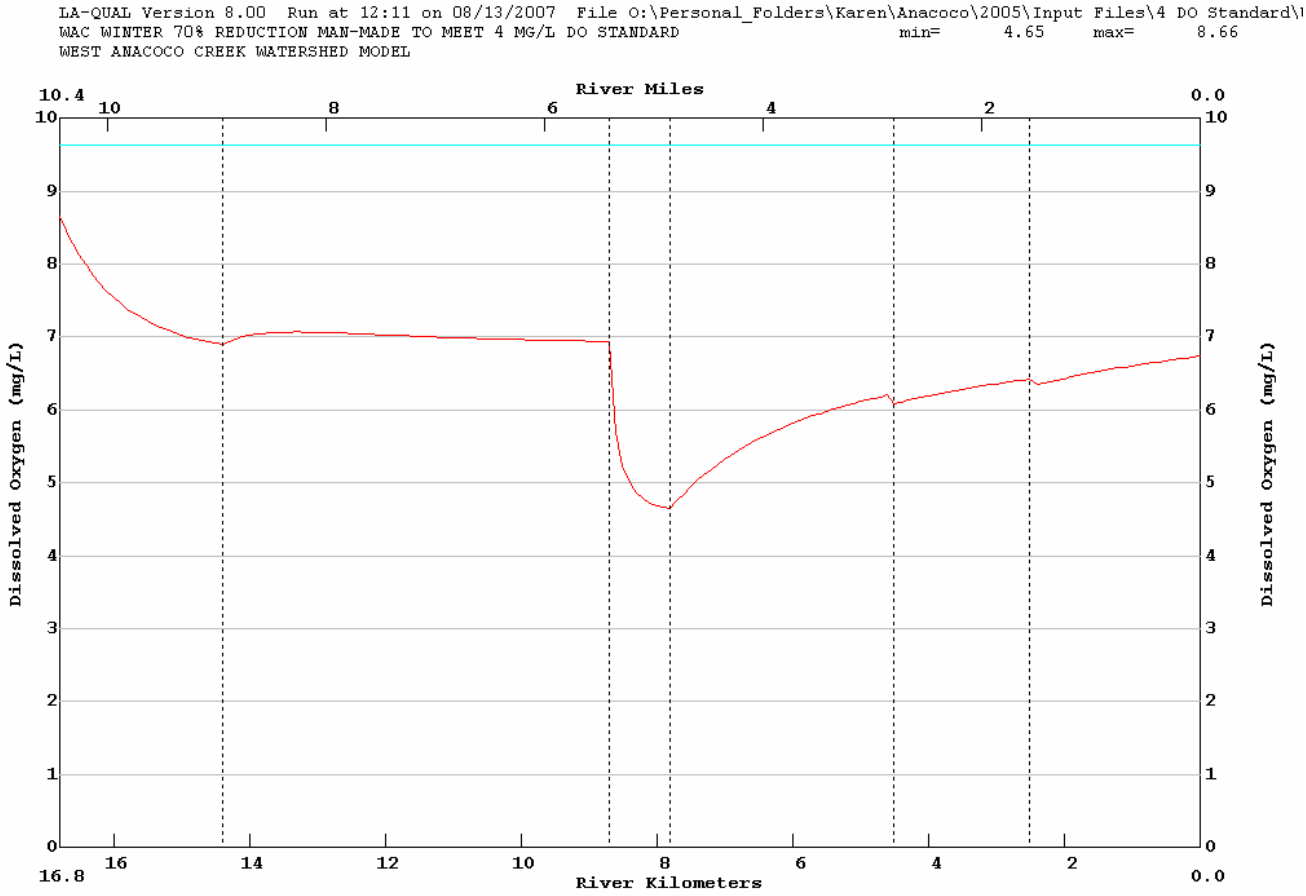
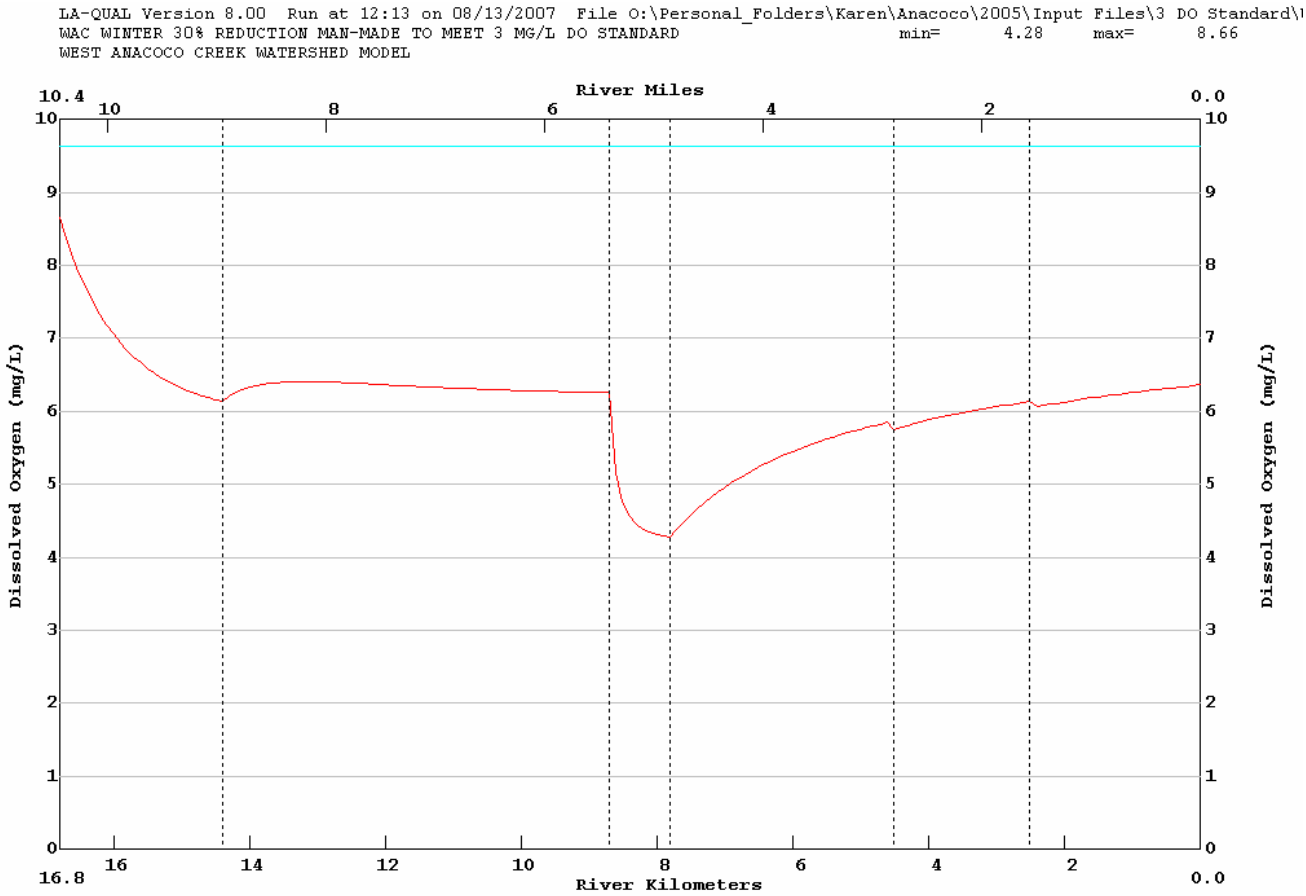


Figure 8. Winter Projection at 30% Removal of Man-Made NPS Loads to meet 3 mg/L DO criteria for Summer Season



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 natural backgrounds benthic loading was estimated from reference stream resuspension (nonpoint CBOD and NBOD), and SOD load data.

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

- Calibration resuspension and SOD loads were summed for each reach as gm O_2/m^2-day to get the calibration benthic loading.
- The natural background benthic loading was subtracted from the calibration benthic loading to obtain the man-made calibration benthic loading.

4.4.1.3 Projection benthic loads are determined by trail 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 gm O_2/m^2-day.

- The natural background benthic load is subtracted from the projection benthic load to obtain the man-made projection benthic load for each reach.

- The percent reduction of man-made loads for each reach is determined from the difference between the projected man-made non-point load and the man-made non-point load found during calibration.

- The projection loads are also computed in units of lb/d and kg/d for each kind.

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

- Headwater and tributary CBOD and NBOD loading in lb/d 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 West Anacoco Creek, Subsegment 110501 TMDL

The TMDL for the biochemical oxygen demanding constituents (CBOD1, CBOD2, NBOD, and SOD), have been calculated for the summer and winter critical seasons. The Summer TMDL for the West Anacoco Creek, Subsegment 110501 watershed was set equal to the total stream loading capacity. They are presented in Appendix A by reach. A summary of the loads is presented in Table 6.

Table 7. Total Maximum Daily Load (Sum of UCBOD[1], UNBOD, and SOD) for a 4.0 mg/L dissolved oxygen standard

ALLOCATION	SUMMER		WINTER	
	% Reduction Required	(MAR-NOV) (lbs/day)	% Reduction Required	(DEC-FEB) (lbs/day)
Point Source WLA	0	0	0	0
Point Source Reserve MOS (20%)		0		0
Natural Nonpoint Source LA	0	778	0	430
Natural Nonpoint Source Reserve MOS (20%)				
Manmade Nonpoint Source LA	70	560	70	329
Manmade Nonpoint Source Reserve MOS (20%)		139		82
TMDL		1,477		841

***Note1: UCBOD as stated in this allocation is Ultimate CBOD.
UCBOD to $CBOD_5$ ratio = 2.3 for all treatment levels
Permit allocations are generally bas ed on $CBOD_5$***

Table 8. Total Maximum Daily Load (Sum of UCBOD[1], UNBOD, and SOD) for a 3.0 mg/L dissolved oxygen standard

ALLOCATION	SUMMER		WINTER	
	% Reduction Required	(MAR-NOV) (lbs/day)	% Reduction Required	(DEC-FEB) (lbs/day)
Point Source WLA	0	0	0	0
Point Source Reserve MOS (20%)		0		0
Natural Nonpoint Source LA	0	778	0	551
Natural Nonpoint Source Reserve MOS (20%)				
Manmade Nonpoint Source LA	30	1,308	30	767
Manmade Nonpoint Source Reserve MOS (20%)		326		187
TMDL		2,412		1,505

***Note1: UCBOD as stated in this allocation is Ultimate CBOD.
UCBOD to $CBOD_5$ ratio = 2.3 for all treatment levels
Permit allocations are generally based on $CBOD_5$***

Table 9. Point Source TMDL Summary 110501

		CURRENT EXPECTED FLOW	CURRENT MONTHLY AVERAGE CONCENTRATION LIMITS		TMDL FLOW	MOS FLOW	TMDL MONTHLY AVERAGE CONCENTRATION LIMITS		TMDL MONTHLY AVERAGE MASS LIMITS	
FACILITY	**FILE No.**	**GPD**	**BOD5/ CBOD5, mg/L**	**NH_3-N, mg/L**	**GPD**	**GPD**	**BOD5/ CBOD5, mg/L**	**NH_3-N, mg/L**	**CBOD5, lbs./day**	**NH_3-N, lbs./day**
Town of Hornbeck	**18805**	**43,000**	**20**		**43,000**	**43,000**	**20**		**0.032**	

5. Sensitivity Analysis

All modeling studies necessarily involve uncertainty and some degree of approximation. It is therefore of value to consider the sensitivity of the model output to changes in model coefficients, and in the hypothesized relationships among the parameters of the model. 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. The sensitivity of the model's minimum DO projections to these parameters is presented in Appendix I2. Parameters were varied by +/- 30%, except temperature, which was adjusted +/- 2 degrees Centigrade.

Values reported in Appendix I2 are percentage variation of minimum DO in the main stem West Anacoco Creek. As shown in Table 8, initial temperature, stream reaeration, and benthal demand are the parameters to which DO is most sensitive. The model is moderately sensitive to stream baseflow, initial chlorophyll a, CBOD aerobic decay rate, and headwater flow. The model is slightly sensitive to insensitive to the remaining parameters.

Table 10. Summary of Calibration Model Sensitivity Analysis

MAINSTEM
WEST ANACOCO CREEK SENSITIVITY RUN

Plot 1 Base Model Minimum DO = 0.17

Parameter	%Param Chg	Min D.O.	%D.O. Chg	%Param Chg	Min D.O.	%D.O. Chg
Stream Baseflow	30.	0.15	-10.7	-30.	0.20	16.9
Initial Chorophyll a	30.	0.19	14.4	-30.	0.14	-14.2
Stream Velocity	30.	0.17	0.6	-30.	0.17	3.4
Initial Temperature	2.	0.00	-100.0	-2.	0.47	179.8
CBOD Aerobic Decay Rate	30.	0.14	-17.3	-30.	0.21	26.4
CBOD2 Aerobic Decay Rate	30.	0.17	-1.4	-30.	0.17	1.4
CBOD Settling Rate	30.	0.18	4.5	-30.	0.16	-4.8
CBOD2 Settling Rate	30.	0.17	0.0	-30.	0.17	0.0
NBOD Decay Rate	30.	0.17	-0.2	-30.	0.17	-0.1
NBOD Settling Rate	30.	0.17	0.1	-30.	0.17	-0.1
Benthal Demand	30.	0.00	-100.0	-30.	0.89	430.3
Stream Dispersion	30.	0.17	0.0	-30.	0.17	0.0
Stream Reaeration	30.	0.83	394.2	-30.	0.00	-100.0
Headwater Flow	30.	0.16	-3.1	-30.	0.21	26.2
Headwater DO	30.	0.17	0.0	-30.	0.17	0.0
Headwater CBOD	30.	0.17	0.0	-30.	0.17	0.0
Headwater CBOD2	30.	0.17	0.0	-30.	0.17	0.0
Headwater NBOD	30.	0.17	0.0	-30.	0.17	0.0
Stream Depth	30.	0.16	-2.0	-30.	0.18	4.5
Wasteload Flow	30.	0.17	0.0	-30.	0.17	0.0
Wasteload Temperature	2.	0.17	0.0	-2.	0.17	0.0
Wasteload DO	30.	0.17	0.0	-30.	0.17	0.0
Wasteload CBOD	30.	0.17	0.0	-30.	0.17	0.0
Wasteload CBOD2	30.	0.17	0.0	-30.	0.17	0.0
Wasteload NBOD	30.	0.17	0.0	-30.	0.17	0.0
Lower Boundary Temperature	2.	0.17	0.0	-2.	0.17	0.0
Lower Boundary DO	30.	0.17	0.0	-30.	0.17	0.0
Lower Boundary CBOD	30.	0.17	0.0	-30.	0.17	0.0
Lower Boundary CBOD2	30.	0.17	0.0	-30.	0.17	0.0
Lower Boundary NBOD	30.	0.17	0.0	-30.	0.17	0.0

6. Conclusions

This TMDL establishes load limitations for oxygen-demanding substances and goals for reduction of those pollutants. LDEQ's position, as supported by the declaratory ruling issued by Secretary Givens in response to the lawsuit regarding water quality criteria for nutrients (Sierra Club v. Givens, 710 So.2d 249 (La. App. 1st Cir. 1997), writ denied, 705 So.2d 1106 (La. 1998), is that when oxygen-demanding substances are controlled and limited in order to ensure that the dissolved oxygen criterion is supported, nutrients are also controlled and limited. The implementation of this TMDL through wastewater discharge permits and implementation of best management practices to control and reduce runoff of soil and oxygen-demanding pollutants from nonpoint sources in the watershed will also control and reduce the nutrient loading from those sources.

A calibrated water quality model for the watershed was developed and projections were modeled to quantify the non-point source load reductions which would be necessary in order for West Anacoco

Creek, subsegment 110501 to comply with its established water quality standards and criteria. This report presents the results of that analysis. For West Anacoco Creek, the stream could not meet a 5.0 mg/L standard for dissolved oxygen even at background conditions. Therefore, it is recommended that a useattainability analysis be conducted for this stream to determine a more appropriate dissolved oxygen standard.

Even though projections were not performed for the current 5.0 mg/L dissolved, they were performed for a 3.0 and 4.0 mg/L dissolved oxygen (DO) standard. A 4.0 mg/L DO standard would require a 70% reduction in man-made loading. A 3.0 mg/L DO standard would require a 30% reduction in man-made loading.

The existing point source, the Town of Hornbeck, has little to no impact on the main stem of West Anacoco Creek and requires no changes to their permitted discharge.

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 Conservation Districts to implement agricultural best management practices in the watershed through the 319 programs. 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 database 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 is continuing to implement a watershed approach to surface water quality monitoring. In 2004 a four year sampling cycle replaces the previous five year cycle. Approximately one quarter of the states watersheds will be sampled each year so that all of the state's watersheds will be sampled within the four year cycle. This will allow 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.

7. References

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8. Appendices

Appendix A – Detailed TMDL Analysis

Appendix A1 – Summer TMDL Summary

Summer TMDL Summary:

WEST ANACOCO CREEK (110501) Loading Calculations for a 4.0 mg/L DO Standard

Calculation of the TMDL - Kilograms per day

Load description	WLA (kg O_2/day)	CBOD1 LA (kg O_2/day)	CBOD2 LA (kg O_2/day)	Organic-N LA (kg/day)	Ammonia-N LA (kg/day)	NBOD LA (kg O_2/day)	SOD LA (kg O_2/day)	LA (kg O_2/day)	MOS Load (kg O_2/day)
Point Source loads	0								0
Headwater / Tributatary loads		1	0	0	0	0		1	0
Benthic loads		89	180	0	0	137	143	549	63
Incremental Loads		24	31	0	0	0		55	0
SUB-TOTAL	**0**	**114**	**211**	**0**	**0**	**137**	**143**	**605**	**63**
TMDL = WLA + LA + MOS								***668 kg/day***	

Notes:
(1) - Load(lbs/day) = Load(kg/day) x 2.205

Calculation of the TMDL - Pounds per day

Load description	WLA (lbs O_2/day)	CBOD1 LA (lbs O_2/day)	CBOD2 LA (lbs O_2/day)	Organic-N LA (lbs/day)	Ammonia-N LA (lbs/day)	NBOD LA (lbs O_2/day)	SOD LA (lbs O_2/day)	LA (lbs O_2/day)	MOS Load (lbs O_2/day)
Point Source loads	0								0
Headwater / Tributatary loads		2	0	0	0	0		2	0
Benthic loads		196	397	0	0	302	315	1,211	139
Incremental Loads		53	68	0	0	0		121	0
SUB-TOTAL	**0**	**251**	**465**	**0**	**0**	**302**	**315**	**1,334**	**139**
TMDL = WLA + LA + MOS								***1,473 lbs/day***	

Notes:
(1) - Load(lbs/day) = Load(kg/day) x 2.205

Calculation of the TMDL - Kilograms per day

Load description	WLA (kg O_2/day)	CBOD1 LA (kg O_2/day)	CBOD2 LA (kg O_2/day)	Organic-N LA (kg/day)	Ammonia-N LA (kg/day)	NBOD LA (kg O_2/day)	SOD LA (kg O_2/day)	LA (kg O_2/day)	MOS Load (kg O_2/day)
Point Source loads	0								0
Natural Nonpoint Loads		68	112	0	0	64	109	353	
Manmade Nonpoint Loads		46	100	0	0	74	34	254	63
SUB-TOTAL	**0**	**114**	**212**	**0**	**0**	**138**	**143**	**607**	**63**
TMDL = WLA + LA + MOS								***670 kg/day***	

Calculation of the TMDL - Pounds per day

Load description	WLA (lbs O_2/day)	CBOD1 LA (lbs O_2/day)	CBOD2 LA (lbs O_2/day)	Organic-N LA (lbs/day)	Ammonia-N LA (lbs/day)	NBOD LA (lbs O_2/day)	SOD LA (lbs O_2/day)	LA (lbs O_2/day)	MOS Load (lbs O_2/day)
Point Source loads	0								0
Natural Nonpoint Loads		150	247	0	0	141	240	778	
Manmade Nonpoint Loads		101	221	0	0	163	75	560	139
SUB-TOTAL	**0**	**251**	**468**	**0**	**0**	**304**	**315**	**1,338**	**139**
TMDL = WLA + LA + MOS								***1,477 lbs/day***	

Summer TMDL Summary:

WEST ANACOCO CREEK (110501) Loading for a 3.0 mg/L DO Standard

Calculation of the TMDL - Kilograms per day

Load description	WLA (kg O_2/day)	CBOD1 LA (kg O_2/day)	CBOD2 LA (kg O_2/day)	Organic-N LA (kg/day)	Ammonia-N LA (kg/day)	NBOD LA (kg O_2/day)	SOD LA (kg O_2/day)	LA (kg O_2/day)	MOS Load (kg O_2/day)
Point Source loads	0								0
Headwater / Tributatary loads		1	1	0	0	0		2	0
Benthic loads		151	313	0	0	236	188	888	148
Incremental Loads		24	31	0	0	0		55	0
SUB-TOTAL	**0**	**176**	**345**	**0**	**0**	**236**	**188**	**945**	**148**
TMDL = WLA + LA + MOS								***1,093 kg/day***	

Notes:
(1) - Load(lbs/day) = Load(kg/day) x 2.205

Calculation of the TMDL - Pounds per day

Load description	WLA (lbs O_2/day)	CBOD1 LA (lbs O_2/day)	CBOD2 LA (lbs O_2/day)	Organic-N LA (lbs/day)	Ammonia-N LA (lbs/day)	NBOD LA (lbs O_2/day)	SOD LA (lbs O_2/day)	LA (lbs O_2/day)	MOS Load (lbs O_2/day)
Point Source loads	0								0
Headwater / Tributatary loads		2	2	0	0	0		4	0
Benthic loads		333	690	0	0	520	415	1,958	326
Incremental Loads		53	68	0	0	0		121	0
SUB-TOTAL	**0**	**388**	**760**	**0**	**0**	**520**	**415**	**2,083**	**326**
TMDL = WLA + LA + MOS								***2,409 lbs/day***	

Notes:
(1) - Load(lbs/day) = Load(kg/day) x 2.205

Calculation of the TMDL - Kilograms per day

Load description	WLA (kg O_2/day)	CBOD1 LA (kg O_2/day)	CBOD2 LA (kg O_2/day)	Organic-N LA (kg/day)	Ammonia-N LA (kg/day)	NBOD LA (kg O_2/day)	SOD LA (kg O_2/day)	LA (kg O_2/day)	MOS Load (kg O_2/day)
Point Source loads	0								0
Natural Nonpoint Loads		68	112	0	0	64	109	353	
Manmade Nonpoint Loads		108	233	0	0	173	79	593	148
SUB-TOTAL	**0**	**176**	**345**	**0**	**0**	**237**	**188**	**946**	**148**
TMDL = WLA + LA + MOS								***1,094 kg/day***	

Calculation of the TMDL - Pounds per day

Load description	WLA (lbs O_2/day)	CBOD1 LA (lbs O_2/day)	CBOD2 LA (lbs O_2/day)	Organic-N LA (lbs/day)	Ammonia-N LA (lbs/day)	NBOD LA (lbs O_2/day)	SOD LA (lbs O_2/day)	LA (lbs O_2/day)	MOS Load (lbs O_2/day)
Point Source loads	0								0
Natural Nonpoint Loads		150	247	0	0	141	240	778	
Manmade Nonpoint Loads		238	514	0	0	381	174	1,308	326
SUB-TOTAL	**0**	**388**	**761**	**0**	**0**	**522**	**414**	**2,086**	**326**
TMDL = WLA + LA + MOS								***2,412 lbs/day***	

Appendix A2 – Winter TMDL Summary

Winter TMDL Summary:

WEST ANACOCO CREEK (110501) Loading Calculations for a 4.0 mg/L DO Standard

Calculation of the TMDL - Kilograms per day

Load description	WLA (kg O_2/day)	CBOD1 LA (kg O_2/day)	CBOD2 LA (kg O_2/day)	Organic-N LA (kg/day)	Ammonia-N LA (kg/day)	NBOD LA (kg O_2/day)	SOD LA (kg O_2/day)	LA (kg O_2/day)	MOS Load (kg O_2/day)
Point Source loads	0								0
Headwater / Tributatary loads		7	3	0	0	2		12	0
Benthic loads		74	110	0	0	54	95	333	37
Incremental Loads		0	0	0	0	0		0	0
SUB-TOTAL	**0**	**81**	**113**	**0**	**0**	**56**	**95**	**345**	**37**
TMDL = WLA + LA + MOS								***382 kg/day***	

Notes:
(1) - Load(lbs/day) = Load(kg/day) x 2.205

Calculation of the TMDL - Pounds per day

Load description	WLA (lbs O_2/day)	CBOD1 LA (lbs O_2/day)	CBOD2 LA (lbs O_2/day)	Organic-N LA (lbs/day)	Ammonia-N LA (lbs/day)	NBOD LA (lbs O_2/day)	SOD LA (lbs O_2/day)	LA (lbs O_2/day)	MOS Load (lbs O_2/day)
Point Source loads	0								0
Headwater / Tributatary loads		15	7	0	0	4		26	0
Benthic loads		163	243	0	0	119	209	734	82
Incremental Loads		0	0	0	0	0		0	0
SUB-TOTAL	**0**	**178**	**250**	**0**	**0**	**123**	**209**	**760**	**82**
TMDL = WLA + LA + MOS								***842 lbs/day***	

Notes:
(1) - Load(lbs/day) = Load(kg/day) x 2.205

Calculation of the TMDL - Kilograms per day

Load description	WLA (kg O_2/day)	CBOD1 LA (kg O_2/day)	CBOD2 LA (kg O_2/day)	Organic-N LA (kg/day)	Ammonia-N LA (kg/day)	NBOD LA (kg O_2/day)	SOD LA (kg O_2/day)	LA (kg O_2/day)	MOS Load (kg O_2/day)
Point Source loads	0								0
Natural Nonpoint Loads		45	51	0	0	29	70	195	
Manmade Nonpoint Loads		36	61	0	0	27	25	149	37
SUB-TOTAL	**0**	**81**	**112**	**0**	**0**	**56**	**95**	**344**	**37**
TMDL = WLA + LA + MOS								***381 kg/day***	

Calculation of the TMDL - Pounds per day

Load description	WLA (lbs O_2/day)	CBOD1 LA (lbs O_2/day)	CBOD2 LA (lbs O_2/day)	Organic-N LA (lbs/day)	Ammonia-N LA (lbs/day)	NBOD LA (lbs O_2/day)	SOD LA (lbs O_2/day)	LA (lbs O_2/day)	MOS Load (lbs O_2/day)
Point Source loads	0								0
Natural Nonpoint Loads		99	112	0	0	64	154	430	
Manmade Nonpoint Loads		79	135	0	0	60	55	329	82
SUB-TOTAL	**0**	**178**	**247**	**0**	**0**	**124**	**209**	**759**	**82**
TMDL = WLA + LA + MOS								***841 lbs/day***	

Winter TMDL Summary:

WEST ANACOCO CREEK (110501) Loading for a 3.0 mg/L DO Standard

Calculation of the TMDL - Kilograms per day

Load description	WLA (kg O_2/day)	CBOD1 LA (kg O_2/day)	CBOD2 LA (kg O_2/day)	Organic-N LA (kg/day)	Ammonia-N LA (kg/day)	NBOD LA (kg O_2/day)	SOD LA (kg O_2/day)	LA (kg O_2/day)	MOS Load (kg O_2/day)
Point Source loads	0								0
Headwater / Tributatary loads		7	7	0	0	2		16	0
Benthic loads		121	188	0	0	90	128	527	85
Incremental Loads		24	31	0	0	0		55	0
SUB-TOTAL	**0**	**152**	**226**	**0**	**0**	**92**	**128**	**598**	**85**
TMDL = WLA + LA + MOS								***683 kg/day***	

Notes:
(1) - Load(lbs/day) = Load(kg/day) x 2.205

Calculation of the TMDL - Pounds per day

Load description	WLA (lbs O_2/day)	CBOD1 LA (lbs O_2/day)	CBOD2 LA (lbs O_2/day)	Organic-N LA (lbs/day)	Ammonia-N LA (lbs/day)	NBOD LA (lbs O_2/day)	SOD LA (lbs O_2/day)	LA (lbs O_2/day)	MOS Load (lbs O_2/day)
Point Source loads	0								0
Headwater / Tributatary loads		15	15	0	0	4		35	0
Benthic loads		267	415	0	0	198	282	1,162	187
Incremental Loads		53	68	0	0	0		121	0
SUB-TOTAL	**0**	**335**	**498**	**0**	**0**	**202**	**282**	**1,318**	**187**
TMDL = WLA + LA + MOS								***1,505 lbs/day***	

Notes:
(1) - Load(lbs/day) = Load(kg/day) x 2.205

Calculation of the TMDL - Kilograms per day

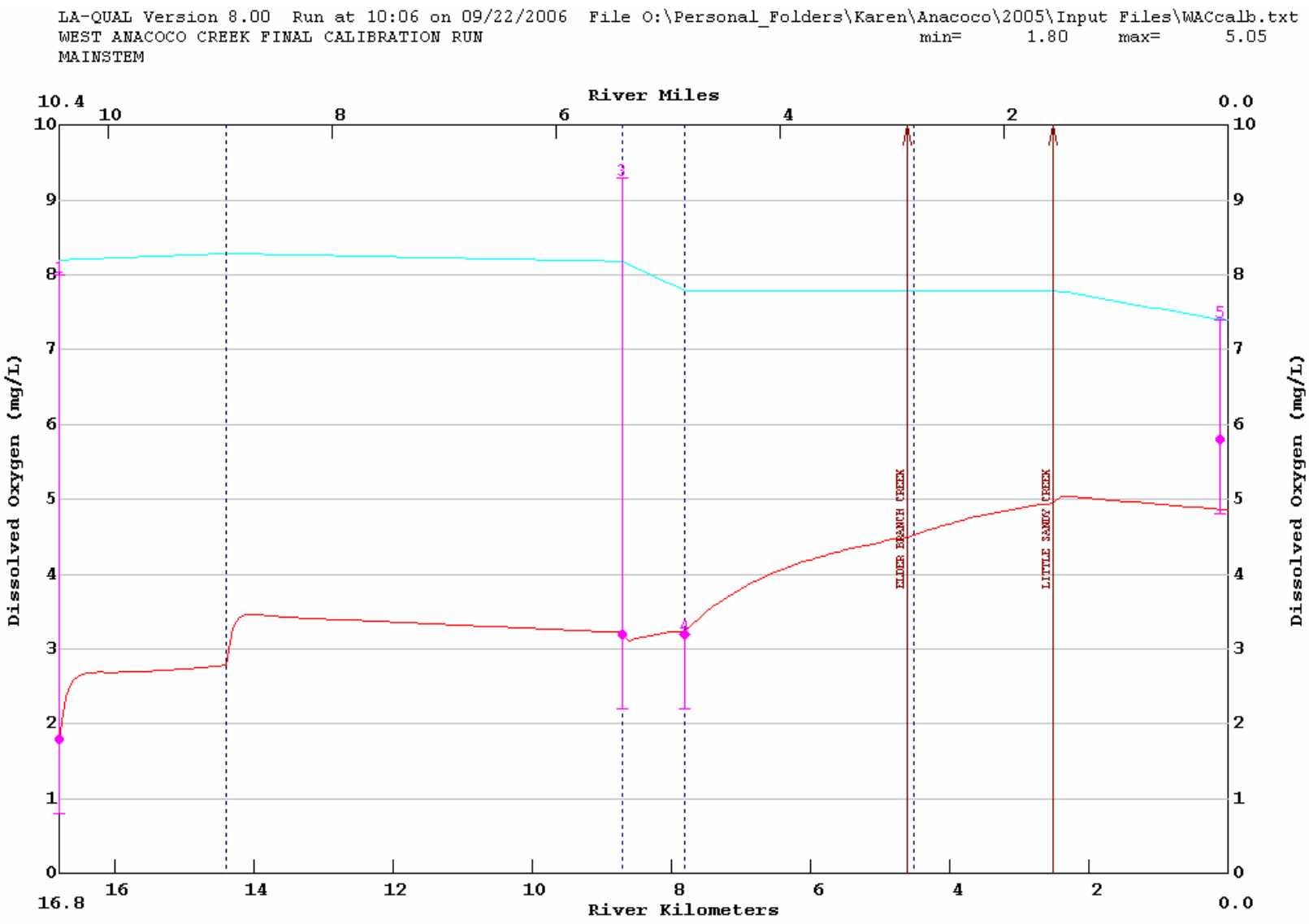
Load description	WLA (kg O_2/day)	CBOD1 LA (kg O_2/day)	CBOD2 LA (kg O_2/day)	Organic-N LA (kg/day)	Ammonia-N LA (kg/day)	NBOD LA (kg O_2/day)	SOD LA (kg O_2/day)	LA (kg O_2/day)	MOS Load (kg O_2/day)
Point Source loads	0								0
Natural Nonpoint Loads		69	82	0	0	29	70	250	
Manmade Nonpoint Loads		84	143	0	0	63	58	348	85
SUB-TOTAL	**0**	**153**	**225**	**0**	**0**	**92**	**128**	**598**	**85**
TMDL = WLA + LA + MOS								***683 kg/day***	

Calculation of the TMDL - Pounds per day

Load description	WLA (lbs O_2/day)	CBOD1 LA (lbs O_2/day)	CBOD2 LA (lbs O_2/day)	Organic-N LA (lbs/day)	Ammonia-N LA (lbs/day)	NBOD LA (lbs O_2/day)	SOD LA (lbs O_2/day)	LA (lbs O_2/day)	MOS Load (lbs O_2/day)
Point Source loads	0								0
Natural Nonpoint Loads		152	181	0	0	64	154	551	
Manmade Nonpoint Loads		185	315	0	0	139	128	767	187
SUB-TOTAL	**0**	**337**	**496**	**0**	**0**	**203**	**282**	**1,318**	**187**
TMDL = WLA + LA + MOS								***1,505 lbs/day***	

Appendix B – Calibration Model Input and Output Data Sets

Appendix B1 – Calibration Output Graphs and Input, Overlay, and Output Files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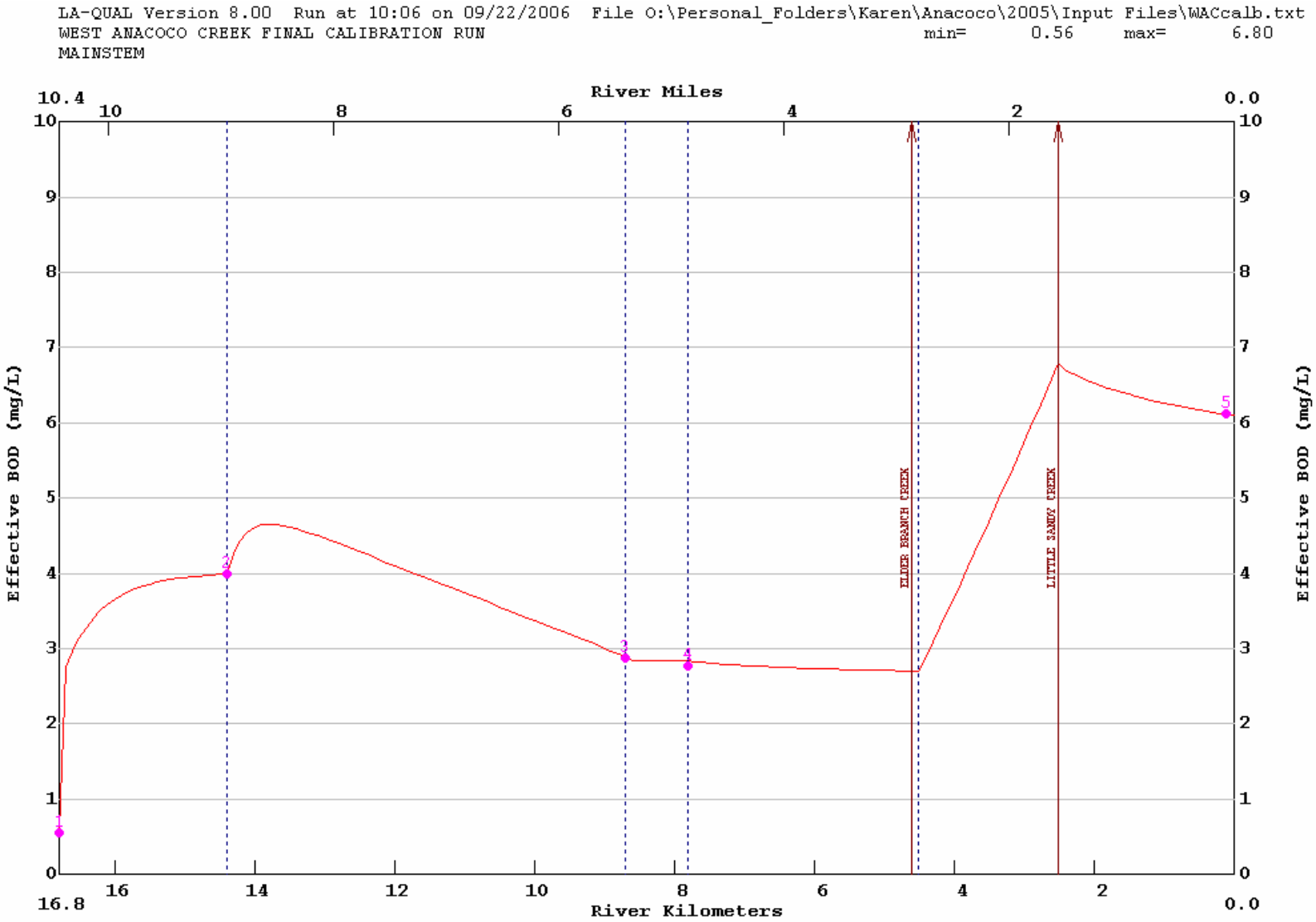
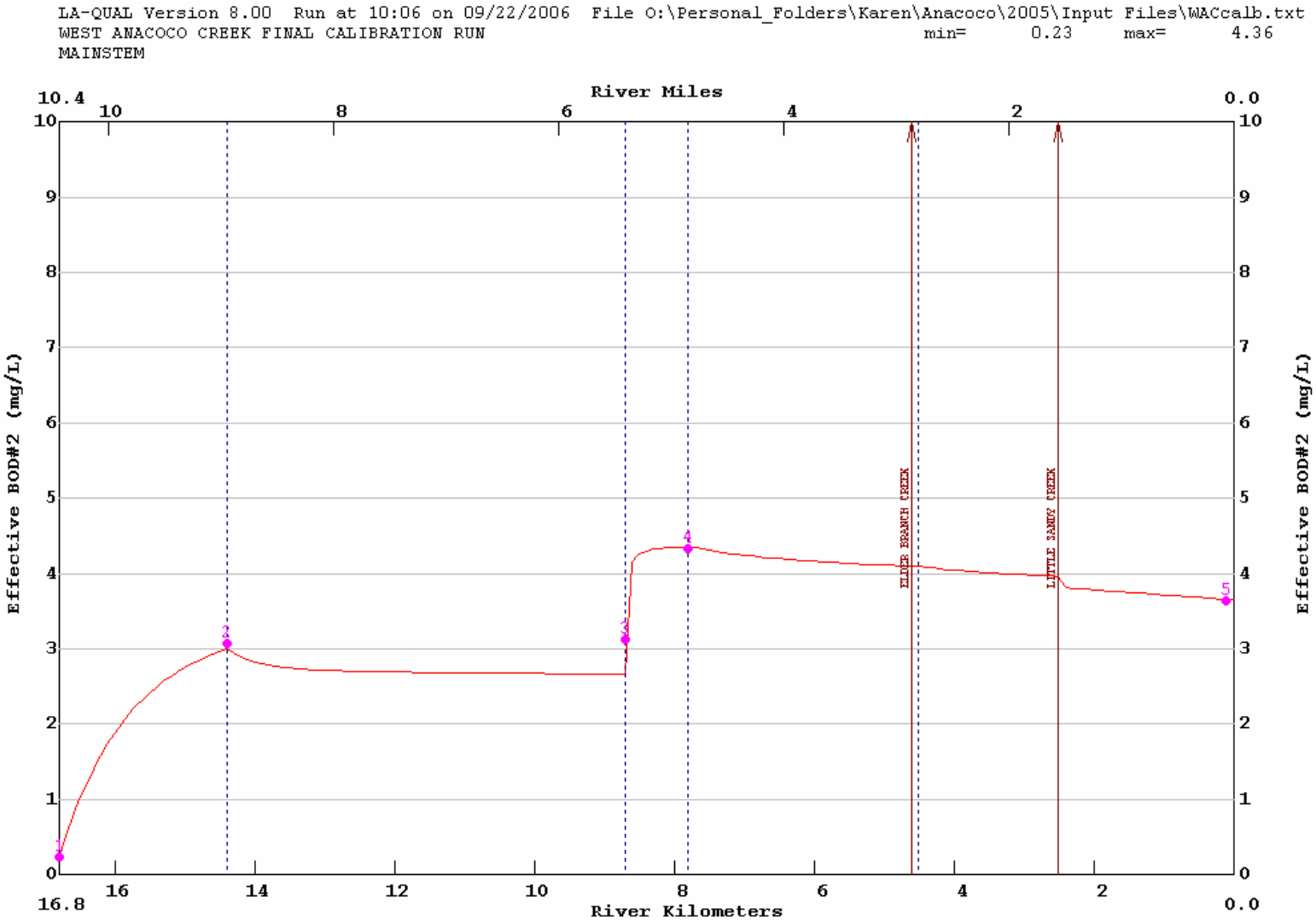
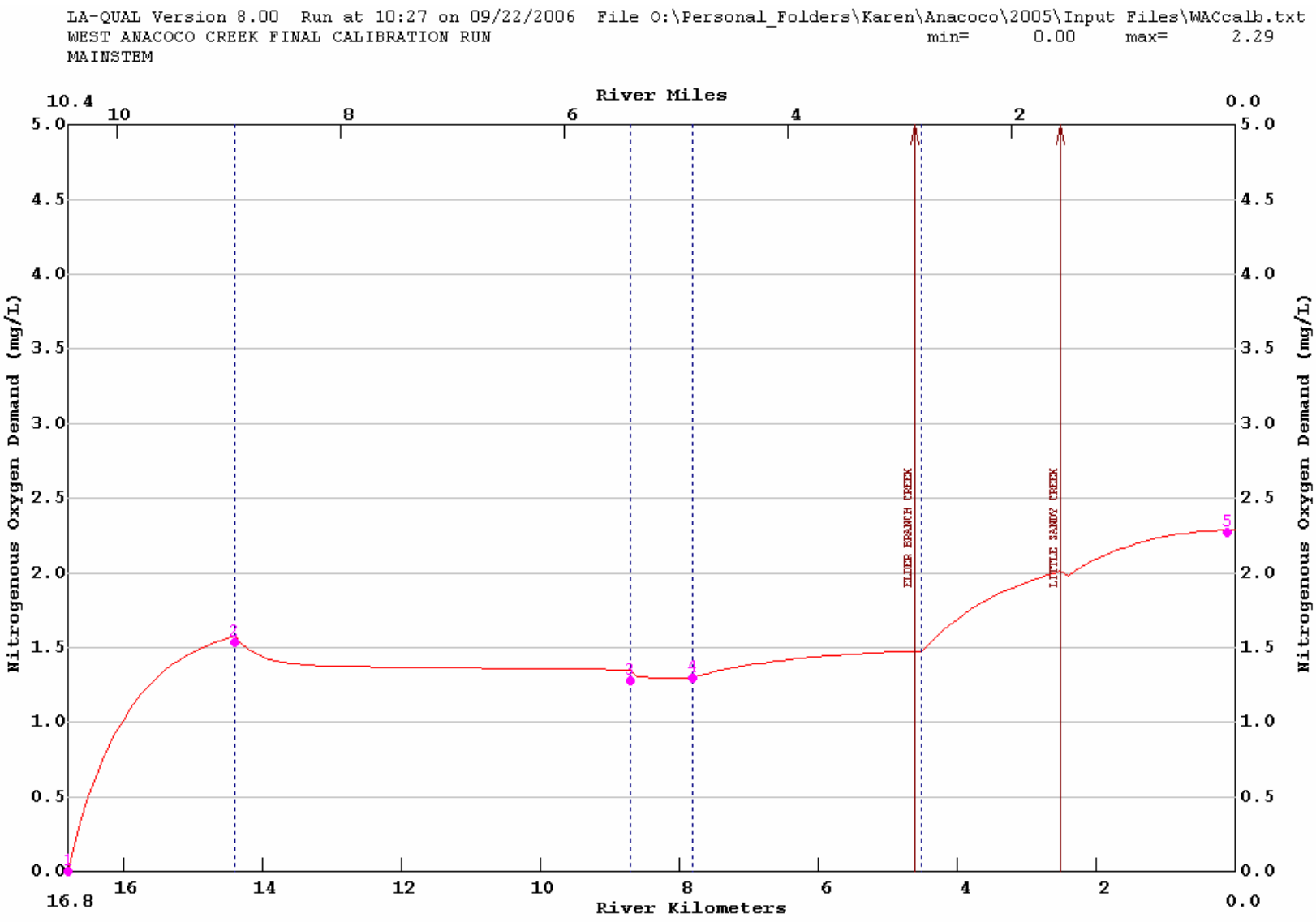
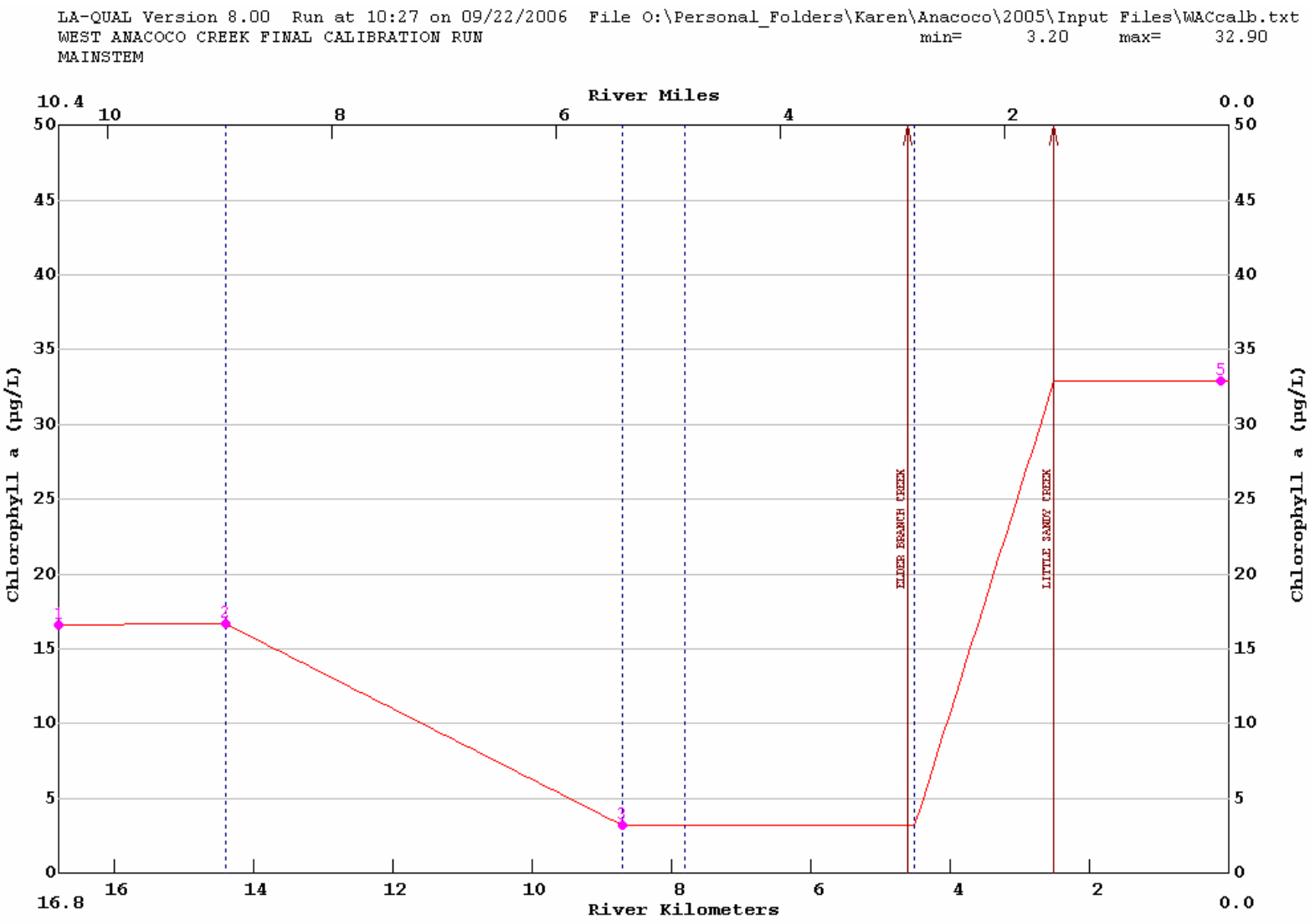
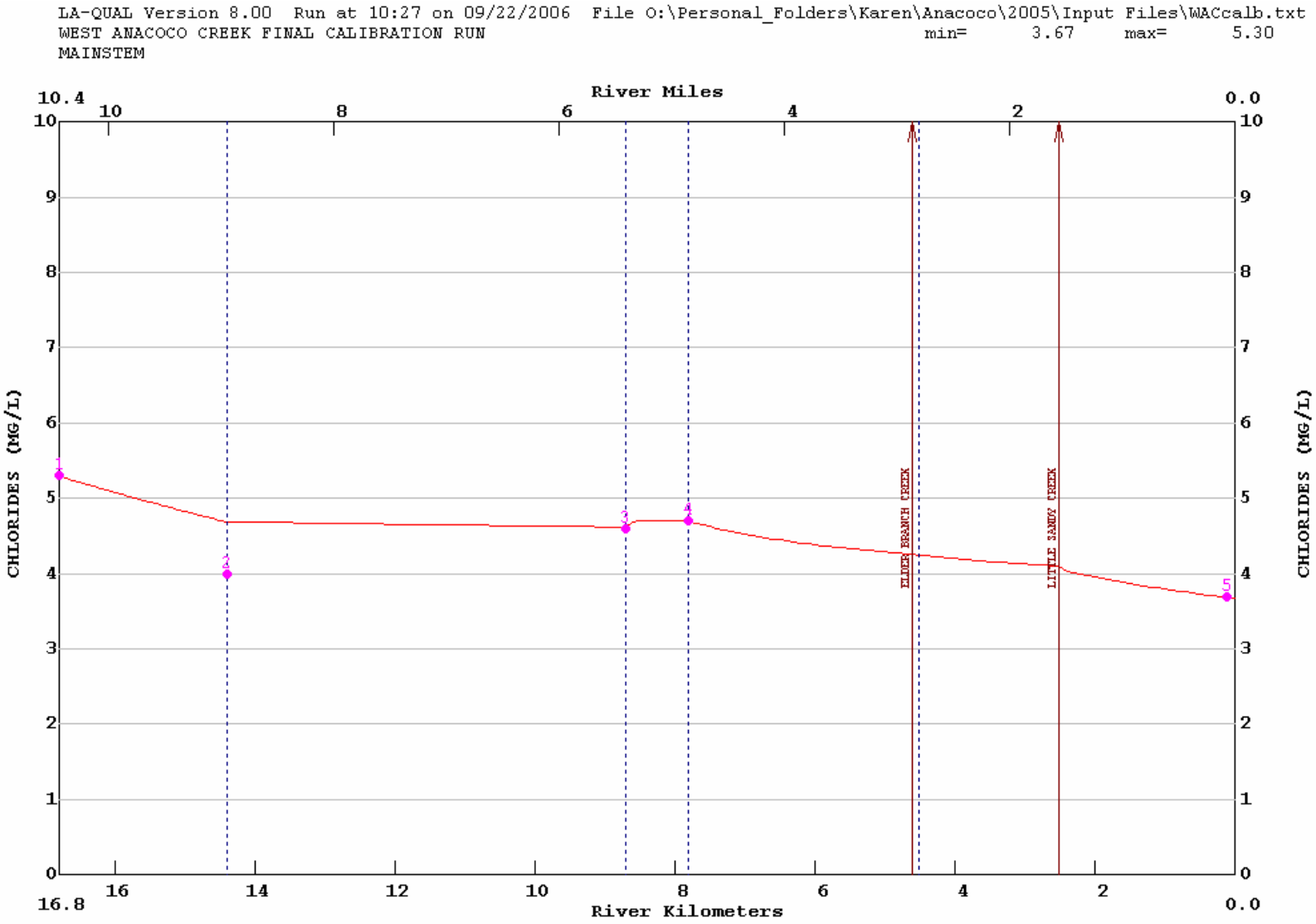
WEST ANACOCO CREEK FINAL CALIBRATION RUN
min= 1.80 max= 5.05
MAINSTEM
River Miles
10.4
10
8
6
4
2
0.0
Dissolved Oxygen (mg/L)
ELDER BRANCH CREEK
LITTLE SANDY CREEK
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers

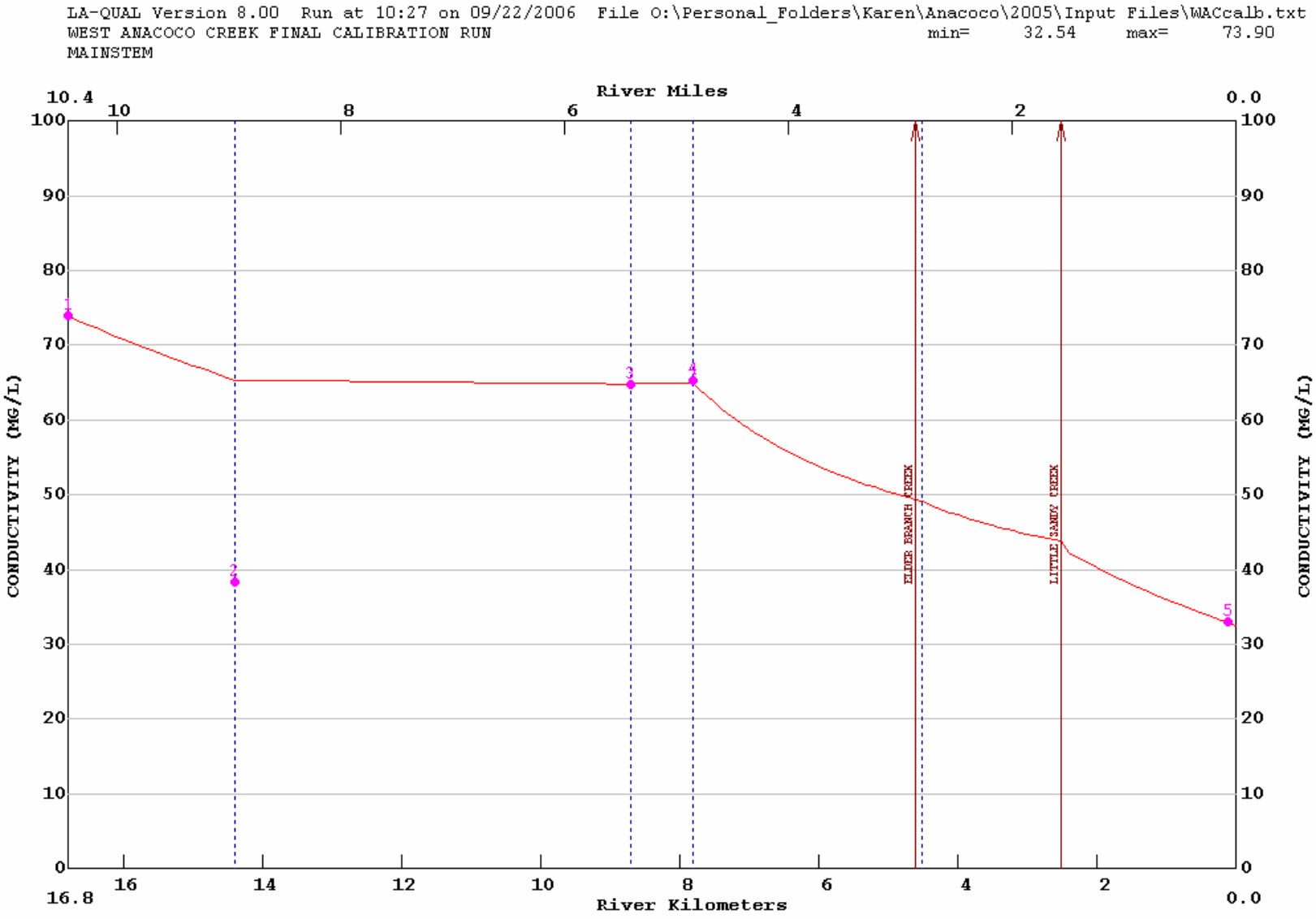

LA-QUAL Version 8.00 Run at 10:06 on 09/22/2006 File O:\Personal_Folders\Karen\Anacoco\2005\Input Files\WACcalb.txt
WEST ANACOCO CREEK FINAL CALIBRATION RUN
min= 0.56 max= 6.80
MAINSTEM
River Miles
10.4
0.0
10
8
6
4
2
Effective BOD (mg/L)
ELDER BRANCH CREEK
LITTLE SANDY CREEK
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers

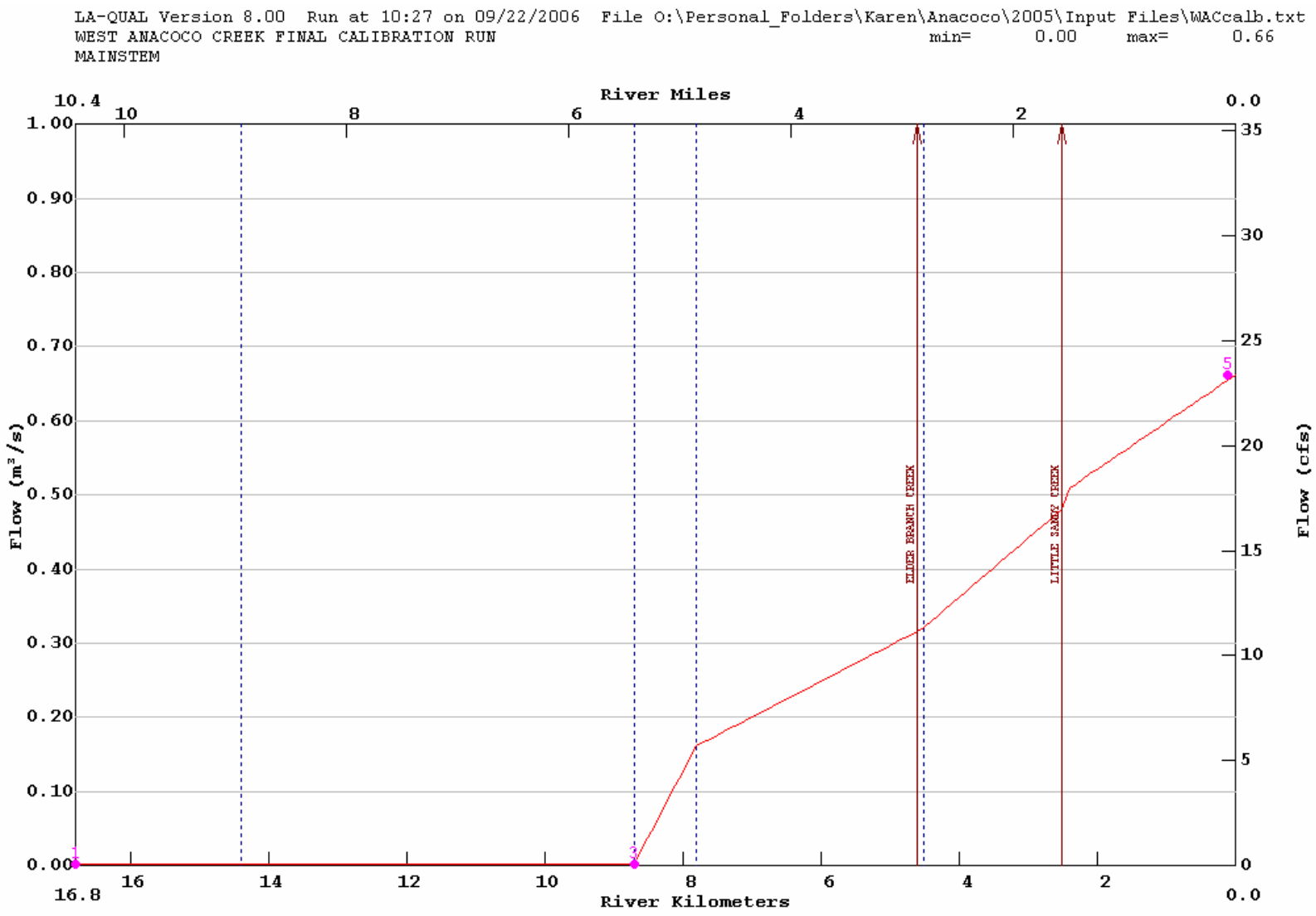

LA-QUAL Version 8.00 Run at 10:06 on 09/22/2006 File O:\Personal_Folders\Karen\Anacoco\2005\Input Files\WACcalb.txt
WEST ANACOCO CREEK FINAL CALIBRATION RUN
min= 0.23 max= 4.36
MAINSTEM
River Miles
10.4
10
8
6
4
2
0.0
Effective BOD#2 (mg/L)
ELDER BRANCH CREEK
LITTLE SANDY CREEK
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers

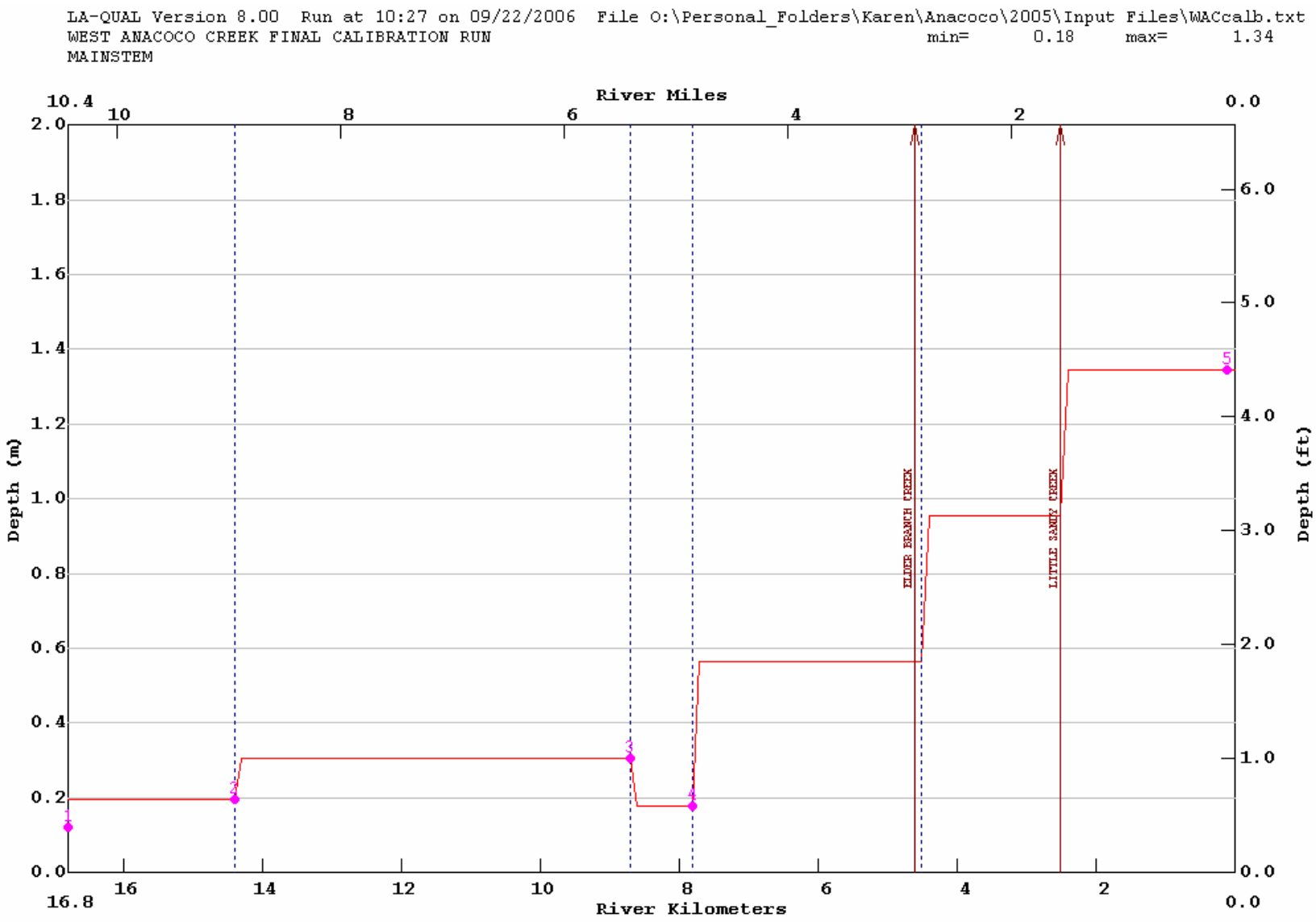

LA-QUAL Version 8.00 Run at 10:27 on 09/22/2006 File O:\Personal_Folders\Karen\Anacoco\2005\Input Files\WACcalb.txt
WEST ANACOCO CREEK FINAL CALIBRATION RUN
min= 0.00 max= 2.29
MAINSTEM
River Miles
10.4
10
8
6
4
2
0.0
Nitrogenous Oxygen Demand (mg/L)
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
ELDER BRANCH CREEK
LITTLE SANDY CREEK
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers

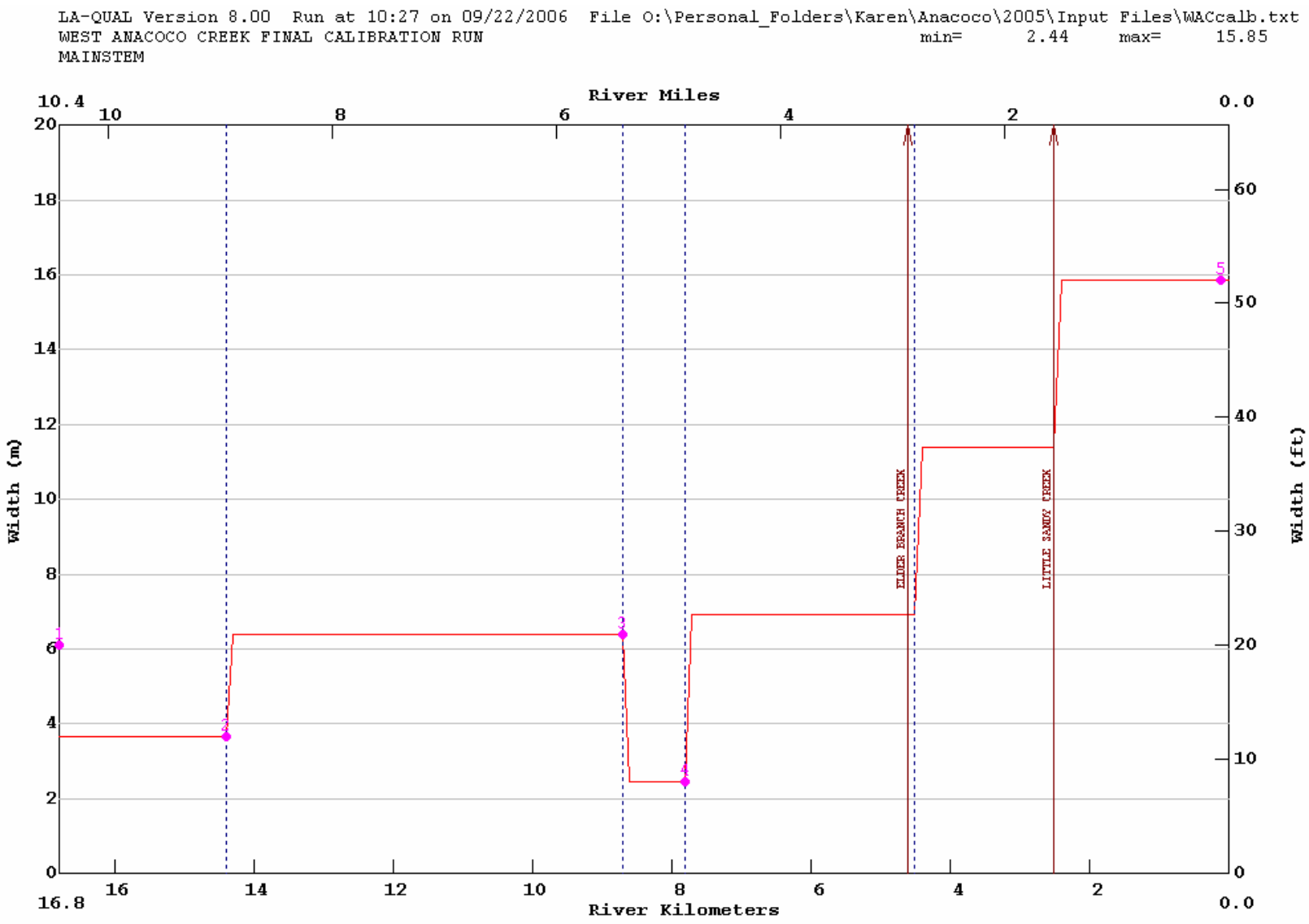

LA-QUAL Version 8.00 Run at 10:27 on 09/22/2006 File O:\Personal_Folders\Karen\Anacoco\2005\Input Files\WACcalb.txt
WEST ANACOCO CREEK FINAL CALIBRATION RUN min= 3.20 max= 32.90
MAINSTEM
River Miles
10.4
10
8
6
4
2
0.0
Chlorophyll a (µg/L)
50
45
40
35
30
25
20
15
10
5
0
ELDER BRANCH CREEK
LITTLE SANDY CREEK
1
2
3
5
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers


LA-QUAL Version 8.00 Run at 10:27 on 09/22/2006 File O:\Personal_Folders\Karen\Anacoco\2005\Input Files\WACcalb.txt
WEST ANACOCO CREEK FINAL CALIBRATION RUN min= 3.67 max= 5.30
MAINSTEM
River Miles
10.4
0.0
CHLORIDES (MG/L)
ELDER BRANCH CREEK
LITTLE SANDY CREEK
16.8
River Kilometers


LA-QUAL Version 8.00 Run at 10:27 on 09/22/2006 File O:\Personal_Folders\Karen\Anacoco\2005\Input Files\WACcalb.txt
WEST ANACOCO CREEK FINAL CALIBRATION RUN
min= 32.54 max= 73.90
MAINSTEM
River Miles
10.4
10
8
6
4
2
0.0
CONDUCTIVITY (MG/L)
100
90
80
70
60
50
40
30
20
10
0
ELDER BRANCH CREEK
LITTLE SANDY CREEK
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers


LA-QUAL Version 8.00 Run at 10:27 on 09/22/2006 File O:\Personal_Folders\Karen\Anacoco\2005\Input Files\WACcalb.txt
WEST ANACOCO CREEK FINAL CALIBRATION RUN min= 0.00 max= 0.66
MAINSTEM
River Miles
10.4
10
8
6
4
2
0.0
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Flow (m³/s)
35
30
25
20
15
10
5
0
Flow (cfs)
ELDER BRANCH CREEK
LITTLE SANDY CREEK
1
3
5
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers


LA-QUAL Version 8.00 Run at 10:27 on 09/22/2006 File O:\Personal_Folders\Karen\Anacoco\2005\Input Files\WACcalb.txt
WEST ANACOCO CREEK FINAL CALIBRATION RUN
min= 0.18 max= 1.34
MAINSTEM
River Miles
10.4
10
8
6
4
2
0.0
Depth (m)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Depth (ft)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
ELDER BRANCH CREEK
LITTLE SANDY CREEK
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers


LA-QUAL Version 8.00 Run at 10:27 on 09/22/2006 File O:\Personal_Folders\Karen\Anacoco\2005\Input Files\WACcalb.txt
WEST ANACOCO CREEK FINAL CALIBRATION RUN
min= 2.44 max= 15.85
MAINSTEM
River Miles
10.4
10
8
6
4
2
0.0
Width (m)
Width (ft)
ELDER BRANCH CREEK
LITTLE SANDY CREEK
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers

WEST ANACOCO CREEK Calibration Input File

```
CNTROL01     WEST ANACOCO CREEK WATERSHED MODEL
CNTROL02     WEST ANACOCO CREEK FINAL CALIBRATION RUN
CNTROL04 YES METRIC UNITS
ENDATA01
MODOPT01  NO TEMPERATURE
MODOPT02  NO SALINITY
MODOPT03 YES CONSERVATIVE MATERIAL  I = CHLORIDES                  IN MG/L
MODOPT04 YES CONSERVATIVE MATERIAL II = CONDUCTIVITY               IN MG/L
MODOPT05 YES DISSOLVED OXYGEN
MODOPT06 YES BOD1 BIOCHEMICAL OXYGEN DEMAND
MODOPT06 YES BOD2 BIOCHEMICAL OXYGEN DEMAND
MODOPT08 YES NBOD OXYGEN DEMAND
MODOPT10  NO PHOSPHORUS
MODOPT11  NO CHLOROPHYLL A
MODOPT12  NO MACROPHYTES
MODOPT13  NO COLIFORM
ENDATA02
PROGRAM  KL MINIMUM                        =     0.7
PROGRAM  INHIBITION CONTROL VALUE          =     3.
PROGRAM  K2 MAXIMUM                        =     25.0
PROGRAM  HYDRAULIC CALCULATION METHOD      =     2.
PROGRAM  SETTLING RATE UNITS               =     2.
PROGRAM  ALGAE OXYGEN PROD                 =     0.
PROGRAM  EFFECTIVE BOD DUE TO ALGAE        =     0.15
ENDATA03
!Temperature Correction Constants
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ******** ********
ENDATA04
ENDATA05
ENDATA06
ENDATA07
!Reach Identification Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -- ******************************----------*********----------
!          R#  ID   SITE NAME                          RKM        RKM    LENGTH
REACH ID    1  WA WAC1 TO WAC2                         16.8       14.4     0.1
```

```
REACH ID    2  WA WAC2 TO WAC3                          14.4        8.7     0.1
REACH ID    3  WA WAC3 TO WAC4                           8.7        7.8     0.1
REACH ID    4  WA WAC4 TO Elder Branch Creek             7.8        4.5     0.1
REACH ID    5  WA Elder Branch TO Little Sandy           4.5        2.5     0.1
REACH ID    6  WA Little Sandy TO WAC5                   2.5        0.0     0.1
ENDATA08
!Advective Hydraulic Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  -------*******-------*******-------*******-------*******
!                a      b       c     d      e        f
!               WIDTH  WIDTH   WIDTH DEPTH  DEPTH   DEPTH
!          R#   COEFF   EXP    CONST COEFF   EXP    CONST SLOPE MANNING
HYDR-1      1   0.00   0.20    3.658 0.00   0.30    0.195
HYDR-1      2   0.00   0.20    6.401 0.00   0.30    0.305
HYDR-1      3   0.00   0.20    2.438 0.00   0.30    0.177
HYDR-1      4   0.00   0.20    6.909 0.00   0.30    0.566
HYDR-1      5   0.00   0.20   11.380 0.00   0.30    0.955
HYDR-1      6   0.00   0.20   15.850 0.00   0.30    1.344
ENDATA09
!Dispersive Hydraulic Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  -----**********----------**********----------
!              TIDAL
!          R#  RANGE    a          b         c         d
ENDATA10
!Initial Conditions
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  --------********--------********--------********--------********
!          R#    TEMP  SALINITY   DO     NH3 N  NIT NIT  PHOS   CHL A   MACROPHYTES
INITIAL     1    25.43    0.00   1.80                           16.6
INITIAL     2    24.85    0.00   3.20                           16.7
INITIAL     3    25.54    0.00   3.20                            3.2
INITIAL     4    28.23    0.00   4.50                            3.2
INITIAL     5    28.23    0.00   4.50                            3.2
INITIAL     6    28.23    0.00   4.50                           32.9
ENDATA11
!Reaeration, Sediment Oxygen Demand and BOD Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8---------9
```

```
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -----********** ******-------*******-------*******-------*******-------***
!               REA    KL                     BOD 1  BOD 1                BOD 2    BOD 2
!          R#   EQ    MIN                SOD  DECAY  SETT                 DECAY    SETT
COEF-1      1   11.0                    3.00  0.2757 0.20                 0.0331   0.20
COEF-1      2   11.0                    2.50  0.2253 0.20                 0.0314   0.20
COEF-1      3   11.0                    5.90  0.2705 0.20                 0.0310   0.20
COEF-1      4   11.0                    1.00  0.2244 0.50                 0.0306   0.50
COEF-1      5   11.0                    0.10  0.2244 0.50                 0.0306   0.50
COEF-1      6   11.0                    0.10  0.2244 0.50                 0.0306   0.50
ENDATA12
!Nitrogen and Phosphorus Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -------*******-------*******-------*******-------
!              NBOD     NBOD
!          R#  DECAY    SETT
COEF-2      1  0.0967   0.20
COEF-2      2  0.1436   0.20
COEF-2      3  0.1139   0.20
COEF-2      4  0.2147   0.50
COEF-2      5  0.2147   0.50
COEF-2      6  0.2147   0.50
ENDATA13
ENDATA14
!Coliform and Nonconservative Cofficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -------*******-------*******
ENDATA15
!Incremental Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  ---------*********---------*********---------*********
!          R#   OUTFLOW   INFLOW  TEMP     SALINITY CHLORIDE  COND
INCR-1      1     0.0000  0.0003  19.620      0.00     0
INCR-1      2     0.0000  0.0003  19.620      0.00     4.0      60
INCR-1      3     0.0000  0.1589  19.620      0.00     4.7      65
INCR-1      4     0.0000  0.1589  19.620      0.00     3.8      33
INCR-1      5     0.0000  0.1589  19.620      0.00     3.8      33
INCR-1      6     0.0000  0.1589  19.620      0.00     2.5
```

```
ENDATA16
!Incremental Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  ---------********---------********---------********
!          R#      DO     BOD 1     NBOD    NH3 N   NIT NIT    BOD 2
INCR-2      1     3.86   0.4324    0.0000                     0.5641
INCR-2      2     3.86   0.4324    0.0000                     0.5641
INCR-2      3     3.86   0.4324    0.0000                     0.5641
INCR-2      4     3.86   0.4324    0.0000                     0.5641
INCR-2      5     3.86   0.4324    0.0000                     0.5641
INCR-2      6     3.86   0.4324    0.0000                     0.5641
ENDATA17
!Incremental Data for Phosphorus, Chlorophyll, Coliform and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  ---------********---------********
!          R#   PHOSPH    CHL A   COLIFORM NONCONSERVATIVE
INCR-3      1
INCR-3      2
INCR-3      3
INCR-3      4
INCR-3      5
INCR-3      6
ENDATA18
!Nonpoint Source Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  ---------********---------********---------********
!          R#     BOD 1    NBOD   COLIFORM NONCONS    DO      BOD 2
NONPOINT    1     1.500    1.00                               1.60
NONPOINT    2    14.000    6.00                               8.00
NONPOINT    3    27.000   18.00                              53.00
NONPOINT    4    50.000   40.00                              80.00
NONPOINT    5    50.000   80.00                             100.00
NONPOINT    6    55.000  165.00                             170.00
ENDATA19
!Headwater Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  -------------------- *** --------********--------********--------
```

```
!         E#    NAME                       FLOW    TEMP  SALIN   CHLORIDE   COND
HDWTR-1     1  HEADWATER                 0.0023   27.08  0.00     5.3      73.9
ENDATA20
!Headwater Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********---------********---------********
!          E#      DO      BOD 1    NBOD    NH3 N    NIT NIT  BOD 2
HDWTR-2     1      1.80    0.5601   0.0                       0.2282
ENDATA21
!Headwater Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********---------********
!          E#  PHOSPHOR   CHL A   COLIFORM  NONCONSERVATIVE
HDWTR-3     1              16.6
ENDATA22
ENDATA23
!Wasteload Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  --------------------********---------********---------********
!          E#     NAME                FLOW      TEMP   SALINITY CHLORIDE  COND
WSTLD-1   123  ELDER BRANCH CREEK    0.0014    23.98     0.00      3.4    32.3
WSTLD-1   144  LITTLE SANDY CREEK    0.0215    20.90     0.00      2.7    22.0
ENDATA24
!Wasteload Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********-----********---------*****---------********
!          E#       DO    BOD 1         NBOD    NH3 N          NIT NIT  BOD 2
WSTLD-2   123      6.66   2.3583        0.8814                          4.374
WSTLD-2   144      7.38   0.6762        0.3862                          0.5483
ENDATA25
!Wasteload Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********---------********
!          E#  PHOSPHOR  CHL A    COLIFORM NONCONSERVATIVE
WSTLD-3   123             2.3
WSTLD-3   144
```

```
ENDATA26
LOWER BC TEMPERATURE                        =  31.29
LOWER BC SALINITY                           =   0.00
LOWER BC CONSERVATIVE MATERIAL I            =   3.70
LOWER BC CONSERVATIVE MATERIAL II           =  33.10
LOWER BC DISSOLVED OXYGEN                   =   6.04
LOWER BC BOD1 BIOCHEMICAL OXYGEN DEMAND     =   6.126
LOWER BC BOD2 BIOCHEMICAL OXYGEN DEMAND     =   3.647
LOWER BC CHLOROPHYLL A                      =   32.9
LOWER BC NBOD                               =   2.275
ENDATA27
!Dam Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ****  ******************** ** ******** ******** ********
ENDATA28
ENDATA29
NUMBER OF PLOTS = 1
NUMBER OF REACHES IN PLOT 1 =   6                          INCREMENT =  0.1
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** **
PLOT RCH  1  2  3  4  5  6
ENDATA30
OVERLAY 1 WACovl.TXT                      :MAINSTEM
ENDATA31
```

WEST ANACOCO CREEK 110501 CALIBRATION OVERLAY DATA SET

```
STATION  1  KILOMETER  16.8
 3                5.3                    CHLORIDES
 4               73.9                    CONDUCTIVITY
 5     0.8        1.80    8.0            DO
 6                0.560                  CBOD1
13               16.6                    CHLOROPHYLL A
16                0.228                  CBOD2
18                0.000                  NBOD
31             0.0023                    FLOW
33             0.122                     DEPTH
34             6.096                     WIDTH
STATION  2  KILOMETER  14.4
```

```
 3                 4.0                    CHLORIDES
 4                38.3                    CONDUCTIVITY
 6                 3.989                  CBOD1
13                 16.7                   CHLOROPHYLL A
16                 3.071                  CBOD2
18                 1.540                  NBOD
33              0.195                     DEPTH
34              3.658                     WIDTH
STATION  3  KILOMETER   8.7
 3                 4.6                    CHLORIDES
 4                64.7                    CONDUCTIVITY
 5      2.2        3.2     9.30            DO
 6                 2.873                  CBOD1
13                 3.2                    CHLOROPHYLL A
16                 3.128                  CBOD2
18                 1.277                  NBOD
31              0.0029                    FLOW
33              0.305                     DEPTH
34              6.401                     WIDTH
STATION  4  KILOMETER  7.8
 3                 4.7                    CHLORIDES
 4                65.20                   CONDUCTIVITY
 5     2.2         3.20     3.2           DO
 6                 2.774                  CBOD1
16                 4.335                  CBOD2
18                 1.299                  NBOD
33              0.177                     DEPTH
34              2.438                     WIDTH
STATION  5  KILOMETER  0.10
 3                 3.7                    CHLORIDES
 4                33.1                    CONDUCTIVITY
 5     4.8         5.80    7.4            DO
 6                 6.126                  CBOD1
13                33.9                    CHLOROPHYLL A
16                 3.647                  CBOD2
18                 2.275                  NBOD
31              0.6620                    FLOW
33              1.344                     DEPTH
34             15.850                     WIDTH
END
```

WEST ANACOCO CREEK 110501 CALIBRATION OUTPUT DATA SET

```
LA-QUAL Version 8.00
Louisiana Department of Environmental Quality

Input file is O:\Personal_Folders\Karen\Anacoco\2005\Input Files\WACcalb.txt
Output produced at 08:17 on 09/25/2006

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

CARD TYPE       CONTROL TITLES

TITLE01         WEST ANACOCO CREEK WATERSHED MODEL
TITLE02         WEST ANACOCO CREEK FINAL CALIBRATION RUN
CNTROL04  YES   METRIC UNITS
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 = CONDUCTIVITY              IN MG/L
MODOPT05  YES   DISSOLVED OXYGEN
MODOPT06  YES   BOD1 BIOCHEMICAL OXYGEN DEMAND
MODOPT06  YES   BOD2 BIOCHEMICAL OXYGEN DEMAND
MODOPT08  YES   NBOD OXYGEN DEMAND
MODOPT10   NO   PHOSPHORUS
MODOPT11   NO   CHLOROPHYLL A
MODOPT12   NO   MACROPHYTES
MODOPT13   NO   COLIFORM
ENDATA02

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

CARD TYPE       DESCRIPTION OF CONSTANT                       VALUE

PROGRAM         KL MINIMUM                        =         0.70000 meters/day
PROGRAM         INHIBITION CONTROL VALUE          =         3.00000 (inhibit all rates but SOD)
PROGRAM         K2 MAXIMUM                        =        25.00000 per day
PROGRAM         HYDRAULIC CALCULATION METHOD      =         2.00000 (widths and depths)
PROGRAM         SETTLING RATE UNITS               =         2.00000 (values entered as per day)
PROGRAM         ALGAE OXYGEN PROD                 =         0.00000 mg O/ug chl a/day
PROGRAM         EFFECTIVE BOD DUE TO ALGAE        =         0.15000 mg/L BOD per ug/L chl a
ENDATA03

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

 CARD TYPE     RATE CODE     THETA VALUE

ENDATA04

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

CARD TYPE       DESCRIPTION OF CONSTANT                       VALUE

ENDATA05
```

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

CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

ENDATA06

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

CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

ENDATA07

$$$ DATA TYPE 8 (REACH IDENTIFICATION DATA) $$$
                                                        BEGIN        END     ELEM    REACH     ELEMS   BEGIN    END
CARD TYPE  REACH  ID  NAME                              REACH       REACH   LENGTH   LENGTH    PER RCH   ELEM   ELEM
                                                           km          km       km       km               NUM    NUM

REACH ID      1   WA  WAC1 TO WAC2                      16.80  TO   14.40   0.1000     2.40      24        1     24
REACH ID      2   WA  WAC2 TO WAC3                      14.40  TO    8.70   0.1000     5.70      57       25     81
REACH ID      3   WA  WAC3 TO WAC4                       8.70  TO    7.80   0.1000     0.90       9       82     90
REACH ID      4   WA  WAC4 TO Elder Branch Creek         7.80  TO    4.50   0.1000     3.30      33       91    123
REACH ID      5   WA  Elder Branch TO Little Sandy       4.50  TO    2.50   0.1000     2.00      20      124    143
REACH ID      6   WA  Little Sandy TO WAC5               2.50  TO    0.00   0.1000     2.50      25      144    168
ENDATA08

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

CARD TYPE  REACH  ID       WIDTH       WIDTH       WIDTH       DEPTH       DEPTH       DEPTH      SLOPE    MANNINGS
                            "A"         "B"         "C"         "D"         "E"         "F"                  "N"

HYDR-1        1   WA       0.000       0.200       3.658       0.000       0.300       0.195     0.00000   0.000
HYDR-1        2   WA       0.000       0.200       6.401       0.000       0.300       0.305     0.00000   0.000
HYDR-1        3   WA       0.000       0.200       2.438       0.000       0.300       0.177     0.00000   0.000
HYDR-1        4   WA       0.000       0.200       6.909       0.000       0.300       0.566     0.00000   0.000
HYDR-1        5   WA       0.000       0.200      11.380       0.000       0.300       0.955     0.00000   0.000
HYDR-1        6   WA       0.000       0.200      15.850       0.000       0.300       1.344     0.00000   0.000
ENDATA09

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

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

ENDATA10

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

CARD TYPE      REACH  ID        TEMP     SALIN        DO       NH3     NO3+2      PHOS     CHL A     MACRO

INITIAL            1   WA       25.43      0.00      1.80      0.00      0.00      0.00     16.60      0.00
INITIAL            2   WA       24.85      0.00      3.20      0.00      0.00      0.00     16.70      0.00
INITIAL            3   WA       25.54      0.00      3.20      0.00      0.00      0.00      3.20      0.00
INITIAL            4   WA       28.23      0.00      4.50      0.00      0.00      0.00      3.20      0.00
INITIAL            5   WA       28.23      0.00      4.50      0.00      0.00      0.00      3.20      0.00
INITIAL            6   WA       28.23      0.00      4.50      0.00      0.00      0.00     32.90      0.00
ENDATA11

$$$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) $$$
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CARD TYPE	RCH NUM	RCH ID	K2 OPT	K2 "A"	K2 "B"	K2 "C"	BKGRND SOD g/m²/d	BOD DECAY per day	BOD SETT m/d	BOD CONV TO SOD	ANAER BOD2 DECAY per day	BOD2 DECAY per day	BOD2 SETT m/d	BOD2 CONV TO SOD	ANAER BOD2 DECAY per day
COEF-1	1	WA	11 TEXAS	0.000	0.000	0.000	3.000	0.276	0.200	0.000	0.000	0.033	0.200	0.000	0.000
COEF-1	2	WA	11 TEXAS	0.000	0.000	0.000	2.500	0.225	0.200	0.000	0.000	0.031	0.200	0.000	0.000
COEF-1	3	WA	11 TEXAS	0.000	0.000	0.000	5.900	0.271	0.200	0.000	0.000	0.031	0.200	0.000	0.000
COEF-1	4	WA	11 TEXAS	0.000	0.000	0.000	1.000	0.224	0.500	0.000	0.000	0.031	0.500	0.000	0.000
COEF-1	5	WA	11 TEXAS	0.000	0.000	0.000	0.100	0.224	0.500	0.000	0.000	0.031	0.500	0.000	0.000
COEF-1	6	WA	11 TEXAS	0.000	0.000	0.000	0.100	0.224	0.500	0.000	0.000	0.031	0.500	0.000	0.000

ENDATA12

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

CARD TYPE	REACH	ID	NBOD DECA	NBOD SETT	ORGN CONV TO NH3 SRCE	NH3 DECA	NH3 SRCE	PHOS SRCE	DENIT RATE
COEF-2	1	WA	0.097	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	2	WA	0.144	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	3	WA	0.114	0.200	0.000	0.000	0.000	0.000	0.000
COEF-2	4	WA	0.215	0.500	0.000	0.000	0.000	0.000	0.000
COEF-2	5	WA	0.215	0.500	0.000	0.000	0.000	0.000	0.000
COEF-2	6	WA	0.215	0.500	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

ENDATA14

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

CARD TYPE	REACH	ID	COLIFORM DIE-OFF	NCM DECAY	NCM SETT	NCM CONV TO SOD

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	WA	0.00000	0.00030	19.62	0.00	0.00	0.00	0.00013	0.00000
INCR-1	2	WA	0.00000	0.00030	19.62	0.00	4.00	60.00	0.00005	0.00000
INCR-1	3	WA	0.00000	0.15890	19.62	0.00	4.70	65.00	0.17656	0.00000
INCR-1	4	WA	0.00000	0.15890	19.62	0.00	3.80	33.00	0.04815	0.00000
INCR-1	5	WA	0.00000	0.15890	19.62	0.00	3.80	33.00	0.07945	0.00000
INCR-1	6	WA	0.00000	0.15890	19.62	0.00	2.50	0.00	0.06356	0.00000

ENDATA16

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

CARD TYPE	REACH	ID	DO	BOD	NBOD			BOD#2
INCR-2	1	WA	3.86	0.43	0.00	0.00	0.00	0.56
INCR-2	2	WA	3.86	0.43	0.00	0.00	0.00	0.56
INCR-2	3	WA	3.86	0.43	0.00	0.00	0.00	0.56

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INCR-2            4   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            5   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            6   WA        3.86      0.43      0.00      0.00      0.00      0.56
ENDATA17

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

 CARD TYPE      REACH  ID        PHOS     CHL A      COLI       NCM

INCR-3            1   WA        0.00      0.00      0.00      0.00
INCR-3            2   WA        0.00      0.00      0.00      0.00
INCR-3            3   WA        0.00      0.00      0.00      0.00
INCR-3            4   WA        0.00      0.00      0.00      0.00
INCR-3            5   WA        0.00      0.00      0.00      0.00
INCR-3            6   WA        0.00      0.00      0.00      0.00
ENDATA18

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

CARD TYPE      REACH  ID       BOD#1     NBOD       COLI       NCM        DO     BOD#2

NONPOINT          1   WA        1.50      1.00      0.00      0.00      0.00      1.60
NONPOINT          2   WA       14.00      6.00      0.00      0.00      0.00      8.00
NONPOINT          3   WA       27.00     18.00      0.00      0.00      0.00     53.00
NONPOINT          4   WA       50.00     40.00      0.00      0.00      0.00     80.00
NONPOINT          5   WA       50.00     80.00      0.00      0.00      0.00    100.00
NONPOINT          6   WA       55.00    165.00      0.00      0.00      0.00    170.00
ENDATA19

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

CARD TYPE     ELEMENT   NAME                  UNIT     FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                        m³/s      cfs   deg C      ppt      MG/L      MG/L

HDWTR-1           1     HEADWATER               0   0.00230    0.081   27.08     0.00     5.300    73.900
ENDATA20

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

CARD TYPE     ELEMENT   NAME                          DO     BOD#1     NBOD                          BOD#2
                                                    mg/L      mg/L      mg/L      mg/L      mg/L      mg/L

HDWTR-2           1     HEADWATER                   1.80      0.56      0.00      0.00      0.00      0.23
ENDATA21

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

CARD TYPE     ELEMENT   NAME                         PHOS     CHL A      COLI       NCM
                                                     mg/L      mg/L      mg/L      mg/L

HDWTR-3           1     HEADWATER                    0.00     16.60      0.00      0.00
ENDATA22

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

CARD TYPE   JUNCTION   UPSTRM     RIVER     NAME
             ELEMENT  ELEMENT     KILOM

ENDATA23
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$$$ DATA TYPE 24 (WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) $$$

CARD TYPE  ELEMENT    RKILO  NAME                      FLOW       FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                        m³/s        cfs      MGD   deg C      ppt      MG/L      MG/L

WSTLD-1      123       4.60  ELDER BRANCH CREEK     0.00140    0.04944    0.032   23.98     0.00     3.400    32.300
WSTLD-1      144       2.50  LITTLE SANDY CREEK     0.02150    0.75918    0.491   20.90     0.00     2.700    22.000
ENDATA24

$$$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) $$$
                                                                          % BOD                              %
CARD TYPE     ELEMENT   NAME                          DO       BOD      RMVL     NBOD                    NITRIF                 BOD#2
                                                     mg/L      mg/L                mg/L      mg/L                 mg/L      mg/L

WSTLD-2         123     ELDER BRANCH CREEK          6.66      2.36      0.00      0.88      0.00      0.00      0.00      4.37
WSTLD-2         144     LITTLE SANDY CREEK          7.38      0.68      0.00      0.39      0.00      0.00      0.00      0.55
ENDATA25

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

CARD TYPE     ELEMENT   NAME                         PHOS     CHL A      COLI       NCM
                                                     mg/L      mg/L      mg/L      mg/L

WSTLD-3         123     ELDER BRANCH CREEK          0.00      2.30      0.00      0.00
WSTLD-3         144     LITTLE SANDY CREEK          0.00      0.00      0.00      0.00
ENDATA26

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

CARD TYPE    CONSTITUENT                      CONCENTRATION

LOWER BC     TEMPERATURE                         =     31.290     deg C
LOWER BC     SALINITY                            =      0.000     ppt
LOWER BC     CONSERVATIVE MATERIAL I             =      3.700     MG/L
LOWER BC     CONSERVATIVE MATERIAL II            =     33.100     MG/L
LOWER BC     DISSOLVED OXYGEN                    =      5.800     mg/L
LOWER BC     BOD1 BIOCHEMICAL OXYGEN DEMAND      =      6.126     mg/L
LOWER BC     BOD2 BIOCHEMICAL OXYGEN DEMAND      =      3.647     mg/L
LOWER BC     CHLOROPHYLL A                       =     32.900     µg/L
LOWER BC     NBOD                                =      2.275     mg/L
ENDATA27

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

CARD TYPE     ELEMENT   NAME                   EQN      "A"       "B"       "H"

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

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


OVERLAY 1 WACovl.TXT                      :MAINSTEM
ENDATA31



     .....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 11


FINAL REPORT    HEADWATER                                       WEST ANACOCO CREEK WATERSHED MODEL
REACH NO.  1    WAC1 TO WAC2                                    WEST ANACOCO CREEK FINAL CALIBRATION RUN
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********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
1	HDWTR	0.00230	27.08	0.00	5.30	73.90	1.80	0.00	0.23	0.56	0.23	0.00	0.00	0.00	0.00	16.60	0.00	0.00
EACH	INCR	0.00001	19.62	0.00	0.00	0.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/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	MEAN VELO m/s
1	16.80	16.70	0.00231	0.0	0.00324	0.36	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
2	16.70	16.60	0.00233	0.0	0.00326	0.36	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
3	16.60	16.50	0.00234	0.0	0.00328	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
4	16.50	16.40	0.00235	0.0	0.00329	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
5	16.40	16.30	0.00236	0.0	0.00331	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
6	16.30	16.20	0.00237	0.0	0.00333	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
7	16.20	16.10	0.00239	0.0	0.00335	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
8	16.10	16.00	0.00240	0.0	0.00336	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
9	16.00	15.90	0.00241	0.0	0.00338	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
10	15.90	15.80	0.00242	0.0	0.00340	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
11	15.80	15.70	0.00244	0.0	0.00342	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
12	15.70	15.60	0.00245	0.0	0.00343	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
13	15.60	15.50	0.00246	0.0	0.00345	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
14	15.50	15.40	0.00247	0.0	0.00347	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
15	15.40	15.30	0.00249	0.0	0.00349	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
16	15.30	15.20	0.00250	0.0	0.00350	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
17	15.20	15.10	0.00251	0.0	0.00352	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
18	15.10	15.00	0.00252	0.0	0.00354	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
19	15.00	14.90	0.00254	0.0	0.00356	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
20	14.90	14.80	0.00255	0.0	0.00357	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004

21	14.80	14.70	0.00256	0.0	0.00359	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
22	14.70	14.60	0.00257	0.0	0.00361	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
23	14.60	14.50	0.00259	0.0	0.00363	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
24	14.50	14.40	0.00260	0.0	0.00364	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
TOT						8.08			1711.94	8779.20					
AVG					0.0034		0.19	3.66			0.71				
CUM						8.08									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
1	16.700	8.20	3.98	0.35	0.23	0.00	0.04	0.23	0.00	4.22	4.22	4.22	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	16.600	8.21	3.98	0.35	0.23	0.00	0.04	0.23	0.00	4.21	4.21	4.21	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	16.500	8.21	3.98	0.35	0.23	0.00	0.04	0.23	0.00	4.20	4.20	4.20	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	16.400	8.21	3.97	0.35	0.23	0.00	0.04	0.23	0.00	4.20	4.20	4.20	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	16.300	8.22	3.97	0.35	0.23	0.00	0.04	0.23	0.00	4.19	4.19	4.19	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	16.200	8.22	3.97	0.35	0.23	0.00	0.04	0.23	0.00	4.18	4.18	4.18	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	16.100	8.22	3.97	0.35	0.23	0.00	0.04	0.23	0.00	4.18	4.18	4.18	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	16.000	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	4.17	4.17	4.17	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	15.900	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	4.17	4.17	4.17	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	15.800	8.23	3.96	0.35	0.23	0.00	0.04	0.23	0.00	4.16	4.16	4.16	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	15.700	8.24	3.96	0.35	0.23	0.00	0.04	0.23	0.00	4.15	4.15	4.15	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	15.600	8.24	3.96	0.35	0.23	0.00	0.04	0.23	0.00	4.15	4.15	4.15	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	15.500	8.25	3.96	0.35	0.23	0.00	0.04	0.23	0.00	4.14	4.14	4.14	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	15.400	8.25	3.96	0.35	0.23	0.00	0.04	0.23	0.00	4.13	4.13	4.13	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	15.300	8.25	3.95	0.35	0.23	0.00	0.04	0.23	0.00	4.13	4.13	4.13	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	15.200	8.26	3.95	0.35	0.23	0.00	0.04	0.23	0.00	4.12	4.12	4.12	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	15.100	8.26	3.95	0.35	0.23	0.00	0.04	0.23	0.00	4.12	4.12	4.12	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	15.000	8.26	3.95	0.35	0.23	0.00	0.04	0.23	0.00	4.11	4.11	4.11	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	14.900	8.27	3.95	0.35	0.23	0.00	0.04	0.23	0.00	4.10	4.10	4.10	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	14.800	8.27	3.95	0.35	0.22	0.00	0.04	0.22	0.00	4.10	4.10	4.10	0.10	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	14.700	8.27	3.94	0.35	0.22	0.00	0.04	0.22	0.00	4.09	4.09	4.09	0.10	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	14.600	8.28	3.94	0.35	0.22	0.00	0.04	0.22	0.00	4.08	4.08	4.08	0.10	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	14.500	8.28	3.94	0.34	0.22	0.00	0.04	0.22	0.00	4.08	4.08	4.08	0.10	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	14.400	8.29	3.94	0.34	0.22	0.00	0.04	0.22	0.00	4.07	4.07	4.07	0.10	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			3.59	0.28	0.20	0.00	0.03	0.20	0.00	3.00			0.10	0.20	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
1	16.700	25.41	0.00	5.27	73.50	2.35	0.26	0.51	2.75	0.51	0.19	0.00	0.00	0.00	0.00	16.60	0.00	0.	0.00
2	16.600	25.38	0.00	5.24	73.11	2.57	0.48	0.77	2.97	0.77	0.35	0.00	0.00	0.00	0.00	16.61	0.00	0.	0.00
3	16.500	25.36	0.00	5.21	72.71	2.65	0.65	1.01	3.14	1.01	0.50	0.00	0.00	0.00	0.00	16.61	0.00	0.	0.00
4	16.400	25.33	0.00	5.19	72.33	2.68	0.80	1.22	3.29	1.22	0.63	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
5	16.300	25.31	0.00	5.16	71.94	2.69	0.92	1.41	3.41	1.41	0.74	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
6	16.200	25.28	0.00	5.13	71.57	2.69	1.01	1.58	3.51	1.58	0.85	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
7	16.100	25.26	0.00	5.11	71.19	2.69	1.09	1.74	3.59	1.74	0.94	0.00	0.00	0.00	0.00	16.63	0.00	0.	0.00
8	16.000	25.24	0.00	5.08	70.82	2.69	1.16	1.88	3.66	1.88	1.02	0.00	0.00	0.00	0.00	16.63	0.00	0.	0.00

9	15.900	25.21	0.00	5.05	70.45	2.69	1.22	2.01	3.71	2.01	1.09	0.00	0.00	0.00	0.00	16.64	0.00	0.	0.00
10	15.800	25.19	0.00	5.03	70.09	2.69	1.26	2.12	3.76	2.12	1.15	0.00	0.00	0.00	0.00	16.64	0.00	0.	0.00
11	15.700	25.16	0.00	5.00	69.73	2.69	1.30	2.23	3.80	2.23	1.21	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
12	15.600	25.14	0.00	4.98	69.38	2.70	1.33	2.33	3.83	2.33	1.26	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
13	15.500	25.12	0.00	4.95	69.02	2.70	1.36	2.41	3.86	2.41	1.31	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
14	15.400	25.09	0.00	4.93	68.67	2.71	1.38	2.49	3.88	2.49	1.35	0.00	0.00	0.00	0.00	16.66	0.00	0.	0.00
15	15.300	25.07	0.00	4.90	68.33	2.71	1.40	2.57	3.90	2.57	1.38	0.00	0.00	0.00	0.00	16.66	0.00	0.	0.00
16	15.200	25.04	0.00	4.88	67.99	2.72	1.42	2.63	3.92	2.63	1.41	0.00	0.00	0.00	0.00	16.67	0.00	0.	0.00
17	15.100	25.02	0.00	4.85	67.65	2.73	1.43	2.69	3.93	2.69	1.44	0.00	0.00	0.00	0.00	16.67	0.00	0.	0.00
18	15.000	25.00	0.00	4.83	67.31	2.73	1.44	2.75	3.95	2.75	1.47	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
19	14.900	24.97	0.00	4.80	66.98	2.74	1.45	2.80	3.96	2.80	1.49	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
20	14.800	24.95	0.00	4.78	66.65	2.75	1.46	2.85	3.96	2.85	1.51	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
21	14.700	24.92	0.00	4.76	66.33	2.76	1.47	2.89	3.97	2.89	1.53	0.00	0.00	0.00	0.00	16.69	0.00	0.	0.00
22	14.600	24.90	0.00	4.73	66.01	2.76	1.48	2.93	3.98	2.93	1.55	0.00	0.00	0.00	0.00	16.69	0.00	0.	0.00
23	14.500	24.87	0.00	4.71	65.69	2.77	1.48	2.96	3.99	2.96	1.56	0.00	0.00	0.00	0.00	16.70	0.00	0.	0.00
24	14.400	24.85	0.00	4.69	65.37	2.78	1.49	2.99	3.99	2.99	1.58	0.00	0.00	0.00	0.00	16.70	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 2 WAC2 TO WAC3 WEST ANACOCO CREEK FINAL CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
25	UPR RCH	0.00260	24.85	0.00	4.69	65.37	2.78	1.49	2.99	3.99	2.99	1.58	0.00	0.00	0.00	16.70	0.00	0.00
EACH	INCR	0.00001	19.62	0.00	4.00	60.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/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	MEAN VELO m/s
25	14.40	14.30	0.00261	0.0	0.00133	0.87	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
26	14.30	14.20	0.00261	0.0	0.00134	0.87	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
27	14.20	14.10	0.00262	0.0	0.00134	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
28	14.10	14.00	0.00262	0.0	0.00134	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
29	14.00	13.90	0.00263	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
30	13.90	13.80	0.00263	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
31	13.80	13.70	0.00264	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
32	13.70	13.60	0.00264	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
33	13.60	13.50	0.00265	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
34	13.50	13.40	0.00265	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
35	13.40	13.30	0.00266	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
36	13.30	13.20	0.00266	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
37	13.20	13.10	0.00267	0.0	0.00137	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
38	13.10	13.00	0.00267	0.0	0.00137	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
39	13.00	12.90	0.00268	0.0	0.00137	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
40	12.90	12.80	0.00268	0.0	0.00137	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
41	12.80	12.70	0.00269	0.0	0.00138	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
42	12.70	12.60	0.00269	0.0	0.00138	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
43	12.60	12.50	0.00270	0.0	0.00138	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
44	12.50	12.40	0.00271	0.0	0.00139	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
45	12.40	12.30	0.00271	0.0	0.00139	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
46	12.30	12.20	0.00272	0.0	0.00139	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001

47	12.20	12.10	0.00272	0.0	0.00139	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
48	12.10	12.00	0.00273	0.0	0.00140	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
49	12.00	11.90	0.00273	0.0	0.00140	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
50	11.90	11.80	0.00274	0.0	0.00140	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
51	11.80	11.70	0.00274	0.0	0.00140	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
52	11.70	11.60	0.00275	0.0	0.00141	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
53	11.60	11.50	0.00275	0.0	0.00141	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
54	11.50	11.40	0.00276	0.0	0.00141	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
55	11.40	11.30	0.00276	0.0	0.00142	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
56	11.30	11.20	0.00277	0.0	0.00142	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
57	11.20	11.10	0.00277	0.0	0.00142	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
58	11.10	11.00	0.00278	0.0	0.00142	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
59	11.00	10.90	0.00278	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
60	10.90	10.80	0.00279	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
61	10.80	10.70	0.00279	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
62	10.70	10.60	0.00280	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
63	10.60	10.50	0.00281	0.0	0.00144	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
64	10.50	10.40	0.00281	0.0	0.00144	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
65	10.40	10.30	0.00282	0.0	0.00144	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
66	10.30	10.20	0.00282	0.0	0.00144	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
67	10.20	10.10	0.00283	0.0	0.00145	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
68	10.10	10.00	0.00283	0.0	0.00145	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
69	10.00	9.90	0.00284	0.0	0.00145	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
70	9.90	9.80	0.00284	0.0	0.00146	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
71	9.80	9.70	0.00285	0.0	0.00146	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
72	9.70	9.60	0.00285	0.0	0.00146	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
73	9.60	9.50	0.00286	0.0	0.00146	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
74	9.50	9.40	0.00286	0.0	0.00147	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
75	9.40	9.30	0.00287	0.0	0.00147	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
76	9.30	9.20	0.00287	0.0	0.00147	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
77	9.20	9.10	0.00288	0.0	0.00147	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
78	9.10	9.00	0.00288	0.0	0.00148	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
79	9.00	8.90	0.00289	0.0	0.00148	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
80	8.90	8.80	0.00289	0.0	0.00148	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
81	8.80	8.70	0.00290	0.0	0.00149	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
TOT						46.84			11128.14	36485.70					
AVG					0.0014		0.31	6.40			1.95				
CUM						54.91									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
25	14.300	8.28	2.52	0.28	0.22	0.00	0.04	0.22	0.00	3.40	3.40	3.40	0.16	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	14.200	8.28	2.52	0.28	0.22	0.00	0.04	0.22	0.00	3.40	3.40	3.40	0.16	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	14.100	8.28	2.52	0.28	0.22	0.00	0.04	0.22	0.00	3.40	3.40	3.40	0.16	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	14.000	8.28	2.52	0.28	0.22	0.00	0.04	0.22	0.00	3.40	3.40	3.40	0.16	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	13.900	8.28	2.52	0.28	0.22	0.00	0.04	0.22	0.00	3.41	3.41	3.41	0.17	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	13.800	8.27	2.52	0.28	0.22	0.00	0.04	0.22	0.00	3.41	3.41	3.41	0.17	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	13.700	8.27	2.52	0.28	0.22	0.00	0.04	0.22	0.00	3.41	3.41	3.41	0.17	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	13.600	8.27	2.52	0.28	0.22	0.00	0.04	0.22	0.00	3.41	3.41	3.41	0.17	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	13.500	8.27	2.52	0.28	0.22	0.00	0.04	0.22	0.00	3.42	3.42	3.42	0.17	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	13.400	8.27	2.52	0.28	0.23	0.00	0.04	0.23	0.00	3.42	3.42	3.42	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	13.300	8.27	2.52	0.28	0.23	0.00	0.04	0.23	0.00	3.42	3.42	3.42	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	13.200	8.26	2.53	0.28	0.23	0.00	0.04	0.23	0.00	3.42	3.42	3.42	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

37	13.100	8.26	2.53	0.28	0.23	0.00	0.04	0.23	0.00	3.43	3.43	3.43	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	13.000	8.26	2.53	0.28	0.23	0.00	0.04	0.23	0.00	3.43	3.43	3.43	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	12.900	8.26	2.53	0.28	0.23	0.00	0.04	0.23	0.00	3.43	3.43	3.43	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	12.800	8.26	2.53	0.28	0.23	0.00	0.04	0.23	0.00	3.43	3.43	3.43	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	12.700	8.25	2.53	0.28	0.23	0.00	0.04	0.23	0.00	3.44	3.44	3.44	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	12.600	8.25	2.53	0.28	0.23	0.00	0.04	0.23	0.00	3.44	3.44	3.44	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	12.500	8.25	2.53	0.28	0.23	0.00	0.04	0.23	0.00	3.44	3.44	3.44	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	12.400	8.25	2.53	0.28	0.23	0.00	0.04	0.23	0.00	3.45	3.45	3.45	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	12.300	8.25	2.53	0.28	0.23	0.00	0.04	0.23	0.00	3.45	3.45	3.45	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	12.200	8.25	2.53	0.28	0.23	0.00	0.04	0.23	0.00	3.45	3.45	3.45	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	12.100	8.24	2.53	0.29	0.23	0.00	0.04	0.23	0.00	3.45	3.45	3.45	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	12.000	8.24	2.53	0.29	0.23	0.00	0.04	0.23	0.00	3.46	3.46	3.46	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	11.900	8.24	2.53	0.29	0.23	0.00	0.04	0.23	0.00	3.46	3.46	3.46	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	11.800	8.24	2.53	0.29	0.23	0.00	0.04	0.23	0.00	3.46	3.46	3.46	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	11.700	8.24	2.53	0.29	0.23	0.00	0.04	0.23	0.00	3.46	3.46	3.46	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	11.600	8.23	2.53	0.29	0.23	0.00	0.04	0.23	0.00	3.47	3.47	3.47	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	11.500	8.23	2.53	0.29	0.23	0.00	0.04	0.23	0.00	3.47	3.47	3.47	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	11.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.47	3.47	3.47	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	11.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.47	3.47	3.47	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	11.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.48	3.48	3.48	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	11.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.48	3.48	3.48	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	11.000	8.22	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.48	3.48	3.48	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	10.900	8.22	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.48	3.48	3.48	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	10.800	8.22	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.49	3.49	3.49	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	10.700	8.22	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.49	3.49	3.49	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	10.600	8.22	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.49	3.49	3.49	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	10.500	8.21	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.50	3.50	3.50	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	10.400	8.21	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.50	3.50	3.50	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	10.300	8.21	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.50	3.50	3.50	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	10.200	8.21	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.50	3.50	3.50	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	10.100	8.21	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.51	3.51	3.51	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	10.000	8.21	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.51	3.51	3.51	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	9.900	8.20	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.51	3.51	3.51	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	9.800	8.20	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.51	3.51	3.51	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	9.700	8.20	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.52	3.52	3.52	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	9.600	8.20	2.55	0.29	0.23	0.00	0.04	0.23	0.00	3.52	3.52	3.52	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	9.500	8.20	2.55	0.29	0.23	0.00	0.04	0.23	0.00	3.52	3.52	3.52	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	9.400	8.19	2.55	0.29	0.23	0.00	0.04	0.23	0.00	3.52	3.52	3.52	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	9.300	8.19	2.55	0.29	0.23	0.00	0.04	0.23	0.00	3.53	3.53	3.53	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	9.200	8.19	2.55	0.29	0.23	0.00	0.04	0.23	0.00	3.53	3.53	3.53	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	9.100	8.19	2.55	0.29	0.23	0.00	0.04	0.23	0.00	3.53	3.53	3.53	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	9.000	8.19	2.55	0.29	0.23	0.00	0.04	0.23	0.00	3.54	3.54	3.54	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	8.900	8.19	2.55	0.29	0.23	0.00	0.04	0.23	0.00	3.54	3.54	3.54	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	8.800	8.18	2.55	0.29	0.23	0.00	0.04	0.23	0.00	3.54	3.54	3.54	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81	8.700	8.18	2.55	0.29	0.23	0.00	0.04	0.23	0.00	3.54	3.54	3.54	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			2.30	0.23	0.20	0.00	0.03	0.20	0.00	2.50			0.14	0.20	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
25	14.300	24.86	0.00	4.69	65.36	3.29	1.79	2.94	4.26	2.94	1.53	0.00	0.00	0.00	0.00	16.46	0.00	0.	0.00
26	14.200	24.87	0.00	4.69	65.35	3.43	2.00	2.90	4.43	2.90	1.49	0.00	0.00	0.00	0.00	16.23	0.00	0.	0.00
27	14.100	24.89	0.00	4.68	65.34	3.46	2.14	2.86	4.54	2.86	1.46	0.00	0.00	0.00	0.00	15.99	0.00	0.	0.00

28	14.000	24.90	0.00	4.68	65.33	3.46	2.24	2.83	4.61	2.83	1.44	0.00	0.00	0.00	0.00	15.75	0.00	0.	0.00
29	13.900	24.91	0.00	4.68	65.32	3.45	2.31	2.81	4.64	2.81	1.42	0.00	0.00	0.00	0.00	15.52	0.00	0.	0.00
30	13.800	24.92	0.00	4.68	65.31	3.45	2.36	2.79	4.65	2.79	1.41	0.00	0.00	0.00	0.00	15.28	0.00	0.	0.00
31	13.700	24.93	0.00	4.68	65.30	3.44	2.39	2.77	4.65	2.77	1.40	0.00	0.00	0.00	0.00	15.04	0.00	0.	0.00
32	13.600	24.95	0.00	4.68	65.29	3.43	2.42	2.76	4.64	2.76	1.40	0.00	0.00	0.00	0.00	14.81	0.00	0.	0.00
33	13.500	24.96	0.00	4.68	65.28	3.43	2.43	2.75	4.62	2.75	1.39	0.00	0.00	0.00	0.00	14.57	0.00	0.	0.00
34	13.400	24.97	0.00	4.67	65.27	3.42	2.44	2.74	4.59	2.74	1.39	0.00	0.00	0.00	0.00	14.33	0.00	0.	0.00
35	13.300	24.98	0.00	4.67	65.26	3.42	2.45	2.73	4.56	2.73	1.38	0.00	0.00	0.00	0.00	14.09	0.00	0.	0.00
36	13.200	25.00	0.00	4.67	65.25	3.41	2.45	2.73	4.53	2.73	1.38	0.00	0.00	0.00	0.00	13.86	0.00	0.	0.00
37	13.100	25.01	0.00	4.67	65.24	3.41	2.46	2.72	4.50	2.72	1.38	0.00	0.00	0.00	0.00	13.62	0.00	0.	0.00
38	13.000	25.02	0.00	4.67	65.23	3.40	2.46	2.72	4.47	2.72	1.38	0.00	0.00	0.00	0.00	13.38	0.00	0.	0.00
39	12.900	25.03	0.00	4.67	65.21	3.40	2.46	2.71	4.43	2.71	1.38	0.00	0.00	0.00	0.00	13.15	0.00	0.	0.00
40	12.800	25.04	0.00	4.67	65.20	3.39	2.46	2.71	4.40	2.71	1.37	0.00	0.00	0.00	0.00	12.91	0.00	0.	0.00
41	12.700	25.06	0.00	4.67	65.19	3.39	2.46	2.71	4.36	2.71	1.37	0.00	0.00	0.00	0.00	12.67	0.00	0.	0.00
42	12.600	25.07	0.00	4.66	65.18	3.39	2.46	2.70	4.32	2.70	1.37	0.00	0.00	0.00	0.00	12.44	0.00	0.	0.00
43	12.500	25.08	0.00	4.66	65.17	3.38	2.46	2.70	4.29	2.70	1.37	0.00	0.00	0.00	0.00	12.20	0.00	0.	0.00
44	12.400	25.09	0.00	4.66	65.16	3.38	2.46	2.70	4.25	2.70	1.37	0.00	0.00	0.00	0.00	11.96	0.00	0.	0.00
45	12.300	25.10	0.00	4.66	65.15	3.37	2.46	2.70	4.22	2.70	1.37	0.00	0.00	0.00	0.00	11.73	0.00	0.	0.00
46	12.200	25.12	0.00	4.66	65.14	3.37	2.46	2.70	4.18	2.70	1.37	0.00	0.00	0.00	0.00	11.49	0.00	0.	0.00
47	12.100	25.13	0.00	4.66	65.13	3.36	2.45	2.69	4.14	2.69	1.37	0.00	0.00	0.00	0.00	11.25	0.00	0.	0.00
48	12.000	25.14	0.00	4.66	65.12	3.36	2.45	2.69	4.11	2.69	1.37	0.00	0.00	0.00	0.00	11.02	0.00	0.	0.00
49	11.900	25.15	0.00	4.66	65.11	3.36	2.45	2.69	4.07	2.69	1.37	0.00	0.00	0.00	0.00	10.78	0.00	0.	0.00
50	11.800	25.16	0.00	4.65	65.10	3.35	2.45	2.69	4.03	2.69	1.37	0.00	0.00	0.00	0.00	10.54	0.00	0.	0.00
51	11.700	25.18	0.00	4.65	65.09	3.35	2.45	2.69	4.00	2.69	1.37	0.00	0.00	0.00	0.00	10.31	0.00	0.	0.00
52	11.600	25.19	0.00	4.65	65.08	3.34	2.45	2.69	3.96	2.69	1.37	0.00	0.00	0.00	0.00	10.07	0.00	0.	0.00
53	11.500	25.20	0.00	4.65	65.08	3.34	2.45	2.69	3.92	2.69	1.37	0.00	0.00	0.00	0.00	9.83	0.00	0.	0.00
54	11.400	25.21	0.00	4.65	65.07	3.34	2.45	2.69	3.89	2.69	1.37	0.00	0.00	0.00	0.00	9.59	0.00	0.	0.00
55	11.300	25.23	0.00	4.65	65.06	3.33	2.45	2.69	3.85	2.69	1.36	0.00	0.00	0.00	0.00	9.36	0.00	0.	0.00
56	11.200	25.24	0.00	4.65	65.05	3.33	2.45	2.68	3.81	2.68	1.36	0.00	0.00	0.00	0.00	9.12	0.00	0.	0.00
57	11.100	25.25	0.00	4.65	65.04	3.32	2.44	2.68	3.78	2.68	1.36	0.00	0.00	0.00	0.00	8.88	0.00	0.	0.00
58	11.000	25.26	0.00	4.64	65.03	3.32	2.44	2.68	3.74	2.68	1.36	0.00	0.00	0.00	0.00	8.65	0.00	0.	0.00
59	10.900	25.27	0.00	4.64	65.02	3.31	2.44	2.68	3.70	2.68	1.36	0.00	0.00	0.00	0.00	8.41	0.00	0.	0.00
60	10.800	25.29	0.00	4.64	65.01	3.31	2.44	2.68	3.67	2.68	1.36	0.00	0.00	0.00	0.00	8.17	0.00	0.	0.00
61	10.700	25.30	0.00	4.64	65.00	3.31	2.44	2.68	3.63	2.68	1.36	0.00	0.00	0.00	0.00	7.94	0.00	0.	0.00
62	10.600	25.31	0.00	4.64	64.99	3.30	2.44	2.68	3.59	2.68	1.36	0.00	0.00	0.00	0.00	7.70	0.00	0.	0.00
63	10.500	25.32	0.00	4.64	64.98	3.30	2.44	2.68	3.56	2.68	1.36	0.00	0.00	0.00	0.00	7.46	0.00	0.	0.00
64	10.400	25.33	0.00	4.64	64.97	3.29	2.44	2.68	3.52	2.68	1.36	0.00	0.00	0.00	0.00	7.23	0.00	0.	0.00
65	10.300	25.35	0.00	4.64	64.96	3.29	2.44	2.68	3.48	2.68	1.36	0.00	0.00	0.00	0.00	6.99	0.00	0.	0.00
66	10.200	25.36	0.00	4.63	64.95	3.28	2.44	2.68	3.45	2.68	1.36	0.00	0.00	0.00	0.00	6.75	0.00	0.	0.00
67	10.100	25.37	0.00	4.63	64.94	3.28	2.43	2.67	3.41	2.67	1.36	0.00	0.00	0.00	0.00	6.52	0.00	0.	0.00
68	10.000	25.38	0.00	4.63	64.93	3.28	2.43	2.67	3.37	2.67	1.36	0.00	0.00	0.00	0.00	6.28	0.00	0.	0.00
69	9.900	25.39	0.00	4.63	64.92	3.27	2.43	2.67	3.34	2.67	1.36	0.00	0.00	0.00	0.00	6.04	0.00	0.	0.00
70	9.800	25.41	0.00	4.63	64.92	3.27	2.43	2.67	3.30	2.67	1.36	0.00	0.00	0.00	0.00	5.81	0.00	0.	0.00
71	9.700	25.42	0.00	4.63	64.91	3.26	2.43	2.67	3.27	2.67	1.36	0.00	0.00	0.00	0.00	5.57	0.00	0.	0.00
72	9.600	25.43	0.00	4.63	64.90	3.26	2.43	2.67	3.23	2.67	1.36	0.00	0.00	0.00	0.00	5.33	0.00	0.	0.00
73	9.500	25.44	0.00	4.63	64.89	3.26	2.43	2.67	3.19	2.67	1.36	0.00	0.00	0.00	0.00	5.09	0.00	0.	0.00
74	9.400	25.46	0.00	4.63	64.88	3.25	2.43	2.67	3.16	2.67	1.36	0.00	0.00	0.00	0.00	4.86	0.00	0.	0.00
75	9.300	25.47	0.00	4.62	64.87	3.25	2.43	2.67	3.12	2.67	1.35	0.00	0.00	0.00	0.00	4.62	0.00	0.	0.00
76	9.200	25.48	0.00	4.62	64.86	3.24	2.42	2.67	3.08	2.67	1.35	0.00	0.00	0.00	0.00	4.38	0.00	0.	0.00
77	9.100	25.49	0.00	4.62	64.85	3.24	2.42	2.67	3.05	2.67	1.35	0.00	0.00	0.00	0.00	4.15	0.00	0.	0.00
78	9.000	25.50	0.00	4.62	64.84	3.23	2.42	2.67	3.01	2.67	1.35	0.00	0.00	0.00	0.00	3.91	0.00	0.	0.00
79	8.900	25.52	0.00	4.62	64.83	3.23	2.42	2.66	2.97	2.66	1.35	0.00	0.00	0.00	0.00	3.67	0.00	0.	0.00
80	8.800	25.53	0.00	4.62	64.83	3.23	2.42	2.66	2.94	2.66	1.35	0.00	0.00	0.00	0.00	3.44	0.00	0.	0.00
81	8.700	25.54	0.00	4.62	64.82	3.22	2.42	2.66	2.90	2.66	1.35	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 3 WAC3 TO WAC4 WEST ANACOCO CREEK FINAL CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
82	UPR RCH	0.00290	25.54	0.00	4.62	64.82	3.22	2.42	2.66	2.90	2.66	1.35	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.01766	19.62	0.00	4.70	65.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/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	MEAN VELO m/s
82	8.70	8.60	0.02056	0.0	0.04763	0.02	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.048
83	8.60	8.50	0.03821	0.0	0.08855	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.089
84	8.50	8.40	0.05587	0.0	0.12946	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.129
85	8.40	8.30	0.07352	0.0	0.17038	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.170
86	8.30	8.20	0.09118	0.0	0.21129	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.211
87	8.20	8.10	0.10883	0.0	0.25221	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.252
88	8.10	8.00	0.12649	0.0	0.29312	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.293
89	8.00	7.90	0.14414	0.0	0.33403	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.334
90	7.90	7.80	0.16180	0.0	0.37495	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.375
TOT						0.07			388.37	2194.20					
AVG					0.1414		0.18	2.44			0.43				
CUM						54.99									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
82	8.600	8.14	4.42	0.35	0.23	0.00	0.04	0.23	0.00	8.52	8.52	8.52	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83	8.500	8.09	5.24	0.36	0.23	0.00	0.04	0.23	0.00	8.68	8.68	8.68	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	8.400	8.05	5.85	0.36	0.23	0.00	0.04	0.23	0.00	8.85	8.85	8.85	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	8.300	8.01	6.33	0.37	0.23	0.00	0.04	0.23	0.00	9.02	9.02	9.02	0.15	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	8.200	7.96	6.75	0.37	0.24	0.00	0.04	0.24	0.00	9.19	9.19	9.19	0.15	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	8.100	7.92	7.13	0.38	0.24	0.00	0.04	0.24	0.00	9.36	9.36	9.36	0.15	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	8.000	7.88	7.46	0.38	0.24	0.00	0.04	0.24	0.00	9.54	9.54	9.54	0.16	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	7.900	7.84	7.78	0.39	0.24	0.00	0.04	0.24	0.00	9.72	9.72	9.72	0.16	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	7.800	7.80	8.07	0.39	0.24	0.00	0.05	0.24	0.00	9.91	9.91	9.91	0.16	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			5.73	0.27	0.20	0.00	0.03	0.20	0.00	5.90			0.11	0.20	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
82	8.600	25.84	0.00	4.69	64.97	3.11	2.37	4.15	2.85	4.15	1.31	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
83	8.500	26.14	0.00	4.69	64.99	3.14	2.36	4.26	2.84	4.26	1.30	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

84	8.400	26.44	0.00	4.70	64.99	3.16	2.36	4.30	2.84	4.30	1.30	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
85	8.300	26.74	0.00	4.70	64.99	3.18	2.36	4.32	2.84	4.32	1.30	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
86	8.200	27.03	0.00	4.70	64.99	3.20	2.36	4.34	2.84	4.34	1.30	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
87	8.100	27.33	0.00	4.70	65.00	3.21	2.36	4.35	2.84	4.35	1.30	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
88	8.000	27.63	0.00	4.70	65.00	3.22	2.36	4.35	2.84	4.35	1.30	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
89	7.900	27.93	0.00	4.70	65.00	3.23	2.36	4.36	2.84	4.36	1.30	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
90	7.800	28.23	0.00	4.70	65.00	3.24	2.36	4.36	2.84	4.36	1.30	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 4 WAC4 TO Elder Branch Creek WEST ANACOCO CREEK FINAL CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
91	UPR RCH	0.16180	28.23	0.00	4.70	65.00	3.24	2.36	4.36	2.84	4.36	1.30	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.00482	19.62	0.00	3.80	33.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	
123	WSTLD	0.00140	23.98	0.00	3.40	32.30	6.66	2.36	4.37	2.36	4.37	0.88	0.00	0.00	0.00	2.30	0.00	0.00

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

ELEM NO.	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	MEAN VELO m/s
91	7.80	7.70	0.16662	0.0	0.04261	0.03	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.043
92	7.70	7.60	0.17143	0.0	0.04384	0.03	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.044
93	7.60	7.50	0.17625	0.0	0.04507	0.03	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.045
94	7.50	7.40	0.18106	0.0	0.04630	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.046
95	7.40	7.30	0.18588	0.0	0.04753	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.048
96	7.30	7.20	0.19069	0.0	0.04876	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.049
97	7.20	7.10	0.19551	0.0	0.05000	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.050
98	7.10	7.00	0.20032	0.0	0.05123	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.051
99	7.00	6.90	0.20514	0.0	0.05246	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.052
100	6.90	6.80	0.20995	0.0	0.05369	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.054
101	6.80	6.70	0.21477	0.0	0.05492	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.055
102	6.70	6.60	0.21958	0.0	0.05615	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.056
103	6.60	6.50	0.22440	0.0	0.05738	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.057
104	6.50	6.40	0.22921	0.0	0.05861	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.059
105	6.40	6.30	0.23403	0.0	0.05985	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.060
106	6.30	6.20	0.23884	0.0	0.06108	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.061
107	6.20	6.10	0.24366	0.0	0.06231	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.062
108	6.10	6.00	0.24847	0.0	0.06354	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.064
109	6.00	5.90	0.25329	0.0	0.06477	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.065
110	5.90	5.80	0.25810	0.0	0.06600	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.066
111	5.80	5.70	0.26292	0.0	0.06723	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.067
112	5.70	5.60	0.26773	0.0	0.06847	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.068
113	5.60	5.50	0.27255	0.0	0.06970	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.070
114	5.50	5.40	0.27736	0.0	0.07093	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.071
115	5.40	5.30	0.28218	0.0	0.07216	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.072
116	5.30	5.20	0.28699	0.0	0.07339	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.073
117	5.20	5.10	0.29181	0.0	0.07462	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.075
118	5.10	5.00	0.29662	0.0	0.07585	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.076
119	5.00	4.90	0.30144	0.0	0.07708	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.077
120	4.90	4.80	0.30625	0.0	0.07832	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.078

121	4.80	4.70	0.31107	0.0	0.07955	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.080
122	4.70	4.60	0.31588	0.0	0.08078	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.081
123	4.60	4.50	0.32210	0.4	0.08237	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.082
TOT						0.64			12904.63	22799.71					
AVG					0.0600		0.57	6.91			3.91				
CUM						55.62									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
91	7.700	7.80	1.58	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.31	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	7.600	7.80	1.59	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.31	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	7.500	7.80	1.60	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.31	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	7.400	7.80	1.61	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.32	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	7.300	7.80	1.62	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.32	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	7.200	7.80	1.64	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.32	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	7.100	7.80	1.65	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.32	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	7.000	7.80	1.66	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.32	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
99	6.900	7.80	1.67	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.32	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	6.800	7.80	1.68	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.32	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101	6.700	7.80	1.69	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.32	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102	6.600	7.80	1.70	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.32	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
103	6.500	7.80	1.71	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
104	6.400	7.80	1.72	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	6.300	7.80	1.73	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
106	6.200	7.80	1.74	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107	6.100	7.80	1.75	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
108	6.000	7.80	1.76	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
109	5.900	7.80	1.77	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	5.800	7.80	1.78	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
111	5.700	7.80	1.79	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112	5.600	7.80	1.79	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113	5.500	7.80	1.80	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114	5.400	7.80	1.81	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	5.300	7.80	1.82	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116	5.200	7.80	1.83	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117	5.100	7.80	1.84	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
118	5.000	7.80	1.85	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
119	4.900	7.80	1.85	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	4.800	7.80	1.86	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
121	4.700	7.80	1.87	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
122	4.600	7.80	1.88	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	4.500	7.80	1.89	0.33	0.61	0.00	0.04	0.61	0.00	1.68	1.68	1.68	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			1.49	0.22	0.50	0.00	0.03	0.50	0.00	1.00			0.21	0.50	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM

91	7.700	28.23	0.00	4.67	64.07	3.33	2.35	4.34	2.83	4.34	1.31	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
92	7.600	28.23	0.00	4.65	63.20	3.41	2.34	4.32	2.82	4.32	1.32	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
93	7.500	28.23	0.00	4.62	62.37	3.49	2.33	4.31	2.81	4.31	1.34	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
94	7.400	28.23	0.00	4.60	61.59	3.56	2.32	4.29	2.80	4.29	1.35	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
95	7.300	28.23	0.00	4.58	60.85	3.63	2.32	4.28	2.80	4.28	1.36	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
96	7.200	28.23	0.00	4.56	60.15	3.69	2.31	4.27	2.79	4.27	1.37	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
97	7.100	28.23	0.00	4.54	59.48	3.75	2.30	4.26	2.78	4.26	1.38	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
98	7.000	28.23	0.00	4.53	58.84	3.80	2.30	4.24	2.78	4.24	1.38	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
99	6.900	28.23	0.00	4.51	58.24	3.85	2.29	4.23	2.77	4.23	1.39	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
100	6.800	28.23	0.00	4.49	57.66	3.90	2.29	4.22	2.77	4.22	1.40	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
101	6.700	28.23	0.00	4.48	57.11	3.94	2.28	4.21	2.76	4.21	1.40	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
102	6.600	28.23	0.00	4.46	56.58	3.99	2.28	4.21	2.76	4.21	1.41	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
103	6.500	28.23	0.00	4.45	56.07	4.02	2.27	4.20	2.75	4.20	1.42	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
104	6.400	28.23	0.00	4.43	55.59	4.06	2.27	4.19	2.75	4.19	1.42	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
105	6.300	28.23	0.00	4.42	55.12	4.10	2.26	4.18	2.74	4.18	1.43	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
106	6.200	28.23	0.00	4.41	54.68	4.13	2.26	4.17	2.74	4.17	1.43	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
107	6.100	28.23	0.00	4.40	54.25	4.16	2.26	4.17	2.74	4.17	1.43	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
108	6.000	28.23	0.00	4.39	53.84	4.19	2.25	4.16	2.73	4.16	1.44	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
109	5.900	28.23	0.00	4.37	53.44	4.22	2.25	4.16	2.73	4.16	1.44	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
110	5.800	28.23	0.00	4.36	53.06	4.25	2.25	4.15	2.73	4.15	1.45	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
111	5.700	28.23	0.00	4.35	52.69	4.27	2.25	4.14	2.73	4.14	1.45	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
112	5.600	28.23	0.00	4.34	52.34	4.30	2.24	4.14	2.72	4.14	1.45	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
113	5.500	28.23	0.00	4.33	52.00	4.32	2.24	4.13	2.72	4.13	1.46	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
114	5.400	28.23	0.00	4.32	51.67	4.35	2.24	4.13	2.72	4.13	1.46	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
115	5.300	28.23	0.00	4.32	51.35	4.37	2.24	4.12	2.72	4.12	1.46	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
116	5.200	28.23	0.00	4.31	51.04	4.39	2.23	4.12	2.71	4.12	1.46	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
117	5.100	28.23	0.00	4.30	50.74	4.41	2.23	4.12	2.71	4.12	1.47	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
118	5.000	28.23	0.00	4.29	50.45	4.43	2.23	4.11	2.71	4.11	1.47	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
119	4.900	28.23	0.00	4.28	50.17	4.45	2.23	4.11	2.71	4.11	1.47	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
120	4.800	28.23	0.00	4.27	49.90	4.46	2.23	4.10	2.71	4.10	1.47	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
121	4.700	28.23	0.00	4.27	49.64	4.48	2.22	4.10	2.70	4.10	1.48	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
122	4.600	28.23	0.00	4.26	49.39	4.50	2.22	4.10	2.70	4.10	1.48	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
123	4.500	28.23	0.00	4.25	49.07	4.52	2.22	4.10	2.70	4.10	1.48	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 5 Elder Branch TO Little Sandy WEST ANACOCO CREEK FINAL CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
124	UPR RCH	0.32210	28.23	0.00	4.25	49.07	4.52	2.22	4.10	2.70	4.10	1.48	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.00794	19.62	0.00	3.80	33.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	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	MEAN VELO m/s
124	4.50	4.40	0.33005	0.4	0.03037	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.030
125	4.40	4.30	0.33799	0.4	0.03110	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.031
126	4.30	4.20	0.34594	0.4	0.03183	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.032
127	4.20	4.10	0.35388	0.4	0.03256	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.033
128	4.10	4.00	0.36183	0.4	0.03329	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.033

129	4.00	3.90	0.36977	0.4	0.03402	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.034
130	3.90	3.80	0.37772	0.4	0.03476	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.035
131	3.80	3.70	0.38566	0.4	0.03549	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.035
132	3.70	3.60	0.39361	0.4	0.03622	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.036
133	3.60	3.50	0.40155	0.3	0.03695	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.037
134	3.50	3.40	0.40950	0.3	0.03768	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.038
135	3.40	3.30	0.41744	0.3	0.03841	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.038
136	3.30	3.20	0.42539	0.3	0.03914	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.039
137	3.20	3.10	0.43333	0.3	0.03987	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.040
138	3.10	3.00	0.44128	0.3	0.04060	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.041
139	3.00	2.90	0.44922	0.3	0.04133	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.041
140	2.90	2.80	0.45717	0.3	0.04207	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.042
141	2.80	2.70	0.46511	0.3	0.04280	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.043
142	2.70	2.60	0.47306	0.3	0.04353	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.044
143	2.60	2.50	0.48100	0.3	0.04426	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.044
TOT						0.63			21735.80	22760.00					
AVG					0.0368		0.96	11.38			10.87				
CUM						56.25									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
124	4.400	7.80	0.90	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.33	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	4.300	7.80	0.91	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126	4.200	7.80	0.91	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127	4.100	7.80	0.92	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128	4.000	7.80	0.92	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
129	3.900	7.80	0.93	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	3.800	7.80	0.93	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
131	3.700	7.80	0.94	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132	3.600	7.80	0.94	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
133	3.500	7.80	0.95	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
134	3.400	7.80	0.95	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	3.300	7.80	0.96	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
136	3.200	7.80	0.96	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
137	3.100	7.80	0.97	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
138	3.000	7.80	0.97	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
139	2.900	7.80	0.98	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	2.800	7.80	0.98	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
141	2.700	7.80	0.99	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142	2.600	7.80	0.99	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
143	2.500	7.80	1.00	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.34	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			0.82	0.22	0.50	0.00	0.03	0.50	0.00	0.10			0.21	0.50	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
124	4.400	28.23	0.00	4.24	48.68	4.56	2.19	4.08	2.89	4.08	1.53	0.00	0.00	0.00	0.00	4.69	0.00	0.	0.00

125	4.300	28.23	0.00	4.23	48.31	4.59	2.16	4.07	3.08	4.07	1.57	0.00	0.00	0.00	0.00	6.17	0.00	0.	0.00
126	4.200	28.23	0.00	4.22	47.96	4.62	2.13	4.06	3.28	4.06	1.62	0.00	0.00	0.00	0.00	7.66	0.00	0.	0.00
127	4.100	28.23	0.00	4.21	47.63	4.65	2.10	4.06	3.47	4.06	1.65	0.00	0.00	0.00	0.00	9.14	0.00	0.	0.00
128	4.000	28.23	0.00	4.20	47.31	4.68	2.08	4.05	3.67	4.05	1.69	0.00	0.00	0.00	0.00	10.63	0.00	0.	0.00
129	3.900	28.23	0.00	4.19	47.00	4.70	2.06	4.04	3.87	4.04	1.72	0.00	0.00	0.00	0.00	12.11	0.00	0.	0.00
130	3.800	28.23	0.00	4.18	46.70	4.73	2.04	4.03	4.07	4.03	1.75	0.00	0.00	0.00	0.00	13.60	0.00	0.	0.00
131	3.700	28.23	0.00	4.18	46.42	4.75	2.02	4.02	4.28	4.02	1.78	0.00	0.00	0.00	0.00	15.08	0.00	0.	0.00
132	3.600	28.23	0.00	4.17	46.15	4.77	2.00	4.02	4.48	4.02	1.81	0.00	0.00	0.00	0.00	16.57	0.00	0.	0.00
133	3.500	28.23	0.00	4.16	45.89	4.79	1.98	4.01	4.69	4.01	1.84	0.00	0.00	0.00	0.00	18.05	0.00	0.	0.00
134	3.400	28.23	0.00	4.15	45.64	4.81	1.97	4.01	4.90	4.01	1.86	0.00	0.00	0.00	0.00	19.54	0.00	0.	0.00
135	3.300	28.23	0.00	4.15	45.40	4.83	1.95	4.00	5.10	4.00	1.88	0.00	0.00	0.00	0.00	21.02	0.00	0.	0.00
136	3.200	28.23	0.00	4.14	45.17	4.85	1.94	3.99	5.31	3.99	1.90	0.00	0.00	0.00	0.00	22.51	0.00	0.	0.00
137	3.100	28.23	0.00	4.13	44.94	4.86	1.92	3.99	5.52	3.99	1.92	0.00	0.00	0.00	0.00	23.99	0.00	0.	0.00
138	3.000	28.23	0.00	4.13	44.73	4.88	1.91	3.99	5.73	3.99	1.94	0.00	0.00	0.00	0.00	25.48	0.00	0.	0.00
139	2.900	28.23	0.00	4.12	44.52	4.89	1.90	3.98	5.94	3.98	1.96	0.00	0.00	0.00	0.00	26.96	0.00	0.	0.00
140	2.800	28.23	0.00	4.12	44.32	4.91	1.89	3.98	6.16	3.98	1.97	0.00	0.00	0.00	0.00	28.45	0.00	0.	0.00
141	2.700	28.23	0.00	4.11	44.13	4.92	1.88	3.97	6.37	3.97	1.99	0.00	0.00	0.00	0.00	29.93	0.00	0.	0.00
142	2.600	28.23	0.00	4.11	43.94	4.94	1.87	3.97	6.58	3.97	2.00	0.00	0.00	0.00	0.00	31.42	0.00	0.	0.00
143	2.500	28.23	0.00	4.10	43.76	4.95	1.86	3.97	6.80	3.97	2.01	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 6 Little Sandy TO WAC5 WEST ANACOCO CREEK FINAL CALIBRATION RUN

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
144	UPR RCH	0.48100	28.23	0.00	4.10	43.76	4.95	1.86	3.97	6.80	3.97	2.01	0.00	0.00	0.00	32.90	0.00	0.00
EACH	INCR	0.00636	19.62	0.00	2.50	0.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	
144	WSTLD	0.02150	20.90	0.00	2.70	22.00	7.38	0.68	0.55	0.68	0.55	0.39	0.00	0.00	0.00	0.00	0.00	0.00

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

ELEM NO.	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	MEAN VELO m/s
144	2.50	2.40	0.50886	4.5	0.02389	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.024
145	2.40	2.30	0.51521	4.4	0.02419	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.024
146	2.30	2.20	0.52157	4.4	0.02448	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.024
147	2.20	2.10	0.52792	4.3	0.02478	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
148	2.10	2.00	0.53428	4.3	0.02508	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
149	2.00	1.90	0.54064	4.2	0.02538	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
150	1.90	1.80	0.54699	4.2	0.02568	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
151	1.80	1.70	0.55335	4.1	0.02598	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
152	1.70	1.60	0.55970	4.1	0.02627	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
153	1.60	1.50	0.56606	4.0	0.02657	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
154	1.50	1.40	0.57242	4.0	0.02687	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
155	1.40	1.30	0.57877	4.0	0.02717	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
156	1.30	1.20	0.58513	3.9	0.02747	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
157	1.20	1.10	0.59148	3.9	0.02777	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
158	1.10	1.00	0.59784	3.8	0.02806	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
159	1.00	0.90	0.60420	3.8	0.02836	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
160	0.90	0.80	0.61055	3.8	0.02866	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
161	0.80	0.70	0.61691	3.7	0.02896	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029

162	0.70	0.60	0.62326	3.7	0.02926	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
163	0.60	0.50	0.62962	3.6	0.02956	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
164	0.50	0.40	0.63598	3.6	0.02985	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
165	0.40	0.30	0.64233	3.6	0.03015	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
166	0.30	0.20	0.64869	3.5	0.03045	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
167	0.20	0.10	0.65504	3.5	0.03075	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.031
168	0.10	0.00	0.66140	3.5	0.03105	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.031
TOT						1.06			53255.98	39625.00					
AVG					0.0273		1.34	15.85			21.30				
CUM						57.31									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
144	2.400	7.78	0.62	0.33	0.61	0.00	0.04	0.61	0.00	0.17	0.17	0.17	0.35	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	2.300	7.76	0.63	0.33	0.61	0.00	0.05	0.61	0.00	0.17	0.17	0.17	0.35	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146	2.200	7.75	0.63	0.33	0.61	0.00	0.05	0.61	0.00	0.17	0.17	0.17	0.35	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147	2.100	7.73	0.63	0.33	0.61	0.00	0.05	0.61	0.00	0.17	0.17	0.17	0.35	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
148	2.000	7.71	0.64	0.34	0.62	0.00	0.05	0.62	0.00	0.17	0.17	0.17	0.36	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
149	1.900	7.70	0.64	0.34	0.62	0.00	0.05	0.62	0.00	0.18	0.18	0.18	0.36	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	1.800	7.68	0.64	0.34	0.62	0.00	0.05	0.62	0.00	0.18	0.18	0.18	0.36	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
151	1.700	7.66	0.65	0.34	0.62	0.00	0.05	0.62	0.00	0.18	0.18	0.18	0.37	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152	1.600	7.65	0.65	0.34	0.62	0.00	0.05	0.62	0.00	0.18	0.18	0.18	0.37	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153	1.500	7.63	0.65	0.35	0.63	0.00	0.05	0.63	0.00	0.18	0.18	0.18	0.37	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
154	1.400	7.61	0.66	0.35	0.63	0.00	0.05	0.63	0.00	0.18	0.18	0.18	0.38	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	1.300	7.60	0.66	0.35	0.63	0.00	0.05	0.63	0.00	0.18	0.18	0.18	0.38	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
156	1.200	7.58	0.66	0.35	0.63	0.00	0.05	0.63	0.00	0.19	0.19	0.19	0.38	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157	1.100	7.57	0.67	0.35	0.63	0.00	0.05	0.63	0.00	0.19	0.19	0.19	0.38	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
158	1.000	7.55	0.67	0.36	0.63	0.00	0.05	0.63	0.00	0.19	0.19	0.19	0.39	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
159	0.900	7.53	0.67	0.36	0.64	0.00	0.05	0.64	0.00	0.19	0.19	0.19	0.39	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.800	7.52	0.68	0.36	0.64	0.00	0.05	0.64	0.00	0.19	0.19	0.19	0.39	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
161	0.700	7.50	0.68	0.36	0.64	0.00	0.05	0.64	0.00	0.19	0.19	0.19	0.40	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162	0.600	7.49	0.68	0.36	0.64	0.00	0.05	0.64	0.00	0.19	0.19	0.19	0.40	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
163	0.500	7.47	0.69	0.37	0.64	0.00	0.05	0.64	0.00	0.20	0.20	0.20	0.40	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
164	0.400	7.46	0.69	0.37	0.65	0.00	0.05	0.65	0.00	0.20	0.20	0.20	0.41	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.300	7.44	0.69	0.37	0.65	0.00	0.05	0.65	0.00	0.20	0.20	0.20	0.41	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166	0.200	7.42	0.70	0.37	0.65	0.00	0.05	0.65	0.00	0.20	0.20	0.20	0.41	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167	0.100	7.41	0.70	0.37	0.65	0.00	0.05	0.65	0.00	0.20	0.20	0.20	0.42	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	0.000	7.39	0.70	0.38	0.65	0.00	0.05	0.65	0.00	0.20	0.20	0.20	0.42	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			0.55	0.22	0.50	0.00	0.03	0.50	0.00	0.10			0.21	0.50	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
144	2.400	28.35	0.00	4.02	42.30	5.05	1.76	3.81	6.70	3.81	1.98	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
145	2.300	28.47	0.00	4.00	41.77	5.04	1.72	3.81	6.65	3.81	2.01	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
146	2.200	28.60	0.00	3.98	41.26	5.03	1.68	3.80	6.61	3.80	2.04	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
147	2.100	28.72	0.00	3.97	40.77	5.02	1.64	3.79	6.57	3.79	2.07	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

148	2.000	28.84	0.00	3.95	40.28	5.02	1.60	3.79	6.53	3.79	2.09	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
149	1.900	28.96	0.00	3.93	39.81	5.01	1.56	3.78	6.50	3.78	2.11	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
150	1.800	29.09	0.00	3.92	39.35	5.00	1.53	3.77	6.47	3.77	2.13	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
151	1.700	29.21	0.00	3.90	38.89	4.99	1.50	3.76	6.44	3.76	2.15	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
152	1.600	29.33	0.00	3.88	38.45	4.98	1.47	3.76	6.41	3.76	2.17	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
153	1.500	29.45	0.00	3.87	38.02	4.98	1.44	3.75	6.38	3.75	2.18	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
154	1.400	29.58	0.00	3.85	37.60	4.97	1.42	3.74	6.35	3.74	2.20	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
155	1.300	29.70	0.00	3.84	37.19	4.96	1.39	3.74	6.33	3.74	2.21	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
156	1.200	29.82	0.00	3.82	36.78	4.95	1.37	3.73	6.30	3.73	2.22	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
157	1.100	29.94	0.00	3.81	36.39	4.94	1.35	3.72	6.28	3.72	2.23	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
158	1.000	30.07	0.00	3.80	36.00	4.94	1.32	3.72	6.26	3.72	2.24	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
159	0.900	30.19	0.00	3.78	35.62	4.93	1.30	3.71	6.24	3.71	2.25	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
160	0.800	30.31	0.00	3.77	35.25	4.92	1.29	3.70	6.22	3.70	2.26	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
161	0.700	30.43	0.00	3.76	34.89	4.91	1.27	3.70	6.20	3.70	2.27	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
162	0.600	30.56	0.00	3.74	34.53	4.90	1.25	3.69	6.18	3.69	2.27	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
163	0.500	30.68	0.00	3.73	34.18	4.90	1.23	3.68	6.17	3.68	2.28	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
164	0.400	30.80	0.00	3.72	33.84	4.89	1.22	3.68	6.15	3.68	2.28	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
165	0.300	30.92	0.00	3.71	33.51	4.88	1.20	3.67	6.14	3.67	2.28	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
166	0.200	31.05	0.00	3.69	33.18	4.87	1.19	3.66	6.12	3.66	2.29	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
167	0.100	31.17	0.00	3.68	32.86	4.86	1.17	3.66	6.11	3.66	2.29	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
168	0.000	31.29	0.00	3.67	32.54	4.86	1.16	3.65	6.10	3.65	2.29	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

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STREAM SUMMARY                                          WEST ANACOCO CREEK WATERSHED MODEL
HEADWATER                                               WEST ANACOCO CREEK FINAL CALIBRATION RUN

 TRAVEL TIME       =          57.31 DAYS

 MAXIMUM EFFLUENT  =           4.50 PERCENT

 FLOW              =   0.00231 TO    0.66140   m³/s
 DISPERSION        =   0.0000  TO    0.0000    m²/s
 VELOCITY          =   0.00133 TO    0.37495   m/s
 DEPTH             =   0.18    TO    1.34      m
 WIDTH             =   2.44    TO   15.85      m

 BOD DECAY         =    0.28   TO    0.39      per day
 NH3 DECAY         =    0.00   TO    0.00      per day
 SOD               =    0.17   TO    9.91      g/m²/d
 NH3 SOURCE        =    0.00   TO    0.00      g/m²/d
 REAERATION        =    0.62   TO    8.07      per day
 BOD SETTLING      =    0.22   TO    0.65      per day
 NBOD DECAY        =    0.10   TO    0.42      per day
 NBOD SETTLING     =    0.22   TO    0.65      per day

 TEMPERATURE       =   24.85   TO   31.29      deg C
 DISSOLVED OXYGEN  =    2.35   TO    5.05      mg/L


     .....EXECUTION COMPLETED
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Appendix B2 – Calibration Justification

DATA TYPE 3 - PROGRAM CONSTANTS			
CONSTANT NAME	**VALUE**	**UNITS**	**DATA SOURCE**
KL MINIMUM	0.7	m/day	The minimum KL of 2.3 ft/day converted to 0.70 m/day.
INHIBITION CONTROL VALUE	3		The water column dissolved oxygen demand is assumed to come primarily from facultative bacteria under anoxic conditions and SOD is not influenced by modeled dissolved oxygen levels in the upper water column.
K2 MAXIMUM	25	1/day at 20 deg C	EPA Policy in the absence of a measured value.
HYDRAULIC CALCULATION METHOD	2		The low slopes in this waterbody cause a substantial amount of water to be present during critical flow conditions. This method allows the model to predict a more accurate depth and width during low flow conditions.
ALGAE OXYGEN PRODUCTION	0		Standard practice for steady state calibration to a wide variation in DO.
EFFECTIVE BOD DUE TO ALGAE	0.15		Standard practice for steady state calibration to a wide variation in DO.
SETTLING RATE UNITS	2		By making the settling rate a velocity the rate becomes dependent upon the depth.

DATA TYPE 8 - REACH IDENTIFICATION DATA						
Reach	**ID**	**Name**	**Upstream River Kilometer**	**Downstream River Kilometer**	**Element Length, meters**	**Data Source**
1	WA	WAC1 to WAC2	16.80	14.40	100.0000	ARC MAP Calc.
2	WA	WAC2 to WAC3	14.40	8.70	100.0000	ARC MAP Calc.
3	WA	WAC3 to WAC4	8.70	7.80	100.0000	ARC MAP Calc.
4	WA	WAC4 to Elder Branch Creek	7.80	4.50	100.0000	ARC MAP Calc.
5	WA	Elder Branch Creek to Little Sandy Creek	4.50	2.50	100.0000	ARC MAP Calc.
6	WA	Little Sandy Creek to WAC5	2.50	0.00	100.0000	ARC MAP Calc.

	DATA TYPE 9 - ADVECTIVE HYDRAULIC COEFFICIENTS								
Reach	**Name**	**Width Coeff. "a"**	**Width Exp. "b"**	**Width Const. "c"**	**Data Source**	**Depth Coeff. "d"**	**Depth Exp. "e"**	**Depth Const. "f"**	**Data Source**
1	WAC1 to WAC2	0	0.2	3.658	WAC2	0	0.3	0.195	WAC2
2	WAC2 to WAC3	0	0.2	6.401	WAC3	0	0.3	0.305	WAC3
3	WAC3 to WAC4	0	0.2	2.438	WAC4	0	0.3	0.177	WAC4
4	WAC4 to Elder Branch Creek	0	0.2	6.909	WAC4 - 1/3 (WAC5 - WAC4)	0	0.3	0.566	WAC4 - 1/3 (WAC5 - WAC4)
5	Elder Branch Creek to Little Sandy Creek	0	0.2	11.380	WAC4 - 1/3 (WAC5 - WAC4)	0	0.3	0.955	WAC4 - 1/3 (WAC5 - WAC4)
6	Little Sandy Creek to WAC5	0	0.2	15.850	WAC5	0	0.3	1.344	WAC5

West Anacoco 110501 Calibration Justification

DATA TYPE 11-INITIAL CONDITIONS

Reach	Name	DO, mg/l	Data Source	Temp, deg C	Sal, ppt	Data Source	Chlorophyll a	Data Source
1	WAC1 to WAC2	1.80	1 + Minimum Continuous Monitoring WAC1	25.43	0.00	Average WAC1,WAC2 Continuous Monitoring	16.60	WAC1
2	WAC2 to WAC3	3.20	1 + Minimum Contiuous Monitoring WAC3	24.85	0.00	Average WAC2,WAC3 Continuous Monitoring	16.70	WAC2
3	WAC3 to WAC4	3.20	1 + Minimum WAC3,WAC4 Continuous Monitoring	25.54	0.00	Average WAC3,WAC4 Continuous Monitoring	3.20	WAC3
4	WAC4 to Elder Branch Creek	4.50	1 + Minimum WAC4,WAC5 Continuous Monitoring	28.23	0.00	Average WAC4 Continuous Monitoring	3.20	WAC3
5	Elder Branch Creek to Little Sandy Creek	4.50	1 + Minimum WAC4,WAC5 Continuous Monitoring	28.23	0.00	Average WAC4,WAC5 Continuous Monitoring	3.20	WAC3
6	Little Sandy Creek to WAC5	4.50	1 + Minimum WAC4,WAC5 Continuous Monitoring	28.23	0.00	Average WAC5 Continuous Monitoring	32.90	WAC5

		DATA TYPE 12 - REAERATION, SEDIMENT OXYGEN DEMAND AND BOD COEFFICIENTS					DATA TYPE 12 - REAERATION, SEDIMENT OXYGEN DEMAND AND BOD COEFFICIENTS							
REACH	NAME	K2 OPT	Data Source	a	BKGRND SOD, gmO2/m2/day at 20 deg C	Data Source	Aerobic BOD1 Dec Rate (1/day)	Data Source	BOD1 SETT RATE (1/day)	Data Source	Aerobic BOD2 Dec Rate (1/day)	Data Source	BOD2 SETT RATE (1/day)	Data Source
1	WAC1 to WAC2	11	Texas Equation		3.00	Calibration	0.2757	AVG (WAC1,WAC2)	0.2	Calibration	0.0331	AVG (WAC1,WAC2)	0.2	Calibration
2	WAC2 to WAC3	11	Texas Equation		2.50	Calibration	0.2253	AVG (WAC2,WAC3)	0.2	Calibration	0.0314	AVG (WAC2,WAC3)	0.2	Calibration
3	WAC3 to WAC4	11	Texas Equation		5.90	Calibration	0.2705	AVG (WAC3,WAC4)	0.2	Calibration	0.0310	AVG (WAC3,WAC4)	0.2	Calibration
4	WAC4 to Elder Branch Creek	11	Texas Equation		1.00	Calibration	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration
5	Elder Branch Creek to Little Sandy Creek	11	Texas Equation		0.10	Calibration	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration
6	Little Sandy Creek to WAC5	11	Texas Equation		0.10	Calibration	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration

West Anacoco 110501 Calibration Justification

DATA TYPE 13 - NITROGEN AND PHOSPHORUS COEFFICIENTS

Reach	Name	NBOD decay rate, 1/day	Data Source	NBOD settling rate, 1/day	Data Source
1	WAC1 to WAC2	0.0967	AVG (WAC1,WAC2)	0.20	Calibration
2	WAC2 to WAC3	0.1436	AVG (WAC2,WAC3)	0.20	Calibration
3	WAC3 to WAC4	0.1139	AVG (WAC3,WAC4)	0.20	Calibration
4	WAC4 to Elder Branch Creek	0.2147	AVG (WAC4,WAC5)	0.50	Calibration
5	Elder Branch Creek to Little Sandy Creek	0.2147	AVG (WAC4,WAC5)	0.50	Calibration
6	Little Sandy Creek to WAC5	0.2147	AVG (WAC4,WAC5)	0.50	Calibration

DATA TYPES 16 - INCREMENTAL DATA FOR TEMP AND CONS

Reach	Reach Name	Incr. Ouflow, m3	Incr. Inflow, m3	Data Source	Temp	Data Source	Salinity ppt	Data Source	Chl	Cond	Data Source
1	WAC1 to WAC2		0.0003	INFLOW 1/2(WAC3 - WAC1)	19.62	WAC11a	0.000	Continuous Monitoring	0	0	Calibration
2	WAC2 to WAC3		0.0003	INFLOW 1/2(WAC3 - WAC1)	19.62	WAC11a	0.000	Continuous Monitoring	4	60	Calibration
3	WAC3 to WAC4		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	4.7	65	Calibration
4	WAC4 to Elder Branch Creek		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	3.8	33	Calibration
5	Elder Branch Creek to Little Sandy Creek		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	3.8	33	Calibration
6	Little Sandy Creek to WAC5		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	2.5		Calibration

West Anacoco 110501 Calibration Justification						
DATA TYPES 17 - INCREMENTAL DATA FOR DO, BOD, AND NITROGEN						
Reach	**Reach Name**	**DO, mg/l**	**BOD1, mg/l**	**BOD2, mg/l**	**NBOD, mg/l**	**Data Source**
1	WAC1 to WAC2	3.86	0.4324	0.5641	0.0000	WAC11a - pipe from groundwater on Sandy Creek near bridge.
2	WAC2 to WAC3	3.86	0.4324	0.5641	0.0000	WAC11a - pipe from groundwater on Sandy Creek near bridge.
3	WAC3 to WAC4	3.86	0.4324	0.5641	0.0000	WAC11a - pipe from groundwater on Sandy Creek near bridge.
4	WAC4 to Elder Branch Creek	3.86	0.4324	0.5641	0.0000	WAC11a - pipe from groundwater on Sandy Creek near bridge.
5	Elder Branch Creek to Little Sandy Creek	3.86	0.4324	0.5641	0.0000	WAC11a - pipe from groundwater on Sandy Creek near bridge.
6	Little Sandy Creek to WAC5	3.86	0.4324	0.5641	0.0000	WAC11a - pipe from groundwater on Sandy Creek near bridge.

DATA TYPE 19 - NONPOINT SOURCES						
Reach	**Reach Name**	**Length of Reach, km**	**UCBOD1, kg/day**	**UCBOD2, kg/day**	**NBOD, kg/day**	**Data Source**
1	WAC1 to WAC2	2.40	1.50	1.60	1.00	Calibration
2	WAC2 to WAC3	5.70	14.00	8.00	6.00	Calibration
3	WAC3 to WAC4	0.90	27.00	53.00	18.00	Calibration
4	WAC4 to Elder Branch Creek	3.30	50.00	80.00	40.00	Calibration
5	Elder Branch Creek to Little Sandy Creek	2.00	50.00	100.00	80.00	Calibration
6	Little Sandy Creek to WAC5	2.50	55.00	170.00	165.00	Calibration

DATA TYPES 20 - HEADWATER DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES								
Headwater Name	**Element No.**	**Logical Unit Number**	**Headwater Flow, cms**	**Temp, deg C**	**Salinity**	**Chlorides**	**Conductivity**	**Data Source**
Headwater 1	1	1	0.0023	27.08	0	5.3	73.90	WAC1 Continuous Monitoring - Temp and Salinity, Lab Data - Chlorides, Insitu - Conductivity

DATA TYPES 21 - HEADWATER DATA FOR DO, BOD, AND NITROGEN					
Headwater Name	**Dissolved Oxygen, mg/L**	**UCBOD1, mg/l**	**UCBOD2, mg/l**	**NBOD, mg/l**	**Data Source**
Headwater 1	1.8	0.56	0.228	0	1 + WAC1 Continuous Monitoring Minimum - DO Lab Data - UCBOD1, UCBOD2, AND NBOD

DATA TYPES 22 - HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES					
Headwater Name	**Chlorophyll a, ug/L**	**Date Source**			
Headwater 1	16.6	WAC1 Lab Data			

	DATA TYPES 24 - WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES								
Wasteload / Withdrawal Name	**EL #**	**Flow, cms**	**Temperature, deg C**	**Data Source**	**Chlorides**	**Data Source**	**Salinity**	**Conductivity**	**Data Source**
Elder Branch Creek	123	0.0014	23.98	WAC10 Continuous Monitoring Average	3.4	WAC10 Lab Data	0.0	32.3	WAC10 Insitu - Conductivity Continuous Monitoring - Salinity
Little Sandy Creek	144	0.0215	20.90	WAC11 Insitu	2.7	WAC11 Lab Data	0.0	22.0	WAC11 Insitu - Conductivity and Salinity

DATA TYPES 25 - WASTELOAD DATA FOR DO, BOD, AND NITROGEN							
Wasteload / Withdrawal Name	**EL #**	**DO, mg/l**	**Data Source**	**UCBOD1, mg/l**	**UCBOD2, mg/l**	**UNBOD, mg/l**	**Data Source**
Elder Branch Creek	123	6.66	WAC10 Continuous Monitoring	2.358	4.374	0.881	WAC10 Lab Data
Little Sandy Creek	144	7.38	WAC11 Insitu	0.676	0.548	0.386	WAC11 Lab Data

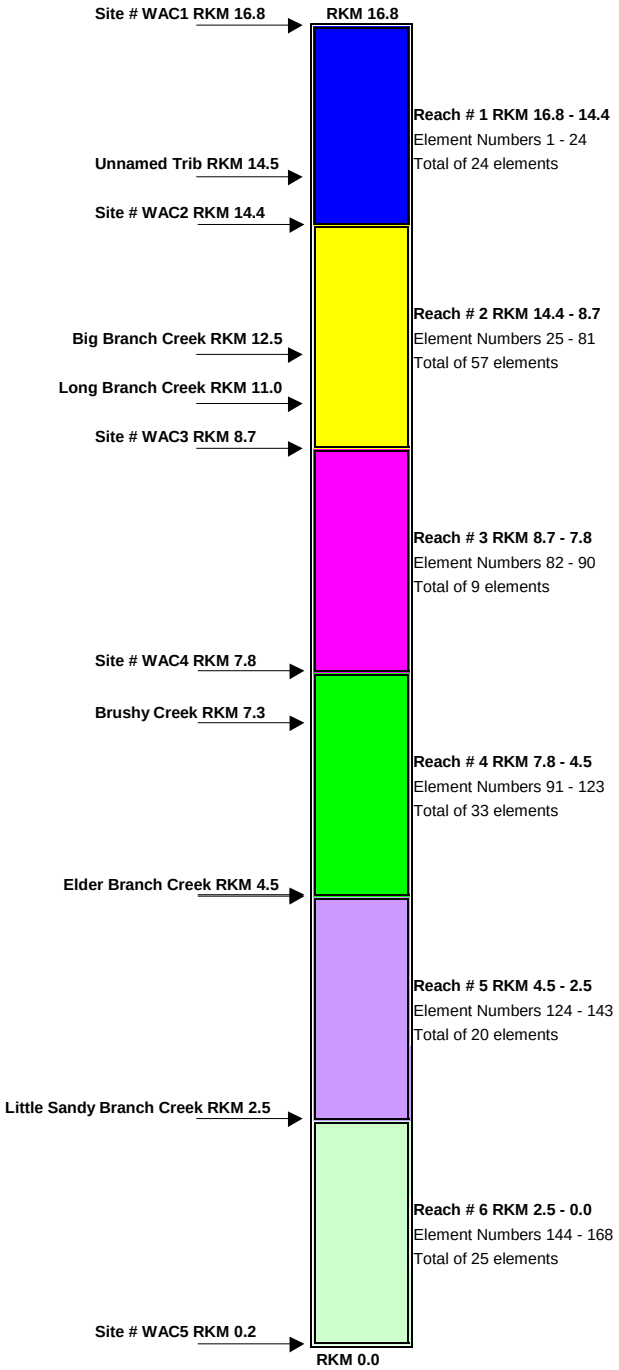
DATA TYPES 26 - WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES							
Wasteload / Withdrawal Name	**EL #**	**Chl a, ug/L**	**Data Source**	**Phosphorus**	**Coliform**	**Nonconservatives**	**Data Source**
Elder Branch Creek	123	2.3	WAC10 Lab Data				
Little Sandy Creek	144						

DATA TYPES 27 - LOWER BOUNDARY CONDITIONS			
Parameter	**Value**	**Units**	**Data Source**
TEMPERATURE	31.29	^{O}C	WAC5 Continuous Monitoring
SALINITY	0.00	ppt	WAC5 Continuous Monitoring
CHLORIDES	3.7	ppm	WAC5 Lab Data
CONDUCTIVITY	33.10	umhos/cm	WAC5 Insitu
DISSOLVED OXYGEN	5.80	mg/L	1 + WAC5 Continuous Monitoring Minimum
CBOD1	6.126	mg/L	WAC5 Lab Data
CBOD2	3.647	mg/L	WAC5 Lab Data
CHLOROPHYLL A	32.9	ug/L	WAC5 Lab Data
NBOD	2.275	mg/L	WAC5 Lab Data

Appendix C - Calibration Model Development

Appendix C1 – Vector Diagram

West Anacoco Creek Model Layout Subsegment 110501 RKM 16.8 to RKM 0.0



Appendix C2 – Reach Setup

West Anacoco Creek 110501					Modeled Length	Element Length				
Reach #	Description	Headwater Yes/No	Starting modeled Kilometer	Ending modeled Kilometer	kilometers	kilometers	Element Count	Cumulative Elements	Begin Element #	End Element #
1	WAC1 - WAC2	Yes	16.8	14.4	2.40	0.100	24	24	1	24
2	WAC2 - WAC3	No	14.4	8.7	5.70	0.100	57	81	25	81
3	WAC3 - WAC4	No	8.7	7.8	0.90	0.100	9	90	82	90
4	WAC4 - Elder Branch Creek	No	7.8	4.5	3.30	0.100	33	123	91	123
5	Elder Branch Creek - Little Sandy Branch Creek	No	4.5	2.5	2.00	0.100	20	143	124	143
6	Little Sandy Branch Creek - WAC5	No	2.5	0.0	2.50	0.100	25	168	144	168

Appendix C3 – Calibration Loading

Calibration Model Non-Point Load Equivalent Calculations:

Modeled stream or water body: **WEST ANACOCO CREEK (110501)**

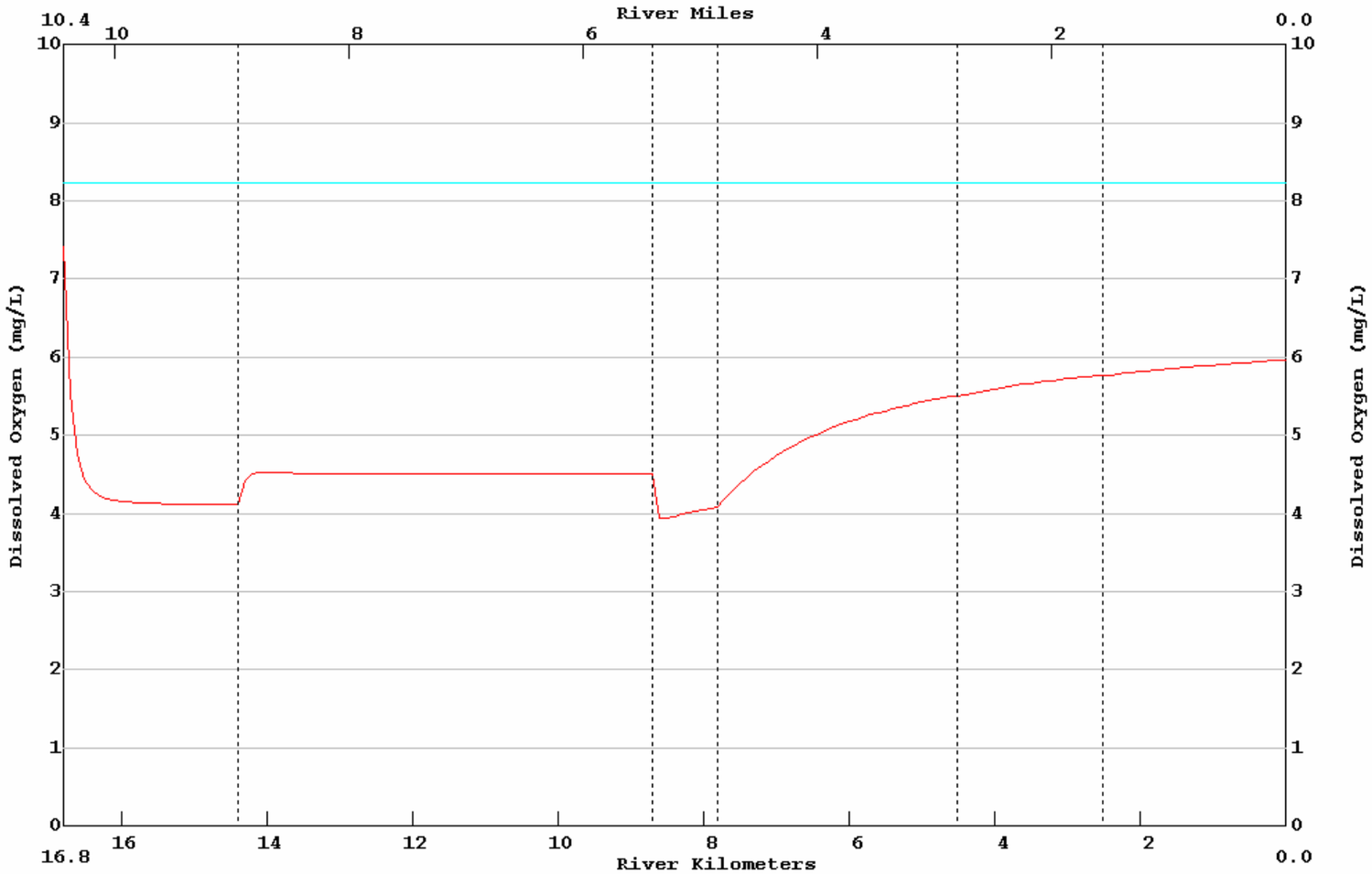
Shaded cells are input values for calculations. If modeling the nitrogen series, be sure that column "I" is clear of all values.

REACH NUMBER & DESCRIPTION	Calibration Model Reach Length	Calibration Model Average Reach Width	Calibration Model UCBOD1 Nonpoint loading	Calibration Model UCBOD2 Nonpoint loading	Calibration Model Total UCBOD Nonpoint loading	Calibration Model UNBOD Nonpoint loading	Calibration Model Total UNBOD Nonpoint loading	Calibration Model UCBOD1 Nonpoint loading	Calibration Model UCBOD2 Nonpoint loading	Calibration Model Total UCBOD Nonpoint loading	Calibration Model Total UNBOD Nonpoint loading	Calibration Model SOD	Calibration Model TOTAL Benthic Load
	km	meters	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]
Reach 1 - WAC1 to WAC2	**2.40**	**3.66**	**1.50**	**1.60**	**3.10**	**1.00**	**1.00**	**0.171**	**0.182**	**0.353**	**0.114**	**3.00**	**3.47**
Reach 2 - WAC2 to WAC3	**5.70**	**6.40**	**14.00**	**8.00**	**22.00**	**6.00**	**6.00**	**0.384**	**0.219**	**0.603**	**0.164**	**2.50**	**3.27**
Reach 3 - WAC3 to WAC4	**0.90**	**2.44**	**27.00**	**53.00**	**80.00**	**18.00**	**18.00**	**12.303**	**24.151**	**36.454**	**8.202**	**5.90**	**50.56**
Reach 4 - WAC4 to Elder Branch Creek	**3.30**	**6.91**	**50.00**	**80.00**	**130.00**	**40.00**	**40.00**	**2.193**	**3.509**	**5.702**	**1.754**	**1.00**	**8.46**
Reach 5 - Elder Branch Creek - Little Sandy Branch Creek	**2.00**	**11.38**	**50.00**	**100.00**	**150.00**	**80.00**	**80.00**	**2.197**	**4.394**	**6.591**	**3.515**	**0.10**	**10.21**
Reach 6 - Little Sandy Branch Creek - WAC5	**2.50**	**15.85**	**55.00**	**170.00**	**225.00**	**165.00**	**165.00**	**1.388**	**4.290**	**5.678**	**4.164**	**0.10**	**9.94**

Appendix D – Projection Model Input and Output Data Sets

Appendix D1 –Summer Output Graphs and Input, Overlay, and Output Files

LA-QUAL Version 8.00 Run at 10:21 on 08/23/2007 File O:\Personal_Folders\Karen\Anacoco\2005\Input Files\4 DO Standard\
WAC SUMMER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD min= 3.94 max= 7.41
WEST ANACOCO CREEK WATERSHED MODEL



WEST ANACOCO CREEK 110501 SUMMER PROJECTION INPUT DATA SET FOR 4.0 MG/L DO STANDARD

```
CNTROL01     WEST ANACOCO CREEK WATERSHED MODEL
CNTROL02     WAC SUMMER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD
CNTROL04 YES METRIC UNITS
ENDATA01
MODOPT01  NO TEMPERATURE
MODOPT02  NO SALINITY
MODOPT03 YES CONSERVATIVE MATERIAL  I = CHLORIDES                 IN MG/L
MODOPT04 YES CONSERVATIVE MATERIAL II = CONDUCTIVITY              IN MG/L
MODOPT05 YES DISSOLVED OXYGEN
MODOPT06 YES BOD1 BIOCHEMICAL OXYGEN DEMAND
MODOPT06 YES BOD2 BIOCHEMICAL OXYGEN DEMAND
MODOPT08 YES NBOD OXYGEN DEMAND
MODOPT10  NO PHOSPHORUS
MODOPT11  NO CHLOROPHYLL A
MODOPT12  NO MACROPHYTES
MODOPT13  NO COLIFORM
ENDATA02
PROGRAM  KL MINIMUM                        =     0.7
PROGRAM  INHIBITION CONTROL VALUE          =     3.
PROGRAM  K2 MAXIMUM                        =     25.0
PROGRAM  HYDRAULIC CALCULATION METHOD      =     2.
PROGRAM  SETTLING RATE UNITS               =     2.
PROGRAM  ALGAE OXYGEN PROD                 =     0.
PROGRAM  EFFECTIVE BOD DUE TO ALGAE        =     0.15
ENDATA03
!Temperature Correction Constants
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ******** ********
ENDATA04
ENDATA05
ENDATA06
ENDATA07
!Reach Identification Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -- ********************************----------**********----------
!          R#  ID   SITE NAME                          RKM        RKM    LENGTH
REACH ID    1  WA WAC1 TO WAC2                         16.8       14.4     0.1
```

```
REACH ID    2  WA WAC2 TO WAC3                          14.4        8.7     0.1
REACH ID    3  WA WAC3 TO WAC4                           8.7        7.8     0.1
REACH ID    4  WA WAC4 TO Elder Branch Creek             7.8        4.5     0.1
REACH ID    5  WA Elder Branch TO Little Sandy           4.5        2.5     0.1
REACH ID    6  WA Little Sandy TO WAC5                   2.5        0.0     0.1
ENDATA08
!Advective Hydraulic Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  -------*******-------*******-------*******-------*******
!                a      b       c     d      e        f
!               WIDTH  WIDTH   WIDTH DEPTH  DEPTH   DEPTH
!          R#   COEFF   EXP    CONST COEFF   EXP    CONST SLOPE MANNING
HYDR-1      1   0.00   0.20    3.658 0.00   0.30    0.195
HYDR-1      2   0.00   0.20    6.401 0.00   0.30    0.305
HYDR-1      3   0.00   0.20    2.438 0.00   0.30    0.177
HYDR-1      4   0.00   0.20    6.909 0.00   0.30    0.566
HYDR-1      5   0.00   0.20   11.380 0.00   0.30    0.955
HYDR-1      6   0.00   0.20   15.850 0.00   0.30    1.344
ENDATA09
!Dispersive Hydraulic Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  -----**********----------**********----------
!              TIDAL
!          R#  RANGE    a          b         c         d
ENDATA10
!Initial Conditions
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  --------********--------********--------********--------********
!          R#    TEMP  SALINITY   DO     NH3 N  NIT NIT  PHOS   CHL A   MACROPHYTES
INITIAL     1    25.23    0.00   4.00                           16.6
INITIAL     2    25.23    0.00   4.00                           16.7
INITIAL     3    25.23    0.00   4.00                            3.2
INITIAL     4    25.23    0.00   4.00                            3.2
INITIAL     5    25.23    0.00   4.00                            3.2
INITIAL     6    25.23    0.00   4.00                           32.9
ENDATA11
!Reaeration, Sediment Oxygen Demand and BOD Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8---------9
```

```
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  -----******----- ******-------*******-------*******-------*******--------***
!                REA    KL                     BOD 1  BOD 1                BOD 2    BOD 2
!           R#   EQ    MIN                 SOD  DECAY  SETT                DECAY    SETT
COEF-1      1   11.0                    2.207 0.2757 0.20                0.0331   0.20
COEF-1      2   11.0                    1.894 0.2253 0.20                0.0314   0.20
COEF-1      3   11.0                    2.358 0.2705 0.20                0.0310   0.20
COEF-1      4   11.0                    0.523 0.2244 0.50                0.0306   0.50
COEF-1      5   11.0                    0.050 0.2244 0.50                0.0306   0.50
COEF-1      6   11.0                    0.050 0.2244 0.50                0.0306   0.50
ENDATA12
!Nitrogen and Phosphorus Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  -------*******-------*******-------*******-------
!               NBOD     NBOD
!           R#  DECAY    SETT
COEF-2      1  0.0967   0.20
COEF-2      2  0.1436   0.20
COEF-2      3  0.1139   0.20
COEF-2      4  0.2147   0.50
COEF-2      5  0.2147   0.50
COEF-2      6  0.2147   0.50
ENDATA13
ENDATA14
!Coliform and Nonconservative Cofficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  -------*******-------*******
ENDATA15
!Incremental Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  ---------*********---------*********---------*********
!           R#   OUTFLOW   INFLOW  TEMP     SALINITY CHLORIDE  COND
INCR-1      1     0.0000  0.0003  19.620      0.00     0
INCR-1      2     0.0000  0.0003  19.620      0.00     4.0      60
INCR-1      3     0.0000  0.1589  19.620      0.00     4.7      65
INCR-1      4     0.0000  0.1589  19.620      0.00     3.8      33
INCR-1      5     0.0000  0.1589  19.620      0.00     3.8      33
INCR-1      6     0.0000  0.1589  19.620      0.00     2.5
```

```
ENDATA16
!Incremental Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!          ***  ---------********---------********---------********
!           R#      DO     BOD 1     NBOD    NH3 N   NIT NIT    BOD 2
INCR-2       1     3.86   0.4324    0.0000                     0.5641
INCR-2       2     3.86   0.4324    0.0000                     0.5641
INCR-2       3     3.86   0.4324    0.0000                     0.5641
INCR-2       4     3.86   0.4324    0.0000                     0.5641
INCR-2       5     3.86   0.4324    0.0000                     0.5641
INCR-2       6     3.86   0.4324    0.0000                     0.5641
ENDATA17
!Incremental Data for Phosphorus, Chlorophyll, Coliform and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!          ***  ---------********---------********
!           R#   PHOSPH    CHL A   COLIFORM NONCONSERVATIVE
INCR-3       1
INCR-3       2
INCR-3       3
INCR-3       4
INCR-3       5
INCR-3       6
ENDATA18
!Nonpoint Source Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!          ***  ---------********---------********---------********
!           R#     BOD 1    NBOD   COLIFORM NONCONS    DO      BOD 2
NONPOINT     1     1.103    0.736                              1.177
NONPOINT     2    10.606    4.545                              6.060
NONPOINT     3    10.793    7.195                             21.185
NONPOINT     4    26.141   20.913                             41.826
NONPOINT     5    24.874   39.799                             49.748
NONPOINT     6    27.540   82.620                             85.123
ENDATA19
!Headwater Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ****  -------------------- *** --------********--------********--------
```

```
!         E#    NAME                      FLOW    TEMP  SALIN   CHLORIDE   COND
HDWTR-1     1  HEADWATER                 0.0023   25.23  0.00     5.3      73.9
ENDATA20
!Headwater Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********---------********---------********
!          E#      DO      BOD 1    NBOD    NH3 N    NIT NIT  BOD 2
HDWTR-2     1      7.41    0.560    0.0                       0.090
ENDATA21
!Headwater Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********---------********
!          E#  PHOSPHOR   CHL A   COLIFORM  NONCONSERVATIVE
HDWTR-3     1              16.6
ENDATA22
ENDATA23
!Wasteload Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  --------------------********---------********---------********
!          E#     NAME                FLOW      TEMP   SALINITY CHLORIDE  COND
WSTLD-1   123  ELDER BRANCH CREEK    0.0023    25.23     0.00      3.4    32.3
WSTLD-1   144  LITTLE SANDY CREEK    0.0023    25.23     0.00      2.7    22.0
ENDATA24
!Wasteload Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********-----********---------*****---------********
!          E#       DO    BOD 1         NBOD    NH3 N          NIT NIT  BOD 2
WSTLD-2   123      4.00   2.358         0.780                           1.510
WSTLD-2   144      4.00   0.676         0.386                           0.210
ENDATA25
!Wasteload Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********---------********
!          E#  PHOSPHOR  CHL A    COLIFORM NONCONSERVATIVE
WSTLD-3   123             2.3
WSTLD-3   144
```

```
ENDATA26
LOWER BC TEMPERATURE                        =  25.23
LOWER BC SALINITY                           =   0.00
LOWER BC CONSERVATIVE MATERIAL I            =   3.70
LOWER BC CONSERVATIVE MATERIAL II           =  33.10
LOWER BC DISSOLVED OXYGEN                   =   4.00
LOWER BC BOD1 BIOCHEMICAL OXYGEN DEMAND     =   6.126
LOWER BC BOD2 BIOCHEMICAL OXYGEN DEMAND     =   3.647
LOWER BC CHLOROPHYLL A                      =   32.9
LOWER BC NBOD                               =   2.275
ENDATA27
!Dam Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ****  ******************** ** ******** ******** ********
ENDATA28
ENDATA29
NUMBER OF PLOTS = 1
NUMBER OF REACHES IN PLOT 1 =   6                        INCREMENT =  0.1
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** **
PLOT RCH  1  2  3  4  5  6
ENDATA30
ENDATA31
```

WEST ANACOCO CREEK 110501 SUMMER PROJECTION OUTPUT DATA SET FOR 4.0 MG/L DO STANDARD

```
LA-QUAL Version 8.00
Louisiana Department of Environmental Quality

Input file is O:\Personal_Folders\Karen\Anacoco\2005\Input Files\4 DO Standard\WACsum70.txt
Output produced at 10:21 on 08/23/2007

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

CARD TYPE       CONTROL TITLES

TITLE01         WEST ANACOCO CREEK WATERSHED MODEL
TITLE02         WAC SUMMER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD
CNTROL04  YES   METRIC UNITS
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 = CONDUCTIVITY              IN MG/L
MODOPT05  YES   DISSOLVED OXYGEN
MODOPT06  YES   BOD1 BIOCHEMICAL OXYGEN DEMAND
MODOPT06  YES   BOD2 BIOCHEMICAL OXYGEN DEMAND
MODOPT08  YES   NBOD OXYGEN DEMAND
MODOPT10   NO   PHOSPHORUS
MODOPT11   NO   CHLOROPHYLL A
MODOPT12   NO   MACROPHYTES
MODOPT13   NO   COLIFORM
ENDATA02

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

CARD TYPE       DESCRIPTION OF CONSTANT                       VALUE

PROGRAM         KL MINIMUM                        =         0.70000 meters/day
PROGRAM         INHIBITION CONTROL VALUE          =         3.00000 (inhibit all rates but SOD)
PROGRAM         K2 MAXIMUM                        =        25.00000 per day
PROGRAM         HYDRAULIC CALCULATION METHOD      =         2.00000 (widths and depths)
PROGRAM         SETTLING RATE UNITS               =         2.00000 (values entered as per day)
PROGRAM         ALGAE OXYGEN PROD                 =         0.00000 mg O/ug chl a/day
PROGRAM         EFFECTIVE BOD DUE TO ALGAE        =         0.15000 mg/L BOD per ug/L chl a
ENDATA03

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

 CARD TYPE     RATE CODE     THETA VALUE

ENDATA04

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

CARD TYPE       DESCRIPTION OF CONSTANT                       VALUE

ENDATA05

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

CARD TYPE       DESCRIPTION OF CONSTANT                       VALUE

ENDATA06

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

CARD TYPE       DESCRIPTION OF CONSTANT                       VALUE

ENDATA07

$$$ DATA TYPE 8 (REACH IDENTIFICATION DATA) $$$
                                                      BEGIN        END     ELEM    REACH     ELEMS   BEGIN    END
CARD TYPE  REACH  ID  NAME                            REACH      REACH   LENGTH   LENGTH    PER RCH   ELEM   ELEM
                                                         km         km       km       km               NUM    NUM
```

```
REACH ID      1   WA  WAC1 TO WAC2                        16.80  TO   14.40   0.1000     2.40      24        1     24
REACH ID      2   WA  WAC2 TO WAC3                        14.40  TO    8.70   0.1000     5.70      57       25     81
REACH ID      3   WA  WAC3 TO WAC4                         8.70  TO    7.80   0.1000     0.90       9       82     90
REACH ID      4   WA  WAC4 TO Elder Branch Creek           7.80  TO    4.50   0.1000     3.30      33       91    123
REACH ID      5   WA  Elder Branch TO Little Sandy         4.50  TO    2.50   0.1000     2.00      20      124    143
REACH ID      6   WA  Little Sandy TO WAC5                 2.50  TO    0.00   0.1000     2.50      25      144    168
ENDATA08

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

CARD TYPE  REACH  ID       WIDTH       WIDTH       WIDTH       DEPTH       DEPTH       DEPTH      SLOPE    MANNINGS
                            "A"         "B"         "C"         "D"         "E"         "F"                  "N"

HYDR-1        1   WA       0.000       0.200       3.658       0.000       0.300       0.195     0.00000   0.000
HYDR-1        2   WA       0.000       0.200       6.401       0.000       0.300       0.305     0.00000   0.000
HYDR-1        3   WA       0.000       0.200       2.438       0.000       0.300       0.177     0.00000   0.000
HYDR-1        4   WA       0.000       0.200       6.909       0.000       0.300       0.566     0.00000   0.000
HYDR-1        5   WA       0.000       0.200      11.380       0.000       0.300       0.955     0.00000   0.000
HYDR-1        6   WA       0.000       0.200      15.850       0.000       0.300       1.344     0.00000   0.000
ENDATA09

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

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

ENDATA10

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

CARD TYPE      REACH  ID        TEMP     SALIN        DO       NH3     NO3+2      PHOS     CHL A     MACRO

INITIAL          1   WA       25.23      0.00      4.00      0.00      0.00      0.00     16.60      0.00
INITIAL          2   WA       25.23      0.00      4.00      0.00      0.00      0.00     16.70      0.00
INITIAL          3   WA       25.23      0.00      4.00      0.00      0.00      0.00      3.20      0.00
INITIAL          4   WA       25.23      0.00      4.00      0.00      0.00      0.00      3.20      0.00
INITIAL          5   WA       25.23      0.00      4.00      0.00      0.00      0.00      3.20      0.00
INITIAL          6   WA       25.23      0.00      4.00      0.00      0.00      0.00     32.90      0.00
ENDATA11

$$$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) $$$
                                                                                                  BOD     ANAER                          BOD2     ANAER
CARD     RCH  RCH  K2                    K2        K2        K2    BKGRND       BOD       BOD     CONV      BOD2      BOD2      BOD2     CONV      BOD2
TYPE     NUM   ID  OPT                   "A"       "B"       "C"       SOD     DECAY      SETT   TO SOD     DECAY     DECAY      SETT   TO SOD     DECAY
                                                                    g/m²/d   per day       m/d             per day   per day       m/d             per day

COEF-1     1   WA  11 TEXAS            0.000     0.000     0.000     2.207     0.276     0.200     0.000     0.000     0.033     0.200     0.000     0.000
COEF-1     2   WA  11 TEXAS            0.000     0.000     0.000     1.894     0.225     0.200     0.000     0.000     0.031     0.200     0.000     0.000
COEF-1     3   WA  11 TEXAS            0.000     0.000     0.000     2.358     0.271     0.200     0.000     0.000     0.031     0.200     0.000     0.000
COEF-1     4   WA  11 TEXAS            0.000     0.000     0.000     0.523     0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
COEF-1     5   WA  11 TEXAS            0.000     0.000     0.000     0.050     0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
COEF-1     6   WA  11 TEXAS            0.000     0.000     0.000     0.050     0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
ENDATA12

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

CARD TYPE      REACH  ID        NBOD      NBOD   ORGN CONV       NH3       NH3      PHOS     DENIT
                                 DECA      SETT  TO NH3 SRCE     DECA      SRCE      SRCE      RATE
```

```
COEF-2            1   WA       0.097     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2            2   WA       0.144     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2            3   WA       0.114     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2            4   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
COEF-2            5   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
COEF-2            6   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
ENDATA13

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

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

ENDATA14

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

CARD TYPE      REACH  ID    COLIFORM       NCM       NCM    NCM CONV
                            DIE-OFF     DECAY      SETT     TO SOD

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   WA       0.00000     0.00030     19.62      0.00      0.00      0.00   0.00013   0.00000
INCR-1            2   WA       0.00000     0.00030     19.62      0.00      4.00     60.00   0.00005   0.00000
INCR-1            3   WA       0.00000     0.15890     19.62      0.00      4.70     65.00   0.17656   0.00000
INCR-1            4   WA       0.00000     0.15890     19.62      0.00      3.80     33.00   0.04815   0.00000
INCR-1            5   WA       0.00000     0.15890     19.62      0.00      3.80     33.00   0.07945   0.00000
INCR-1            6   WA       0.00000     0.15890     19.62      0.00      2.50      0.00   0.06356   0.00000
ENDATA16

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

CARD TYPE      REACH  ID          DO       BOD      NBOD                          BOD#2

INCR-2            1   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            2   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            3   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            4   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            5   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            6   WA        3.86      0.43      0.00      0.00      0.00      0.56
ENDATA17

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

 CARD TYPE      REACH  ID        PHOS     CHL A      COLI       NCM

INCR-3            1   WA        0.00      0.00      0.00      0.00
INCR-3            2   WA        0.00      0.00      0.00      0.00
INCR-3            3   WA        0.00      0.00      0.00      0.00
INCR-3            4   WA        0.00      0.00      0.00      0.00
INCR-3            5   WA        0.00      0.00      0.00      0.00
INCR-3            6   WA        0.00      0.00      0.00      0.00
ENDATA18
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$$$ DATA TYPE 19 (NONPOINT SOURCE DATA) $$$

CARD TYPE      REACH  ID       BOD#1     NBOD       COLI       NCM        DO     BOD#2

NONPOINT           1  WA        1.10      0.74      0.00      0.00      0.00      1.18
NONPOINT           2  WA       10.61      4.55      0.00      0.00      0.00      6.06
NONPOINT           3  WA       10.79      7.20      0.00      0.00      0.00     21.18
NONPOINT           4  WA       26.14     20.91      0.00      0.00      0.00     41.83
NONPOINT           5  WA       24.87     39.80      0.00      0.00      0.00     49.75
NONPOINT           6  WA       27.54     82.62      0.00      0.00      0.00     85.12
ENDATA19

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

CARD TYPE     ELEMENT   NAME                  UNIT     FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                        m³/s      cfs   deg C      ppt      MG/L      MG/L

HDWTR-1           1     HEADWATER               0   0.00230    0.081   25.23     0.00     5.300    73.900
ENDATA20

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

CARD TYPE     ELEMENT   NAME                          DO     BOD#1     NBOD                          BOD#2
                                                     mg/L      mg/L      mg/L      mg/L      mg/L      mg/L

HDWTR-2           1     HEADWATER                  7.41      0.56      0.00      0.00      0.00      0.09
ENDATA21

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

CARD TYPE     ELEMENT   NAME                       PHOS     CHL A      COLI       NCM
                                                     mg/L      mg/L      mg/L      mg/L

HDWTR-3           1     HEADWATER                  0.00     16.60      0.00      0.00
ENDATA22

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

CARD TYPE   JUNCTION   UPSTRM     RIVER     NAME
             ELEMENT  ELEMENT     KILOM

ENDATA23

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

CARD TYPE  ELEMENT    RKILO  NAME                     FLOW       FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                       m³/s        cfs      MGD   deg C      ppt      MG/L      MG/L

WSTLD-1      123       4.60  ELDER BRANCH CREEK     0.00230    0.08121    0.052   25.23     0.00     3.400    32.300
WSTLD-1      144       2.50  LITTLE SANDY CREEK     0.00230    0.08121    0.052   25.23     0.00     2.700    22.000
ENDATA24

$$$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) $$$
                                                                  % BOD                          %
CARD TYPE     ELEMENT   NAME                          DO       BOD      RMVL     NBOD                NITRIF                BOD#2
                                                     mg/L      mg/L                mg/L      mg/L                 mg/L      mg/L

WSTLD-2         123     ELDER BRANCH CREEK          4.00      2.36      0.00      0.78      0.00      0.00      0.00      1.51
WSTLD-2         144     LITTLE SANDY CREEK          4.00      0.68      0.00      0.39      0.00      0.00      0.00      0.21
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ENDATA25

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

CARD TYPE     ELEMENT   NAME                        PHOS     CHL A      COLI       NCM
                                                    mg/L      mg/L      mg/L      mg/L

WSTLD-3         123     ELDER BRANCH CREEK          0.00      2.30      0.00      0.00
WSTLD-3         144     LITTLE SANDY CREEK          0.00      0.00      0.00      0.00
ENDATA26

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

CARD TYPE    CONSTITUENT                    CONCENTRATION

LOWER BC     TEMPERATURE                        =     25.230     deg C
LOWER BC     SALINITY                           =      0.000     ppt
LOWER BC     CONSERVATIVE MATERIAL I            =      3.700     MG/L
LOWER BC     CONSERVATIVE MATERIAL II           =     33.100     MG/L
LOWER BC     DISSOLVED OXYGEN                   =      4.000     mg/L
LOWER BC     BOD1 BIOCHEMICAL OXYGEN DEMAND     =      6.126     mg/L
LOWER BC     BOD2 BIOCHEMICAL OXYGEN DEMAND     =      3.647     mg/L
LOWER BC     CHLOROPHYLL A                      =     32.900     µg/L
LOWER BC     NBOD                               =      2.275     mg/L
ENDATA27

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

CARD TYPE     ELEMENT   NAME                  EQN      "A"       "B"       "H"

ENDATA28

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

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

ENDATA29

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


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

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


ENDATA31



     .....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 11
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FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 1 WAC1 TO WAC2 WAC SUMMER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
1	HDWTR	0.00230	25.23	0.00	5.30	73.90	7.41	0.00	0.09	0.56	0.09	0.00	0.00	0.00	0.00	16.60	0.00	0.00
EACH	INCR	0.00001	19.62	0.00	0.00	0.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/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	MEAN VELO m/s
1	16.80	16.70	0.00231	0.0	0.00324	0.36	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
2	16.70	16.60	0.00233	0.0	0.00326	0.36	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
3	16.60	16.50	0.00234	0.0	0.00328	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
4	16.50	16.40	0.00235	0.0	0.00329	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
5	16.40	16.30	0.00236	0.0	0.00331	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
6	16.30	16.20	0.00237	0.0	0.00333	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
7	16.20	16.10	0.00239	0.0	0.00335	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
8	16.10	16.00	0.00240	0.0	0.00336	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
9	16.00	15.90	0.00241	0.0	0.00338	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
10	15.90	15.80	0.00242	0.0	0.00340	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
11	15.80	15.70	0.00244	0.0	0.00342	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
12	15.70	15.60	0.00245	0.0	0.00343	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
13	15.60	15.50	0.00246	0.0	0.00345	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
14	15.50	15.40	0.00247	0.0	0.00347	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
15	15.40	15.30	0.00249	0.0	0.00349	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
16	15.30	15.20	0.00250	0.0	0.00350	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
17	15.20	15.10	0.00251	0.0	0.00352	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
18	15.10	15.00	0.00252	0.0	0.00354	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
19	15.00	14.90	0.00254	0.0	0.00356	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
20	14.90	14.80	0.00255	0.0	0.00357	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
21	14.80	14.70	0.00256	0.0	0.00359	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
22	14.70	14.60	0.00257	0.0	0.00361	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
23	14.60	14.50	0.00259	0.0	0.00363	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
24	14.50	14.40	0.00260	0.0	0.00364	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
TOT						8.08			1711.94	8779.20					
AVG					0.0034		0.19	3.66			0.71				
CUM						8.08									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
1	16.700	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	16.600	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3	16.500	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	16.400	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	16.300	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	16.200	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	16.100	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	16.000	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	15.900	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	15.800	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	15.700	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	15.600	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	15.500	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	15.400	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	15.300	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	15.200	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	15.100	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	15.000	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	14.900	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	14.800	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	14.700	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	14.600	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	14.500	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	14.400	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.07	3.07	3.07	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			3.59	0.28	0.20	0.00	0.03	0.20	0.00	2.21			0.10	0.20	0.00	0.00	0.00	0.00			0.00	0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
1	16.700	25.23	0.00	5.27	73.50	5.54	0.19	0.31	2.68	0.31	0.14	0.00	0.00	0.00	0.00	16.60	0.00	0.	0.00
2	16.600	25.23	0.00	5.24	73.11	4.76	0.35	0.51	2.84	0.51	0.26	0.00	0.00	0.00	0.00	16.61	0.00	0.	0.00
3	16.500	25.23	0.00	5.21	72.71	4.43	0.48	0.68	2.97	0.68	0.36	0.00	0.00	0.00	0.00	16.61	0.00	0.	0.00
4	16.400	25.23	0.00	5.19	72.33	4.29	0.59	0.85	3.08	0.85	0.46	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
5	16.300	25.23	0.00	5.16	71.94	4.22	0.68	0.99	3.17	0.99	0.54	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
6	16.200	25.23	0.00	5.13	71.57	4.19	0.75	1.12	3.24	1.12	0.61	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
7	16.100	25.23	0.00	5.11	71.19	4.17	0.81	1.24	3.30	1.24	0.68	0.00	0.00	0.00	0.00	16.63	0.00	0.	0.00
8	16.000	25.23	0.00	5.08	70.82	4.16	0.86	1.35	3.35	1.35	0.73	0.00	0.00	0.00	0.00	16.63	0.00	0.	0.00
9	15.900	25.23	0.00	5.05	70.45	4.15	0.90	1.45	3.39	1.45	0.78	0.00	0.00	0.00	0.00	16.64	0.00	0.	0.00
10	15.800	25.23	0.00	5.03	70.09	4.14	0.93	1.54	3.43	1.54	0.83	0.00	0.00	0.00	0.00	16.64	0.00	0.	0.00
11	15.700	25.23	0.00	5.00	69.73	4.14	0.96	1.62	3.46	1.62	0.87	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
12	15.600	25.23	0.00	4.98	69.38	4.13	0.98	1.69	3.48	1.69	0.90	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
13	15.500	25.23	0.00	4.95	69.02	4.13	1.00	1.76	3.50	1.76	0.93	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
14	15.400	25.23	0.00	4.93	68.67	4.12	1.02	1.82	3.52	1.82	0.96	0.00	0.00	0.00	0.00	16.66	0.00	0.	0.00
15	15.300	25.23	0.00	4.90	68.33	4.12	1.03	1.87	3.53	1.87	0.99	0.00	0.00	0.00	0.00	16.66	0.00	0.	0.00
16	15.200	25.23	0.00	4.88	67.99	4.12	1.04	1.92	3.54	1.92	1.01	0.00	0.00	0.00	0.00	16.67	0.00	0.	0.00
17	15.100	25.23	0.00	4.85	67.65	4.12	1.05	1.97	3.55	1.97	1.03	0.00	0.00	0.00	0.00	16.67	0.00	0.	0.00
18	15.000	25.23	0.00	4.83	67.31	4.12	1.06	2.01	3.56	2.01	1.04	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
19	14.900	25.23	0.00	4.80	66.98	4.11	1.07	2.05	3.57	2.05	1.06	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
20	14.800	25.23	0.00	4.78	66.65	4.11	1.07	2.08	3.57	2.08	1.07	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
21	14.700	25.23	0.00	4.76	66.33	4.11	1.08	2.11	3.58	2.11	1.09	0.00	0.00	0.00	0.00	16.69	0.00	0.	0.00
22	14.600	25.23	0.00	4.73	66.01	4.11	1.08	2.14	3.58	2.14	1.10	0.00	0.00	0.00	0.00	16.69	0.00	0.	0.00
23	14.500	25.23	0.00	4.71	65.69	4.11	1.08	2.17	3.59	2.17	1.11	0.00	0.00	0.00	0.00	16.70	0.00	0.	0.00
24	14.400	25.23	0.00	4.69	65.37	4.11	1.09	2.19	3.59	2.19	1.12	0.00	0.00	0.00	0.00	16.70	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 2 WAC2 TO WAC3 WAC SUMMER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
25	UPR RCH	0.00260	25.23	0.00	4.69	65.37	4.11	1.09	2.19	3.59	2.19	1.12	0.00	0.00	0.00	16.70	0.00	0.00
EACH	INCR	0.00001	19.62	0.00	4.00	60.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	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	MEAN VELO m/s
25	14.40	14.30	0.00261	0.0	0.00133	0.87	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
26	14.30	14.20	0.00261	0.0	0.00134	0.87	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
27	14.20	14.10	0.00262	0.0	0.00134	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
28	14.10	14.00	0.00262	0.0	0.00134	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
29	14.00	13.90	0.00263	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
30	13.90	13.80	0.00263	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
31	13.80	13.70	0.00264	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
32	13.70	13.60	0.00264	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
33	13.60	13.50	0.00265	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
34	13.50	13.40	0.00265	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
35	13.40	13.30	0.00266	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
36	13.30	13.20	0.00266	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
37	13.20	13.10	0.00267	0.0	0.00137	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
38	13.10	13.00	0.00267	0.0	0.00137	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
39	13.00	12.90	0.00268	0.0	0.00137	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
40	12.90	12.80	0.00268	0.0	0.00137	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
41	12.80	12.70	0.00269	0.0	0.00138	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
42	12.70	12.60	0.00269	0.0	0.00138	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
43	12.60	12.50	0.00270	0.0	0.00138	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
44	12.50	12.40	0.00271	0.0	0.00139	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
45	12.40	12.30	0.00271	0.0	0.00139	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
46	12.30	12.20	0.00272	0.0	0.00139	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
47	12.20	12.10	0.00272	0.0	0.00139	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
48	12.10	12.00	0.00273	0.0	0.00140	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
49	12.00	11.90	0.00273	0.0	0.00140	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
50	11.90	11.80	0.00274	0.0	0.00140	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
51	11.80	11.70	0.00274	0.0	0.00140	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
52	11.70	11.60	0.00275	0.0	0.00141	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
53	11.60	11.50	0.00275	0.0	0.00141	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
54	11.50	11.40	0.00276	0.0	0.00141	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
55	11.40	11.30	0.00276	0.0	0.00142	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
56	11.30	11.20	0.00277	0.0	0.00142	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
57	11.20	11.10	0.00277	0.0	0.00142	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
58	11.10	11.00	0.00278	0.0	0.00142	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
59	11.00	10.90	0.00278	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
60	10.90	10.80	0.00279	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
61	10.80	10.70	0.00279	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
62	10.70	10.60	0.00280	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
63	10.60	10.50	0.00281	0.0	0.00144	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
64	10.50	10.40	0.00281	0.0	0.00144	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001

65	10.40	10.30	0.00282	0.0	0.00144	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
66	10.30	10.20	0.00282	0.0	0.00144	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
67	10.20	10.10	0.00283	0.0	0.00145	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
68	10.10	10.00	0.00283	0.0	0.00145	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
69	10.00	9.90	0.00284	0.0	0.00145	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
70	9.90	9.80	0.00284	0.0	0.00146	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
71	9.80	9.70	0.00285	0.0	0.00146	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
72	9.70	9.60	0.00285	0.0	0.00146	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
73	9.60	9.50	0.00286	0.0	0.00146	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
74	9.50	9.40	0.00286	0.0	0.00147	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
75	9.40	9.30	0.00287	0.0	0.00147	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
76	9.30	9.20	0.00287	0.0	0.00147	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
77	9.20	9.10	0.00288	0.0	0.00147	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
78	9.10	9.00	0.00288	0.0	0.00148	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
79	9.00	8.90	0.00289	0.0	0.00148	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
80	8.90	8.80	0.00289	0.0	0.00148	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
81	8.80	8.70	0.00290	0.0	0.00149	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
TOT						46.84			11128.14	36485.70					
AVG					0.0014		0.31	6.40			1.95				
CUM						54.91									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
25	14.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	14.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	14.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	14.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	13.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	13.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	13.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	13.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	13.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	13.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	13.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	13.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	13.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	13.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	12.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	12.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	12.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	12.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	12.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	12.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	12.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	12.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	12.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	12.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	11.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	11.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	11.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	11.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	11.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	11.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

55	11.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	11.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	11.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	11.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	10.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	10.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	10.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	10.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	10.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	10.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	10.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	10.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	10.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	10.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	9.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	9.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	9.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	9.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	9.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	9.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	9.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	9.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	9.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	9.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	8.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	8.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81	8.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.63	2.63	2.63	0.18	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			2.30	0.23	0.20	0.00	0.03	0.20	0.00	1.89			0.14	0.20	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
25	14.300	25.23	0.00	4.69	65.36	4.42	1.32	2.16	3.79	2.16	1.08	0.00	0.00	0.00	0.00	16.46	0.00	0.	0.00
26	14.200	25.23	0.00	4.69	65.35	4.51	1.49	2.14	3.92	2.14	1.06	0.00	0.00	0.00	0.00	16.23	0.00	0.	0.00
27	14.100	25.23	0.00	4.68	65.34	4.53	1.60	2.12	4.00	2.12	1.04	0.00	0.00	0.00	0.00	15.99	0.00	0.	0.00
28	14.000	25.23	0.00	4.68	65.33	4.53	1.68	2.10	4.04	2.10	1.03	0.00	0.00	0.00	0.00	15.75	0.00	0.	0.00
29	13.900	25.23	0.00	4.68	65.32	4.52	1.73	2.09	4.06	2.09	1.02	0.00	0.00	0.00	0.00	15.52	0.00	0.	0.00
30	13.800	25.23	0.00	4.68	65.31	4.52	1.77	2.08	4.06	2.08	1.01	0.00	0.00	0.00	0.00	15.28	0.00	0.	0.00
31	13.700	25.23	0.00	4.68	65.30	4.52	1.79	2.07	4.05	2.07	1.01	0.00	0.00	0.00	0.00	15.04	0.00	0.	0.00
32	13.600	25.23	0.00	4.68	65.29	4.52	1.81	2.06	4.03	2.06	1.01	0.00	0.00	0.00	0.00	14.81	0.00	0.	0.00
33	13.500	25.23	0.00	4.68	65.28	4.51	1.82	2.06	4.01	2.06	1.00	0.00	0.00	0.00	0.00	14.57	0.00	0.	0.00
34	13.400	25.23	0.00	4.67	65.27	4.51	1.83	2.05	3.98	2.05	1.00	0.00	0.00	0.00	0.00	14.33	0.00	0.	0.00
35	13.300	25.23	0.00	4.67	65.26	4.51	1.84	2.05	3.95	2.05	1.00	0.00	0.00	0.00	0.00	14.09	0.00	0.	0.00
36	13.200	25.23	0.00	4.67	65.25	4.51	1.84	2.05	3.92	2.05	1.00	0.00	0.00	0.00	0.00	13.86	0.00	0.	0.00
37	13.100	25.23	0.00	4.67	65.24	4.51	1.85	2.04	3.89	2.04	1.00	0.00	0.00	0.00	0.00	13.62	0.00	0.	0.00
38	13.000	25.23	0.00	4.67	65.23	4.51	1.85	2.04	3.85	2.04	1.00	0.00	0.00	0.00	0.00	13.38	0.00	0.	0.00
39	12.900	25.23	0.00	4.67	65.21	4.51	1.85	2.04	3.82	2.04	1.00	0.00	0.00	0.00	0.00	13.15	0.00	0.	0.00
40	12.800	25.23	0.00	4.67	65.20	4.51	1.85	2.04	3.79	2.04	1.00	0.00	0.00	0.00	0.00	12.91	0.00	0.	0.00
41	12.700	25.23	0.00	4.67	65.19	4.51	1.85	2.04	3.75	2.04	1.00	0.00	0.00	0.00	0.00	12.67	0.00	0.	0.00
42	12.600	25.23	0.00	4.66	65.18	4.51	1.85	2.04	3.72	2.04	1.00	0.00	0.00	0.00	0.00	12.44	0.00	0.	0.00
43	12.500	25.23	0.00	4.66	65.17	4.51	1.85	2.03	3.68	2.03	1.00	0.00	0.00	0.00	0.00	12.20	0.00	0.	0.00
44	12.400	25.23	0.00	4.66	65.16	4.51	1.85	2.03	3.65	2.03	1.00	0.00	0.00	0.00	0.00	11.96	0.00	0.	0.00
45	12.300	25.23	0.00	4.66	65.15	4.51	1.85	2.03	3.61	2.03	1.00	0.00	0.00	0.00	0.00	11.73	0.00	0.	0.00

46	12.200	25.23	0.00	4.66	65.14	4.51	1.85	2.03	3.57	2.03	1.00	0.00	0.00	0.00	0.00	11.49	0.00	0.	0.00
47	12.100	25.23	0.00	4.66	65.13	4.51	1.85	2.03	3.54	2.03	1.00	0.00	0.00	0.00	0.00	11.25	0.00	0.	0.00
48	12.000	25.23	0.00	4.66	65.12	4.51	1.85	2.03	3.50	2.03	1.00	0.00	0.00	0.00	0.00	11.02	0.00	0.	0.00
49	11.900	25.23	0.00	4.66	65.11	4.51	1.85	2.03	3.47	2.03	1.00	0.00	0.00	0.00	0.00	10.78	0.00	0.	0.00
50	11.800	25.23	0.00	4.65	65.10	4.51	1.85	2.03	3.43	2.03	1.00	0.00	0.00	0.00	0.00	10.54	0.00	0.	0.00
51	11.700	25.23	0.00	4.65	65.09	4.51	1.85	2.03	3.40	2.03	1.00	0.00	0.00	0.00	0.00	10.31	0.00	0.	0.00
52	11.600	25.23	0.00	4.65	65.08	4.51	1.85	2.03	3.36	2.03	1.00	0.00	0.00	0.00	0.00	10.07	0.00	0.	0.00
53	11.500	25.23	0.00	4.65	65.08	4.51	1.85	2.03	3.33	2.03	1.00	0.00	0.00	0.00	0.00	9.83	0.00	0.	0.00
54	11.400	25.23	0.00	4.65	65.07	4.51	1.85	2.03	3.29	2.03	1.00	0.00	0.00	0.00	0.00	9.59	0.00	0.	0.00
55	11.300	25.23	0.00	4.65	65.06	4.51	1.85	2.03	3.26	2.03	1.00	0.00	0.00	0.00	0.00	9.36	0.00	0.	0.00
56	11.200	25.23	0.00	4.65	65.05	4.51	1.85	2.03	3.22	2.03	1.00	0.00	0.00	0.00	0.00	9.12	0.00	0.	0.00
57	11.100	25.23	0.00	4.65	65.04	4.51	1.85	2.03	3.18	2.03	1.00	0.00	0.00	0.00	0.00	8.88	0.00	0.	0.00
58	11.000	25.23	0.00	4.64	65.03	4.51	1.85	2.03	3.15	2.03	1.00	0.00	0.00	0.00	0.00	8.65	0.00	0.	0.00
59	10.900	25.23	0.00	4.64	65.02	4.51	1.85	2.03	3.11	2.03	1.00	0.00	0.00	0.00	0.00	8.41	0.00	0.	0.00
60	10.800	25.23	0.00	4.64	65.01	4.51	1.85	2.03	3.08	2.03	1.00	0.00	0.00	0.00	0.00	8.17	0.00	0.	0.00
61	10.700	25.23	0.00	4.64	65.00	4.51	1.85	2.03	3.04	2.03	1.00	0.00	0.00	0.00	0.00	7.94	0.00	0.	0.00
62	10.600	25.23	0.00	4.64	64.99	4.51	1.85	2.03	3.01	2.03	1.00	0.00	0.00	0.00	0.00	7.70	0.00	0.	0.00
63	10.500	25.23	0.00	4.64	64.98	4.51	1.85	2.03	2.97	2.03	1.00	0.00	0.00	0.00	0.00	7.46	0.00	0.	0.00
64	10.400	25.23	0.00	4.64	64.97	4.51	1.85	2.03	2.94	2.03	1.00	0.00	0.00	0.00	0.00	7.23	0.00	0.	0.00
65	10.300	25.23	0.00	4.64	64.96	4.51	1.85	2.03	2.90	2.03	1.00	0.00	0.00	0.00	0.00	6.99	0.00	0.	0.00
66	10.200	25.23	0.00	4.63	64.95	4.51	1.85	2.03	2.86	2.03	1.00	0.00	0.00	0.00	0.00	6.75	0.00	0.	0.00
67	10.100	25.23	0.00	4.63	64.94	4.51	1.85	2.03	2.83	2.03	1.00	0.00	0.00	0.00	0.00	6.52	0.00	0.	0.00
68	10.000	25.23	0.00	4.63	64.93	4.51	1.85	2.03	2.79	2.03	1.00	0.00	0.00	0.00	0.00	6.28	0.00	0.	0.00
69	9.900	25.23	0.00	4.63	64.92	4.51	1.85	2.03	2.76	2.03	1.00	0.00	0.00	0.00	0.00	6.04	0.00	0.	0.00
70	9.800	25.23	0.00	4.63	64.92	4.51	1.85	2.03	2.72	2.03	1.00	0.00	0.00	0.00	0.00	5.81	0.00	0.	0.00
71	9.700	25.23	0.00	4.63	64.91	4.51	1.85	2.03	2.69	2.03	1.00	0.00	0.00	0.00	0.00	5.57	0.00	0.	0.00
72	9.600	25.23	0.00	4.63	64.90	4.51	1.85	2.03	2.65	2.03	1.00	0.00	0.00	0.00	0.00	5.33	0.00	0.	0.00
73	9.500	25.23	0.00	4.63	64.89	4.51	1.85	2.03	2.62	2.03	1.00	0.00	0.00	0.00	0.00	5.09	0.00	0.	0.00
74	9.400	25.23	0.00	4.63	64.88	4.51	1.85	2.03	2.58	2.03	1.00	0.00	0.00	0.00	0.00	4.86	0.00	0.	0.00
75	9.300	25.23	0.00	4.62	64.87	4.51	1.85	2.03	2.54	2.03	1.00	0.00	0.00	0.00	0.00	4.62	0.00	0.	0.00
76	9.200	25.23	0.00	4.62	64.86	4.51	1.85	2.03	2.51	2.03	1.00	0.00	0.00	0.00	0.00	4.38	0.00	0.	0.00
77	9.100	25.23	0.00	4.62	64.85	4.51	1.85	2.03	2.47	2.03	1.00	0.00	0.00	0.00	0.00	4.15	0.00	0.	0.00
78	9.000	25.23	0.00	4.62	64.84	4.51	1.85	2.03	2.44	2.03	1.00	0.00	0.00	0.00	0.00	3.91	0.00	0.	0.00
79	8.900	25.23	0.00	4.62	64.83	4.51	1.85	2.03	2.40	2.03	1.00	0.00	0.00	0.00	0.00	3.67	0.00	0.	0.00
80	8.800	25.23	0.00	4.62	64.83	4.51	1.85	2.03	2.37	2.03	1.00	0.00	0.00	0.00	0.00	3.44	0.00	0.	0.00
81	8.700	25.23	0.00	4.62	64.82	4.51	1.85	2.03	2.33	2.03	1.00	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 3 WAC3 TO WAC4 WAC SUMMER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
82	UPR RCH	0.00290	25.23	0.00	4.62	64.82	4.51	1.85	2.03	2.33	2.03	1.00	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.01766	19.62	0.00	4.70	65.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	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	MEAN VELO m/s
82	8.70	8.60	0.02056	0.0	0.04763	0.02	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.048
83	8.60	8.50	0.03821	0.0	0.08855	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.089

84	8.50	8.40	0.05587	0.0	0.12946	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.129
85	8.40	8.30	0.07352	0.0	0.17038	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.170
86	8.30	8.20	0.09118	0.0	0.21129	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.211
87	8.20	8.10	0.10883	0.0	0.25221	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.252
88	8.10	8.00	0.12649	0.0	0.29312	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.293
89	8.00	7.90	0.14414	0.0	0.33403	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.334
90	7.90	7.80	0.16180	0.0	0.37495	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.375
TOT						0.07			388.37	2194.20					
AVG					0.1414		0.18	2.44			0.43				
CUM						54.99									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
82	8.600	8.23	4.37	0.34	0.23	0.00	0.04	0.23	0.00	3.28	3.28	3.28	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83	8.500	8.23	5.16	0.34	0.23	0.00	0.04	0.23	0.00	3.28	3.28	3.28	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	8.400	8.23	5.72	0.34	0.23	0.00	0.04	0.23	0.00	3.28	3.28	3.28	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	8.300	8.23	6.16	0.34	0.23	0.00	0.04	0.23	0.00	3.28	3.28	3.28	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	8.200	8.23	6.54	0.34	0.23	0.00	0.04	0.23	0.00	3.28	3.28	3.28	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	8.100	8.23	6.86	0.34	0.23	0.00	0.04	0.23	0.00	3.28	3.28	3.28	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	8.000	8.23	7.15	0.34	0.23	0.00	0.04	0.23	0.00	3.28	3.28	3.28	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	7.900	8.23	7.41	0.34	0.23	0.00	0.04	0.23	0.00	3.28	3.28	3.28	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	7.800	8.23	7.64	0.34	0.23	0.00	0.04	0.23	0.00	3.28	3.28	3.28	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			5.73	0.27	0.20	0.00	0.03	0.20	0.00	2.36			0.11	0.20	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
82	8.600	25.23	0.00	4.69	64.97	3.94	1.29	2.08	1.77	2.08	0.59	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
83	8.500	25.23	0.00	4.69	64.99	3.94	1.25	2.09	1.73	2.09	0.55	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
84	8.400	25.23	0.00	4.70	64.99	3.96	1.23	2.09	1.71	2.09	0.54	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
85	8.300	25.23	0.00	4.70	64.99	3.99	1.22	2.09	1.70	2.09	0.54	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
86	8.200	25.23	0.00	4.70	64.99	4.01	1.22	2.09	1.70	2.09	0.53	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
87	8.100	25.23	0.00	4.70	65.00	4.03	1.22	2.09	1.70	2.09	0.53	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
88	8.000	25.23	0.00	4.70	65.00	4.05	1.21	2.09	1.69	2.09	0.53	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
89	7.900	25.23	0.00	4.70	65.00	4.07	1.21	2.09	1.69	2.09	0.53	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
90	7.800	25.23	0.00	4.70	65.00	4.08	1.21	2.09	1.69	2.09	0.53	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 4 WAC4 TO Elder Branch Creek WAC SUMMER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM

91	UPR RCH	0.16180	25.23	0.00	4.70	65.00	4.08	1.21	2.09	1.69	2.09	0.53	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.00482	19.62	0.00	3.80	33.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	
123	WSTLD	0.00230	25.23	0.00	3.40	32.30	4.00	2.36	1.51	2.36	1.51	0.78	0.00	0.00	0.00	2.30	0.00	0.00

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

ELEM NO.	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	MEAN VELO m/s
91	7.80	7.70	0.16662	0.0	0.04261	0.03	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.043
92	7.70	7.60	0.17143	0.0	0.04384	0.03	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.044
93	7.60	7.50	0.17625	0.0	0.04507	0.03	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.045
94	7.50	7.40	0.18106	0.0	0.04630	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.046
95	7.40	7.30	0.18588	0.0	0.04753	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.048
96	7.30	7.20	0.19069	0.0	0.04876	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.049
97	7.20	7.10	0.19551	0.0	0.05000	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.050
98	7.10	7.00	0.20032	0.0	0.05123	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.051
99	7.00	6.90	0.20514	0.0	0.05246	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.052
100	6.90	6.80	0.20995	0.0	0.05369	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.054
101	6.80	6.70	0.21477	0.0	0.05492	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.055
102	6.70	6.60	0.21958	0.0	0.05615	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.056
103	6.60	6.50	0.22440	0.0	0.05738	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.057
104	6.50	6.40	0.22921	0.0	0.05861	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.059
105	6.40	6.30	0.23403	0.0	0.05985	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.060
106	6.30	6.20	0.23884	0.0	0.06108	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.061
107	6.20	6.10	0.24366	0.0	0.06231	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.062
108	6.10	6.00	0.24847	0.0	0.06354	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.064
109	6.00	5.90	0.25329	0.0	0.06477	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.065
110	5.90	5.80	0.25810	0.0	0.06600	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.066
111	5.80	5.70	0.26292	0.0	0.06723	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.067
112	5.70	5.60	0.26773	0.0	0.06847	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.068
113	5.60	5.50	0.27255	0.0	0.06970	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.070
114	5.50	5.40	0.27736	0.0	0.07093	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.071
115	5.40	5.30	0.28218	0.0	0.07216	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.072
116	5.30	5.20	0.28699	0.0	0.07339	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.073
117	5.20	5.10	0.29181	0.0	0.07462	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.075
118	5.10	5.00	0.29662	0.0	0.07585	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.076
119	5.00	4.90	0.30144	0.0	0.07708	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.077
120	4.90	4.80	0.30625	0.0	0.07832	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.078
121	4.80	4.70	0.31107	0.0	0.07955	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.080
122	4.70	4.60	0.31588	0.0	0.08078	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.081
123	4.60	4.50	0.32300	0.7	0.08260	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.083
TOT						0.64			12904.63	22799.71					
AVG					0.0600		0.57	6.91			3.91				
CUM						55.62									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
91	7.700	8.23	1.49	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	7.600	8.23	1.51	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	7.500	8.23	1.52	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

94	7.400	8.23	1.53	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	7.300	8.23	1.54	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	7.200	8.23	1.55	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	7.100	8.23	1.56	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	7.000	8.23	1.57	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
99	6.900	8.23	1.58	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	6.800	8.23	1.59	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101	6.700	8.23	1.60	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102	6.600	8.23	1.61	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
103	6.500	8.23	1.62	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
104	6.400	8.23	1.63	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	6.300	8.23	1.64	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
106	6.200	8.23	1.65	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107	6.100	8.23	1.66	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
108	6.000	8.23	1.67	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
109	5.900	8.23	1.67	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	5.800	8.23	1.68	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
111	5.700	8.23	1.69	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112	5.600	8.23	1.70	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113	5.500	8.23	1.71	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114	5.400	8.23	1.72	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	5.300	8.23	1.72	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116	5.200	8.23	1.73	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117	5.100	8.23	1.74	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
118	5.000	8.23	1.75	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
119	4.900	8.23	1.76	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	4.800	8.23	1.76	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
121	4.700	8.23	1.77	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
122	4.600	8.23	1.78	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	4.500	8.23	1.79	0.29	0.57	0.00	0.04	0.57	0.00	0.73	0.73	0.73	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			1.49	0.22	0.50	0.00	0.03	0.50	0.00	0.52			0.21	0.50	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
91	7.700	25.23	0.00	4.67	64.07	4.19	1.21	2.10	1.69	2.10	0.54	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
92	7.600	25.23	0.00	4.65	63.20	4.29	1.22	2.11	1.70	2.11	0.56	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
93	7.500	25.23	0.00	4.62	62.37	4.38	1.22	2.12	1.70	2.12	0.57	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
94	7.400	25.23	0.00	4.60	61.59	4.46	1.23	2.12	1.71	2.12	0.59	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
95	7.300	25.23	0.00	4.58	60.85	4.54	1.23	2.13	1.71	2.13	0.60	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
96	7.200	25.23	0.00	4.56	60.15	4.61	1.23	2.14	1.71	2.14	0.61	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
97	7.100	25.23	0.00	4.54	59.48	4.68	1.24	2.14	1.72	2.14	0.62	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
98	7.000	25.23	0.00	4.53	58.84	4.74	1.24	2.15	1.72	2.15	0.63	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
99	6.900	25.23	0.00	4.51	58.24	4.79	1.24	2.16	1.72	2.16	0.64	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
100	6.800	25.23	0.00	4.49	57.66	4.85	1.24	2.16	1.72	2.16	0.65	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
101	6.700	25.23	0.00	4.48	57.11	4.90	1.25	2.17	1.73	2.17	0.66	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
102	6.600	25.23	0.00	4.46	56.58	4.94	1.25	2.17	1.73	2.17	0.66	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
103	6.500	25.23	0.00	4.45	56.07	4.99	1.25	2.17	1.73	2.17	0.67	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
104	6.400	25.23	0.00	4.43	55.59	5.03	1.25	2.18	1.73	2.18	0.68	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
105	6.300	25.23	0.00	4.42	55.12	5.07	1.25	2.18	1.73	2.18	0.68	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
106	6.200	25.23	0.00	4.41	54.68	5.11	1.25	2.19	1.73	2.19	0.69	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
107	6.100	25.23	0.00	4.40	54.25	5.14	1.26	2.19	1.74	2.19	0.69	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
108	6.000	25.23	0.00	4.39	53.84	5.17	1.26	2.19	1.74	2.19	0.70	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

109	5.900	25.23	0.00	4.37	53.44	5.20	1.26	2.20	1.74	2.20	0.70	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
110	5.800	25.23	0.00	4.36	53.06	5.23	1.26	2.20	1.74	2.20	0.71	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
111	5.700	25.23	0.00	4.35	52.69	5.26	1.26	2.20	1.74	2.20	0.71	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
112	5.600	25.23	0.00	4.34	52.34	5.29	1.26	2.21	1.74	2.21	0.72	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
113	5.500	25.23	0.00	4.33	52.00	5.31	1.26	2.21	1.74	2.21	0.72	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
114	5.400	25.23	0.00	4.32	51.67	5.34	1.26	2.21	1.74	2.21	0.73	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
115	5.300	25.23	0.00	4.32	51.35	5.36	1.27	2.21	1.75	2.21	0.73	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
116	5.200	25.23	0.00	4.31	51.04	5.38	1.27	2.22	1.75	2.22	0.73	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
117	5.100	25.23	0.00	4.30	50.74	5.40	1.27	2.22	1.75	2.22	0.74	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
118	5.000	25.23	0.00	4.29	50.45	5.42	1.27	2.22	1.75	2.22	0.74	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
119	4.900	25.23	0.00	4.28	50.17	5.44	1.27	2.22	1.75	2.22	0.74	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
120	4.800	25.23	0.00	4.27	49.90	5.46	1.27	2.22	1.75	2.22	0.75	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
121	4.700	25.23	0.00	4.27	49.64	5.48	1.27	2.23	1.75	2.23	0.75	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
122	4.600	25.23	0.00	4.26	49.39	5.50	1.27	2.23	1.75	2.23	0.75	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
123	4.500	25.23	0.00	4.25	49.02	5.50	1.28	2.22	1.76	2.22	0.75	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 5 Elder Branch TO Little Sandy WAC SUMMER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
124	UPR RCH	0.32300	25.23	0.00	4.25	49.02	5.50	1.28	2.22	1.76	2.22	0.75	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.00794	19.62	0.00	3.80	33.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	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	MEAN VELO m/s
124	4.50	4.40	0.33095	0.7	0.03045	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.030
125	4.40	4.30	0.33889	0.7	0.03118	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.031
126	4.30	4.20	0.34684	0.7	0.03191	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.032
127	4.20	4.10	0.35478	0.6	0.03264	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.033
128	4.10	4.00	0.36273	0.6	0.03338	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.033
129	4.00	3.90	0.37067	0.6	0.03411	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.034
130	3.90	3.80	0.37862	0.6	0.03484	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.035
131	3.80	3.70	0.38656	0.6	0.03557	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.036
132	3.70	3.60	0.39451	0.6	0.03630	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.036
133	3.60	3.50	0.40245	0.6	0.03703	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.037
134	3.50	3.40	0.41040	0.6	0.03776	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.038
135	3.40	3.30	0.41834	0.5	0.03849	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.038
136	3.30	3.20	0.42629	0.5	0.03922	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.039
137	3.20	3.10	0.43423	0.5	0.03996	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.040
138	3.10	3.00	0.44218	0.5	0.04069	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.041
139	3.00	2.90	0.45012	0.5	0.04142	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.041
140	2.90	2.80	0.45807	0.5	0.04215	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.042
141	2.80	2.70	0.46601	0.5	0.04288	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.043
142	2.70	2.60	0.47396	0.5	0.04361	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.044
143	2.60	2.50	0.48190	0.5	0.04434	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.044
TOT						0.63			21735.80	22760.00					
AVG					0.0369		0.96	11.38			10.87				

CUM 56.25

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
124	4.400	8.23	0.85	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	4.300	8.23	0.86	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126	4.200	8.23	0.86	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127	4.100	8.23	0.87	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128	4.000	8.23	0.88	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
129	3.900	8.23	0.88	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	3.800	8.23	0.89	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
131	3.700	8.23	0.89	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132	3.600	8.23	0.90	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
133	3.500	8.23	0.90	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
134	3.400	8.23	0.91	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	3.300	8.23	0.91	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
136	3.200	8.23	0.91	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
137	3.100	8.23	0.92	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
138	3.000	8.23	0.92	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
139	2.900	8.23	0.93	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	2.800	8.23	0.93	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
141	2.700	8.23	0.94	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142	2.600	8.23	0.94	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
143	2.500	8.23	0.95	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			0.82	0.22	0.50	0.00	0.03	0.50	0.00	0.05			0.21	0.50	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
124	4.400	25.23	0.00	4.24	48.64	5.52	1.26	2.22	1.96	2.22	0.78	0.00	0.00	0.00	0.00	4.69	0.00	0.	0.00
125	4.300	25.23	0.00	4.23	48.27	5.54	1.25	2.22	2.17	2.22	0.80	0.00	0.00	0.00	0.00	6.17	0.00	0.	0.00
126	4.200	25.23	0.00	4.22	47.92	5.56	1.23	2.21	2.38	2.21	0.83	0.00	0.00	0.00	0.00	7.66	0.00	0.	0.00
127	4.100	25.23	0.00	4.21	47.59	5.58	1.22	2.21	2.59	2.21	0.85	0.00	0.00	0.00	0.00	9.14	0.00	0.	0.00
128	4.000	25.23	0.00	4.20	47.27	5.59	1.20	2.21	2.80	2.21	0.87	0.00	0.00	0.00	0.00	10.63	0.00	0.	0.00
129	3.900	25.23	0.00	4.19	46.96	5.61	1.19	2.20	3.01	2.20	0.89	0.00	0.00	0.00	0.00	12.11	0.00	0.	0.00
130	3.800	25.23	0.00	4.18	46.67	5.62	1.18	2.20	3.22	2.20	0.90	0.00	0.00	0.00	0.00	13.60	0.00	0.	0.00
131	3.700	25.23	0.00	4.17	46.39	5.64	1.17	2.20	3.43	2.20	0.92	0.00	0.00	0.00	0.00	15.08	0.00	0.	0.00
132	3.600	25.23	0.00	4.17	46.12	5.65	1.16	2.20	3.64	2.20	0.93	0.00	0.00	0.00	0.00	16.57	0.00	0.	0.00
133	3.500	25.23	0.00	4.16	45.86	5.67	1.15	2.19	3.86	2.19	0.95	0.00	0.00	0.00	0.00	18.05	0.00	0.	0.00
134	3.400	25.23	0.00	4.15	45.61	5.68	1.14	2.19	4.07	2.19	0.96	0.00	0.00	0.00	0.00	19.54	0.00	0.	0.00
135	3.300	25.23	0.00	4.15	45.37	5.69	1.13	2.19	4.29	2.19	0.97	0.00	0.00	0.00	0.00	21.02	0.00	0.	0.00
136	3.200	25.23	0.00	4.14	45.14	5.70	1.13	2.19	4.50	2.19	0.98	0.00	0.00	0.00	0.00	22.51	0.00	0.	0.00
137	3.100	25.23	0.00	4.13	44.92	5.71	1.12	2.19	4.72	2.19	0.99	0.00	0.00	0.00	0.00	23.99	0.00	0.	0.00
138	3.000	25.23	0.00	4.13	44.70	5.72	1.11	2.19	4.93	2.19	1.00	0.00	0.00	0.00	0.00	25.48	0.00	0.	0.00
139	2.900	25.23	0.00	4.12	44.50	5.73	1.11	2.18	5.15	2.18	1.01	0.00	0.00	0.00	0.00	26.96	0.00	0.	0.00
140	2.800	25.23	0.00	4.12	44.30	5.74	1.10	2.18	5.37	2.18	1.02	0.00	0.00	0.00	0.00	28.45	0.00	0.	0.00
141	2.700	25.23	0.00	4.11	44.11	5.75	1.09	2.18	5.58	2.18	1.03	0.00	0.00	0.00	0.00	29.93	0.00	0.	0.00
142	2.600	25.23	0.00	4.10	43.92	5.76	1.09	2.18	5.80	2.18	1.04	0.00	0.00	0.00	0.00	31.42	0.00	0.	0.00

143	2.500	25.23	0.00	4.10	43.74	5.77	1.08	2.18	6.02	2.18	1.04	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 6 Little Sandy TO WAC5 WAC SUMMER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
144	UPR RCH	0.48190	25.23	0.00	4.10	43.74	5.77	1.08	2.18	6.02	2.18	1.04	0.00	0.00	0.00	32.90	0.00	0.00
EACH	INCR	0.00636	19.62	0.00	2.50	0.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	
144	WSTLD	0.00230	25.23	0.00	2.70	22.00	4.00	0.68	0.21	0.68	0.21	0.39	0.00	0.00	0.00	0.00	0.00	0.00

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

ELEM NO.	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	MEAN VELO m/s
144	2.50	2.40	0.49056	0.9	0.02303	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.023
145	2.40	2.30	0.49691	0.9	0.02333	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.023
146	2.30	2.20	0.50327	0.9	0.02362	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.024
147	2.20	2.10	0.50962	0.9	0.02392	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.024
148	2.10	2.00	0.51598	0.9	0.02422	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.024
149	2.00	1.90	0.52234	0.9	0.02452	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
150	1.90	1.80	0.52869	0.9	0.02482	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
151	1.80	1.70	0.53505	0.9	0.02512	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
152	1.70	1.60	0.54140	0.8	0.02542	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
153	1.60	1.50	0.54776	0.8	0.02571	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
154	1.50	1.40	0.55412	0.8	0.02601	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
155	1.40	1.30	0.56047	0.8	0.02631	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
156	1.30	1.20	0.56683	0.8	0.02661	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
157	1.20	1.10	0.57318	0.8	0.02691	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
158	1.10	1.00	0.57954	0.8	0.02721	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
159	1.00	0.90	0.58590	0.8	0.02750	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
160	0.90	0.80	0.59225	0.8	0.02780	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
161	0.80	0.70	0.59861	0.8	0.02810	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
162	0.70	0.60	0.60496	0.8	0.02840	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
163	0.60	0.50	0.61132	0.8	0.02870	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
164	0.50	0.40	0.61768	0.7	0.02900	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
165	0.40	0.30	0.62403	0.7	0.02929	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
166	0.30	0.20	0.63039	0.7	0.02959	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
167	0.20	0.10	0.63674	0.7	0.02989	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
168	0.10	0.00	0.64310	0.7	0.03019	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
TOT						1.09			53255.98	39625.00					
AVG					0.0264		1.34	15.85			21.30				
CUM						57.35									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da

144	2.400	8.23	0.58	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	2.300	8.23	0.58	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146	2.200	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147	2.100	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
148	2.000	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
149	1.900	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	1.800	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
151	1.700	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152	1.600	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153	1.500	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
154	1.400	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	1.300	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
156	1.200	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157	1.100	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
158	1.000	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
159	0.900	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.800	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
161	0.700	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162	0.600	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
163	0.500	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
164	0.400	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.300	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166	0.200	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167	0.100	8.23	0.63	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	0.000	8.23	0.63	0.29	0.57	0.00	0.04	0.57	0.00	0.07	0.07	0.07	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			0.55	0.22	0.50	0.00	0.03	0.50	0.00	0.05			0.21	0.50	0.00	0.00	0.00	0.00			0.00	0.00	0.00

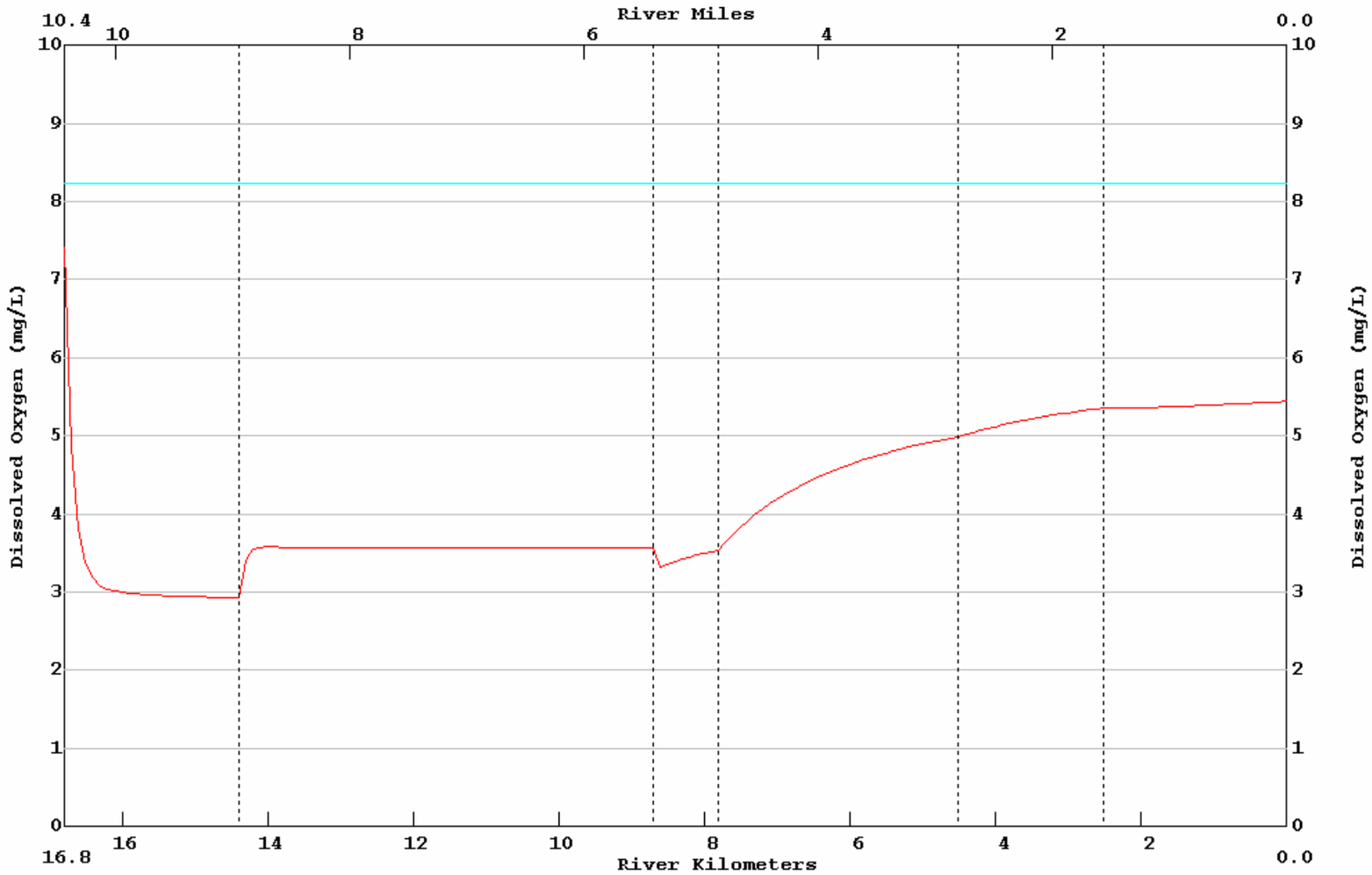
* g/m²/d ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
144	2.400	25.23	0.00	4.07	43.07	5.77	1.05	2.16	5.99	2.16	1.06	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
145	2.300	25.23	0.00	4.05	42.52	5.78	1.03	2.16	5.96	2.16	1.08	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
146	2.200	25.23	0.00	4.03	41.98	5.79	1.00	2.15	5.94	2.15	1.10	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
147	2.100	25.23	0.00	4.01	41.46	5.80	0.98	2.15	5.92	2.15	1.11	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
148	2.000	25.23	0.00	4.00	40.95	5.81	0.96	2.14	5.90	2.14	1.13	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
149	1.900	25.23	0.00	3.98	40.45	5.82	0.94	2.14	5.88	2.14	1.14	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
150	1.800	25.23	0.00	3.96	39.96	5.83	0.92	2.13	5.86	2.13	1.15	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
151	1.700	25.23	0.00	3.94	39.49	5.84	0.90	2.13	5.84	2.13	1.16	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
152	1.600	25.23	0.00	3.92	39.03	5.85	0.89	2.12	5.82	2.12	1.18	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
153	1.500	25.23	0.00	3.91	38.57	5.86	0.87	2.12	5.81	2.12	1.19	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
154	1.400	25.23	0.00	3.89	38.13	5.87	0.86	2.12	5.79	2.12	1.20	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
155	1.300	25.23	0.00	3.88	37.70	5.87	0.84	2.11	5.78	2.11	1.21	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
156	1.200	25.23	0.00	3.86	37.28	5.88	0.83	2.11	5.77	2.11	1.21	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
157	1.100	25.23	0.00	3.85	36.86	5.89	0.82	2.11	5.75	2.11	1.22	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
158	1.000	25.23	0.00	3.83	36.46	5.90	0.81	2.10	5.74	2.10	1.23	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
159	0.900	25.23	0.00	3.82	36.06	5.90	0.80	2.10	5.73	2.10	1.24	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
160	0.800	25.23	0.00	3.80	35.68	5.91	0.79	2.10	5.72	2.10	1.25	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
161	0.700	25.23	0.00	3.79	35.30	5.92	0.78	2.09	5.71	2.09	1.25	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
162	0.600	25.23	0.00	3.78	34.93	5.93	0.77	2.09	5.70	2.09	1.26	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
163	0.500	25.23	0.00	3.76	34.56	5.93	0.76	2.09	5.69	2.09	1.26	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
164	0.400	25.23	0.00	3.75	34.21	5.94	0.75	2.09	5.69	2.09	1.27	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
165	0.300	25.23	0.00	3.74	33.86	5.95	0.74	2.09	5.68	2.09	1.28	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

```
 166    0.200  25.23  0.00     3.72    33.52   5.95   0.74   2.08   5.67   2.08   1.28   0.00   0.00   0.00   0.00  32.90    0.00       0.    0.00
 167    0.100  25.23  0.00     3.71    33.18   5.96   0.73   2.08   5.66   2.08   1.29   0.00   0.00   0.00   0.00  32.90    0.00       0.    0.00
 168    0.000  25.23  0.00     3.70    32.85   5.97   0.72   2.08   5.66   2.08   1.29   0.00   0.00   0.00   0.00  32.90    0.00       0.    0.00


STREAM SUMMARY                                                WEST ANACOCO CREEK WATERSHED MODEL
HEADWATER                                                     WAC SUMMER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD

 TRAVEL TIME       =          57.35 DAYS

 MAXIMUM EFFLUENT  =           0.94 PERCENT

 FLOW              =   0.00231 TO    0.64310   m³/s
 DISPERSION        =   0.0000  TO    0.0000    m²/s
 VELOCITY          =   0.00133 TO    0.37495   m/s
 DEPTH             =   0.18    TO    1.34      m
 WIDTH             =   2.44    TO   15.85      m

 BOD DECAY         =    0.29   TO    0.35      per day
 NH3 DECAY         =    0.00   TO    0.00      per day
 SOD               =    0.07   TO    3.28      g/m²/d
 NH3 SOURCE        =    0.00   TO    0.00      g/m²/d
 REAERATION        =    0.58   TO    7.64      per day
 BOD SETTLING      =    0.23   TO    0.57      per day
 NBOD DECAY        =    0.12   TO    0.29      per day
 NBOD SETTLING     =    0.23   TO    0.57      per day

 TEMPERATURE       =   25.23   TO   25.23      deg C
 DISSOLVED OXYGEN  =    3.94   TO    5.97      mg/L


     .....EXECUTION COMPLETED
```

LA-QUAL Version 8.00 Run at 10:23 on 08/23/2007 File O:\Personal_Folders\Karen\Anacoco\2005\Input Files\3 DO Standard\1
WAC SUMMER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD min= 2.93 max= 7.41
WEST ANACOCO CREEK WATERSHED MODEL



WEST ANACOCO CREEK 110501 SUMMER PROJECTION INPUT DATA SET FOR 3.0 MG/L DO STANDARD

```
CNTROL01     WEST ANACOCO CREEK WATERSHED MODEL
CNTROL02     WAC SUMMER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD
CNTROL04 YES METRIC UNITS
ENDATA01
MODOPT01  NO TEMPERATURE
MODOPT02  NO SALINITY
MODOPT03 YES CONSERVATIVE MATERIAL  I = CHLORIDES                 IN MG/L
MODOPT04 YES CONSERVATIVE MATERIAL II = CONDUCTIVITY              IN MG/L
MODOPT05 YES DISSOLVED OXYGEN
MODOPT06 YES BOD1 BIOCHEMICAL OXYGEN DEMAND
MODOPT06 YES BOD2 BIOCHEMICAL OXYGEN DEMAND
MODOPT08 YES NBOD OXYGEN DEMAND
MODOPT10  NO PHOSPHORUS
MODOPT11  NO CHLOROPHYLL A
MODOPT12  NO MACROPHYTES
MODOPT13  NO COLIFORM
ENDATA02
PROGRAM  KL MINIMUM                        =     0.7
PROGRAM  INHIBITION CONTROL VALUE          =     3.
PROGRAM  K2 MAXIMUM                        =     25.0
PROGRAM  HYDRAULIC CALCULATION METHOD      =     2.
PROGRAM  SETTLING RATE UNITS               =     2.
PROGRAM  ALGAE OXYGEN PROD                 =     0.
PROGRAM  EFFECTIVE BOD DUE TO ALGAE        =     0.15
ENDATA03
!Temperature Correction Constants
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ******** ********
ENDATA04
ENDATA05
ENDATA06
ENDATA07
!Reach Identification Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -- ********************************----------**********----------
!          R#  ID   SITE NAME                          RKM        RKM    LENGTH
REACH ID    1  WA WAC1 TO WAC2                         16.8       14.4     0.1
```

```
REACH ID    2  WA WAC2 TO WAC3                          14.4        8.7     0.1
REACH ID    3  WA WAC3 TO WAC4                           8.7        7.8     0.1
REACH ID    4  WA WAC4 TO Elder Branch Creek             7.8        4.5     0.1
REACH ID    5  WA Elder Branch TO Little Sandy           4.5        2.5     0.1
REACH ID    6  WA Little Sandy TO WAC5                   2.5        0.0     0.1
ENDATA08
!Advective Hydraulic Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -------*******-------*******-------*******-------*******
!                a      b       c     d      e        f
!               WIDTH  WIDTH   WIDTH DEPTH  DEPTH   DEPTH
!          R#   COEFF   EXP    CONST COEFF   EXP    CONST SLOPE MANNING
HYDR-1      1   0.00   0.20    3.658 0.00   0.30    0.195
HYDR-1      2   0.00   0.20    6.401 0.00   0.30    0.305
HYDR-1      3   0.00   0.20    2.438 0.00   0.30    0.177
HYDR-1      4   0.00   0.20    6.909 0.00   0.30    0.566
HYDR-1      5   0.00   0.20   11.380 0.00   0.30    0.955
HYDR-1      6   0.00   0.20   15.850 0.00   0.30    1.344
ENDATA09
!Dispersive Hydraulic Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -----**********----------**********----------
!              TIDAL
!          R#  RANGE    a          b         c         d
ENDATA10
!Initial Conditions
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  --------********--------********--------********--------********
!          R#    TEMP  SALINITY   DO     NH3 N  NIT NIT  PHOS   CHL A   MACROPHYTES
INITIAL     1    25.23    0.00   3.00                           16.6
INITIAL     2    25.23    0.00   3.00                           16.7
INITIAL     3    25.23    0.00   3.00                            3.2
INITIAL     4    25.23    0.00   3.00                            3.2
INITIAL     5    25.23    0.00   3.00                            3.2
INITIAL     6    25.23    0.00   3.00                           32.9
ENDATA11
!Reaeration, Sediment Oxygen Demand and BOD Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8---------9
```

```
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  -----******----- ******-------*******-------*******-------*******--------***
!                REA    KL                     BOD 1  BOD 1                BOD 2    BOD 2
!           R#   EQ    MIN                 SOD  DECAY  SETT                DECAY    SETT
COEF-1       1   11.0                    2.841 0.2757 0.20                0.0331   0.20
COEF-1       2   11.0                    2.379 0.2253 0.20                0.0314   0.20
COEF-1       3   11.0                    5.192 0.2705 0.20                0.0310   0.20
COEF-1       4   11.0                    0.905 0.2244 0.50                0.0306   0.50
COEF-1       5   11.0                    0.090 0.2244 0.50                0.0306   0.50
COEF-1       6   11.0                    0.090 0.2244 0.50                0.0306   0.50
ENDATA12
!Nitrogen and Phosphorus Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  -------*******-------*******-------*******-------
!               NBOD     NBOD
!           R#  DECAY    SETT
COEF-2       1  0.0967   0.20
COEF-2       2  0.1436   0.20
COEF-2       3  0.1139   0.20
COEF-2       4  0.2147   0.50
COEF-2       5  0.2147   0.50
COEF-2       6  0.2147   0.50
ENDATA13
ENDATA14
!Coliform and Nonconservative Cofficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  -------*******-------*******
ENDATA15
!Incremental Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  ---------*********---------*********---------*********
!           R#   OUTFLOW   INFLOW  TEMP     SALINITY CHLORIDE  COND
INCR-1       1     0.0000  0.0003  19.620      0.00     0
INCR-1       2     0.0000  0.0003  19.620      0.00     4.0      60
INCR-1       3     0.0000  0.1589  19.620      0.00     4.7      65
INCR-1       4     0.0000  0.1589  19.620      0.00     3.8      33
INCR-1       5     0.0000  0.1589  19.620      0.00     3.8      33
INCR-1       6     0.0000  0.1589  19.620      0.00     2.5
```

```
ENDATA16
!Incremental Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  ---------********---------********---------********
!           R#      DO     BOD 1     NBOD    NH3 N   NIT NIT    BOD 2
INCR-2      1     3.86   0.4324    0.0000                     0.5641
INCR-2      2     3.86   0.4324    0.0000                     0.5641
INCR-2      3     3.86   0.4324    0.0000                     0.5641
INCR-2      4     3.86   0.4324    0.0000                     0.5641
INCR-2      5     3.86   0.4324    0.0000                     0.5641
INCR-2      6     3.86   0.4324    0.0000                     0.5641
ENDATA17
!Incremental Data for Phosphorus, Chlorophyll, Coliform and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  ---------********---------********
!           R#   PHOSPH    CHL A   COLIFORM NONCONSERVATIVE
INCR-3      1
INCR-3      2
INCR-3      3
INCR-3      4
INCR-3      5
INCR-3      6
ENDATA18
!Nonpoint Source Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  ---------********---------********---------********
!           R#     BOD 1    NBOD   COLIFORM NONCONS    DO      BOD 2
NONPOINT    1     1.421    0.947                              1.515
NONPOINT    2    13.321    5.709                              7.612
NONPOINT    3    23.759   15.839                             46.637
NONPOINT    4    45.228   36.183                             72.365
NONPOINT    5    44.975   71.960                             89.950
NONPOINT    6    49.508  148.524                            153.025
ENDATA19
!Headwater Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ****  -------------------- *** --------********--------********--------
```

```
!         E#    NAME                      FLOW    TEMP  SALIN   CHLORIDE   COND
HDWTR-1     1  HEADWATER                 0.0023   25.23  0.00     5.3      73.9
ENDATA20
!Headwater Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********---------********---------********
!          E#      DO      BOD 1    NBOD    NH3 N    NIT NIT  BOD 2
HDWTR-2     1      7.41    0.560    0.0                       0.200
ENDATA21
!Headwater Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********---------********
!          E#  PHOSPHOR   CHL A   COLIFORM  NONCONSERVATIVE
HDWTR-3     1              16.6
ENDATA22
ENDATA23
!Wasteload Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  --------------------********---------********---------********
!          E#     NAME                FLOW      TEMP   SALINITY CHLORIDE  COND
WSTLD-1   123  ELDER BRANCH CREEK    0.0023    25.23     0.00      3.4    32.3
WSTLD-1   144  LITTLE SANDY CREEK    0.0023    25.23     0.00      2.7    22.0
ENDATA24
!Wasteload Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********-----********---------*****---------********
!          E#       DO    BOD 1         NBOD    NH3 N          NIT NIT  BOD 2
WSTLD-2   123      3.00   2.358         0.860                           3.530
WSTLD-2   144      3.00   0.676         0.386                           0.480
ENDATA25
!Wasteload Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********---------********
!          E#  PHOSPHOR  CHL A    COLIFORM NONCONSERVATIVE
WSTLD-3   123             2.3
WSTLD-3   144
```

```
ENDATA26
LOWER BC TEMPERATURE                        =  25.23
LOWER BC SALINITY                           =   0.00
LOWER BC CONSERVATIVE MATERIAL I            =   3.70
LOWER BC CONSERVATIVE MATERIAL II           =  33.10
LOWER BC DISSOLVED OXYGEN                   =   3.00
LOWER BC BOD1 BIOCHEMICAL OXYGEN DEMAND     =   6.126
LOWER BC BOD2 BIOCHEMICAL OXYGEN DEMAND     =   3.647
LOWER BC CHLOROPHYLL A                      =   32.9
LOWER BC NBOD                               =   2.275
ENDATA27
!Dam Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ******************** ** ******** ******** ********
ENDATA28
ENDATA29
NUMBER OF PLOTS = 1
NUMBER OF REACHES IN PLOT 1 =   6                        INCREMENT =  0.1
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** **
PLOT RCH  1  2  3  4  5  6
ENDATA30
ENDATA31
```

WEST ANACOCO CREEK 110501 SUMMER PROJECTION OUTPUT DATA SET FOR 3.0 MG/L DO STANDARD

```
LA-QUAL Version 8.00
Louisiana Department of Environmental Quality

Input file is O:\Personal_Folders\Karen\Anacoco\2005\Input Files\3 DO Standard\WACsum30.txt
Output produced at 13:49 on 08/23/2007

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

CARD TYPE       CONTROL TITLES

TITLE01         WEST ANACOCO CREEK WATERSHED MODEL
TITLE02         WAC SUMMER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD
CNTROL04  YES   METRIC UNITS
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 = CONDUCTIVITY              IN MG/L
MODOPT05  YES   DISSOLVED OXYGEN
MODOPT06  YES   BOD1 BIOCHEMICAL OXYGEN DEMAND
MODOPT06  YES   BOD2 BIOCHEMICAL OXYGEN DEMAND
MODOPT08  YES   NBOD OXYGEN DEMAND
MODOPT10   NO   PHOSPHORUS
MODOPT11   NO   CHLOROPHYLL A
MODOPT12   NO   MACROPHYTES
MODOPT13   NO   COLIFORM
ENDATA02

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

CARD TYPE       DESCRIPTION OF CONSTANT                       VALUE

PROGRAM         KL MINIMUM                        =         0.70000 meters/day
PROGRAM         INHIBITION CONTROL VALUE          =         3.00000 (inhibit all rates but SOD)
PROGRAM         K2 MAXIMUM                        =        25.00000 per day
PROGRAM         HYDRAULIC CALCULATION METHOD      =         2.00000 (widths and depths)
PROGRAM         SETTLING RATE UNITS               =         2.00000 (values entered as per day)
PROGRAM         ALGAE OXYGEN PROD                 =         0.00000 mg O/ug chl a/day
PROGRAM         EFFECTIVE BOD DUE TO ALGAE        =         0.15000 mg/L BOD per ug/L chl a
ENDATA03

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

 CARD TYPE     RATE CODE     THETA VALUE

ENDATA04

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

CARD TYPE       DESCRIPTION OF CONSTANT                       VALUE

ENDATA05

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

CARD TYPE       DESCRIPTION OF CONSTANT                       VALUE

ENDATA06

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

CARD TYPE       DESCRIPTION OF CONSTANT                       VALUE

ENDATA07

$$$ DATA TYPE 8 (REACH IDENTIFICATION DATA) $$$
                                                   BEGIN         END     ELEM    REACH     ELEMS   BEGIN    END
CARD TYPE  REACH  ID  NAME                         REACH        REACH   LENGTH   LENGTH    PER RCH   ELEM   ELEM
                                                      km           km       km       km               NUM    NUM

REACH ID      1   WA  WAC1 TO WAC2                 16.80  TO   14.40   0.1000     2.40      24        1     24
```

```
REACH ID      2   WA  WAC2 TO WAC3                        14.40  TO    8.70   0.1000     5.70      57       25     81
REACH ID      3   WA  WAC3 TO WAC4                         8.70  TO    7.80   0.1000     0.90       9       82     90
REACH ID      4   WA  WAC4 TO Elder Branch Creek           7.80  TO    4.50   0.1000     3.30      33       91    123
REACH ID      5   WA  Elder Branch TO Little Sandy         4.50  TO    2.50   0.1000     2.00      20      124    143
REACH ID      6   WA  Little Sandy TO WAC5                 2.50  TO    0.00   0.1000     2.50      25      144    168
ENDATA08

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

CARD TYPE  REACH  ID       WIDTH       WIDTH       WIDTH       DEPTH       DEPTH       DEPTH      SLOPE    MANNINGS
                            "A"         "B"         "C"         "D"         "E"         "F"                  "N"

HYDR-1        1   WA       0.000       0.200       3.658       0.000       0.300       0.195     0.00000   0.000
HYDR-1        2   WA       0.000       0.200       6.401       0.000       0.300       0.305     0.00000   0.000
HYDR-1        3   WA       0.000       0.200       2.438       0.000       0.300       0.177     0.00000   0.000
HYDR-1        4   WA       0.000       0.200       6.909       0.000       0.300       0.566     0.00000   0.000
HYDR-1        5   WA       0.000       0.200      11.380       0.000       0.300       0.955     0.00000   0.000
HYDR-1        6   WA       0.000       0.200      15.850       0.000       0.300       1.344     0.00000   0.000
ENDATA09

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

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

ENDATA10

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

CARD TYPE      REACH  ID        TEMP     SALIN        DO       NH3     NO3+2      PHOS     CHL A     MACRO

INITIAL            1   WA       25.23      0.00      3.00      0.00      0.00      0.00     16.60      0.00
INITIAL            2   WA       25.23      0.00      3.00      0.00      0.00      0.00     16.70      0.00
INITIAL            3   WA       25.23      0.00      3.00      0.00      0.00      0.00      3.20      0.00
INITIAL            4   WA       25.23      0.00      3.00      0.00      0.00      0.00      3.20      0.00
INITIAL            5   WA       25.23      0.00      3.00      0.00      0.00      0.00      3.20      0.00
INITIAL            6   WA       25.23      0.00      3.00      0.00      0.00      0.00     32.90      0.00
ENDATA11

$$$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) $$$
                                                                                                  BOD     ANAER                          BOD2     ANAER
CARD     RCH  RCH  K2                    K2        K2        K2    BKGRND       BOD       BOD     CONV     BOD2      BOD2      BOD2     CONV     BOD2
TYPE     NUM   ID  OPT                   "A"       "B"       "C"       SOD     DECAY      SETT   TO SOD    DECAY     DECAY      SETT   TO SOD    DECAY
                                                                   g/m²/d   per day       m/d              per day   per day       m/d              per day

COEF-1     1   WA  11 TEXAS            0.000     0.000     0.000     2.841     0.276     0.200     0.000     0.000     0.033     0.200     0.000     0.000
COEF-1     2   WA  11 TEXAS            0.000     0.000     0.000     2.379     0.225     0.200     0.000     0.000     0.031     0.200     0.000     0.000
COEF-1     3   WA  11 TEXAS            0.000     0.000     0.000     5.192     0.271     0.200     0.000     0.000     0.031     0.200     0.000     0.000
COEF-1     4   WA  11 TEXAS            0.000     0.000     0.000     0.905     0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
COEF-1     5   WA  11 TEXAS            0.000     0.000     0.000     0.090     0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
COEF-1     6   WA  11 TEXAS            0.000     0.000     0.000     0.090     0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
ENDATA12

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

CARD TYPE      REACH  ID        NBOD      NBOD   ORGN CONV       NH3       NH3      PHOS     DENIT
                                DECA      SETT  TO NH3 SRCE     DECA      SRCE      SRCE      RATE

COEF-2             1   WA       0.097     0.200     0.000       0.000     0.000     0.000     0.000
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COEF-2            2   WA       0.144     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2            3   WA       0.114     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2            4   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
COEF-2            5   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
COEF-2            6   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
ENDATA13

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

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

ENDATA14

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

CARD TYPE      REACH  ID    COLIFORM       NCM       NCM    NCM CONV
                             DIE-OFF     DECAY      SETT     TO SOD

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   WA       0.00000     0.00030     19.62      0.00      0.00      0.00   0.00013   0.00000
INCR-1            2   WA       0.00000     0.00030     19.62      0.00      4.00     60.00   0.00005   0.00000
INCR-1            3   WA       0.00000     0.15890     19.62      0.00      4.70     65.00   0.17656   0.00000
INCR-1            4   WA       0.00000     0.15890     19.62      0.00      3.80     33.00   0.04815   0.00000
INCR-1            5   WA       0.00000     0.15890     19.62      0.00      3.80     33.00   0.07945   0.00000
INCR-1            6   WA       0.00000     0.15890     19.62      0.00      2.50      0.00   0.06356   0.00000
ENDATA16

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

CARD TYPE      REACH  ID          DO       BOD      NBOD                        BOD#2

INCR-2            1   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            2   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            3   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            4   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            5   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            6   WA        3.86      0.43      0.00      0.00      0.00      0.56
ENDATA17

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

 CARD TYPE      REACH  ID        PHOS     CHL A      COLI       NCM

INCR-3            1   WA        0.00      0.00      0.00      0.00
INCR-3            2   WA        0.00      0.00      0.00      0.00
INCR-3            3   WA        0.00      0.00      0.00      0.00
INCR-3            4   WA        0.00      0.00      0.00      0.00
INCR-3            5   WA        0.00      0.00      0.00      0.00
INCR-3            6   WA        0.00      0.00      0.00      0.00
ENDATA18

$$$ DATA TYPE 19 (NONPOINT SOURCE DATA) $$$
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CARD TYPE      REACH  ID       BOD#1     NBOD       COLI       NCM        DO     BOD#2

NONPOINT           1   WA        1.42      0.95      0.00      0.00      0.00      1.51
NONPOINT           2   WA       13.32      5.71      0.00      0.00      0.00      7.61
NONPOINT           3   WA       23.76     15.84      0.00      0.00      0.00     46.64
NONPOINT           4   WA       45.23     36.18      0.00      0.00      0.00     72.36
NONPOINT           5   WA       44.97     71.96      0.00      0.00      0.00     89.95
NONPOINT           6   WA       49.51    148.52      0.00      0.00      0.00    153.02
ENDATA19

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

CARD TYPE     ELEMENT   NAME                 UNIT     FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                      m³/s      cfs   deg C      ppt      MG/L      MG/L

HDWTR-1           1     HEADWATER               0   0.00230    0.081   25.23     0.00     5.300    73.900
ENDATA20

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

CARD TYPE     ELEMENT   NAME                        DO     BOD#1     NBOD                          BOD#2
                                                    mg/L      mg/L      mg/L      mg/L      mg/L      mg/L

HDWTR-2           1     HEADWATER                 7.41      0.56      0.00      0.00      0.00      0.20
ENDATA21

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

CARD TYPE     ELEMENT   NAME                       PHOS     CHL A      COLI       NCM
                                                    mg/L      mg/L      mg/L      mg/L

HDWTR-3           1     HEADWATER                  0.00     16.60      0.00      0.00
ENDATA22

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

CARD TYPE   JUNCTION   UPSTRM     RIVER     NAME
             ELEMENT  ELEMENT     KILOM

ENDATA23

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

CARD TYPE  ELEMENT    RKILO  NAME                     FLOW       FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                      m³/s        cfs      MGD   deg C      ppt      MG/L      MG/L

WSTLD-1      123       4.60  ELDER BRANCH CREEK     0.00230    0.08121    0.052   25.23     0.00     3.400    32.300
WSTLD-1      144       2.50  LITTLE SANDY CREEK     0.00230    0.08121    0.052   25.23     0.00     2.700    22.000
ENDATA24

$$$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) $$$
                                                                % BOD                          %
CARD TYPE     ELEMENT   NAME                        DO       BOD      RMVL     NBOD                NITRIF                BOD#2
                                                    mg/L      mg/L                mg/L      mg/L                mg/L      mg/L

WSTLD-2         123     ELDER BRANCH CREEK         3.00      2.36      0.00      0.86      0.00      0.00      0.00      3.53
WSTLD-2         144     LITTLE SANDY CREEK         3.00      0.68      0.00      0.39      0.00      0.00      0.00      0.48
ENDATA25
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$$$ DATA TYPE 26 (WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

CARD TYPE     ELEMENT   NAME                        PHOS     CHL A      COLI       NCM
                                                    mg/L      mg/L      mg/L      mg/L

WSTLD-3         123     ELDER BRANCH CREEK          0.00      2.30      0.00      0.00
WSTLD-3         144     LITTLE SANDY CREEK          0.00      0.00      0.00      0.00
ENDATA26

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

CARD TYPE    CONSTITUENT                    CONCENTRATION

LOWER BC     TEMPERATURE                        =     25.230     deg C
LOWER BC     SALINITY                           =      0.000     ppt
LOWER BC     CONSERVATIVE MATERIAL I            =      3.700     MG/L
LOWER BC     CONSERVATIVE MATERIAL II           =     33.100     MG/L
LOWER BC     DISSOLVED OXYGEN                   =      3.000     mg/L
LOWER BC     BOD1 BIOCHEMICAL OXYGEN DEMAND     =      6.126     mg/L
LOWER BC     BOD2 BIOCHEMICAL OXYGEN DEMAND     =      3.647     mg/L
LOWER BC     CHLOROPHYLL A                      =     32.900     µg/L
LOWER BC     NBOD                               =      2.275     mg/L
ENDATA27

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

CARD TYPE     ELEMENT   NAME                  EQN      "A"       "B"       "H"

ENDATA28

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

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

ENDATA29

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


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

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


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
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FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 1 WAC1 TO WAC2 WAC SUMMER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
1	HDWTR	0.00230	25.23	0.00	5.30	73.90	7.41	0.00	0.20	0.56	0.20	0.00	0.00	0.00	0.00	16.60	0.00	0.00
EACH	INCR	0.00001	19.62	0.00	0.00	0.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	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	MEAN VELO m/s
1	16.80	16.70	0.00231	0.0	0.00324	0.36	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
2	16.70	16.60	0.00233	0.0	0.00326	0.36	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
3	16.60	16.50	0.00234	0.0	0.00328	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
4	16.50	16.40	0.00235	0.0	0.00329	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
5	16.40	16.30	0.00236	0.0	0.00331	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
6	16.30	16.20	0.00237	0.0	0.00333	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
7	16.20	16.10	0.00239	0.0	0.00335	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
8	16.10	16.00	0.00240	0.0	0.00336	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
9	16.00	15.90	0.00241	0.0	0.00338	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
10	15.90	15.80	0.00242	0.0	0.00340	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
11	15.80	15.70	0.00244	0.0	0.00342	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
12	15.70	15.60	0.00245	0.0	0.00343	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
13	15.60	15.50	0.00246	0.0	0.00345	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
14	15.50	15.40	0.00247	0.0	0.00347	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
15	15.40	15.30	0.00249	0.0	0.00349	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
16	15.30	15.20	0.00250	0.0	0.00350	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
17	15.20	15.10	0.00251	0.0	0.00352	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
18	15.10	15.00	0.00252	0.0	0.00354	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
19	15.00	14.90	0.00254	0.0	0.00356	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
20	14.90	14.80	0.00255	0.0	0.00357	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
21	14.80	14.70	0.00256	0.0	0.00359	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
22	14.70	14.60	0.00257	0.0	0.00361	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
23	14.60	14.50	0.00259	0.0	0.00363	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
24	14.50	14.40	0.00260	0.0	0.00364	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
TOT						8.08			1711.94	8779.20					
AVG					0.0034		0.19	3.66			0.71				
CUM						8.08									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
1	16.700	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	16.600	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.12	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	16.500	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	16.400	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5	16.300	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	16.200	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	16.100	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	16.000	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	15.900	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	15.800	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	15.700	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	15.600	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	15.500	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	15.400	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	15.300	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	15.200	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	15.100	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	15.000	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	14.900	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	14.800	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	14.700	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	14.600	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	14.500	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	14.400	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	3.95	3.95	3.95	0.11	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			3.59	0.28	0.20	0.00	0.03	0.20	0.00	2.84			0.10	0.20	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
1	16.700	25.23	0.00	5.27	73.50	4.87	0.25	0.47	2.74	0.47	0.18	0.00	0.00	0.00	0.00	16.60	0.00	0.	0.00
2	16.600	25.23	0.00	5.24	73.11	3.81	0.45	0.72	2.94	0.72	0.33	0.00	0.00	0.00	0.00	16.61	0.00	0.	0.00
3	16.500	25.23	0.00	5.21	72.71	3.36	0.62	0.94	3.11	0.94	0.47	0.00	0.00	0.00	0.00	16.61	0.00	0.	0.00
4	16.400	25.23	0.00	5.19	72.33	3.17	0.76	1.14	3.25	1.14	0.59	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
5	16.300	25.23	0.00	5.16	71.94	3.08	0.87	1.32	3.36	1.32	0.70	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
6	16.200	25.23	0.00	5.13	71.57	3.04	0.96	1.49	3.46	1.49	0.79	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
7	16.100	25.23	0.00	5.11	71.19	3.01	1.04	1.64	3.53	1.64	0.88	0.00	0.00	0.00	0.00	16.63	0.00	0.	0.00
8	16.000	25.23	0.00	5.08	70.82	2.99	1.10	1.77	3.60	1.77	0.96	0.00	0.00	0.00	0.00	16.63	0.00	0.	0.00
9	15.900	25.23	0.00	5.05	70.45	2.98	1.16	1.90	3.65	1.90	1.02	0.00	0.00	0.00	0.00	16.64	0.00	0.	0.00
10	15.800	25.23	0.00	5.03	70.09	2.98	1.20	2.01	3.69	2.01	1.08	0.00	0.00	0.00	0.00	16.64	0.00	0.	0.00
11	15.700	25.23	0.00	5.00	69.73	2.97	1.23	2.11	3.73	2.11	1.14	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
12	15.600	25.23	0.00	4.98	69.38	2.96	1.26	2.20	3.76	2.20	1.18	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
13	15.500	25.23	0.00	4.95	69.02	2.96	1.29	2.28	3.79	2.28	1.22	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
14	15.400	25.23	0.00	4.93	68.67	2.95	1.31	2.36	3.81	2.36	1.26	0.00	0.00	0.00	0.00	16.66	0.00	0.	0.00
15	15.300	25.23	0.00	4.90	68.33	2.95	1.33	2.43	3.83	2.43	1.30	0.00	0.00	0.00	0.00	16.66	0.00	0.	0.00
16	15.200	25.23	0.00	4.88	67.99	2.95	1.34	2.49	3.84	2.49	1.33	0.00	0.00	0.00	0.00	16.67	0.00	0.	0.00
17	15.100	25.23	0.00	4.85	67.65	2.94	1.35	2.54	3.85	2.54	1.35	0.00	0.00	0.00	0.00	16.67	0.00	0.	0.00
18	15.000	25.23	0.00	4.83	67.31	2.94	1.36	2.60	3.86	2.60	1.38	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
19	14.900	25.23	0.00	4.80	66.98	2.94	1.37	2.64	3.87	2.64	1.40	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
20	14.800	25.23	0.00	4.78	66.65	2.94	1.38	2.69	3.88	2.69	1.42	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
21	14.700	25.23	0.00	4.76	66.33	2.94	1.38	2.73	3.89	2.73	1.43	0.00	0.00	0.00	0.00	16.69	0.00	0.	0.00
22	14.600	25.23	0.00	4.73	66.01	2.94	1.39	2.76	3.89	2.76	1.45	0.00	0.00	0.00	0.00	16.69	0.00	0.	0.00
23	14.500	25.23	0.00	4.71	65.69	2.93	1.39	2.79	3.90	2.79	1.46	0.00	0.00	0.00	0.00	16.70	0.00	0.	0.00
24	14.400	25.23	0.00	4.69	65.37	2.93	1.40	2.82	3.90	2.82	1.47	0.00	0.00	0.00	0.00	16.70	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 2 WAC2 TO WAC3 WAC SUMMER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
25	UPR RCH	0.00260	25.23	0.00	4.69	65.37	2.93	1.40	2.82	3.90	2.82	1.47	0.00	0.00	0.00	16.70	0.00	0.00
EACH	INCR	0.00001	19.62	0.00	4.00	60.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	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	MEAN VELO m/s
25	14.40	14.30	0.00261	0.0	0.00133	0.87	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
26	14.30	14.20	0.00261	0.0	0.00134	0.87	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
27	14.20	14.10	0.00262	0.0	0.00134	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
28	14.10	14.00	0.00262	0.0	0.00134	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
29	14.00	13.90	0.00263	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
30	13.90	13.80	0.00263	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
31	13.80	13.70	0.00264	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
32	13.70	13.60	0.00264	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
33	13.60	13.50	0.00265	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
34	13.50	13.40	0.00265	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
35	13.40	13.30	0.00266	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
36	13.30	13.20	0.00266	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
37	13.20	13.10	0.00267	0.0	0.00137	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
38	13.10	13.00	0.00267	0.0	0.00137	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
39	13.00	12.90	0.00268	0.0	0.00137	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
40	12.90	12.80	0.00268	0.0	0.00137	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
41	12.80	12.70	0.00269	0.0	0.00138	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
42	12.70	12.60	0.00269	0.0	0.00138	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
43	12.60	12.50	0.00270	0.0	0.00138	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
44	12.50	12.40	0.00271	0.0	0.00139	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
45	12.40	12.30	0.00271	0.0	0.00139	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
46	12.30	12.20	0.00272	0.0	0.00139	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
47	12.20	12.10	0.00272	0.0	0.00139	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
48	12.10	12.00	0.00273	0.0	0.00140	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
49	12.00	11.90	0.00273	0.0	0.00140	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
50	11.90	11.80	0.00274	0.0	0.00140	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
51	11.80	11.70	0.00274	0.0	0.00140	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
52	11.70	11.60	0.00275	0.0	0.00141	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
53	11.60	11.50	0.00275	0.0	0.00141	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
54	11.50	11.40	0.00276	0.0	0.00141	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
55	11.40	11.30	0.00276	0.0	0.00142	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
56	11.30	11.20	0.00277	0.0	0.00142	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
57	11.20	11.10	0.00277	0.0	0.00142	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
58	11.10	11.00	0.00278	0.0	0.00142	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
59	11.00	10.90	0.00278	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
60	10.90	10.80	0.00279	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
61	10.80	10.70	0.00279	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
62	10.70	10.60	0.00280	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
63	10.60	10.50	0.00281	0.0	0.00144	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
64	10.50	10.40	0.00281	0.0	0.00144	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
65	10.40	10.30	0.00282	0.0	0.00144	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
66	10.30	10.20	0.00282	0.0	0.00144	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001

67	10.20	10.10	0.00283	0.0	0.00145	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
68	10.10	10.00	0.00283	0.0	0.00145	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
69	10.00	9.90	0.00284	0.0	0.00145	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
70	9.90	9.80	0.00284	0.0	0.00146	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
71	9.80	9.70	0.00285	0.0	0.00146	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
72	9.70	9.60	0.00285	0.0	0.00146	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
73	9.60	9.50	0.00286	0.0	0.00146	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
74	9.50	9.40	0.00286	0.0	0.00147	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
75	9.40	9.30	0.00287	0.0	0.00147	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
76	9.30	9.20	0.00287	0.0	0.00147	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
77	9.20	9.10	0.00288	0.0	0.00147	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
78	9.10	9.00	0.00288	0.0	0.00148	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
79	9.00	8.90	0.00289	0.0	0.00148	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
80	8.90	8.80	0.00289	0.0	0.00148	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
81	8.80	8.70	0.00290	0.0	0.00149	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
TOT						46.84			11128.14	36485.70					
AVG					0.0014		0.31	6.40			1.95				
CUM						54.91									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
25	14.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	14.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	14.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	14.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	13.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	13.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	13.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	13.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	13.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	13.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	13.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	13.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	13.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	13.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	12.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	12.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	12.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	12.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	12.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	12.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	12.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	12.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	12.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	12.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	11.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	11.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	11.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	11.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	11.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	11.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	11.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	11.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

57	11.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	11.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	10.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	10.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	10.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	10.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	10.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	10.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	10.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	10.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	10.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	10.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	9.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	9.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	9.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	9.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	9.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	9.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	9.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	9.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	9.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	9.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	8.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	8.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81	8.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	3.31	3.31	3.31	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			2.30	0.23	0.20	0.00	0.03	0.20	0.00	2.38			0.14	0.20	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
25	14.300	25.23	0.00	4.69	65.36	3.41	1.68	2.77	4.15	2.77	1.43	0.00	0.00	0.00	0.00	16.46	0.00	0.	0.00
26	14.200	25.23	0.00	4.69	65.35	3.54	1.88	2.73	4.32	2.73	1.39	0.00	0.00	0.00	0.00	16.23	0.00	0.	0.00
27	14.100	25.23	0.00	4.68	65.34	3.58	2.02	2.70	4.42	2.70	1.36	0.00	0.00	0.00	0.00	15.99	0.00	0.	0.00
28	14.000	25.23	0.00	4.68	65.33	3.58	2.11	2.67	4.48	2.67	1.34	0.00	0.00	0.00	0.00	15.75	0.00	0.	0.00
29	13.900	25.23	0.00	4.68	65.32	3.58	2.18	2.65	4.51	2.65	1.33	0.00	0.00	0.00	0.00	15.52	0.00	0.	0.00
30	13.800	25.23	0.00	4.68	65.31	3.57	2.22	2.63	4.52	2.63	1.32	0.00	0.00	0.00	0.00	15.28	0.00	0.	0.00
31	13.700	25.23	0.00	4.68	65.30	3.57	2.25	2.61	4.51	2.61	1.31	0.00	0.00	0.00	0.00	15.04	0.00	0.	0.00
32	13.600	25.23	0.00	4.68	65.29	3.57	2.28	2.60	4.50	2.60	1.30	0.00	0.00	0.00	0.00	14.81	0.00	0.	0.00
33	13.500	25.23	0.00	4.68	65.28	3.57	2.29	2.59	4.48	2.59	1.30	0.00	0.00	0.00	0.00	14.57	0.00	0.	0.00
34	13.400	25.23	0.00	4.67	65.27	3.57	2.30	2.58	4.45	2.58	1.30	0.00	0.00	0.00	0.00	14.33	0.00	0.	0.00
35	13.300	25.23	0.00	4.67	65.26	3.57	2.31	2.58	4.42	2.58	1.29	0.00	0.00	0.00	0.00	14.09	0.00	0.	0.00
36	13.200	25.23	0.00	4.67	65.25	3.56	2.31	2.57	4.39	2.57	1.29	0.00	0.00	0.00	0.00	13.86	0.00	0.	0.00
37	13.100	25.23	0.00	4.67	65.24	3.56	2.32	2.57	4.36	2.57	1.29	0.00	0.00	0.00	0.00	13.62	0.00	0.	0.00
38	13.000	25.23	0.00	4.67	65.23	3.56	2.32	2.57	4.33	2.57	1.29	0.00	0.00	0.00	0.00	13.38	0.00	0.	0.00
39	12.900	25.23	0.00	4.67	65.21	3.56	2.32	2.56	4.29	2.56	1.29	0.00	0.00	0.00	0.00	13.15	0.00	0.	0.00
40	12.800	25.23	0.00	4.67	65.20	3.56	2.32	2.56	4.26	2.56	1.29	0.00	0.00	0.00	0.00	12.91	0.00	0.	0.00
41	12.700	25.23	0.00	4.67	65.19	3.56	2.32	2.56	4.22	2.56	1.29	0.00	0.00	0.00	0.00	12.67	0.00	0.	0.00
42	12.600	25.23	0.00	4.66	65.18	3.56	2.32	2.56	4.19	2.56	1.29	0.00	0.00	0.00	0.00	12.44	0.00	0.	0.00
43	12.500	25.23	0.00	4.66	65.17	3.56	2.32	2.56	4.15	2.56	1.29	0.00	0.00	0.00	0.00	12.20	0.00	0.	0.00
44	12.400	25.23	0.00	4.66	65.16	3.56	2.32	2.56	4.12	2.56	1.29	0.00	0.00	0.00	0.00	11.96	0.00	0.	0.00
45	12.300	25.23	0.00	4.66	65.15	3.56	2.32	2.55	4.08	2.55	1.29	0.00	0.00	0.00	0.00	11.73	0.00	0.	0.00
46	12.200	25.23	0.00	4.66	65.14	3.56	2.33	2.55	4.05	2.55	1.29	0.00	0.00	0.00	0.00	11.49	0.00	0.	0.00
47	12.100	25.23	0.00	4.66	65.13	3.56	2.33	2.55	4.01	2.55	1.29	0.00	0.00	0.00	0.00	11.25	0.00	0.	0.00

48	12.000	25.23	0.00	4.66	65.12	3.56	2.33	2.55	3.98	2.55	1.29	0.00	0.00	0.00	0.00	11.02	0.00	0.	0.00
49	11.900	25.23	0.00	4.66	65.11	3.56	2.33	2.55	3.94	2.55	1.29	0.00	0.00	0.00	0.00	10.78	0.00	0.	0.00
50	11.800	25.23	0.00	4.65	65.10	3.56	2.33	2.55	3.91	2.55	1.29	0.00	0.00	0.00	0.00	10.54	0.00	0.	0.00
51	11.700	25.23	0.00	4.65	65.09	3.56	2.33	2.55	3.87	2.55	1.29	0.00	0.00	0.00	0.00	10.31	0.00	0.	0.00
52	11.600	25.23	0.00	4.65	65.08	3.56	2.33	2.55	3.84	2.55	1.29	0.00	0.00	0.00	0.00	10.07	0.00	0.	0.00
53	11.500	25.23	0.00	4.65	65.08	3.56	2.33	2.55	3.80	2.55	1.29	0.00	0.00	0.00	0.00	9.83	0.00	0.	0.00
54	11.400	25.23	0.00	4.65	65.07	3.56	2.33	2.55	3.76	2.55	1.29	0.00	0.00	0.00	0.00	9.59	0.00	0.	0.00
55	11.300	25.23	0.00	4.65	65.06	3.56	2.33	2.55	3.73	2.55	1.29	0.00	0.00	0.00	0.00	9.36	0.00	0.	0.00
56	11.200	25.23	0.00	4.65	65.05	3.56	2.33	2.55	3.69	2.55	1.29	0.00	0.00	0.00	0.00	9.12	0.00	0.	0.00
57	11.100	25.23	0.00	4.65	65.04	3.56	2.33	2.55	3.66	2.55	1.29	0.00	0.00	0.00	0.00	8.88	0.00	0.	0.00
58	11.000	25.23	0.00	4.64	65.03	3.56	2.33	2.55	3.62	2.55	1.29	0.00	0.00	0.00	0.00	8.65	0.00	0.	0.00
59	10.900	25.23	0.00	4.64	65.02	3.56	2.33	2.55	3.59	2.55	1.29	0.00	0.00	0.00	0.00	8.41	0.00	0.	0.00
60	10.800	25.23	0.00	4.64	65.01	3.56	2.33	2.55	3.55	2.55	1.29	0.00	0.00	0.00	0.00	8.17	0.00	0.	0.00
61	10.700	25.23	0.00	4.64	65.00	3.56	2.33	2.55	3.52	2.55	1.29	0.00	0.00	0.00	0.00	7.94	0.00	0.	0.00
62	10.600	25.23	0.00	4.64	64.99	3.56	2.33	2.55	3.48	2.55	1.29	0.00	0.00	0.00	0.00	7.70	0.00	0.	0.00
63	10.500	25.23	0.00	4.64	64.98	3.56	2.33	2.55	3.44	2.55	1.29	0.00	0.00	0.00	0.00	7.46	0.00	0.	0.00
64	10.400	25.23	0.00	4.64	64.97	3.56	2.33	2.55	3.41	2.55	1.29	0.00	0.00	0.00	0.00	7.23	0.00	0.	0.00
65	10.300	25.23	0.00	4.64	64.96	3.56	2.33	2.55	3.37	2.55	1.29	0.00	0.00	0.00	0.00	6.99	0.00	0.	0.00
66	10.200	25.23	0.00	4.63	64.95	3.56	2.33	2.55	3.34	2.55	1.29	0.00	0.00	0.00	0.00	6.75	0.00	0.	0.00
67	10.100	25.23	0.00	4.63	64.94	3.56	2.33	2.55	3.30	2.55	1.29	0.00	0.00	0.00	0.00	6.52	0.00	0.	0.00
68	10.000	25.23	0.00	4.63	64.93	3.56	2.33	2.55	3.27	2.55	1.29	0.00	0.00	0.00	0.00	6.28	0.00	0.	0.00
69	9.900	25.23	0.00	4.63	64.92	3.56	2.33	2.55	3.23	2.55	1.29	0.00	0.00	0.00	0.00	6.04	0.00	0.	0.00
70	9.800	25.23	0.00	4.63	64.92	3.56	2.33	2.55	3.20	2.55	1.29	0.00	0.00	0.00	0.00	5.81	0.00	0.	0.00
71	9.700	25.23	0.00	4.63	64.91	3.56	2.33	2.55	3.16	2.55	1.29	0.00	0.00	0.00	0.00	5.57	0.00	0.	0.00
72	9.600	25.23	0.00	4.63	64.90	3.56	2.33	2.55	3.13	2.55	1.29	0.00	0.00	0.00	0.00	5.33	0.00	0.	0.00
73	9.500	25.23	0.00	4.63	64.89	3.56	2.33	2.55	3.09	2.55	1.29	0.00	0.00	0.00	0.00	5.09	0.00	0.	0.00
74	9.400	25.23	0.00	4.63	64.88	3.56	2.33	2.55	3.05	2.55	1.29	0.00	0.00	0.00	0.00	4.86	0.00	0.	0.00
75	9.300	25.23	0.00	4.62	64.87	3.56	2.33	2.55	3.02	2.55	1.29	0.00	0.00	0.00	0.00	4.62	0.00	0.	0.00
76	9.200	25.23	0.00	4.62	64.86	3.56	2.33	2.55	2.98	2.55	1.29	0.00	0.00	0.00	0.00	4.38	0.00	0.	0.00
77	9.100	25.23	0.00	4.62	64.85	3.56	2.33	2.55	2.95	2.55	1.29	0.00	0.00	0.00	0.00	4.15	0.00	0.	0.00
78	9.000	25.23	0.00	4.62	64.84	3.56	2.33	2.55	2.91	2.55	1.29	0.00	0.00	0.00	0.00	3.91	0.00	0.	0.00
79	8.900	25.23	0.00	4.62	64.83	3.56	2.33	2.55	2.88	2.55	1.29	0.00	0.00	0.00	0.00	3.67	0.00	0.	0.00
80	8.800	25.23	0.00	4.62	64.83	3.56	2.33	2.55	2.84	2.55	1.29	0.00	0.00	0.00	0.00	3.44	0.00	0.	0.00
81	8.700	25.23	0.00	4.62	64.82	3.56	2.33	2.55	2.81	2.55	1.29	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 3 WAC3 TO WAC4 WAC SUMMER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
82	UPR RCH	0.00290	25.23	0.00	4.62	64.82	3.56	2.33	2.55	2.81	2.55	1.29	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.01766	19.62	0.00	4.70	65.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	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	MEAN VELO m/s
82	8.70	8.60	0.02056	0.0	0.04763	0.02	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.048
83	8.60	8.50	0.03821	0.0	0.08855	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.089
84	8.50	8.40	0.05587	0.0	0.12946	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.129
85	8.40	8.30	0.07352	0.0	0.17038	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.170

86	8.30	8.20	0.09118	0.0	0.21129	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.211
87	8.20	8.10	0.10883	0.0	0.25221	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.252
88	8.10	8.00	0.12649	0.0	0.29312	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.293
89	8.00	7.90	0.14414	0.0	0.33403	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.334
90	7.90	7.80	0.16180	0.0	0.37495	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.375
TOT						0.07			388.37	2194.20					
AVG					0.1414		0.18	2.44			0.43				
CUM						54.99									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
82	8.600	8.23	4.37	0.34	0.23	0.00	0.04	0.23	0.00	7.22	7.22	7.22	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83	8.500	8.23	5.16	0.34	0.23	0.00	0.04	0.23	0.00	7.22	7.22	7.22	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	8.400	8.23	5.72	0.34	0.23	0.00	0.04	0.23	0.00	7.22	7.22	7.22	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	8.300	8.23	6.16	0.34	0.23	0.00	0.04	0.23	0.00	7.22	7.22	7.22	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	8.200	8.23	6.54	0.34	0.23	0.00	0.04	0.23	0.00	7.22	7.22	7.22	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	8.100	8.23	6.86	0.34	0.23	0.00	0.04	0.23	0.00	7.22	7.22	7.22	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	8.000	8.23	7.15	0.34	0.23	0.00	0.04	0.23	0.00	7.22	7.22	7.22	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	7.900	8.23	7.41	0.34	0.23	0.00	0.04	0.23	0.00	7.22	7.22	7.22	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	7.800	8.23	7.64	0.34	0.23	0.00	0.04	0.23	0.00	7.22	7.22	7.22	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			5.73	0.27	0.20	0.00	0.03	0.20	0.00	5.19			0.11	0.20	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
82	8.600	25.23	0.00	4.69	64.97	3.32	2.16	3.74	2.64	3.74	1.16	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
83	8.500	25.23	0.00	4.69	64.99	3.35	2.14	3.83	2.62	3.83	1.15	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
84	8.400	25.23	0.00	4.70	64.99	3.39	2.14	3.86	2.62	3.86	1.15	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
85	8.300	25.23	0.00	4.70	64.99	3.42	2.14	3.88	2.62	3.88	1.15	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
86	8.200	25.23	0.00	4.70	64.99	3.45	2.13	3.89	2.61	3.89	1.15	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
87	8.100	25.23	0.00	4.70	65.00	3.47	2.13	3.90	2.61	3.90	1.15	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
88	8.000	25.23	0.00	4.70	65.00	3.49	2.13	3.90	2.61	3.90	1.15	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
89	7.900	25.23	0.00	4.70	65.00	3.51	2.13	3.90	2.61	3.90	1.14	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
90	7.800	25.23	0.00	4.70	65.00	3.53	2.13	3.91	2.61	3.91	1.14	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 4 WAC4 TO Elder Branch Creek WAC SUMMER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
91	UPR RCH	0.16180	25.23	0.00	4.70	65.00	3.53	2.13	3.91	2.61	3.91	1.14	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.00482	19.62	0.00	3.80	33.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

123	WSTLD	0.00230	25.23	0.00	3.40	32.30	3.00	2.36	3.53	2.36	3.53	0.86	0.00	0.00	0.00	2.30	0.00	0.00

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/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	MEAN VELO m/s
91	7.80	7.70	0.16662	0.0	0.04261	0.03	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.043
92	7.70	7.60	0.17143	0.0	0.04384	0.03	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.044
93	7.60	7.50	0.17625	0.0	0.04507	0.03	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.045
94	7.50	7.40	0.18106	0.0	0.04630	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.046
95	7.40	7.30	0.18588	0.0	0.04753	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.048
96	7.30	7.20	0.19069	0.0	0.04876	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.049
97	7.20	7.10	0.19551	0.0	0.05000	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.050
98	7.10	7.00	0.20032	0.0	0.05123	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.051
99	7.00	6.90	0.20514	0.0	0.05246	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.052
100	6.90	6.80	0.20995	0.0	0.05369	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.054
101	6.80	6.70	0.21477	0.0	0.05492	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.055
102	6.70	6.60	0.21958	0.0	0.05615	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.056
103	6.60	6.50	0.22440	0.0	0.05738	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.057
104	6.50	6.40	0.22921	0.0	0.05861	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.059
105	6.40	6.30	0.23403	0.0	0.05985	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.060
106	6.30	6.20	0.23884	0.0	0.06108	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.061
107	6.20	6.10	0.24366	0.0	0.06231	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.062
108	6.10	6.00	0.24847	0.0	0.06354	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.064
109	6.00	5.90	0.25329	0.0	0.06477	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.065
110	5.90	5.80	0.25810	0.0	0.06600	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.066
111	5.80	5.70	0.26292	0.0	0.06723	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.067
112	5.70	5.60	0.26773	0.0	0.06847	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.068
113	5.60	5.50	0.27255	0.0	0.06970	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.070
114	5.50	5.40	0.27736	0.0	0.07093	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.071
115	5.40	5.30	0.28218	0.0	0.07216	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.072
116	5.30	5.20	0.28699	0.0	0.07339	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.073
117	5.20	5.10	0.29181	0.0	0.07462	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.075
118	5.10	5.00	0.29662	0.0	0.07585	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.076
119	5.00	4.90	0.30144	0.0	0.07708	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.077
120	4.90	4.80	0.30625	0.0	0.07832	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.078
121	4.80	4.70	0.31107	0.0	0.07955	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.080
122	4.70	4.60	0.31588	0.0	0.08078	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.081
123	4.60	4.50	0.32300	0.7	0.08260	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.083
TOT						0.64			12904.63	22799.71					
AVG					0.0600		0.57	6.91			3.91				
CUM						55.62									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
91	7.700	8.23	1.49	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.26	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	7.600	8.23	1.51	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.26	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	7.500	8.23	1.52	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.26	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	7.400	8.23	1.53	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.26	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	7.300	8.23	1.54	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.26	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

96	7.200	8.23	1.55	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.26	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	7.100	8.23	1.56	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.26	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	7.000	8.23	1.57	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.26	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
99	6.900	8.23	1.58	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	6.800	8.23	1.59	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101	6.700	8.23	1.60	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102	6.600	8.23	1.61	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
103	6.500	8.23	1.62	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
104	6.400	8.23	1.63	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	6.300	8.23	1.64	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
106	6.200	8.23	1.65	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107	6.100	8.23	1.66	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
108	6.000	8.23	1.67	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
109	5.900	8.23	1.67	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	5.800	8.23	1.68	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
111	5.700	8.23	1.69	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112	5.600	8.23	1.70	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113	5.500	8.23	1.71	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114	5.400	8.23	1.72	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	5.300	8.23	1.72	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116	5.200	8.23	1.73	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117	5.100	8.23	1.74	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
118	5.000	8.23	1.75	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.27	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
119	4.900	8.23	1.76	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	4.800	8.23	1.76	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
121	4.700	8.23	1.77	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
122	4.600	8.23	1.78	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	4.500	8.23	1.79	0.29	0.57	0.00	0.04	0.57	0.00	1.26	1.26	1.26	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			1.49	0.22	0.50	0.00	0.03	0.50	0.00	0.90			0.21	0.50	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
91	7.700	25.23	0.00	4.67	64.07	3.64	2.13	3.90	2.61	3.90	1.16	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
92	7.600	25.23	0.00	4.65	63.20	3.74	2.13	3.89	2.61	3.89	1.18	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
93	7.500	25.23	0.00	4.62	62.37	3.83	2.12	3.88	2.60	3.88	1.19	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
94	7.400	25.23	0.00	4.60	61.59	3.91	2.12	3.88	2.60	3.88	1.21	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
95	7.300	25.23	0.00	4.58	60.85	3.99	2.12	3.87	2.60	3.87	1.22	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
96	7.200	25.23	0.00	4.56	60.15	4.06	2.12	3.86	2.60	3.86	1.23	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
97	7.100	25.23	0.00	4.54	59.48	4.13	2.11	3.86	2.59	3.86	1.24	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
98	7.000	25.23	0.00	4.53	58.84	4.19	2.11	3.85	2.59	3.85	1.25	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
99	6.900	25.23	0.00	4.51	58.24	4.25	2.11	3.85	2.59	3.85	1.26	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
100	6.800	25.23	0.00	4.49	57.66	4.30	2.11	3.84	2.59	3.84	1.27	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
101	6.700	25.23	0.00	4.48	57.11	4.35	2.11	3.84	2.59	3.84	1.28	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
102	6.600	25.23	0.00	4.46	56.58	4.40	2.11	3.84	2.59	3.84	1.28	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
103	6.500	25.23	0.00	4.45	56.07	4.45	2.10	3.83	2.58	3.83	1.29	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
104	6.400	25.23	0.00	4.43	55.59	4.49	2.10	3.83	2.58	3.83	1.30	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
105	6.300	25.23	0.00	4.42	55.12	4.53	2.10	3.83	2.58	3.83	1.31	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
106	6.200	25.23	0.00	4.41	54.68	4.57	2.10	3.82	2.58	3.82	1.31	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
107	6.100	25.23	0.00	4.40	54.25	4.60	2.10	3.82	2.58	3.82	1.32	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
108	6.000	25.23	0.00	4.39	53.84	4.64	2.10	3.82	2.58	3.82	1.32	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
109	5.900	25.23	0.00	4.37	53.44	4.67	2.10	3.81	2.58	3.81	1.33	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
110	5.800	25.23	0.00	4.36	53.06	4.70	2.10	3.81	2.58	3.81	1.33	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

111	5.700	25.23	0.00	4.35	52.69	4.73	2.10	3.81	2.58	3.81	1.34	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
112	5.600	25.23	0.00	4.34	52.34	4.76	2.10	3.81	2.58	3.81	1.34	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
113	5.500	25.23	0.00	4.33	52.00	4.78	2.09	3.80	2.57	3.80	1.35	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
114	5.400	25.23	0.00	4.32	51.67	4.81	2.09	3.80	2.57	3.80	1.35	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
115	5.300	25.23	0.00	4.32	51.35	4.83	2.09	3.80	2.57	3.80	1.35	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
116	5.200	25.23	0.00	4.31	51.04	4.86	2.09	3.80	2.57	3.80	1.36	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
117	5.100	25.23	0.00	4.30	50.74	4.88	2.09	3.79	2.57	3.79	1.36	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
118	5.000	25.23	0.00	4.29	50.45	4.90	2.09	3.79	2.57	3.79	1.36	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
119	4.900	25.23	0.00	4.28	50.17	4.92	2.09	3.79	2.57	3.79	1.37	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
120	4.800	25.23	0.00	4.27	49.90	4.94	2.09	3.79	2.57	3.79	1.37	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
121	4.700	25.23	0.00	4.27	49.64	4.96	2.09	3.79	2.57	3.79	1.37	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
122	4.600	25.23	0.00	4.26	49.39	4.98	2.09	3.79	2.57	3.79	1.37	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
123	4.500	25.23	0.00	4.25	49.02	4.98	2.09	3.78	2.57	3.78	1.37	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 5 Elder Branch TO Little Sandy WAC SUMMER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
124	UPR RCH	0.32300	25.23	0.00	4.25	49.02	4.98	2.09	3.78	2.57	3.78	1.37	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.00794	19.62	0.00	3.80	33.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/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	MEAN VELO m/s
124	4.50	4.40	0.33095	0.7	0.03045	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.030
125	4.40	4.30	0.33889	0.7	0.03118	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.031
126	4.30	4.20	0.34684	0.7	0.03191	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.032
127	4.20	4.10	0.35478	0.6	0.03264	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.033
128	4.10	4.00	0.36273	0.6	0.03338	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.033
129	4.00	3.90	0.37067	0.6	0.03411	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.034
130	3.90	3.80	0.37862	0.6	0.03484	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.035
131	3.80	3.70	0.38656	0.6	0.03557	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.036
132	3.70	3.60	0.39451	0.6	0.03630	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.036
133	3.60	3.50	0.40245	0.6	0.03703	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.037
134	3.50	3.40	0.41040	0.6	0.03776	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.038
135	3.40	3.30	0.41834	0.5	0.03849	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.038
136	3.30	3.20	0.42629	0.5	0.03922	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.039
137	3.20	3.10	0.43423	0.5	0.03996	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.040
138	3.10	3.00	0.44218	0.5	0.04069	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.041
139	3.00	2.90	0.45012	0.5	0.04142	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.041
140	2.90	2.80	0.45807	0.5	0.04215	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.042
141	2.80	2.70	0.46601	0.5	0.04288	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.043
142	2.70	2.60	0.47396	0.5	0.04361	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.044
143	2.60	2.50	0.48190	0.5	0.04434	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.044
TOT						0.63			21735.80	22760.00					
AVG					0.0369		0.96	11.38			10.87				
CUM						56.25									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
124	4.400	8.23	0.85	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	4.300	8.23	0.86	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126	4.200	8.23	0.86	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127	4.100	8.23	0.87	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128	4.000	8.23	0.88	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
129	3.900	8.23	0.88	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	3.800	8.23	0.89	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
131	3.700	8.23	0.89	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132	3.600	8.23	0.90	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
133	3.500	8.23	0.90	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
134	3.400	8.23	0.91	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	3.300	8.23	0.91	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
136	3.200	8.23	0.91	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
137	3.100	8.23	0.92	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
138	3.000	8.23	0.92	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
139	2.900	8.23	0.93	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	2.800	8.23	0.93	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
141	2.700	8.23	0.94	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142	2.600	8.23	0.94	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
143	2.500	8.23	0.95	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			0.82	0.22	0.50	0.00	0.03	0.50	0.00	0.09			0.21	0.50	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
124	4.400	25.23	0.00	4.24	48.64	5.01	2.06	3.78	2.77	3.78	1.42	0.00	0.00	0.00	0.00	4.69	0.00	0.	0.00
125	4.300	25.23	0.00	4.23	48.27	5.04	2.04	3.77	2.96	3.77	1.46	0.00	0.00	0.00	0.00	6.17	0.00	0.	0.00
126	4.200	25.23	0.00	4.22	47.92	5.06	2.01	3.76	3.16	3.76	1.51	0.00	0.00	0.00	0.00	7.66	0.00	0.	0.00
127	4.100	25.23	0.00	4.21	47.59	5.09	1.99	3.76	3.36	3.76	1.54	0.00	0.00	0.00	0.00	9.14	0.00	0.	0.00
128	4.000	25.23	0.00	4.20	47.27	5.11	1.97	3.75	3.56	3.75	1.58	0.00	0.00	0.00	0.00	10.63	0.00	0.	0.00
129	3.900	25.23	0.00	4.19	46.96	5.13	1.95	3.75	3.77	3.75	1.61	0.00	0.00	0.00	0.00	12.11	0.00	0.	0.00
130	3.800	25.23	0.00	4.18	46.67	5.16	1.93	3.74	3.97	3.74	1.64	0.00	0.00	0.00	0.00	13.60	0.00	0.	0.00
131	3.700	25.23	0.00	4.17	46.39	5.18	1.92	3.74	4.18	3.74	1.67	0.00	0.00	0.00	0.00	15.08	0.00	0.	0.00
132	3.600	25.23	0.00	4.17	46.12	5.19	1.90	3.74	4.39	3.74	1.70	0.00	0.00	0.00	0.00	16.57	0.00	0.	0.00
133	3.500	25.23	0.00	4.16	45.86	5.21	1.89	3.73	4.59	3.73	1.72	0.00	0.00	0.00	0.00	18.05	0.00	0.	0.00
134	3.400	25.23	0.00	4.15	45.61	5.23	1.87	3.73	4.80	3.73	1.74	0.00	0.00	0.00	0.00	19.54	0.00	0.	0.00
135	3.300	25.23	0.00	4.15	45.37	5.25	1.86	3.72	5.01	3.72	1.76	0.00	0.00	0.00	0.00	21.02	0.00	0.	0.00
136	3.200	25.23	0.00	4.14	45.14	5.26	1.85	3.72	5.22	3.72	1.78	0.00	0.00	0.00	0.00	22.51	0.00	0.	0.00
137	3.100	25.23	0.00	4.13	44.92	5.28	1.84	3.72	5.44	3.72	1.80	0.00	0.00	0.00	0.00	23.99	0.00	0.	0.00
138	3.000	25.23	0.00	4.13	44.70	5.29	1.83	3.72	5.65	3.72	1.82	0.00	0.00	0.00	0.00	25.48	0.00	0.	0.00
139	2.900	25.23	0.00	4.12	44.50	5.31	1.82	3.71	5.86	3.71	1.84	0.00	0.00	0.00	0.00	26.96	0.00	0.	0.00
140	2.800	25.23	0.00	4.12	44.30	5.32	1.81	3.71	6.07	3.71	1.85	0.00	0.00	0.00	0.00	28.45	0.00	0.	0.00
141	2.700	25.23	0.00	4.11	44.11	5.33	1.80	3.71	6.29	3.71	1.87	0.00	0.00	0.00	0.00	29.93	0.00	0.	0.00
142	2.600	25.23	0.00	4.10	43.92	5.34	1.79	3.71	6.50	3.71	1.88	0.00	0.00	0.00	0.00	31.42	0.00	0.	0.00
143	2.500	25.23	0.00	4.10	43.74	5.36	1.78	3.70	6.72	3.70	1.90	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

FINAL REPORT HEADWATER — WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 6 Little Sandy TO WAC5 — WAC SUMMER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
144	UPR RCH	0.48190	25.23	0.00	4.10	43.74	5.36	1.78	3.70	6.72	3.70	1.90	0.00	0.00	0.00	32.90	0.00	0.00
EACH	INCR	0.00636	19.62	0.00	2.50	0.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	
144	WSTLD	0.00230	25.23	0.00	2.70	22.00	3.00	0.68	0.48	0.68	0.48	0.39	0.00	0.00	0.00	0.00	0.00	0.00

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/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	MEAN VELO m/s
144	2.50	2.40	0.49056	0.9	0.02303	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.023
145	2.40	2.30	0.49691	0.9	0.02333	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.023
146	2.30	2.20	0.50327	0.9	0.02362	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.024
147	2.20	2.10	0.50962	0.9	0.02392	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.024
148	2.10	2.00	0.51598	0.9	0.02422	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.024
149	2.00	1.90	0.52234	0.9	0.02452	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
150	1.90	1.80	0.52869	0.9	0.02482	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
151	1.80	1.70	0.53505	0.9	0.02512	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
152	1.70	1.60	0.54140	0.8	0.02542	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
153	1.60	1.50	0.54776	0.8	0.02571	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
154	1.50	1.40	0.55412	0.8	0.02601	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
155	1.40	1.30	0.56047	0.8	0.02631	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
156	1.30	1.20	0.56683	0.8	0.02661	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
157	1.20	1.10	0.57318	0.8	0.02691	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
158	1.10	1.00	0.57954	0.8	0.02721	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
159	1.00	0.90	0.58590	0.8	0.02750	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
160	0.90	0.80	0.59225	0.8	0.02780	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
161	0.80	0.70	0.59861	0.8	0.02810	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
162	0.70	0.60	0.60496	0.8	0.02840	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
163	0.60	0.50	0.61132	0.8	0.02870	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
164	0.50	0.40	0.61768	0.7	0.02900	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
165	0.40	0.30	0.62403	0.7	0.02929	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
166	0.30	0.20	0.63039	0.7	0.02959	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
167	0.20	0.10	0.63674	0.7	0.02989	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
168	0.10	0.00	0.64310	0.7	0.03019	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
TOT						1.09			53255.98	39625.00					
AVG					0.0264		1.34	15.85			21.30				
CUM						57.35									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
144	2.400	8.23	0.58	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

145	2.300	8.23	0.58	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146	2.200	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147	2.100	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
148	2.000	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
149	1.900	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	1.800	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
151	1.700	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152	1.600	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153	1.500	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
154	1.400	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	1.300	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
156	1.200	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157	1.100	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
158	1.000	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
159	0.900	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.800	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
161	0.700	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162	0.600	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
163	0.500	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
164	0.400	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.300	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166	0.200	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167	0.100	8.23	0.63	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	0.000	8.23	0.63	0.29	0.57	0.00	0.04	0.57	0.00	0.13	0.13	0.13	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			0.55	0.22	0.50	0.00	0.03	0.50	0.00	0.09			0.21	0.50	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
144	2.400	25.23	0.00	4.07	43.07	5.35	1.73	3.68	6.67	3.68	1.92	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
145	2.300	25.23	0.00	4.05	42.52	5.35	1.69	3.67	6.62	3.67	1.96	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
146	2.200	25.23	0.00	4.03	41.98	5.35	1.65	3.66	6.59	3.66	1.99	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
147	2.100	25.23	0.00	4.01	41.46	5.35	1.61	3.66	6.55	3.66	2.01	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
148	2.000	25.23	0.00	4.00	40.95	5.36	1.58	3.65	6.51	3.65	2.04	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
149	1.900	25.23	0.00	3.98	40.45	5.36	1.55	3.65	6.48	3.65	2.06	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
150	1.800	25.23	0.00	3.96	39.96	5.36	1.52	3.64	6.45	3.64	2.09	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
151	1.700	25.23	0.00	3.94	39.49	5.37	1.49	3.63	6.42	3.63	2.11	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
152	1.600	25.23	0.00	3.92	39.03	5.37	1.46	3.63	6.40	3.63	2.13	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
153	1.500	25.23	0.00	3.91	38.57	5.37	1.44	3.62	6.37	3.62	2.15	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
154	1.400	25.23	0.00	3.89	38.13	5.38	1.41	3.62	6.35	3.62	2.17	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
155	1.300	25.23	0.00	3.88	37.70	5.38	1.39	3.62	6.33	3.62	2.18	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
156	1.200	25.23	0.00	3.86	37.28	5.38	1.37	3.61	6.30	3.61	2.20	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
157	1.100	25.23	0.00	3.85	36.86	5.39	1.35	3.61	6.28	3.61	2.21	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
158	1.000	25.23	0.00	3.83	36.46	5.39	1.33	3.60	6.27	3.60	2.23	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
159	0.900	25.23	0.00	3.82	36.06	5.40	1.31	3.60	6.25	3.60	2.24	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
160	0.800	25.23	0.00	3.80	35.68	5.40	1.30	3.60	6.23	3.60	2.25	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
161	0.700	25.23	0.00	3.79	35.30	5.41	1.28	3.59	6.22	3.59	2.27	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
162	0.600	25.23	0.00	3.78	34.93	5.41	1.27	3.59	6.20	3.59	2.28	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
163	0.500	25.23	0.00	3.76	34.56	5.41	1.25	3.59	6.19	3.59	2.29	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
164	0.400	25.23	0.00	3.75	34.21	5.42	1.24	3.58	6.17	3.58	2.30	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
165	0.300	25.23	0.00	3.74	33.86	5.42	1.23	3.58	6.16	3.58	2.31	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
166	0.200	25.23	0.00	3.72	33.52	5.43	1.21	3.58	6.15	3.58	2.32	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
167	0.100	25.23	0.00	3.71	33.18	5.43	1.20	3.58	6.14	3.58	2.33	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

```
 168    0.000  25.23  0.00     3.70    32.85   5.44   1.19   3.57   6.13   3.57   2.33   0.00   0.00   0.00   0.00  32.90    0.00       0.    0.00


STREAM SUMMARY                                                    WEST ANACOCO CREEK WATERSHED MODEL
HEADWATER                                                         WAC SUMMER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD

 TRAVEL TIME       =          57.35 DAYS

 MAXIMUM EFFLUENT  =           0.94 PERCENT

 FLOW              =   0.00231 TO    0.64310   m³/s
 DISPERSION        =   0.0000  TO    0.0000    m²/s
 VELOCITY          =   0.00133 TO    0.37495   m/s
 DEPTH             =   0.18    TO    1.34      m
 WIDTH             =   2.44    TO   15.85      m

 BOD DECAY         =    0.29   TO    0.35      per day
 NH3 DECAY         =    0.00   TO    0.00      per day
 SOD               =    0.13   TO    7.22      g/m²/d
 NH3 SOURCE        =    0.00   TO    0.00      g/m²/d
 REAERATION        =    0.58   TO    7.64      per day
 BOD SETTLING      =    0.23   TO    0.57      per day
 NBOD DECAY        =    0.11   TO    0.28      per day
 NBOD SETTLING     =    0.23   TO    0.57      per day

 TEMPERATURE       =   25.23   TO   25.23      deg C
 DISSOLVED OXYGEN  =    2.93   TO    5.44      mg/L


     .....EXECUTION COMPLETED
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Appendix D2 – Summer No-Load Justifications

DATA TYPE 3 - PROGRAM CONSTANTS			
CONSTANT NAME	**VALUE**	**UNITS**	**DATA SOURCE**
KL MINIMUM	0.7	m/day	The minimum KL of 2.3 ft/day converted to 0.70 m/day.
INHIBITION CONTROL VALUE	3		The water column dissolved oxygen demand is assumed to come primarily from facultative bacteria under anoxic conditions and SOD is not influenced by modeled dissolved oxygen levels in the upper water column.
K2 MAXIMUM	25	1/day at 20 deg C	EPA Policy in the absence of a measured value.
HYDRAULIC CALCULATION METHOD	2		The low slopes in this waterbody cause a substantial amount of water to be present during critical flow conditions. This method allows the model to predict a more accurate depth and width during low flow conditions.
ALGAE OXYGEN PRODUCTION	0		Standard practice for steady state calibration to a wide variation in DO.
EFFECTIVE BOD DUE TO ALGAE	0.15		Standard practice for steady state calibration to a wide variation in DO.
SETTLING RATE UNITS	2		By making the settling rate a velocity the rate becomes dependent upon the depth.

DATA TYPE 8 - REACH IDENTIFICATION DATA						
Reach	**ID**	**Name**	**Upstream River Kilometer**	**Downstream River Kilometer**	**Element Length, meters**	**Data Source**
1	WA	WAC1 to WAC2	16.80	14.40	100.0000	ARC MAP Calc.
2	WA	WAC2 to WAC3	14.40	8.70	100.0000	ARC MAP Calc.
3	WA	WAC3 to WAC4	8.70	7.80	100.0000	ARC MAP Calc.
4	WA	WAC4 to Elder Branch Creek	7.80	4.50	100.0000	ARC MAP Calc.
5	WA	Elder Branch Creek to Little Sandy Creek	4.50	2.50	100.0000	ARC MAP Calc.
6	WA	Little Sandy Creek to WAC5	2.50	0.00	100.0000	ARC MAP Calc.

	DATA TYPE 9 - ADVECTIVE HYDRAULIC COEFFICIENTS								
Reach	**Name**	**Width Coeff. "a"**	**Width Exp. "b"**	**Width Const. "c"**	**Data Source**	**Depth Coeff. "d"**	**Depth Exp. "e"**	**Depth Const. "f"**	**Data Source**
1	WAC1 to WAC2	0	0.2	3.658	WAC2	0	0.3	0.195	WAC2
2	WAC2 to WAC3	0	0.2	6.401	WAC3	0	0.3	0.305	WAC3
3	WAC3 to WAC4	0	0.2	2.438	WAC4	0	0.3	0.177	WAC4
4	WAC4 to Elder Branch Creek	0	0.2	6.909	WAC4 - 1/3 (WAC5 - WAC4)	0	0.3	0.566	WAC4 - 1/3 (WAC5 - WAC4)
5	Elder Branch Creek to Little Sandy Creek	0	0.2	11.380	WAC4 - 1/3 (WAC5 - WAC4)	0	0.3	0.955	WAC4 - 1/3 (WAC5 - WAC4)
6	Little Sandy Creek to WAC5	0	0.2	15.850	WAC5	0	0.3	1.344	WAC5

	DATA TYPE 11 - INITIAL CONDITIONS						
Reach	**Name**	**Temp, deg C**	**DO, mg/l**	**Sal, ppt**	**Data Source**	**Chlorophyll a**	**Data Source**
1	WAC1 to WAC2	25.23	5.00	0.00	Temp - WQN 1162 90th Percentile Summer Temp, DO - Numerical Criteria, Salinity - Average WAC1, WAC2 Continuous Monitor	16.60	WAC1
2	WAC2 to WAC3	25.23	5.00	0.00	Temp - WQN 1162 90th Percentile Summer Temp, DO - Numerical Criteria, Salinity - Average WAC2, WAC3 Continuous Monitor	16.70	WAC2
3	WAC3 to WAC4	25.23	5.00	0.00	Temp - WQN 1162 90th Percentile Summer Temp, DO - Numerical Criteria, Salinity - Average WAC3, WAC4 Continuous Monitor	3.20	WAC3
4	WAC4 to Elder Branch Creek	25.23	5.00	0.00	Temp - WQN 1162 90th Percentile Summer Temp, DO - Numerical Criteria, Salinity - Average WAC4, WAC5 Continuous Monitor	32.90	WAC5
5	Elder Branch Creek to Little Sandy Creek	25.23	5.00	0.00	Temp - WQN 1162 90th Percentile Summer Temp, DO - Numerical Criteria, Salinity - Average WAC4, WAC5 Continuous Monitor	32.90	WAC5
6	Little Sandy Creek to WAC5	25.23	5.00	0.00	Temp - WQN 1162 90th Percentile Summer Temp, DO - Numerical Criteria, Salinity - Average WAC4, WAC5 Continuous Monitor	32.90	WAC5

		DATA TYPE 12 - REAERATION, SEDIMENT OXYGEN DEMAND AND BOD COEFFICIENTS					DATA TYPE 12 - REAERATION, SEDIMENT OXYGEN DEMAND AND BOD COEFFICIENTS							
REACH	NAME	K2 OPT	Data Source	a	BKGRND SOD, gmO2/m2/day at 20 deg C	Data Source	Aerobic BOD1 Dec Rate (1/day)	Data Source	BOD1 SETT RATE (1/day)	Data Source	Aerobic BOD2 Dec Rate (1/day)	Data Source	BOD2 SETT RATE (1/day)	Data Source
1	WAC1 to WAC2	11	Texas Equation		1.227	100% Reduction Man-made Loading	0.2757	AVG (WAC1,WAC2)	0.2	Calibration	0.0331	AVG (WAC1,WAC2)	0.2	Calibration
2	WAC2 to WAC3	11	Texas Equation		1.165	100% Reduction Man-made Loading	0.2253	AVG (WAC2,WAC3)	0.2	Calibration	0.0314	AVG (WAC2,WAC3)	0.2	Calibration
3	WAC3 to WAC4	11	Texas Equation		0.190	100% Reduction Man-made Loading	0.2705	AVG (WAC3,WAC4)	0.2	Calibration	0.0310	AVG (WAC3,WAC4)	0.2	Calibration
4	WAC4 to Elder Branch Creek	11	Texas Equation		0.590	100% Reduction Man-made Loading	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration
5	Elder Branch Creek to Little Sandy Creek	11	Texas Equation		0.002	100% Reduction Man-made Loading	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration
6	Little Sandy Creek to WAC5	11	Texas Equation		0.001	100% Reduction Man-made Loading	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration

DATA TYPE 13 - NITROGEN AND PHOSPHORUS COEFFICIENTS					
Reach	Name	NBOD decay rate, 1/day	Data Source	NBOD settling rate, 1/day	Data Source
1	WAC1 to WAC2	0.0967	AVG (WAC1,WAC2)	0.30	Calibration
2	WAC2 to WAC3	0.1436	AVG (WAC2,WAC3)	0.20	Calibration
3	WAC3 to WAC4	0.1139	AVG (WAC3,WAC4)	0.20	Calibration
4	WAC4 to Elder Branch Creek	0.2147	AVG (WAC4,WAC5)	0.50	Calibration
5	Elder Branch Creek to Little Sandy Creek	0.2147	AVG (WAC4,WAC5)	0.50	Calibration
6	Little Sandy Creek to WAC5	0.2147	AVG (WAC4,WAC5)	0.50	Calibration

DATA TYPES 16 - INCREMENTAL DATA FOR TEMP AND CONS											
Reach	Reach Name	Incr. Ouflow, m3	Incr. Inflow, m3	Data Source	Temp	Data Source	Salinity ppt	Data Source	Chl	Cond	Data Source
1	WAC1 to WAC2		0.0003	INFLOW 1/2(WAC3 - WAC1)	19.62	WAC11a	0.000	Continuous Monitoring	0	0	Calibration
2	WAC2 to WAC3		0.0003	INFLOW 1/2(WAC3 - WAC1)	19.62	WAC11a	0.000	Continuous Monitoring	4.5	60	Calibration
3	WAC3 to WAC4	-0.0083		OUTFLOW (WAC3 + WAC1)	19.62	WAC11a	0.000	Continuous Monitoring	4	35	Calibration
4	WAC4 to Elder Branch Creek		0.2148	INFLOW (WAC5 - WAC4 - ELDER - LITTLE SANDY)/3	19.62	WAC11a	0.000	Continuous Monitoring	3.8	33	Calibration
5	Elder Branch Creek to Little Sandy Creek		0.2148	INFLOW (WAC5 - WAC4 - ELDER - LITTLE SANDY)/3	19.62	WAC11a	0.000	Continuous Monitoring	3.8	33	Calibration
6	Little Sandy Creek to WAC5		0.2148	INFLOW (WAC5 - WAC4 - ELDER - LITTLE SANDY)/3	19.62	WAC11a	0.000	Continuous Monitoring	3.8	33	Calibration

DATA TYPES 17 - INCREMENTAL DATA FOR DO, BOD, AND NITROGEN						
Reach	Reach Name	DO, mg/l	BOD1, mg/l	BOD2, mg/l	NBOD, mg/l	Data Source
1	WAC1 to WAC2	3.86	0.4324	0.5641	0.0000	WAC11a
2	WAC2 to WAC3	3.86	0.4324	0.5641	0.0000	WAC11a
3	WAC3 to WAC4	3.86	0.4324	0.5641	0.0000	WAC11a
4	WAC4 to Elder Branch Creek	3.86	0.4324	0.5641	0.0000	WAC11a
5	Elder Branch Creek to Little Sandy Creek	3.86	0.4324	0.5641	0.0000	WAC11a
6	Little Sandy Creek to WAC5	3.86	0.4324	0.5641	0.0000	WAC11a

DATA TYPE 19 - NONPOINT SOURCES						
Reach	**Reach Name**	**Length of Reach, km**	**UCBOD1, kg/day**	**UCBOD2, kg/day**	**NBOD, kg/day**	**Data Source**
1	WAC1 to WAC2	2.40	4.380	1.314	1.095	100% Reduction Man-Made Loading
2	WAC2 to WAC3	5.70	17.922	8.961	3.584	100% Reduction Man-Made Loading
3	WAC3 to WAC4	0.90	2.482	0.827	0.662	100% Reduction Man-Made Loading
4	WAC4 to Elder Branch Creek	3.30	8.933	17.865	5.360	100% Reduction Man-Made Loading
5	Elder Branch Creek to Little Sandy Creek	2.00	9.096	19.191	18.191	100% Reduction Man-Made Loading
6	Little Sandy Creek to WAC5	2.50	44.008	17.603	17.603	100% Reduction Man-Made Loading

DATA TYPES 20 - HEADWATER DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES								
Headwater Name	**Element No.**	**Logical Unit Number**	**Headwater Flow, cms**	**Temp, deg C**	**Salinity**	**Chlorides**	**Conductivity**	**Data Source**
Headwater 1	1	1	0.0023	25.23	0	5.3	73.90	Flow - LTP Summer Default, Temp - 90th Percentile Summer Temp for WQN 1162, Salinity & Conductivity - WAC1 Insitu, Chlorides - WAC1 Lab Data

DATA TYPES 21 - HEADWATER DATA FOR DO, BOD, AND NITROGEN					
Headwater Name	**Dissolved Oxygen, mg/L**	**UCBOD1, mg/l**	**UCBOD2, mg/l**	**NBOD, mg/l**	**Data Source**
Headwater 1	7.41	0.56	0	0	DO - Summer 90% DO Sat for WQN Site 1162, UBOD1, UBOD2, NBOD - 100% Reduction in Man-Made Loading

DATA TYPES 22 - HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES					
Headwater Name	**Chlorophyll a, ug/L**	**Date Source**			
Headwater 1	16.6	WAC1 Lab Data			

	DATA TYPES 24 - WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES									
Wasteload / Withdrawal Name	**EL #**	**Flow, cms**	**Data Source**	**Temperature, deg C**	**Data Source**	**Chlorides**	**Data Source**	**Salinity**	**Conductivity**	**Data Source**
Elder Branch Creek	123	0.0023	LTP Summer Default	25.23	90th Percentile Summer Temperature for WQN Site 1162	3.4	WAC10 Lab Data	0.0	32.3	WAC10 Insitu - Conductivity Continuous Monitoring - Salinity
Little Sandy Creek	144	0.0023	LTP Summer Default	25.23	90th Percentile Summer Temperature for WQN Site 1162	2.7	WAC11 Lab Data	0.0	22.0	WAC11 Insitu - Conductivity and Salinity

DATA TYPES 25 - WASTELOAD DATA FOR DO, BOD, AND NITROGEN							
Wasteload / Withdrawal Name	**EL #**	**DO, mg/l**	**Data Source**	**UCBOD1, mg/l**	**UCBOD2, mg/l**	**UNBOD, mg/l**	**Data Source**
Elder Branch Creek	123	5.00	Numerical Criteria for Subsegment 110501	2.358	0	0.71	100% Reduction in Man-Made Loading
Little Sandy Creek	144	5.00	Numerical Criteria for Subsegment 110501	0.676	0	0.386	100% Reduction in Man-Made Loading

DATA TYPES 26 - WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES							
Wasteload / Withdrawal Name	**EL #**	**Chl a, ug/L**	**Data Source**	**Phosphorus**	**Coliform**	**Nonconservatives**	**Data Source**
Elder Branch Creek	123	2.3	WAC10 Lab Data				
Little Sandy Creek	144						

DATA TYPES 27 - LOWER BOUNDARY CONDITIONS			
Parameter	**Value**	**Units**	**Data Source**
TEMPERATURE	25.23	^{O}C	90th Percentile Summer Temperature for WQN Site 1162
SALINITY	0.00	ppt	WAC5 Continuous Monitoring
CHLORIDES	3.7	ppm	WAC5 Lab Data
CONDUCTIVITY	33.10	umhos/cm	WAC5 Insitu
DISSOLVED OXYGEN	5.00	mg/L	Numerical Criteria for Subsegment 110501
CBOD1	6.126	mg/L	WAC5 Lab Data
CBOD2	3.647	mg/L	WAC5 Lab Data
CHLOROPHYLL A	32.9	ug/L	WAC5 Lab Data
NBOD	2.275	mg/L	WAC5 Lab Data

Appendix D3 – Summer Projection for 4.0 DO Standard Justifications

DATA TYPE 3 - PROGRAM CONSTANTS			
CONSTANT NAME	**VALUE**	**UNITS**	**DATA SOURCE**
KL MINIMUM	0.7	m/day	The minimum KL of 2.3 ft/day converted to 0.70 m/day.
INHIBITION CONTROL VALUE	3		The water column dissolved oxygen demand is assumed to come primarily from facultative bacteria under anoxic conditions and SOD is not influenced by modeled dissolved oxygen levels in the upper water column.
K2 MAXIMUM	25	1/day at 20 deg C	EPA Policy in the absence of a measured value.
HYDRAULIC CALCULATION METHOD	2		The low slopes in this waterbody cause a substantial amount of water to be present during critical flow conditions. This method allows the model to predict a more accurate depth and width during low flow conditions.
ALGAE OXYGEN PRODUCTION	0		Standard practice for steady state calibration to a wide variation in DO.
EFFECTIVE BOD DUE TO ALGAE	0.15		Standard practice for steady state calibration to a wide variation in DO.
SETTLING RATE UNITS	2		By making the settling rate a velocity the rate becomes dependent upon the depth.

DATA TYPE 8 - REACH IDENTIFICATION DATA						
Reach	**ID**	**Name**	**Upstream River Kilometer**	**Downstream River Kilometer**	**Element Length, meters**	**Data Source**
1	WA	WAC1 to WAC2	16.80	14.40	100.0000	ARC MAP Calc.
2	WA	WAC2 to WAC3	14.40	8.70	100.0000	ARC MAP Calc.
3	WA	WAC3 to WAC4	8.70	7.80	100.0000	ARC MAP Calc.
4	WA	WAC4 to Elder Branch Creek	7.80	4.50	100.0000	ARC MAP Calc.
5	WA	Elder Branch Creek to Little Sandy Creek	4.50	2.50	100.0000	ARC MAP Calc.
6	WA	Little Sandy Creek to WAC5	2.50	0.00	100.0000	ARC MAP Calc.

	DATA TYPE 9 - ADVECTIVE HYDRAULIC COEFFICIENTS								
Reach	Name	Width Coeff. "a"	Width Exp. "b"	Width Const. "c"	Data Source	Depth Coeff. "d"	Depth Exp. "e"	Depth Const. "f"	Data Source
1	WAC1 to WAC2	0	0.2	3.658	WAC2	0	0.3	0.195	WAC2
2	WAC2 to WAC3	0	0.2	6.401	WAC3	0	0.3	0.305	WAC3
3	WAC3 to WAC4	0	0.2	2.438	WAC4	0	0.3	0.177	WAC4
4	WAC4 to Elder Branch Creek	0	0.2	6.909	WAC4 - 1/3 (WAC5 - WAC4)	0	0.3	0.566	WAC4 - 1/3 (WAC5 - WAC4)
5	Elder Branch Creek to Little Sandy Creek	0	0.2	11.380	WAC4 - 1/3 (WAC5 - WAC4)	0	0.3	0.955	WAC4 - 1/3 (WAC5 - WAC4)
6	Little Sandy Creek to WAC5	0	0.2	15.850	WAC5	0	0.3	1.344	WAC5

West Anacoco 110501 Summer Projection Justification for 4 DO

	DATA TYPE 11 - INITIAL CONDITIONS							
Reach	Name	DO, mg/l	Data Source	Temp, deg C	Sal, ppt	Data Source	Chlorophyll a	Data Source
1	WAC1 to WAC2	4.00	1 + Minimum Continuous Monitoring WAC1	25.23	0.00	Average WAC1,WAC2 Continuous Monitoring	16.60	WAC1
2	WAC2 to WAC3	4.00	1 + Minimum Contiuous Monitoring WAC3	25.23	0.00	Average WAC2,WAC3 Continuous Monitoring	16.70	WAC2
3	WAC3 to WAC4	4.00	1 + Minimum WAC3,WAC4 Continuous Monitoring	25.23	0.00	Average WAC3,WAC4 Continuous Monitoring	3.20	WAC3
4	WAC4 to Elder Branch Creek	4.00	1 + Minimum WAC4,WAC5 Continuous Monitoring	25.23	0.00	Average WAC4,WAC5 Continuous Monitoring	3.20	WAC3
5	Elder Branch Creek to Little Sandy Creek	4.00	1 + Minimum WAC4,WAC5 Continuous Monitoring	25.23	0.00	Average WAC4,WAC5 Continuous Monitoring	3.20	WAC3
6	Little Sandy Creek to WAC5	4.00	1 + Minimum WAC4,WAC5 Continuous Monitoring	25.23	0.00	Average WAC4,WAC5 Continuous Monitoring	32.90	WAC5

		DATA TYPE 12 - REAERATION, SEDIMENT OXYGEN DEMAND AND BOD COEFFICIENTS					DATA TYPE 12 - REAERATION, SEDIMENT OXYGEN DEMAND AND BOD COEFFICIENTS							
REACH	NAME	K2 OPT	Data Source	a	BKGRND SOD, gmO2/m2/day at 20 deg C	Data Source	Aerobic BOD1 Dec Rate (1/day)	Data Source	BOD1 SETT RATE (1/day)	Data Source	Aerobic BOD2 Dec Rate (1/day)	Data Source	BOD2 SETT RATE (1/day)	Data Source
1	WAC1 to WAC2	11	Texas Equation		2.21	Calibration	0.2757	AVG (WAC1,WAC2)	0.2	Calibration	0.0331	AVG (WAC1,WAC2)	0.2	Calibration
2	WAC2 to WAC3	11	Texas Equation		1.89	Calibration	0.2253	AVG (WAC2,WAC3)	0.2	Calibration	0.0314	AVG (WAC2,WAC3)	0.2	Calibration
3	WAC3 to WAC4	11	Texas Equation		2.36	Calibration	0.2705	AVG (WAC3,WAC4)	0.2	Calibration	0.0310	AVG (WAC3,WAC4)	0.2	Calibration
4	WAC4 to Elder Branch Creek	11	Texas Equation		0.52	Calibration	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration
5	Elder Branch Creek to Little Sandy Creek	11	Texas Equation		0.05	Calibration	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration
6	Little Sandy Creek to WAC5	11	Texas Equation		0.05	Calibration	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration

DATA TYPE 13 - NITROGEN AND PHOSPHORUS COEFFICIENTS					
Reach	Name	NBOD decay rate, 1/day	Data Source	NBOD settling rate, 1/day	Data Source
1	WAC1 to WAC2	0.0967	AVG (WAC1,WAC2)	0.20	Calibration
2	WAC2 to WAC3	0.1436	AVG (WAC2,WAC3)	0.20	Calibration
3	WAC3 to WAC4	0.1139	AVG (WAC3,WAC4)	0.20	Calibration
4	WAC4 to Elder Branch Creek	0.2147	AVG (WAC4,WAC5)	0.50	Calibration
5	Elder Branch Creek to Little Sandy Creek	0.2147	AVG (WAC4,WAC5)	0.50	Calibration
6	Little Sandy Creek to WAC5	0.2147	AVG (WAC4,WAC5)	0.50	Calibration

DATA TYPES 16 - INCREMENTAL DATA FOR TEMP AND CONS											
Reach	Reach Name	Incr. Ouflow, m3	Incr. Inflow, m3	Data Source	Temp	Data Source	Salinity ppt	Data Source	Chl	Cond	Data Source
1	WAC1 to WAC2		0.0003	INFLOW 1/2(WAC3 - WAC1)	19.62	WAC11a	0.000	Continuous Monitoring	0	0	Calibration
2	WAC2 to WAC3		0.0003	INFLOW 1/2(WAC3 - WAC1)	19.62	WAC11a	0.000	Continuous Monitoring	4	60	Calibration
3	WAC3 to WAC4		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	4.7	65	Calibration
4	WAC4 to Elder Branch Creek		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	3.8	33	Calibration
5	Elder Branch Creek to Little Sandy Creek		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	3.8	33	Calibration
6	Little Sandy Creek to WAC5		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	2.5		Calibration

DATA TYPES 17 - INCREMENTAL DATA FOR DO, BOD, AND NITROGEN						
Reach	Reach Name	DO, mg/l	BOD1, mg/l	BOD2, mg/l	NBOD, mg/l	Data Source
1	WAC1 to WAC2	3.86	0.4324	0.5641	0.0000	WAC11a
2	WAC2 to WAC3	3.86	0.4324	0.5641	0.0000	WAC11a
3	WAC3 to WAC4	3.86	0.4324	0.5641	0.0000	WAC11a
4	WAC4 to Elder Branch Creek	3.86	0.4324	0.5641	0.0000	WAC11a
5	Elder Branch Creek to Little Sandy Creek	3.86	0.4324	0.5641	0.0000	WAC11a
6	Little Sandy Creek to WAC5	3.86	0.4324	0.5641	0.0000	WAC11a

DATA TYPE 19 - NONPOINT SOURCES						
Reach	**Reach Name**	**Length of Reach, km**	**UCBOD1, kg/day**	**UCBOD2, kg/day**	**NBOD, kg/day**	**Data Source**
1	WAC1 to WAC2	2.40	1.10	1.18	0.74	Calibration
2	WAC2 to WAC3	5.70	10.61	6.06	4.55	Calibration
3	WAC3 to WAC4	0.90	10.79	21.19	7.20	Calibration
4	WAC4 to Elder Branch Creek	3.30	26.14	41.83	20.91	Calibration
5	Elder Branch Creek to Little Sandy Creek	2.00	24.87	49.75	39.80	Calibration
6	Little Sandy Creek to WAC5	2.50	27.54	85.12	82.62	Calibration

DATA TYPES 20 - HEADWATER DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES								
Headwater Name	**Element No.**	**Logical Unit Number**	**Headwater Flow, cms**	**Temp, deg C**	**Salinity**	**Chlorides**	**Conductivity**	**Data Source**
Headwater 1	1	1	0.0023	25.23	0	5.3	73.90	WAC1 Continuous Monitoring - Temp and Salinity, Lab Data - Chlorides, Insitu - Conductivity

DATA TYPES 21 - HEADWATER DATA FOR DO, BOD, AND NITROGEN					
Headwater Name	**Dissolved Oxygen, mg/L**	**UCBOD1, mg/l**	**UCBOD2, mg/l**	**NBOD, mg/l**	**Data Source**
Headwater 1	7.41	0.56	0.09	0	1 + WAC1 Continuous Monitoring Minimum - DO Lab Data - UCBOD1, UCBOD2, AND NBOD

DATA TYPES 22 - HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES					
Headwater Name	**Chlorophyll a, ug/L**	**Date Source**			
Headwater 1	16.6	WAC1 Lab Data			

	DATA TYPES 24 - WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES								
Wasteload / Withdrawal Name	**EL #**	**Flow, cms**	**Temperature, deg C**	**Data Source**	**Chlorides**	**Data Source**	**Salinity**	**Conductivity**	**Data Source**
Elder Branch Creek	123	0.0023	25.23	WAC10 Continuous Monitoring Average	3.4	WAC10 Lab Data	0.0	32.3	WAC10 Insitu - Conductivity Continuous Monitoring - Salinity
Little Sandy Creek	144	0.0023	25.23	WAC11 Insitu	2.7	WAC11 Lab Data	0.0	22.0	WAC11 Insitu - Conductivity and Salinity

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DATA TYPES 25 - WASTELOAD DATA FOR DO, BOD, AND NITROGEN

Wasteload / Withdrawal Name	EL #	DO, mg/l	Data Source	UCBOD1, mg/l	UCBOD2, mg/l	UNBOD, mg/l	Data Source
Elder Branch Creek	123	4.00	WAC10 Continuous Monitoring	2.358	1.51	0.78	WAC10 Lab Data
Little Sandy Creek	144	4.00	WAC11 Insitu	0.676	0.21	0.386	WAC11 Lab Data

DATA TYPES 26 - WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES

Wasteload / Withdrawal Name	EL #	Chl a, ug/L	Data Source	Phosphorus	Coliform	Nonconservatives	Data Source
Elder Branch Creek	123	2.3	WAC10 Lab Data				
Little Sandy Creek	144						

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DATA TYPES 27 - LOWER BOUNDARY CONDITIONS

Parameter	Value	Units	Data Source
TEMPERATURE	25.23	^{O}C	WAC5 Continuous Monitoring
SALINITY	0.00	ppt	WAC5 Continuous Monitoring
CHLORIDES	3.7	ppm	WAC5 Lab Data
CONDUCTIVITY	33.10	umhos/cm	WAC5 Insitu
DISSOLVED OXYGEN	4.00	mg/L	1 + WAC5 Continuous Monitoring Minimum
CBOD1	6.126	mg/L	WAC5 Lab Data
CBOD2	3.647	mg/L	WAC5 Lab Data
CHLOROPHYLL A	32.9	ug/L	WAC5 Lab Data
NBOD	2.275	mg/L	WAC5 Lab Data

Appendix D4 – Summer Projection for 3.0 DO Standard Justifications

DATA TYPE 3 - PROGRAM CONSTANTS			
CONSTANT NAME	**VALUE**	**UNITS**	**DATA SOURCE**
KL MINIMUM	0.7	m/day	The minimum KL of 2.3 ft/day converted to 0.70 m/day.
INHIBITION CONTROL VALUE	3		The water column dissolved oxygen demand is assumed to come primarily from facultative bacteria under anoxic conditions and SOD is not influenced by modeled dissolved oxygen levels in the upper water column.
K2 MAXIMUM	25	1/day at 20 deg C	EPA Policy in the absence of a measured value.
HYDRAULIC CALCULATION METHOD	2		The low slopes in this waterbody cause a substantial amount of water to be present during critical flow conditions. This method allows the model to predict a more accurate depth and width during low flow conditions.
ALGAE OXYGEN PRODUCTION	0		Standard practice for steady state calibration to a wide variation in DO.
EFFECTIVE BOD DUE TO ALGAE	0.15		Standard practice for steady state calibration to a wide variation in DO.
SETTLING RATE UNITS	2		By making the settling rate a velocity the rate becomes dependent upon the depth.

DATA TYPE 8 - REACH IDENTIFICATION DATA						
Reach	**ID**	**Name**	**Upstream River Kilometer**	**Downstream River Kilometer**	**Element Length, meters**	**Data Source**
1	WA	WAC1 to WAC2	16.80	14.40	100.0000	ARC MAP Calc.
2	WA	WAC2 to WAC3	14.40	8.70	100.0000	ARC MAP Calc.
3	WA	WAC3 to WAC4	8.70	7.80	100.0000	ARC MAP Calc.
4	WA	WAC4 to Elder Branch Creek	7.80	4.50	100.0000	ARC MAP Calc.
5	WA	Elder Branch Creek to Little Sandy Creek	4.50	2.50	100.0000	ARC MAP Calc.
6	WA	Little Sandy Creek to WAC5	2.50	0.00	100.0000	ARC MAP Calc.

	DATA TYPE 9 - ADVECTIVE HYDRAULIC COEFFICIENTS								
Reach	**Name**	**Width Coeff. "a"**	**Width Exp. "b"**	**Width Const. "c"**	**Data Source**	**Depth Coeff. "d"**	**Depth Exp. "e"**	**Depth Const. "f"**	**Data Source**
1	WAC1 to WAC2	0	0.2	3.658	WAC2	0	0.3	0.195	WAC2
2	WAC2 to WAC3	0	0.2	6.401	WAC3	0	0.3	0.305	WAC3
3	WAC3 to WAC4	0	0.2	2.438	WAC4	0	0.3	0.177	WAC4
4	WAC4 to Elder Branch Creek	0	0.2	6.909	WAC4 - 1/3 (WAC5 - WAC4)	0	0.3	0.566	WAC4 - 1/3 (WAC5 - WAC4)
5	Elder Branch Creek to Little Sandy Creek	0	0.2	11.380	WAC4 - 1/3 (WAC5 - WAC4)	0	0.3	0.955	WAC4 - 1/3 (WAC5 - WAC4)
6	Little Sandy Creek to WAC5	0	0.2	15.850	WAC5	0	0.3	1.344	WAC5

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	DATA TYPE 11 - INITIAL CONDITIONS							
Reach	**Name**	**DO, mg/l**	**Data Source**	**Temp, deg C**	**Sal, ppt**	**Data Source**	**Chlorophyll a**	**Data Source**
1	WAC1 to WAC2	3.00	1 + Minimum Continuous Monitoring WAC1	25.23	0.00	Average WAC1,WAC2 Continuous Monitoring	16.60	WAC1
2	WAC2 to WAC3	3.00	1 + Minimum Contiuous Monitoring WAC3	25.23	0.00	Average WAC2,WAC3 Continuous Monitoring	16.70	WAC2
3	WAC3 to WAC4	3.00	1 + Minimum WAC3,WAC4 Continuous Monitoring	25.23	0.00	Average WAC3,WAC4 Continuous Monitoring	3.20	WAC3
4	WAC4 to Elder Branch Creek	3.00	1 + Minimum WAC4,WAC5 Continuous Monitoring	25.23	0.00	Average WAC4,WAC5 Continuous Monitoring	3.20	WAC3
5	Elder Branch Creek to Little Sandy Creek	3.00	1 + Minimum WAC4,WAC5 Continuous Monitoring	25.23	0.00	Average WAC4,WAC5 Continuous Monitoring	3.20	WAC3
6	Little Sandy Creek to WAC5	3.00	1 + Minimum WAC4,WAC5 Continuous Monitoring	25.23	0.00	Average WAC4,WAC5 Continuous Monitoring	32.90	WAC5

		DATA TYPE 12 - REAERATION, SEDIMENT OXYGEN DEMAND AND BOD COEFFICIENTS							DATA TYPE 12 - REAERATION, SEDIMENT OXYGEN DEMAND AND BOD COEFFICIENTS					
REACH	**NAME**	**K2 OPT**	**Data Source**	**a**	**BKGRND SOD, gmO2/m2/day at 20 deg C**	**Data Source**	**Aerobic BOD1 Dec Rate (1/day)**	**Data Source**	**BOD1 SETT RATE (1/day)**	**Data Source**	**Aerobic BOD2 Dec Rate (1/day)**	**Data Source**	**BOD2 SETT RATE (1/day)**	**Data Source**
1	WAC1 to WAC2	11	Texas Equation		2.84	Calibration	0.2757	AVG (WAC1,WAC2)	0.2	Calibration	0.0331	AVG (WAC1,WAC2)	0.2	Calibration
2	WAC2 to WAC3	11	Texas Equation		2.38	Calibration	0.2253	AVG (WAC2,WAC3)	0.2	Calibration	0.0314	AVG (WAC2,WAC3)	0.2	Calibration
3	WAC3 to WAC4	11	Texas Equation		5.19	Calibration	0.2705	AVG (WAC3,WAC4)	0.2	Calibration	0.0310	AVG (WAC3,WAC4)	0.2	Calibration
4	WAC4 to Elder Branch Creek	11	Texas Equation		0.10	Calibration	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration
5	Elder Branch Creek to Little Sandy Creek	11	Texas Equation		0.09	Calibration	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration
6	Little Sandy Creek to WAC5	11	Texas Equation		0.09	Calibration	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration

DATA TYPE 13 - NITROGEN AND PHOSPHORUS COEFFICIENTS					
Reach	**Name**	**NBOD decay rate, 1/day**	**Data Source**	**NBOD settling rate, 1/day**	**Data Source**
1	WAC1 to WAC2	0.0967	AVG (WAC1,WAC2)	0.20	Calibration
2	WAC2 to WAC3	0.1436	AVG (WAC2,WAC3)	0.20	Calibration
3	WAC3 to WAC4	0.1139	AVG (WAC3,WAC4)	0.20	Calibration
4	WAC4 to Elder Branch Creek	0.2147	AVG (WAC4,WAC5)	0.50	Calibration
5	Elder Branch Creek to Little Sandy Creek	0.2147	AVG (WAC4,WAC5)	0.50	Calibration
6	Little Sandy Creek to WAC5	0.2147	AVG (WAC4,WAC5)	0.50	Calibration

DATA TYPES 16 - INCREMENTAL DATA FOR TEMP AND CONS											
Reach	**Reach Name**	**Incr. Ouflow, m3**	**Incr. Inflow, m3**	**Data Source**	**Temp**	**Data Source**	**Salinity ppt**	**Data Source**	**Chl**	**Cond**	**Data Source**
1	WAC1 to WAC2		0.0003	INFLOW 1/2(WAC3 - WAC1)	19.62	WAC11a	0.000	Continuous Monitoring	0	0	Calibration
2	WAC2 to WAC3		0.0003	INFLOW 1/2(WAC3 - WAC1)	19.62	WAC11a	0.000	Continuous Monitoring	4	60	Calibration
3	WAC3 to WAC4		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	4.7	65	Calibration
4	WAC4 to Elder Branch Creek		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	3.8	33	Calibration
5	Elder Branch Creek to Little Sandy Creek		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	3.8	33	Calibration
6	Little Sandy Creek to WAC5		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	2.5		Calibration

DATA TYPES 17 - INCREMENTAL DATA FOR DO, BOD, AND NITROGEN						
Reach	**Reach Name**	**DO, mg/l**	**BOD1, mg/l**	**BOD2, mg/l**	**NBOD, mg/l**	**Data Source**
1	WAC1 to WAC2	3.86	0.4324	0.5641	0.0000	WAC11a
2	WAC2 to WAC3	3.86	0.4324	0.5641	0.0000	WAC11a
3	WAC3 to WAC4	3.86	0.4324	0.5641	0.0000	WAC11a
4	WAC4 to Elder Branch Creek	3.86	0.4324	0.5641	0.0000	WAC11a
5	Elder Branch Creek to Little Sandy Creek	3.86	0.4324	0.5641	0.0000	WAC11a
6	Little Sandy Creek to WAC5	3.86	0.4324	0.5641	0.0000	WAC11a

DATA TYPE 19 - NONPOINT SOURCES						
Reach	**Reach Name**	**Length of Reach, km**	**UCBOD1, kg/day**	**UCBOD2, kg/day**	**NBOD, kg/day**	**Data Source**
1	WAC1 to WAC2	2.40	1.42	1.52	0.95	Calibration
2	WAC2 to WAC3	5.70	13.32	7.61	5.71	Calibration
3	WAC3 to WAC4	0.90	23.76	46.64	15.84	Calibration
4	WAC4 to Elder Branch Creek	3.30	45.23	72.37	36.18	Calibration
5	Elder Branch Creek to Little Sandy Creek	2.00	44.98	89.95	71.96	Calibration
6	Little Sandy Creek to WAC5	2.50	49.51	153.03	148.52	Calibration

DATA TYPES 20 - HEADWATER DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES								
Headwater Name	**Element No.**	**Logical Unit Number**	**Headwater Flow, cms**	**Temp, deg C**	**Salinity**	**Chlorides**	**Conductivity**	**Data Source**
Headwater 1	1	1	0.0023	25.23	0	5.3	73.90	WAC1 Continuous Monitoring - Temp and Salinity, Lab Data - Chlorides, Insitu - Conductivity

DATA TYPES 21 - HEADWATER DATA FOR DO, BOD, AND NITROGEN					
Headwater Name	**Dissolved Oxygen, mg/L**	**UCBOD1, mg/l**	**UCBOD2, mg/l**	**NBOD, mg/l**	**Data Source**
Headwater 1	7.41	0.56	0.2	0	1 + WAC1 Continuous Monitoring Minimum - DO Lab Data - UCBOD1, UCBOD2, AND NBOD

DATA TYPES 22 - HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES					
Headwater Name	**Chlorophyll a, ug/L**	**Date Source**			
Headwater 1	16.6	WAC1 Lab Data			

	DATA TYPES 24 - WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES								
Wasteload / Withdrawal Name	EL #	Flow, cms	Temperature, deg C	Data Source	Chlorides	Data Source	Salinity	Conductivity	Data Source
Elder Branch Creek	123	0.0023	25.23	WAC10 Continuous Monitoring Average	3.4	WAC10 Lab Data	0.0	32.3	WAC10 Insitu - Conductivity Continuous Monitoring - Salinity
Little Sandy Creek	144	0.0023	25.23	WAC11 Insitu	2.7	WAC11 Lab Data	0.0	22.0	WAC11 Insitu - Conductivity and Salinity

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DATA TYPES 25 - WASTELOAD DATA FOR DO, BOD, AND NITROGEN							
Wasteload / Withdrawal Name	EL #	DO, mg/l	Data Source	UCBOD1, mg/l	UCBOD2, mg/l	UNBOD, mg/l	Data Source
Elder Branch Creek	123	3.00	WAC10 Continuous Monitoring	2.358	3.53	0.86	WAC10 Lab Data
Little Sandy Creek	144	3.00	WAC11 Insitu	0.676	0.48	0.386	WAC11 Lab Data

DATA TYPES 26 - WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES							
Wasteload / Withdrawal Name	EL #	Chl a, ug/L	Data Source	Phosphorus	Coliform	Nonconservatives	Data Source
Elder Branch Creek	123	2.3	WAC10 Lab Data				
Little Sandy Creek	144						

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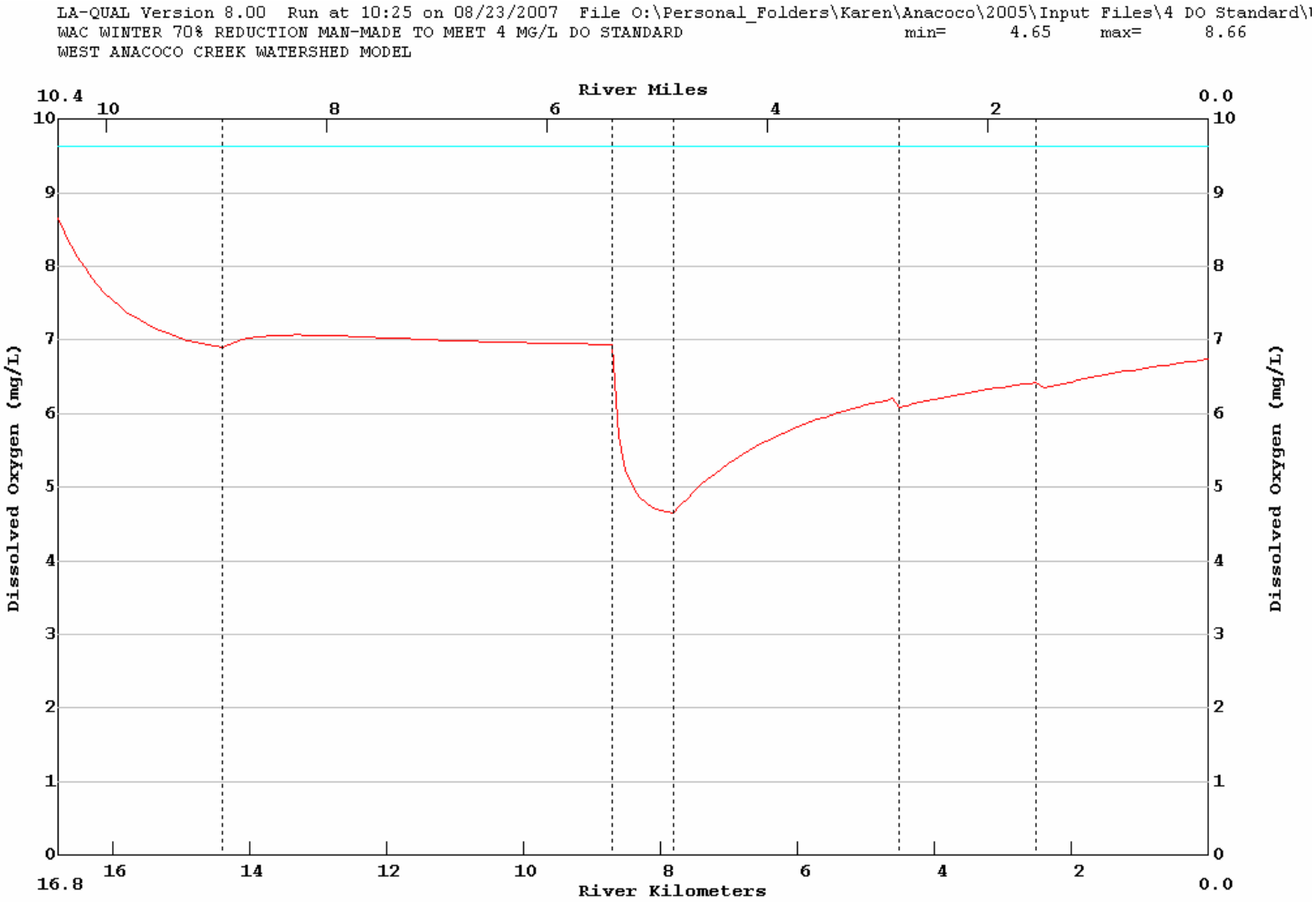
DATA TYPES 27 - LOWER BOUNDARY CONDITIONS			
Parameter	**Value**	**Units**	**Data Source**
TEMPERATURE	25.23	^{O}C	WAC5 Continuous Monitoring
SALINITY	0.00	ppt	WAC5 Continuous Monitoring
CHLORIDES	3.7	ppm	WAC5 Lab Data
CONDUCTIVITY	33.10	umhos/cm	WAC5 Insitu
DISSOLVED OXYGEN	3.00	mg/L	1 + WAC5 Continuous Monitoring Minimum
CBOD1	6.126	mg/L	WAC5 Lab Data
CBOD2	3.647	mg/L	WAC5 Lab Data
CHLOROPHYLL A	32.9	ug/L	WAC5 Lab Data
NBOD	2.275	mg/L	WAC5 Lab Data

Appendix D5 – Winter Output Graphs and Input, Overlay, and Output Files


LA-QUAL Version 8.00 Run at 10:25 on 08/23/2007 File O:\Personal_Folders\Karen\Anacoco\2005\Input Files\4 DO Standard\
WAC WINTER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD min= 4.65 max= 8.66
WEST ANACOCO CREEK WATERSHED MODEL
River Miles
10.4
10
8
6
4
2
0.0
Dissolved Oxygen (mg/L)
0
1
2
3
4
5
6
7
8
9
10
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers

WEST ANACOCO CREEK 110501 WINTER PROJECTION FOR A 4.0 DO MG/L STANDARD INPUT DATA SET

```
CNTROL01     WEST ANACOCO CREEK WATERSHED MODEL
CNTROL02     WAC WINTER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD
CNTROL04 YES METRIC UNITS
ENDATA01
MODOPT01  NO TEMPERATURE
MODOPT02  NO SALINITY
MODOPT03 YES CONSERVATIVE MATERIAL  I = CHLORIDES                  IN MG/L
MODOPT04 YES CONSERVATIVE MATERIAL II = CONDUCTIVITY               IN MG/L
MODOPT05 YES DISSOLVED OXYGEN
MODOPT06 YES BOD1 BIOCHEMICAL OXYGEN DEMAND
MODOPT06 YES BOD2 BIOCHEMICAL OXYGEN DEMAND
MODOPT08 YES NBOD OXYGEN DEMAND
MODOPT10  NO PHOSPHORUS
MODOPT11  NO CHLOROPHYLL A
MODOPT12  NO MACROPHYTES
MODOPT13  NO COLIFORM
ENDATA02
PROGRAM  KL MINIMUM                        =     0.7
PROGRAM  INHIBITION CONTROL VALUE          =     3.
PROGRAM  K2 MAXIMUM                        =     25.0
PROGRAM  HYDRAULIC CALCULATION METHOD      =     2.
PROGRAM  SETTLING RATE UNITS               =     2.
PROGRAM  ALGAE OXYGEN PROD                 =     0.
PROGRAM  EFFECTIVE BOD DUE TO ALGAE        =     0.15
ENDATA03
!Temperature Correction Constants
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ******** ********
ENDATA04
ENDATA05
ENDATA06
ENDATA07
!Reach Identification Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -- ******************************----------*********----------
!          R#  ID   SITE NAME                          RKM        RKM    LENGTH
REACH ID    1  WA WAC1 TO WAC2                         16.8       14.4     0.1
```

```
REACH ID    2  WA WAC2 TO WAC3                          14.4        8.7     0.1
REACH ID    3  WA WAC3 TO WAC4                           8.7        7.8     0.1
REACH ID    4  WA WAC4 TO Elder Branch Creek             7.8        4.5     0.1
REACH ID    5  WA Elder Branch TO Little Sandy           4.5        2.5     0.1
REACH ID    6  WA Little Sandy TO WAC5                   2.5        0.0     0.1
ENDATA08
!Advective Hydraulic Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  -------*******-------*******-------*******-------*******
!                a      b       c     d      e        f
!               WIDTH  WIDTH   WIDTH DEPTH  DEPTH   DEPTH
!          R#   COEFF   EXP    CONST COEFF   EXP    CONST SLOPE MANNING
HYDR-1      1   0.00   0.20    3.658 0.00   0.30    0.195
HYDR-1      2   0.00   0.20    6.401 0.00   0.30    0.305
HYDR-1      3   0.00   0.20    2.438 0.00   0.30    0.177
HYDR-1      4   0.00   0.20    6.909 0.00   0.30    0.566
HYDR-1      5   0.00   0.20   11.380 0.00   0.30    0.955
HYDR-1      6   0.00   0.20   15.850 0.00   0.30    1.344
ENDATA09
!Dispersive Hydraulic Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  -----**********----------**********----------
!              TIDAL
!          R#  RANGE    a          b         c         d
ENDATA10
!Initial Conditions
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  --------********--------********--------********--------********
!          R#    TEMP  SALINITY   DO     NH3 N  NIT NIT  PHOS   CHL A   MACROPHYTES
INITIAL     1    17.20    0.00   4.00                           16.6
INITIAL     2    17.20    0.00   4.00                           16.7
INITIAL     3    17.20    0.00   4.00                            3.2
INITIAL     4    17.20    0.00   4.00                            3.2
INITIAL     5    17.20    0.00   4.00                            3.2
INITIAL     6    17.20    0.00   4.00                           32.9
ENDATA11
!Reaeration, Sediment Oxygen Demand and BOD Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8---------9
```

```
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -----********** ******-------*******-------*******-------*******-------***
!               REA    KL                     BOD 1  BOD 1                BOD 2    BOD 2
!          R#   EQ    MIN                SOD  DECAY  SETT                DECAY    SETT
COEF-1      1   11.0                   2.207 0.2757 0.20                0.0331   0.20
COEF-1      2   11.0                   1.894 0.2253 0.20                0.0314   0.20
COEF-1      3   11.0                   2.358 0.2705 0.20                0.0310   0.20
COEF-1      4   11.0                   0.523 0.2244 0.50                0.0306   0.50
COEF-1      5   11.0                   0.050 0.2244 0.50                0.0306   0.50
COEF-1      6   11.0                   0.050 0.2244 0.50                0.0306   0.50
ENDATA12
!Nitrogen and Phosphorus Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -------*******-------*******-------*******-------
!              NBOD     NBOD
!          R#  DECAY    SETT
COEF-2      1  0.0967   0.20
COEF-2      2  0.1436   0.20
COEF-2      3  0.1139   0.20
COEF-2      4  0.2147   0.50
COEF-2      5  0.2147   0.50
COEF-2      6  0.2147   0.50
ENDATA13
ENDATA14
!Coliform and Nonconservative Cofficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -------*******-------*******
ENDATA15
!Incremental Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  ---------*********---------*********---------*********
!          R#   OUTFLOW   INFLOW  TEMP     SALINITY CHLORIDE  COND
INCR-1      1     0.0000  0.0003  19.620      0.00     0
INCR-1      2     0.0000  0.0003  19.620      0.00     4.0      60
INCR-1      3     0.0000  0.1589  19.620      0.00     4.7      65
INCR-1      4     0.0000  0.1589  19.620      0.00     3.8      33
INCR-1      5     0.0000  0.1589  19.620      0.00     3.8      33
INCR-1      6     0.0000  0.1589  19.620      0.00     2.5
```

```
ENDATA16
!Incremental Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  ---------********---------********---------********
!          R#      DO     BOD 1     NBOD    NH3 N   NIT NIT    BOD 2
INCR-2      1     3.86   0.4324    0.0000                     0.5641
INCR-2      2     3.86   0.4324    0.0000                     0.5641
INCR-2      3     3.86   0.4324    0.0000                     0.5641
INCR-2      4     3.86   0.4324    0.0000                     0.5641
INCR-2      5     3.86   0.4324    0.0000                     0.5641
INCR-2      6     3.86   0.4324    0.0000                     0.5641
ENDATA17
!Incremental Data for Phosphorus, Chlorophyll, Coliform and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  ---------********---------********
!          R#   PHOSPH    CHL A   COLIFORM NONCONSERVATIVE
INCR-3      1
INCR-3      2
INCR-3      3
INCR-3      4
INCR-3      5
INCR-3      6
ENDATA18
!Nonpoint Source Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  ---------********---------********---------********
!          R#     BOD 1    NBOD   COLIFORM NONCONS    DO      BOD 2
NONPOINT    1     1.103    0.736                              1.177
NONPOINT    2    10.606    4.545                              6.060
NONPOINT    3    10.793    7.195                             21.185
NONPOINT    4    26.141   20.913                             41.826
NONPOINT    5    24.874   39.799                             49.748
NONPOINT    6    27.540   82.620                             85.123
ENDATA19
!Headwater Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  -------------------- *** --------********--------********--------
```

```
!         E#    NAME                        FLOW    TEMP  SALIN   CHLORIDE   COND
HDWTR-1     1  HEADWATER                  0.0230   17.20  0.00     5.3      73.9
ENDATA20
!Headwater Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********---------********---------********
!          E#      DO      BOD 1    NBOD    NH3 N    NIT NIT  BOD 2
HDWTR-2     1      8.66    0.560    0.0                       0.090
ENDATA21
!Headwater Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********---------********
!          E#  PHOSPHOR   CHL A   COLIFORM  NONCONSERVATIVE
HDWTR-3     1              16.6
ENDATA22
ENDATA23
!Wasteload Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  --------------------********---------********---------********
!          E#     NAME                FLOW      TEMP   SALINITY CHLORIDE  COND
WSTLD-1   123  ELDER BRANCH CREEK    0.0230    17.20     0.00      3.4    32.3
WSTLD-1   144  LITTLE SANDY CREEK    0.0230    17.20     0.00      2.7    22.0
ENDATA24
!Wasteload Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********-----********---------*****---------********
!          E#       DO    BOD 1         NBOD    NH3 N          NIT NIT  BOD 2
WSTLD-2   123      4.00   2.358         0.780                           1.510
WSTLD-2   144      4.00   0.676         0.386                           0.210
ENDATA25
!Wasteload Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********---------********
!          E#  PHOSPHOR  CHL A    COLIFORM NONCONSERVATIVE
WSTLD-3   123             2.3
WSTLD-3   144
```

```
ENDATA26
LOWER BC TEMPERATURE                        =  17.20
LOWER BC SALINITY                           =   0.00
LOWER BC CONSERVATIVE MATERIAL I            =   3.70
LOWER BC CONSERVATIVE MATERIAL II           =  33.10
LOWER BC DISSOLVED OXYGEN                   =   4.00
LOWER BC BOD1 BIOCHEMICAL OXYGEN DEMAND     =   6.126
LOWER BC BOD2 BIOCHEMICAL OXYGEN DEMAND     =   3.647
LOWER BC CHLOROPHYLL A                      =   32.9
LOWER BC NBOD                               =   2.275
ENDATA27
!Dam Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ****  ******************** ** ******** ******** ********
ENDATA28
ENDATA29
NUMBER OF PLOTS = 1
NUMBER OF REACHES IN PLOT 1 =   6                        INCREMENT =  0.1
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** **
PLOT RCH  1  2  3  4  5  6
ENDATA30
ENDATA31
```

WEST ANACOCO CREEK 110501 WINTER PROJECTION FOR A 4.0 DO MG/L STANDARD OUTPUT DATA SET

```
LA-QUAL Version 8.00
Louisiana Department of Environmental Quality

Input file is O:\Personal_Folders\Karen\Anacoco\2005\Input Files\4 DO Standard\WACwin70.txt
Output produced at 10:25 on 08/23/2007

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

CARD TYPE       CONTROL TITLES

TITLE01         WEST ANACOCO CREEK WATERSHED MODEL
TITLE02         WAC WINTER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD
CNTROL04  YES   METRIC UNITS
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 = CONDUCTIVITY              IN MG/L
MODOPT05  YES   DISSOLVED OXYGEN
MODOPT06  YES   BOD1 BIOCHEMICAL OXYGEN DEMAND
MODOPT06  YES   BOD2 BIOCHEMICAL OXYGEN DEMAND
MODOPT08  YES   NBOD OXYGEN DEMAND
MODOPT10   NO   PHOSPHORUS
MODOPT11   NO   CHLOROPHYLL A
MODOPT12   NO   MACROPHYTES
MODOPT13   NO   COLIFORM
ENDATA02

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

CARD TYPE       DESCRIPTION OF CONSTANT                       VALUE

PROGRAM         KL MINIMUM                        =         0.70000 meters/day
PROGRAM         INHIBITION CONTROL VALUE          =         3.00000 (inhibit all rates but SOD)
PROGRAM         K2 MAXIMUM                        =        25.00000 per day
PROGRAM         HYDRAULIC CALCULATION METHOD      =         2.00000 (widths and depths)
PROGRAM         SETTLING RATE UNITS               =         2.00000 (values entered as per day)
PROGRAM         ALGAE OXYGEN PROD                 =         0.00000 mg O/ug chl a/day
PROGRAM         EFFECTIVE BOD DUE TO ALGAE        =         0.15000 mg/L BOD per ug/L chl a
ENDATA03

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

 CARD TYPE     RATE CODE     THETA VALUE

ENDATA04

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

CARD TYPE       DESCRIPTION OF CONSTANT                       VALUE
```

```
ENDATA05

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

CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

ENDATA06

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

CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

ENDATA07

$$$ DATA TYPE 8 (REACH IDENTIFICATION DATA) $$$
                                                      BEGIN        END    ELEM    REACH    ELEMS   BEGIN    END
CARD TYPE  REACH  ID  NAME                            REACH       REACH   LENGTH   LENGTH   PER RCH   ELEM   ELEM
                                                         km          km       km       km               NUM    NUM

REACH ID      1   WA  WAC1 TO WAC2                    16.80  TO   14.40   0.1000     2.40      24       1     24
REACH ID      2   WA  WAC2 TO WAC3                    14.40  TO    8.70   0.1000     5.70      57      25     81
REACH ID      3   WA  WAC3 TO WAC4                     8.70  TO    7.80   0.1000     0.90       9      82     90
REACH ID      4   WA  WAC4 TO Elder Branch Creek       7.80  TO    4.50   0.1000     3.30      33      91    123
REACH ID      5   WA  Elder Branch TO Little Sandy     4.50  TO    2.50   0.1000     2.00      20     124    143
REACH ID      6   WA  Little Sandy TO WAC5             2.50  TO    0.00   0.1000     2.50      25     144    168
ENDATA08

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

CARD TYPE  REACH  ID       WIDTH       WIDTH       WIDTH       DEPTH       DEPTH       DEPTH      SLOPE    MANNINGS
                            "A"         "B"         "C"         "D"         "E"         "F"                  "N"

HYDR-1        1   WA       0.000       0.200       3.658       0.000       0.300       0.195     0.00000   0.000
HYDR-1        2   WA       0.000       0.200       6.401       0.000       0.300       0.305     0.00000   0.000
HYDR-1        3   WA       0.000       0.200       2.438       0.000       0.300       0.177     0.00000   0.000
HYDR-1        4   WA       0.000       0.200       6.909       0.000       0.300       0.566     0.00000   0.000
HYDR-1        5   WA       0.000       0.200      11.380       0.000       0.300       0.955     0.00000   0.000
HYDR-1        6   WA       0.000       0.200      15.850       0.000       0.300       1.344     0.00000   0.000
ENDATA09

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

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

ENDATA10

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

CARD TYPE      REACH  ID        TEMP     SALIN        DO       NH3     NO3+2      PHOS     CHL A     MACRO

INITIAL            1   WA       17.20      0.00      4.00      0.00      0.00      0.00     16.60      0.00
INITIAL            2   WA       17.20      0.00      4.00      0.00      0.00      0.00     16.70      0.00
INITIAL            3   WA       17.20      0.00      4.00      0.00      0.00      0.00      3.20      0.00
INITIAL            4   WA       17.20      0.00      4.00      0.00      0.00      0.00      3.20      0.00
INITIAL            5   WA       17.20      0.00      4.00      0.00      0.00      0.00      3.20      0.00
INITIAL            6   WA       17.20      0.00      4.00      0.00      0.00      0.00     32.90      0.00
ENDATA11
```

```
$$$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) $$$
                                                                                                  BOD     ANAER                          BOD2     ANAER
CARD     RCH  RCH  K2                    K2        K2        K2    BKGRND       BOD       BOD     CONV     BOD2      BOD2      BOD2     CONV      BOD2
TYPE     NUM   ID  OPT                   "A"       "B"       "C"       SOD     DECAY      SETT   TO SOD    DECAY     DECAY      SETT   TO SOD     DECAY
                                                                     g/m²/d   per day       m/d              per day   per day       m/d              per day

COEF-1     1   WA  11 TEXAS            0.000     0.000     0.000     2.207     0.276     0.200     0.000     0.000     0.033     0.200     0.000     0.000
COEF-1     2   WA  11 TEXAS            0.000     0.000     0.000     1.894     0.225     0.200     0.000     0.000     0.031     0.200     0.000     0.000
COEF-1     3   WA  11 TEXAS            0.000     0.000     0.000     2.358     0.271     0.200     0.000     0.000     0.031     0.200     0.000     0.000
COEF-1     4   WA  11 TEXAS            0.000     0.000     0.000     0.523     0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
COEF-1     5   WA  11 TEXAS            0.000     0.000     0.000     0.050     0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
COEF-1     6   WA  11 TEXAS            0.000     0.000     0.000     0.050     0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
ENDATA12

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

CARD TYPE      REACH  ID        NBOD      NBOD   ORGN CONV       NH3       NH3      PHOS     DENIT
                                DECA      SETT  TO NH3 SRCE     DECA      SRCE      SRCE      RATE

COEF-2           1   WA       0.097     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2           2   WA       0.144     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2           3   WA       0.114     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2           4   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
COEF-2           5   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
COEF-2           6   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
ENDATA13

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

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

ENDATA14

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

CARD TYPE      REACH  ID    COLIFORM       NCM       NCM    NCM CONV
                            DIE-OFF     DECAY      SETT     TO SOD

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   WA       0.00000     0.00030     19.62      0.00      0.00      0.00   0.00013   0.00000
INCR-1           2   WA       0.00000     0.00030     19.62      0.00      4.00     60.00   0.00005   0.00000
INCR-1           3   WA       0.00000     0.15890     19.62      0.00      4.70     65.00   0.17656   0.00000
INCR-1           4   WA       0.00000     0.15890     19.62      0.00      3.80     33.00   0.04815   0.00000
INCR-1           5   WA       0.00000     0.15890     19.62      0.00      3.80     33.00   0.07945   0.00000
INCR-1           6   WA       0.00000     0.15890     19.62      0.00      2.50      0.00   0.06356   0.00000
ENDATA16

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

CARD TYPE      REACH  ID          DO       BOD      NBOD                          BOD#2

INCR-2           1   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2           2   WA        3.86      0.43      0.00      0.00      0.00      0.56
```

```
INCR-2            3   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            4   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            5   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            6   WA        3.86      0.43      0.00      0.00      0.00      0.56
ENDATA17

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

 CARD TYPE      REACH  ID        PHOS     CHL A      COLI       NCM

INCR-3            1   WA        0.00      0.00      0.00      0.00
INCR-3            2   WA        0.00      0.00      0.00      0.00
INCR-3            3   WA        0.00      0.00      0.00      0.00
INCR-3            4   WA        0.00      0.00      0.00      0.00
INCR-3            5   WA        0.00      0.00      0.00      0.00
INCR-3            6   WA        0.00      0.00      0.00      0.00
ENDATA18

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

CARD TYPE      REACH  ID       BOD#1     NBOD       COLI       NCM        DO     BOD#2

NONPOINT          1   WA        1.10      0.74      0.00      0.00      0.00      1.18
NONPOINT          2   WA       10.61      4.55      0.00      0.00      0.00      6.06
NONPOINT          3   WA       10.79      7.20      0.00      0.00      0.00     21.18
NONPOINT          4   WA       26.14     20.91      0.00      0.00      0.00     41.83
NONPOINT          5   WA       24.87     39.80      0.00      0.00      0.00     49.75
NONPOINT          6   WA       27.54     82.62      0.00      0.00      0.00     85.12
ENDATA19

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

CARD TYPE     ELEMENT   NAME                  UNIT     FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                        m³/s      cfs   deg C      ppt      MG/L      MG/L

HDWTR-1           1     HEADWATER               0   0.02300    0.812   17.20     0.00     5.300    73.900
ENDATA20

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

CARD TYPE     ELEMENT   NAME                          DO     BOD#1     NBOD                          BOD#2
                                                     mg/L      mg/L      mg/L      mg/L      mg/L      mg/L

HDWTR-2           1     HEADWATER                   8.66      0.56      0.00      0.00      0.00      0.09
ENDATA21

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

CARD TYPE     ELEMENT   NAME                         PHOS     CHL A      COLI       NCM
                                                     mg/L      mg/L      mg/L      mg/L

HDWTR-3           1     HEADWATER                    0.00     16.60      0.00      0.00
ENDATA22

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

CARD TYPE   JUNCTION   UPSTRM     RIVER     NAME
             ELEMENT  ELEMENT     KILOM
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ENDATA23

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

CARD TYPE  ELEMENT    RKILO  NAME                     FLOW       FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                       m³/s        cfs      MGD   deg C      ppt      MG/L      MG/L

WSTLD-1      123       4.60  ELDER BRANCH CREEK     0.02300    0.81215    0.525   17.20     0.00     3.400    32.300
WSTLD-1      144       2.50  LITTLE SANDY CREEK     0.02300    0.81215    0.525   17.20     0.00     2.700    22.000
ENDATA24

$$$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) $$$
                                                                  % BOD                            %
CARD TYPE     ELEMENT   NAME                          DO       BOD      RMVL     NBOD              NITRIF              BOD#2
                                                     mg/L      mg/L                mg/L      mg/L                mg/L      mg/L

WSTLD-2         123     ELDER BRANCH CREEK          4.00      2.36      0.00      0.78      0.00      0.00      0.00      1.51
WSTLD-2         144     LITTLE SANDY CREEK          4.00      0.68      0.00      0.39      0.00      0.00      0.00      0.21
ENDATA25

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

CARD TYPE     ELEMENT   NAME                        PHOS     CHL A      COLI       NCM
                                                    mg/L      mg/L      mg/L      mg/L

WSTLD-3         123     ELDER BRANCH CREEK          0.00      2.30      0.00      0.00
WSTLD-3         144     LITTLE SANDY CREEK          0.00      0.00      0.00      0.00
ENDATA26

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

CARD TYPE    CONSTITUENT                     CONCENTRATION

LOWER BC     TEMPERATURE                        =     17.200     deg C
LOWER BC     SALINITY                           =      0.000     ppt
LOWER BC     CONSERVATIVE MATERIAL I            =      3.700     MG/L
LOWER BC     CONSERVATIVE MATERIAL II           =     33.100     MG/L
LOWER BC     DISSOLVED OXYGEN                   =      4.000     mg/L
LOWER BC     BOD1 BIOCHEMICAL OXYGEN DEMAND     =      6.126     mg/L
LOWER BC     BOD2 BIOCHEMICAL OXYGEN DEMAND     =      3.647     mg/L
LOWER BC     CHLOROPHYLL A                      =     32.900     µg/L
LOWER BC     NBOD                               =      2.275     mg/L
ENDATA27

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

CARD TYPE     ELEMENT   NAME                  EQN      "A"       "B"       "H"

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

$$$ DATA TYPE 30 (PLOT CONTROL CARDS) $$$
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NUMBER OF PLOTS =  1
NUMBER OF REACHES IN PLOT 1 =   6
PLOT RCH  1  2  3  4  5  6
ENDATA30

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


ENDATA31



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


FINAL REPORT    HEADWATER                                       WEST ANACOCO CREEK WATERSHED MODEL
REACH NO.  1    WAC1 TO WAC2                                    WAC WINTER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD
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********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
1	HDWTR	0.02300	17.20	0.00	5.30	73.90	8.66	0.00	0.09	0.56	0.09	0.00	0.00	0.00	0.00	16.60	0.00	0.00
EACH	INCR	0.00001	19.62	0.00	0.00	0.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/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	MEAN VELO m/s
1	16.80	16.70	0.02301	0.0	0.03226	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
2	16.70	16.60	0.02303	0.0	0.03228	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
3	16.60	16.50	0.02304	0.0	0.03230	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
4	16.50	16.40	0.02305	0.0	0.03231	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
5	16.40	16.30	0.02306	0.0	0.03233	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
6	16.30	16.20	0.02308	0.0	0.03235	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
7	16.20	16.10	0.02309	0.0	0.03237	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
8	16.10	16.00	0.02310	0.0	0.03238	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
9	16.00	15.90	0.02311	0.0	0.03240	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
10	15.90	15.80	0.02313	0.0	0.03242	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
11	15.80	15.70	0.02314	0.0	0.03244	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
12	15.70	15.60	0.02315	0.0	0.03245	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
13	15.60	15.50	0.02316	0.0	0.03247	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
14	15.50	15.40	0.02318	0.0	0.03249	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
15	15.40	15.30	0.02319	0.0	0.03251	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
16	15.30	15.20	0.02320	0.0	0.03252	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
17	15.20	15.10	0.02321	0.0	0.03254	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
18	15.10	15.00	0.02323	0.0	0.03256	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
19	15.00	14.90	0.02324	0.0	0.03258	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
20	14.90	14.80	0.02325	0.0	0.03259	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033

21	14.80	14.70	0.02326	0.0	0.03261	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
22	14.70	14.60	0.02328	0.0	0.03263	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
23	14.60	14.50	0.02329	0.0	0.03265	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
24	14.50	14.40	0.02330	0.0	0.03266	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
TOT						0.86			1711.94	8779.20					
AVG					0.0325		0.19	3.66			0.71				
CUM						0.86									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
1	16.700	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	16.600	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	16.500	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	16.400	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	16.300	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	16.200	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	16.100	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	16.000	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	15.900	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	15.800	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	15.700	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	15.600	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	15.500	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	15.400	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	15.300	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	15.200	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	15.100	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	15.000	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	14.900	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	14.800	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	14.700	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	14.600	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	14.500	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	14.400	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	1.85	1.85	1.85	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			3.59	0.28	0.20	0.00	0.03	0.20	0.00	2.21			0.10	0.20	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
1	16.700	17.20	0.00	5.30	73.86	8.46	0.02	0.11	2.51	0.11	0.02	0.00	0.00	0.00	0.00	16.60	0.00	0.	0.00
2	16.600	17.20	0.00	5.29	73.82	8.28	0.05	0.14	2.54	0.14	0.03	0.00	0.00	0.00	0.00	16.61	0.00	0.	0.00
3	16.500	17.20	0.00	5.29	73.78	8.12	0.07	0.16	2.56	0.16	0.05	0.00	0.00	0.00	0.00	16.61	0.00	0.	0.00
4	16.400	17.20	0.00	5.29	73.74	7.98	0.09	0.18	2.58	0.18	0.06	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
5	16.300	17.20	0.00	5.29	73.70	7.85	0.11	0.21	2.60	0.21	0.07	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
6	16.200	17.20	0.00	5.28	73.66	7.73	0.13	0.23	2.63	0.23	0.09	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
7	16.100	17.20	0.00	5.28	73.62	7.63	0.15	0.25	2.65	0.25	0.10	0.00	0.00	0.00	0.00	16.63	0.00	0.	0.00
8	16.000	17.20	0.00	5.28	73.58	7.54	0.17	0.28	2.67	0.28	0.12	0.00	0.00	0.00	0.00	16.63	0.00	0.	0.00

9	15.900	17.20	0.00	5.27	73.54	7.46	0.19	0.30	2.69	0.30	0.13	0.00	0.00	0.00	0.00	16.64	0.00	0.	0.00
10	15.800	17.20	0.00	5.27	73.50	7.39	0.21	0.32	2.71	0.32	0.15	0.00	0.00	0.00	0.00	16.64	0.00	0.	0.00
11	15.700	17.20	0.00	5.27	73.46	7.32	0.23	0.34	2.73	0.34	0.16	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
12	15.600	17.20	0.00	5.27	73.42	7.26	0.25	0.36	2.75	0.36	0.17	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
13	15.500	17.20	0.00	5.26	73.38	7.21	0.27	0.39	2.77	0.39	0.19	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
14	15.400	17.20	0.00	5.26	73.34	7.17	0.29	0.41	2.79	0.41	0.20	0.00	0.00	0.00	0.00	16.66	0.00	0.	0.00
15	15.300	17.20	0.00	5.26	73.30	7.13	0.31	0.43	2.81	0.43	0.21	0.00	0.00	0.00	0.00	16.66	0.00	0.	0.00
16	15.200	17.20	0.00	5.25	73.26	7.09	0.33	0.45	2.83	0.45	0.23	0.00	0.00	0.00	0.00	16.67	0.00	0.	0.00
17	15.100	17.20	0.00	5.25	73.22	7.05	0.34	0.47	2.84	0.47	0.24	0.00	0.00	0.00	0.00	16.67	0.00	0.	0.00
18	15.000	17.20	0.00	5.25	73.18	7.02	0.36	0.49	2.86	0.49	0.25	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
19	14.900	17.20	0.00	5.25	73.14	7.00	0.38	0.51	2.88	0.51	0.26	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
20	14.800	17.20	0.00	5.24	73.11	6.97	0.40	0.53	2.90	0.53	0.28	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
21	14.700	17.20	0.00	5.24	73.07	6.95	0.41	0.55	2.92	0.55	0.29	0.00	0.00	0.00	0.00	16.69	0.00	0.	0.00
22	14.600	17.20	0.00	5.24	73.03	6.93	0.43	0.57	2.93	0.57	0.30	0.00	0.00	0.00	0.00	16.69	0.00	0.	0.00
23	14.500	17.20	0.00	5.23	72.99	6.91	0.44	0.59	2.95	0.59	0.31	0.00	0.00	0.00	0.00	16.70	0.00	0.	0.00
24	14.400	17.20	0.00	5.23	72.95	6.90	0.46	0.61	2.97	0.61	0.33	0.00	0.00	0.00	0.00	16.70	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 2 WAC2 TO WAC3 WAC WINTER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
25	UPR RCH	0.02330	17.20	0.00	5.23	72.95	6.90	0.46	0.61	2.97	0.61	0.33	0.00	0.00	0.00	16.70	0.00	0.00
EACH	INCR	0.00001	19.62	0.00	4.00	60.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	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	MEAN VELO m/s
25	14.40	14.30	0.02331	0.0	0.01194	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
26	14.30	14.20	0.02331	0.0	0.01194	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
27	14.20	14.10	0.02332	0.0	0.01194	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
28	14.10	14.00	0.02332	0.0	0.01195	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
29	14.00	13.90	0.02333	0.0	0.01195	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
30	13.90	13.80	0.02333	0.0	0.01195	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
31	13.80	13.70	0.02334	0.0	0.01195	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
32	13.70	13.60	0.02334	0.0	0.01196	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
33	13.60	13.50	0.02335	0.0	0.01196	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
34	13.50	13.40	0.02335	0.0	0.01196	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
35	13.40	13.30	0.02336	0.0	0.01196	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
36	13.30	13.20	0.02336	0.0	0.01197	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
37	13.20	13.10	0.02337	0.0	0.01197	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
38	13.10	13.00	0.02337	0.0	0.01197	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
39	13.00	12.90	0.02338	0.0	0.01198	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
40	12.90	12.80	0.02338	0.0	0.01198	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
41	12.80	12.70	0.02339	0.0	0.01198	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
42	12.70	12.60	0.02339	0.0	0.01198	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
43	12.60	12.50	0.02340	0.0	0.01199	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
44	12.50	12.40	0.02341	0.0	0.01199	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
45	12.40	12.30	0.02341	0.0	0.01199	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
46	12.30	12.20	0.02342	0.0	0.01199	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012

47	12.20	12.10	0.02342	0.0	0.01200	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
48	12.10	12.00	0.02343	0.0	0.01200	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
49	12.00	11.90	0.02343	0.0	0.01200	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
50	11.90	11.80	0.02344	0.0	0.01200	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
51	11.80	11.70	0.02344	0.0	0.01201	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
52	11.70	11.60	0.02345	0.0	0.01201	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
53	11.60	11.50	0.02345	0.0	0.01201	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
54	11.50	11.40	0.02346	0.0	0.01202	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
55	11.40	11.30	0.02346	0.0	0.01202	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
56	11.30	11.20	0.02347	0.0	0.01202	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
57	11.20	11.10	0.02347	0.0	0.01202	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
58	11.10	11.00	0.02348	0.0	0.01203	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
59	11.00	10.90	0.02348	0.0	0.01203	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
60	10.90	10.80	0.02349	0.0	0.01203	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
61	10.80	10.70	0.02349	0.0	0.01203	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
62	10.70	10.60	0.02350	0.0	0.01204	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
63	10.60	10.50	0.02351	0.0	0.01204	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
64	10.50	10.40	0.02351	0.0	0.01204	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
65	10.40	10.30	0.02352	0.0	0.01205	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
66	10.30	10.20	0.02352	0.0	0.01205	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
67	10.20	10.10	0.02353	0.0	0.01205	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
68	10.10	10.00	0.02353	0.0	0.01205	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
69	10.00	9.90	0.02354	0.0	0.01206	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
70	9.90	9.80	0.02354	0.0	0.01206	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
71	9.80	9.70	0.02355	0.0	0.01206	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
72	9.70	9.60	0.02355	0.0	0.01206	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
73	9.60	9.50	0.02356	0.0	0.01207	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
74	9.50	9.40	0.02356	0.0	0.01207	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
75	9.40	9.30	0.02357	0.0	0.01207	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
76	9.30	9.20	0.02357	0.0	0.01207	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
77	9.20	9.10	0.02358	0.0	0.01208	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
78	9.10	9.00	0.02358	0.0	0.01208	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
79	9.00	8.90	0.02359	0.0	0.01208	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
80	8.90	8.80	0.02359	0.0	0.01209	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
81	8.80	8.70	0.02360	0.0	0.01209	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
TOT						5.49			11128.14	36485.70					
AVG					0.0120		0.31	6.40			1.95				
CUM						6.35									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
25	14.300	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	14.200	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	14.100	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	14.000	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	13.900	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	13.800	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	13.700	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	13.600	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	13.500	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	13.400	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	13.300	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	13.200	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

37	13.100	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	13.000	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	12.900	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	12.800	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	12.700	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	12.600	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	12.500	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	12.400	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	12.300	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	12.200	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	12.100	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	12.000	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	11.900	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	11.800	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	11.700	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	11.600	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	11.500	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	11.400	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	11.300	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	11.200	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	11.100	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	11.000	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	10.900	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	10.800	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	10.700	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	10.600	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	10.500	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	10.400	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	10.300	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	10.200	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	10.100	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	10.000	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	9.900	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	9.800	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	9.700	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	9.600	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	9.500	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	9.400	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	9.300	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	9.200	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	9.100	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	9.000	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	8.900	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	8.800	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81	8.700	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.59	1.59	1.59	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			2.30	0.23	0.20	0.00	0.03	0.20	0.00	1.89			0.14	0.20	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
25	14.300	17.20	0.00	5.23	72.95	6.94	0.53	0.65	3.00	0.65	0.36	0.00	0.00	0.00	0.00	16.46	0.00	0.	0.00
26	14.200	17.20	0.00	5.23	72.94	6.98	0.60	0.69	3.04	0.69	0.38	0.00	0.00	0.00	0.00	16.23	0.00	0.	0.00
27	14.100	17.20	0.00	5.23	72.94	7.00	0.67	0.73	3.07	0.73	0.41	0.00	0.00	0.00	0.00	15.99	0.00	0.	0.00

28	14.000	17.20	0.00	5.23	72.94	7.02	0.73	0.76	3.10	0.76	0.44	0.00	0.00	0.00	0.00	15.75	0.00	0.	0.00
29	13.900	17.20	0.00	5.23	72.93	7.04	0.80	0.80	3.12	0.80	0.46	0.00	0.00	0.00	0.00	15.52	0.00	0.	0.00
30	13.800	17.20	0.00	5.23	72.93	7.05	0.86	0.84	3.15	0.84	0.49	0.00	0.00	0.00	0.00	15.28	0.00	0.	0.00
31	13.700	17.20	0.00	5.23	72.93	7.06	0.92	0.87	3.17	0.87	0.51	0.00	0.00	0.00	0.00	15.04	0.00	0.	0.00
32	13.600	17.20	0.00	5.23	72.93	7.06	0.97	0.90	3.19	0.90	0.54	0.00	0.00	0.00	0.00	14.81	0.00	0.	0.00
33	13.500	17.20	0.00	5.23	72.92	7.07	1.03	0.94	3.21	0.94	0.56	0.00	0.00	0.00	0.00	14.57	0.00	0.	0.00
34	13.400	17.20	0.00	5.23	72.92	7.07	1.08	0.97	3.23	0.97	0.58	0.00	0.00	0.00	0.00	14.33	0.00	0.	0.00
35	13.300	17.20	0.00	5.23	72.92	7.07	1.13	1.00	3.24	1.00	0.60	0.00	0.00	0.00	0.00	14.09	0.00	0.	0.00
36	13.200	17.20	0.00	5.23	72.91	7.07	1.18	1.03	3.25	1.03	0.63	0.00	0.00	0.00	0.00	13.86	0.00	0.	0.00
37	13.100	17.20	0.00	5.23	72.91	7.07	1.22	1.06	3.27	1.06	0.65	0.00	0.00	0.00	0.00	13.62	0.00	0.	0.00
38	13.000	17.20	0.00	5.23	72.91	7.07	1.27	1.09	3.27	1.09	0.67	0.00	0.00	0.00	0.00	13.38	0.00	0.	0.00
39	12.900	17.20	0.00	5.23	72.90	7.06	1.31	1.12	3.28	1.12	0.69	0.00	0.00	0.00	0.00	13.15	0.00	0.	0.00
40	12.800	17.20	0.00	5.23	72.90	7.06	1.35	1.15	3.29	1.15	0.70	0.00	0.00	0.00	0.00	12.91	0.00	0.	0.00
41	12.700	17.20	0.00	5.23	72.90	7.06	1.39	1.18	3.29	1.18	0.72	0.00	0.00	0.00	0.00	12.67	0.00	0.	0.00
42	12.600	17.20	0.00	5.23	72.90	7.05	1.43	1.21	3.30	1.21	0.74	0.00	0.00	0.00	0.00	12.44	0.00	0.	0.00
43	12.500	17.20	0.00	5.23	72.89	7.05	1.47	1.23	3.30	1.23	0.76	0.00	0.00	0.00	0.00	12.20	0.00	0.	0.00
44	12.400	17.20	0.00	5.23	72.89	7.04	1.50	1.26	3.30	1.26	0.77	0.00	0.00	0.00	0.00	11.96	0.00	0.	0.00
45	12.300	17.20	0.00	5.23	72.89	7.04	1.54	1.29	3.30	1.29	0.79	0.00	0.00	0.00	0.00	11.73	0.00	0.	0.00
46	12.200	17.20	0.00	5.23	72.88	7.04	1.57	1.31	3.29	1.31	0.81	0.00	0.00	0.00	0.00	11.49	0.00	0.	0.00
47	12.100	17.20	0.00	5.23	72.88	7.03	1.60	1.34	3.29	1.34	0.82	0.00	0.00	0.00	0.00	11.25	0.00	0.	0.00
48	12.000	17.20	0.00	5.23	72.88	7.03	1.63	1.36	3.29	1.36	0.84	0.00	0.00	0.00	0.00	11.02	0.00	0.	0.00
49	11.900	17.20	0.00	5.22	72.88	7.02	1.66	1.38	3.28	1.38	0.85	0.00	0.00	0.00	0.00	10.78	0.00	0.	0.00
50	11.800	17.20	0.00	5.22	72.87	7.02	1.69	1.41	3.27	1.41	0.87	0.00	0.00	0.00	0.00	10.54	0.00	0.	0.00
51	11.700	17.20	0.00	5.22	72.87	7.02	1.72	1.43	3.27	1.43	0.88	0.00	0.00	0.00	0.00	10.31	0.00	0.	0.00
52	11.600	17.20	0.00	5.22	72.87	7.01	1.75	1.45	3.26	1.45	0.89	0.00	0.00	0.00	0.00	10.07	0.00	0.	0.00
53	11.500	17.20	0.00	5.22	72.86	7.01	1.77	1.47	3.25	1.47	0.91	0.00	0.00	0.00	0.00	9.83	0.00	0.	0.00
54	11.400	17.20	0.00	5.22	72.86	7.01	1.80	1.49	3.24	1.49	0.92	0.00	0.00	0.00	0.00	9.59	0.00	0.	0.00
55	11.300	17.20	0.00	5.22	72.86	7.00	1.82	1.52	3.23	1.52	0.93	0.00	0.00	0.00	0.00	9.36	0.00	0.	0.00
56	11.200	17.20	0.00	5.22	72.86	7.00	1.84	1.54	3.21	1.54	0.94	0.00	0.00	0.00	0.00	9.12	0.00	0.	0.00
57	11.100	17.20	0.00	5.22	72.85	7.00	1.87	1.56	3.20	1.56	0.95	0.00	0.00	0.00	0.00	8.88	0.00	0.	0.00
58	11.000	17.20	0.00	5.22	72.85	6.99	1.89	1.58	3.19	1.58	0.96	0.00	0.00	0.00	0.00	8.65	0.00	0.	0.00
59	10.900	17.20	0.00	5.22	72.85	6.99	1.91	1.59	3.17	1.59	0.98	0.00	0.00	0.00	0.00	8.41	0.00	0.	0.00
60	10.800	17.20	0.00	5.22	72.84	6.99	1.93	1.61	3.15	1.61	0.99	0.00	0.00	0.00	0.00	8.17	0.00	0.	0.00
61	10.700	17.20	0.00	5.22	72.84	6.98	1.95	1.63	3.14	1.63	1.00	0.00	0.00	0.00	0.00	7.94	0.00	0.	0.00
62	10.600	17.20	0.00	5.22	72.84	6.98	1.97	1.65	3.12	1.65	1.01	0.00	0.00	0.00	0.00	7.70	0.00	0.	0.00
63	10.500	17.20	0.00	5.22	72.84	6.98	1.98	1.67	3.10	1.67	1.02	0.00	0.00	0.00	0.00	7.46	0.00	0.	0.00
64	10.400	17.20	0.00	5.22	72.83	6.97	2.00	1.68	3.09	1.68	1.03	0.00	0.00	0.00	0.00	7.23	0.00	0.	0.00
65	10.300	17.20	0.00	5.22	72.83	6.97	2.02	1.70	3.07	1.70	1.03	0.00	0.00	0.00	0.00	6.99	0.00	0.	0.00
66	10.200	17.20	0.00	5.22	72.83	6.97	2.03	1.72	3.05	1.72	1.04	0.00	0.00	0.00	0.00	6.75	0.00	0.	0.00
67	10.100	17.20	0.00	5.22	72.82	6.97	2.05	1.73	3.03	1.73	1.05	0.00	0.00	0.00	0.00	6.52	0.00	0.	0.00
68	10.000	17.20	0.00	5.22	72.82	6.96	2.06	1.75	3.01	1.75	1.06	0.00	0.00	0.00	0.00	6.28	0.00	0.	0.00
69	9.900	17.20	0.00	5.22	72.82	6.96	2.08	1.77	2.98	1.77	1.07	0.00	0.00	0.00	0.00	6.04	0.00	0.	0.00
70	9.800	17.20	0.00	5.22	72.82	6.96	2.09	1.78	2.96	1.78	1.08	0.00	0.00	0.00	0.00	5.81	0.00	0.	0.00
71	9.700	17.20	0.00	5.22	72.81	6.96	2.11	1.80	2.94	1.80	1.08	0.00	0.00	0.00	0.00	5.57	0.00	0.	0.00
72	9.600	17.20	0.00	5.22	72.81	6.96	2.12	1.81	2.92	1.81	1.09	0.00	0.00	0.00	0.00	5.33	0.00	0.	0.00
73	9.500	17.20	0.00	5.22	72.81	6.95	2.13	1.83	2.89	1.83	1.10	0.00	0.00	0.00	0.00	5.09	0.00	0.	0.00
74	9.400	17.20	0.00	5.22	72.80	6.95	2.14	1.84	2.87	1.84	1.11	0.00	0.00	0.00	0.00	4.86	0.00	0.	0.00
75	9.300	17.20	0.00	5.22	72.80	6.95	2.15	1.85	2.85	1.85	1.11	0.00	0.00	0.00	0.00	4.62	0.00	0.	0.00
76	9.200	17.20	0.00	5.22	72.80	6.95	2.16	1.87	2.82	1.87	1.12	0.00	0.00	0.00	0.00	4.38	0.00	0.	0.00
77	9.100	17.20	0.00	5.22	72.80	6.95	2.18	1.88	2.80	1.88	1.13	0.00	0.00	0.00	0.00	4.15	0.00	0.	0.00
78	9.000	17.20	0.00	5.22	72.79	6.94	2.19	1.89	2.77	1.89	1.13	0.00	0.00	0.00	0.00	3.91	0.00	0.	0.00
79	8.900	17.20	0.00	5.22	72.79	6.94	2.20	1.91	2.75	1.91	1.14	0.00	0.00	0.00	0.00	3.67	0.00	0.	0.00
80	8.800	17.20	0.00	5.22	72.79	6.94	2.20	1.92	2.72	1.92	1.14	0.00	0.00	0.00	0.00	3.44	0.00	0.	0.00
81	8.700	17.20	0.00	5.22	72.78	6.94	2.21	1.93	2.69	1.93	1.15	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 3 WAC3 TO WAC4 WAC WINTER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
82	UPR RCH	0.02360	17.20	0.00	5.22	72.78	6.94	2.21	1.93	2.69	1.93	1.15	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.01766	19.62	0.00	4.70	65.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	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	MEAN VELO m/s
82	8.70	8.60	0.04126	0.0	0.09560	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.096
83	8.60	8.50	0.05891	0.0	0.13652	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.137
84	8.50	8.40	0.07657	0.0	0.17743	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.177
85	8.40	8.30	0.09422	0.0	0.21835	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.218
86	8.30	8.20	0.11188	0.0	0.25926	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.259
87	8.20	8.10	0.12953	0.0	0.30018	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.300
88	8.10	8.00	0.14719	0.0	0.34109	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.341
89	8.00	7.90	0.16484	0.0	0.38200	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.382
90	7.90	7.80	0.18250	0.0	0.42292	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.423
TOT						0.05			388.37	2194.20					
AVG					0.2088		0.18	2.44			0.43				
CUM						6.40									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
82	8.600	9.62	4.50	0.24	0.19	0.00	0.03	0.19	0.00	1.98	1.98	1.98	0.09	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83	8.500	9.62	4.96	0.24	0.19	0.00	0.03	0.19	0.00	1.98	1.98	1.98	0.09	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	8.400	9.62	5.33	0.24	0.19	0.00	0.03	0.19	0.00	1.98	1.98	1.98	0.09	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	8.300	9.62	5.64	0.24	0.19	0.00	0.03	0.19	0.00	1.98	1.98	1.98	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	8.200	9.62	5.91	0.24	0.19	0.00	0.03	0.19	0.00	1.98	1.98	1.98	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	8.100	9.62	6.15	0.24	0.19	0.00	0.03	0.19	0.00	1.98	1.98	1.98	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	8.000	9.62	6.37	0.24	0.19	0.00	0.03	0.19	0.00	1.98	1.98	1.98	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	7.900	9.62	6.57	0.24	0.19	0.00	0.03	0.19	0.00	1.98	1.98	1.98	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	7.800	9.62	6.75	0.24	0.19	0.00	0.03	0.19	0.00	1.98	1.98	1.98	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			6.14	0.27	0.20	0.00	0.03	0.20	0.00	2.36			0.11	0.20	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
82	8.600	17.20	0.00	5.00	69.45	5.69	1.78	2.00	2.26	2.00	0.88	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
83	8.500	17.20	0.00	4.91	68.12	5.23	1.61	2.03	2.09	2.03	0.77	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

84	8.400	17.20	0.00	4.86	67.40	5.00	1.51	2.04	1.99	2.04	0.71	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
85	8.300	17.20	0.00	4.83	66.95	4.87	1.45	2.05	1.93	2.05	0.68	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
86	8.200	17.20	0.00	4.81	66.64	4.78	1.41	2.06	1.89	2.06	0.65	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
87	8.100	17.20	0.00	4.79	66.42	4.73	1.38	2.06	1.86	2.06	0.63	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
88	8.000	17.20	0.00	4.78	66.25	4.69	1.36	2.07	1.84	2.07	0.62	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
89	7.900	17.20	0.00	4.77	66.11	4.67	1.35	2.07	1.83	2.07	0.61	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
90	7.800	17.20	0.00	4.77	66.01	4.65	1.33	2.07	1.81	2.07	0.60	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 4 WAC4 TO Elder Branch Creek WAC WINTER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
91	UPR RCH	0.18250	17.20	0.00	4.77	66.01	4.65	1.33	2.07	1.81	2.07	0.60	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.00482	19.62	0.00	3.80	33.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	
123	WSTLD	0.02300	17.20	0.00	3.40	32.30	4.00	2.36	1.51	2.36	1.51	0.78	0.00	0.00	0.00	2.30	0.00	0.00

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

ELEM NO.	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	MEAN VELO m/s
91	7.80	7.70	0.18732	0.0	0.04790	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.048
92	7.70	7.60	0.19213	0.0	0.04913	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.049
93	7.60	7.50	0.19695	0.0	0.05036	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.050
94	7.50	7.40	0.20176	0.0	0.05159	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.052
95	7.40	7.30	0.20658	0.0	0.05283	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.053
96	7.30	7.20	0.21139	0.0	0.05406	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.054
97	7.20	7.10	0.21621	0.0	0.05529	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.055
98	7.10	7.00	0.22102	0.0	0.05652	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.057
99	7.00	6.90	0.22584	0.0	0.05775	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.058
100	6.90	6.80	0.23065	0.0	0.05898	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.059
101	6.80	6.70	0.23547	0.0	0.06021	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.060
102	6.70	6.60	0.24028	0.0	0.06145	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.061
103	6.60	6.50	0.24510	0.0	0.06268	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.063
104	6.50	6.40	0.24991	0.0	0.06391	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.064
105	6.40	6.30	0.25473	0.0	0.06514	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.065
106	6.30	6.20	0.25954	0.0	0.06637	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.066
107	6.20	6.10	0.26436	0.0	0.06760	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.068
108	6.10	6.00	0.26917	0.0	0.06883	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.069
109	6.00	5.90	0.27399	0.0	0.07006	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.070
110	5.90	5.80	0.27880	0.0	0.07130	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.071
111	5.80	5.70	0.28362	0.0	0.07253	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.073
112	5.70	5.60	0.28843	0.0	0.07376	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.074
113	5.60	5.50	0.29325	0.0	0.07499	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.075
114	5.50	5.40	0.29806	0.0	0.07622	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.076
115	5.40	5.30	0.30288	0.0	0.07745	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.077
116	5.30	5.20	0.30769	0.0	0.07868	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.079
117	5.20	5.10	0.31251	0.0	0.07992	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.080
118	5.10	5.00	0.31732	0.0	0.08115	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.081
119	5.00	4.90	0.32214	0.0	0.08238	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.082
120	4.90	4.80	0.32695	0.0	0.08361	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.084

121	4.80	4.70	0.33177	0.0	0.08484	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.085
122	4.70	4.60	0.33658	0.0	0.08607	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.086
123	4.60	4.50	0.36440	6.3	0.09319	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.093
TOT						0.58			12904.63	22799.71					
AVG					0.0656		0.57	6.91			3.91				
CUM						6.98									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
91	7.700	9.62	1.32	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	7.600	9.62	1.33	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	7.500	9.62	1.34	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	7.400	9.62	1.35	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	7.300	9.62	1.35	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	7.200	9.62	1.36	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	7.100	9.62	1.37	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	7.000	9.62	1.38	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
99	6.900	9.62	1.39	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	6.800	9.62	1.40	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101	6.700	9.62	1.40	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102	6.600	9.62	1.41	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
103	6.500	9.62	1.42	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
104	6.400	9.62	1.43	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	6.300	9.62	1.43	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
106	6.200	9.62	1.44	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107	6.100	9.62	1.45	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
108	6.000	9.62	1.46	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
109	5.900	9.62	1.46	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	5.800	9.62	1.47	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
111	5.700	9.62	1.48	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112	5.600	9.62	1.48	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113	5.500	9.62	1.49	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114	5.400	9.62	1.50	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	5.300	9.62	1.50	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116	5.200	9.62	1.51	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117	5.100	9.62	1.52	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
118	5.000	9.62	1.52	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
119	4.900	9.62	1.53	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	4.800	9.62	1.53	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
121	4.700	9.62	1.54	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
122	4.600	9.62	1.55	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	4.500	9.62	1.58	0.20	0.47	0.00	0.03	0.47	0.00	0.44	0.44	0.44	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			1.53	0.22	0.50	0.00	0.03	0.50	0.00	0.52			0.21	0.50	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM

91	7.700	17.20	0.00	4.74	65.16	4.75	1.34	2.09	1.82	2.09	0.61	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
92	7.600	17.20	0.00	4.72	64.35	4.85	1.34	2.10	1.82	2.10	0.63	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
93	7.500	17.20	0.00	4.70	63.59	4.94	1.34	2.11	1.82	2.11	0.64	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
94	7.400	17.20	0.00	4.67	62.86	5.03	1.35	2.13	1.83	2.13	0.65	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
95	7.300	17.20	0.00	4.65	62.16	5.11	1.35	2.14	1.83	2.14	0.66	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
96	7.200	17.20	0.00	4.63	61.50	5.19	1.35	2.15	1.83	2.15	0.67	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
97	7.100	17.20	0.00	4.62	60.86	5.26	1.36	2.16	1.84	2.16	0.68	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
98	7.000	17.20	0.00	4.60	60.25	5.32	1.36	2.17	1.84	2.17	0.69	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
99	6.900	17.20	0.00	4.58	59.67	5.38	1.36	2.18	1.84	2.18	0.70	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
100	6.800	17.20	0.00	4.56	59.12	5.44	1.37	2.19	1.85	2.19	0.71	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
101	6.700	17.20	0.00	4.55	58.58	5.50	1.37	2.19	1.85	2.19	0.72	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
102	6.600	17.20	0.00	4.53	58.07	5.55	1.37	2.20	1.85	2.20	0.73	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
103	6.500	17.20	0.00	4.52	57.58	5.60	1.37	2.21	1.85	2.21	0.73	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
104	6.400	17.20	0.00	4.51	57.10	5.65	1.37	2.22	1.85	2.22	0.74	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
105	6.300	17.20	0.00	4.49	56.65	5.69	1.38	2.22	1.86	2.22	0.75	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
106	6.200	17.20	0.00	4.48	56.21	5.73	1.38	2.23	1.86	2.23	0.75	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
107	6.100	17.20	0.00	4.47	55.79	5.77	1.38	2.24	1.86	2.24	0.76	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
108	6.000	17.20	0.00	4.46	55.38	5.81	1.38	2.24	1.86	2.24	0.76	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
109	5.900	17.20	0.00	4.44	54.99	5.85	1.38	2.25	1.86	2.25	0.77	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
110	5.800	17.20	0.00	4.43	54.61	5.88	1.38	2.25	1.86	2.25	0.77	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
111	5.700	17.20	0.00	4.42	54.24	5.92	1.39	2.26	1.87	2.26	0.78	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
112	5.600	17.20	0.00	4.41	53.88	5.95	1.39	2.26	1.87	2.26	0.78	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
113	5.500	17.20	0.00	4.40	53.54	5.98	1.39	2.27	1.87	2.27	0.79	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
114	5.400	17.20	0.00	4.39	53.21	6.01	1.39	2.27	1.87	2.27	0.79	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
115	5.300	17.20	0.00	4.38	52.89	6.04	1.39	2.28	1.87	2.28	0.80	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
116	5.200	17.20	0.00	4.37	52.58	6.06	1.39	2.28	1.87	2.28	0.80	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
117	5.100	17.20	0.00	4.36	52.28	6.09	1.39	2.29	1.87	2.29	0.80	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
118	5.000	17.20	0.00	4.36	51.98	6.11	1.39	2.29	1.87	2.29	0.81	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
119	4.900	17.20	0.00	4.35	51.70	6.14	1.40	2.29	1.88	2.29	0.81	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
120	4.800	17.20	0.00	4.34	51.42	6.16	1.40	2.30	1.88	2.30	0.81	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
121	4.700	17.20	0.00	4.33	51.16	6.18	1.40	2.30	1.88	2.30	0.82	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
122	4.600	17.20	0.00	4.32	50.90	6.20	1.40	2.30	1.88	2.30	0.82	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
123	4.500	17.20	0.00	4.26	49.49	6.09	1.46	2.26	1.94	2.26	0.82	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 5 Elder Branch TO Little Sandy WAC WINTER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
124	UPR RCH	0.36440	17.20	0.00	4.26	49.49	6.09	1.46	2.26	1.94	2.26	0.82	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.00794	19.62	0.00	3.80	33.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	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	MEAN VELO m/s
124	4.50	4.40	0.37235	6.2	0.03426	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.034
125	4.40	4.30	0.38029	6.0	0.03499	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.035
126	4.30	4.20	0.38824	5.9	0.03572	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.036
127	4.20	4.10	0.39618	5.8	0.03645	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.036
128	4.10	4.00	0.40413	5.7	0.03719	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.037

129	4.00	3.90	0.41207	5.6	0.03792	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.038
130	3.90	3.80	0.42002	5.5	0.03865	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.039
131	3.80	3.70	0.42796	5.4	0.03938	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.039
132	3.70	3.60	0.43591	5.3	0.04011	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.040
133	3.60	3.50	0.44385	5.2	0.04084	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.041
134	3.50	3.40	0.45180	5.1	0.04157	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.042
135	3.40	3.30	0.45974	5.0	0.04230	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.042
136	3.30	3.20	0.46769	4.9	0.04303	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.043
137	3.20	3.10	0.47563	4.8	0.04376	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.044
138	3.10	3.00	0.48358	4.8	0.04450	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.044
139	3.00	2.90	0.49152	4.7	0.04523	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.045
140	2.90	2.80	0.49947	4.6	0.04596	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.046
141	2.80	2.70	0.50741	4.5	0.04669	0.02	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.047
142	2.70	2.60	0.51536	4.5	0.04742	0.02	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.047
143	2.60	2.50	0.52330	4.4	0.04815	0.02	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.048
TOT						0.57			21735.80	22760.00					
AVG					0.0408		0.96	11.38			10.87				
CUM						7.55									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
124	4.400	9.62	0.75	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	4.300	9.62	0.76	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126	4.200	9.62	0.76	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127	4.100	9.62	0.77	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128	4.000	9.62	0.77	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
129	3.900	9.62	0.77	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	3.800	9.62	0.78	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
131	3.700	9.62	0.78	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132	3.600	9.62	0.79	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
133	3.500	9.62	0.79	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
134	3.400	9.62	0.79	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	3.300	9.62	0.80	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
136	3.200	9.62	0.80	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
137	3.100	9.62	0.81	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
138	3.000	9.62	0.81	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
139	2.900	9.62	0.81	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	2.800	9.62	0.82	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
141	2.700	9.62	0.82	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142	2.600	9.62	0.82	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
143	2.500	9.62	0.83	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			0.84	0.22	0.50	0.00	0.03	0.50	0.00	0.05			0.21	0.50	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
124	4.400	17.20	0.00	4.25	49.13	6.11	1.44	2.26	2.15	2.26	0.85	0.00	0.00	0.00	0.00	4.69	0.00	0.	0.00

125	4.300	17.20	0.00	4.24	48.80	6.13	1.43	2.26	2.35	2.26	0.87	0.00	0.00	0.00	0.00	6.17	0.00	0.	0.00
126	4.200	17.20	0.00	4.23	48.47	6.16	1.42	2.27	2.56	2.27	0.89	0.00	0.00	0.00	0.00	7.66	0.00	0.	0.00
127	4.100	17.20	0.00	4.22	48.16	6.18	1.40	2.27	2.77	2.27	0.92	0.00	0.00	0.00	0.00	9.14	0.00	0.	0.00
128	4.000	17.20	0.00	4.21	47.87	6.20	1.39	2.27	2.98	2.27	0.94	0.00	0.00	0.00	0.00	10.63	0.00	0.	0.00
129	3.900	17.20	0.00	4.21	47.58	6.22	1.38	2.28	3.19	2.28	0.96	0.00	0.00	0.00	0.00	12.11	0.00	0.	0.00
130	3.800	17.20	0.00	4.20	47.30	6.23	1.37	2.28	3.41	2.28	0.97	0.00	0.00	0.00	0.00	13.60	0.00	0.	0.00
131	3.700	17.20	0.00	4.19	47.04	6.25	1.36	2.28	3.62	2.28	0.99	0.00	0.00	0.00	0.00	15.08	0.00	0.	0.00
132	3.600	17.20	0.00	4.18	46.78	6.27	1.35	2.28	3.83	2.28	1.01	0.00	0.00	0.00	0.00	16.57	0.00	0.	0.00
133	3.500	17.20	0.00	4.18	46.54	6.29	1.34	2.28	4.05	2.28	1.02	0.00	0.00	0.00	0.00	18.05	0.00	0.	0.00
134	3.400	17.20	0.00	4.17	46.30	6.30	1.33	2.29	4.26	2.29	1.04	0.00	0.00	0.00	0.00	19.54	0.00	0.	0.00
135	3.300	17.20	0.00	4.16	46.07	6.32	1.32	2.29	4.47	2.29	1.05	0.00	0.00	0.00	0.00	21.02	0.00	0.	0.00
136	3.200	17.20	0.00	4.16	45.85	6.33	1.31	2.29	4.69	2.29	1.07	0.00	0.00	0.00	0.00	22.51	0.00	0.	0.00
137	3.100	17.20	0.00	4.15	45.63	6.35	1.31	2.29	4.90	2.29	1.08	0.00	0.00	0.00	0.00	23.99	0.00	0.	0.00
138	3.000	17.20	0.00	4.15	45.42	6.36	1.30	2.29	5.12	2.29	1.09	0.00	0.00	0.00	0.00	25.48	0.00	0.	0.00
139	2.900	17.20	0.00	4.14	45.22	6.37	1.29	2.29	5.34	2.29	1.10	0.00	0.00	0.00	0.00	26.96	0.00	0.	0.00
140	2.800	17.20	0.00	4.13	45.03	6.39	1.29	2.30	5.55	2.30	1.11	0.00	0.00	0.00	0.00	28.45	0.00	0.	0.00
141	2.700	17.20	0.00	4.13	44.84	6.40	1.28	2.30	5.77	2.30	1.12	0.00	0.00	0.00	0.00	29.93	0.00	0.	0.00
142	2.600	17.20	0.00	4.12	44.66	6.41	1.27	2.30	5.99	2.30	1.13	0.00	0.00	0.00	0.00	31.42	0.00	0.	0.00
143	2.500	17.20	0.00	4.12	44.48	6.42	1.27	2.30	6.20	2.30	1.14	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 6 Little Sandy TO WAC5 WAC WINTER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
144	UPR RCH	0.52330	17.20	0.00	4.12	44.48	6.42	1.27	2.30	6.20	2.30	1.14	0.00	0.00	0.00	32.90	0.00	0.00
EACH	INCR	0.00636	19.62	0.00	2.50	0.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	
144	WSTLD	0.02300	17.20	0.00	2.70	22.00	4.00	0.68	0.21	0.68	0.21	0.39	0.00	0.00	0.00	0.00	0.00	0.00

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

ELEM NO.	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	MEAN VELO m/s
144	2.50	2.40	0.55266	8.3	0.02594	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
145	2.40	2.30	0.55901	8.2	0.02624	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
146	2.30	2.20	0.56537	8.1	0.02654	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
147	2.20	2.10	0.57172	8.0	0.02684	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
148	2.10	2.00	0.57808	8.0	0.02714	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
149	2.00	1.90	0.58444	7.9	0.02744	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
150	1.90	1.80	0.59079	7.8	0.02773	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
151	1.80	1.70	0.59715	7.7	0.02803	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
152	1.70	1.60	0.60350	7.6	0.02833	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
153	1.60	1.50	0.60986	7.5	0.02863	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
154	1.50	1.40	0.61622	7.5	0.02893	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
155	1.40	1.30	0.62257	7.4	0.02923	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
156	1.30	1.20	0.62893	7.3	0.02952	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
157	1.20	1.10	0.63528	7.2	0.02982	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
158	1.10	1.00	0.64164	7.2	0.03012	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
159	1.00	0.90	0.64800	7.1	0.03042	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
160	0.90	0.80	0.65435	7.0	0.03072	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.031
161	0.80	0.70	0.66071	7.0	0.03102	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.031

162	0.70	0.60	0.66706	6.9	0.03131	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.031
163	0.60	0.50	0.67342	6.8	0.03161	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.032
164	0.50	0.40	0.67978	6.8	0.03191	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.032
165	0.40	0.30	0.68613	6.7	0.03221	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.032
166	0.30	0.20	0.69249	6.6	0.03251	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.033
167	0.20	0.10	0.69884	6.6	0.03281	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.033
168	0.10	0.00	0.70520	6.5	0.03310	0.03	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.033
TOT						0.99			53255.98	39625.00					
AVG					0.0294		1.34	15.85			21.30				
CUM						8.53									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
144	2.400	9.62	0.51	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	2.300	9.62	0.52	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146	2.200	9.62	0.52	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147	2.100	9.62	0.52	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
148	2.000	9.62	0.52	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
149	1.900	9.62	0.52	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	1.800	9.62	0.52	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
151	1.700	9.62	0.53	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152	1.600	9.62	0.53	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153	1.500	9.62	0.53	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
154	1.400	9.62	0.53	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	1.300	9.62	0.53	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
156	1.200	9.62	0.53	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157	1.100	9.62	0.53	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
158	1.000	9.62	0.54	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
159	0.900	9.62	0.54	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.800	9.62	0.54	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
161	0.700	9.62	0.54	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162	0.600	9.62	0.54	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
163	0.500	9.62	0.54	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
164	0.400	9.62	0.54	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.300	9.62	0.55	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166	0.200	9.62	0.55	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167	0.100	9.62	0.55	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	0.000	9.62	0.55	0.20	0.47	0.00	0.03	0.47	0.00	0.04	0.04	0.04	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			0.56	0.22	0.50	0.00	0.03	0.50	0.00	0.05			0.21	0.50	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
144	2.400	17.20	0.00	4.04	43.03	6.34	1.22	2.22	6.16	2.22	1.13	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
145	2.300	17.20	0.00	4.02	42.54	6.37	1.20	2.22	6.13	2.22	1.16	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
146	2.200	17.20	0.00	4.01	42.07	6.39	1.18	2.22	6.11	2.22	1.18	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
147	2.100	17.20	0.00	3.99	41.60	6.41	1.16	2.23	6.10	2.23	1.20	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

148	2.000	17.20	0.00	3.97	41.14	6.43	1.14	2.23	6.08	2.23	1.22	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
149	1.900	17.20	0.00	3.96	40.69	6.45	1.12	2.23	6.06	2.23	1.24	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
150	1.800	17.20	0.00	3.94	40.26	6.47	1.11	2.23	6.04	2.23	1.26	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
151	1.700	17.20	0.00	3.93	39.83	6.49	1.09	2.24	6.03	2.24	1.27	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
152	1.600	17.20	0.00	3.91	39.41	6.51	1.08	2.24	6.01	2.24	1.29	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
153	1.500	17.20	0.00	3.90	39.00	6.52	1.06	2.24	6.00	2.24	1.31	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
154	1.400	17.20	0.00	3.88	38.59	6.54	1.05	2.24	5.98	2.24	1.32	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
155	1.300	17.20	0.00	3.87	38.20	6.56	1.04	2.25	5.97	2.25	1.34	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
156	1.200	17.20	0.00	3.85	37.81	6.57	1.02	2.25	5.96	2.25	1.35	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
157	1.100	17.20	0.00	3.84	37.44	6.59	1.01	2.25	5.95	2.25	1.36	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
158	1.000	17.20	0.00	3.83	37.07	6.61	1.00	2.25	5.93	2.25	1.37	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
159	0.900	17.20	0.00	3.82	36.70	6.62	0.99	2.25	5.92	2.25	1.39	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
160	0.800	17.20	0.00	3.80	36.35	6.63	0.98	2.25	5.91	2.25	1.40	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
161	0.700	17.20	0.00	3.79	36.00	6.65	0.97	2.26	5.90	2.26	1.41	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
162	0.600	17.20	0.00	3.78	35.65	6.66	0.96	2.26	5.89	2.26	1.42	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
163	0.500	17.20	0.00	3.77	35.32	6.67	0.95	2.26	5.88	2.26	1.43	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
164	0.400	17.20	0.00	3.75	34.99	6.69	0.94	2.26	5.88	2.26	1.44	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
165	0.300	17.20	0.00	3.74	34.66	6.70	0.93	2.26	5.87	2.26	1.45	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
166	0.200	17.20	0.00	3.73	34.34	6.71	0.92	2.26	5.86	2.26	1.46	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
167	0.100	17.20	0.00	3.72	34.03	6.72	0.92	2.27	5.85	2.27	1.47	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
168	0.000	17.20	0.00	3.71	33.72	6.74	0.91	2.27	5.84	2.27	1.47	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

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STREAM SUMMARY                                          WEST ANACOCO CREEK WATERSHED MODEL
HEADWATER                                               WAC WINTER 70% REDUCTION MAN-MADE TO MEET 4 MG/L DO STANDARD

 TRAVEL TIME       =           8.53 DAYS

 MAXIMUM EFFLUENT  =           8.32 PERCENT

 FLOW              =   0.02301 TO    0.70520   m³/s
 DISPERSION        =   0.0000  TO    0.0000    m²/s
 VELOCITY          =   0.01194 TO    0.42292   m/s
 DEPTH             =   0.18    TO    1.34      m
 WIDTH             =   2.44    TO   15.85      m

 BOD DECAY         =    0.20   TO    0.24      per day
 NH3 DECAY         =    0.00   TO    0.00      per day
 SOD               =    0.04   TO    1.98      g/m²/d
 NH3 SOURCE        =    0.00   TO    0.00      g/m²/d
 REAERATION        =    0.51   TO    6.75      per day
 BOD SETTLING      =    0.19   TO    0.47      per day
 NBOD DECAY        =    0.08   TO    0.17      per day
 NBOD SETTLING     =    0.19   TO    0.47      per day

 TEMPERATURE       =   17.20   TO   17.20      deg C
 DISSOLVED OXYGEN  =    4.65   TO    8.46      mg/L


     .....EXECUTION COMPLETED
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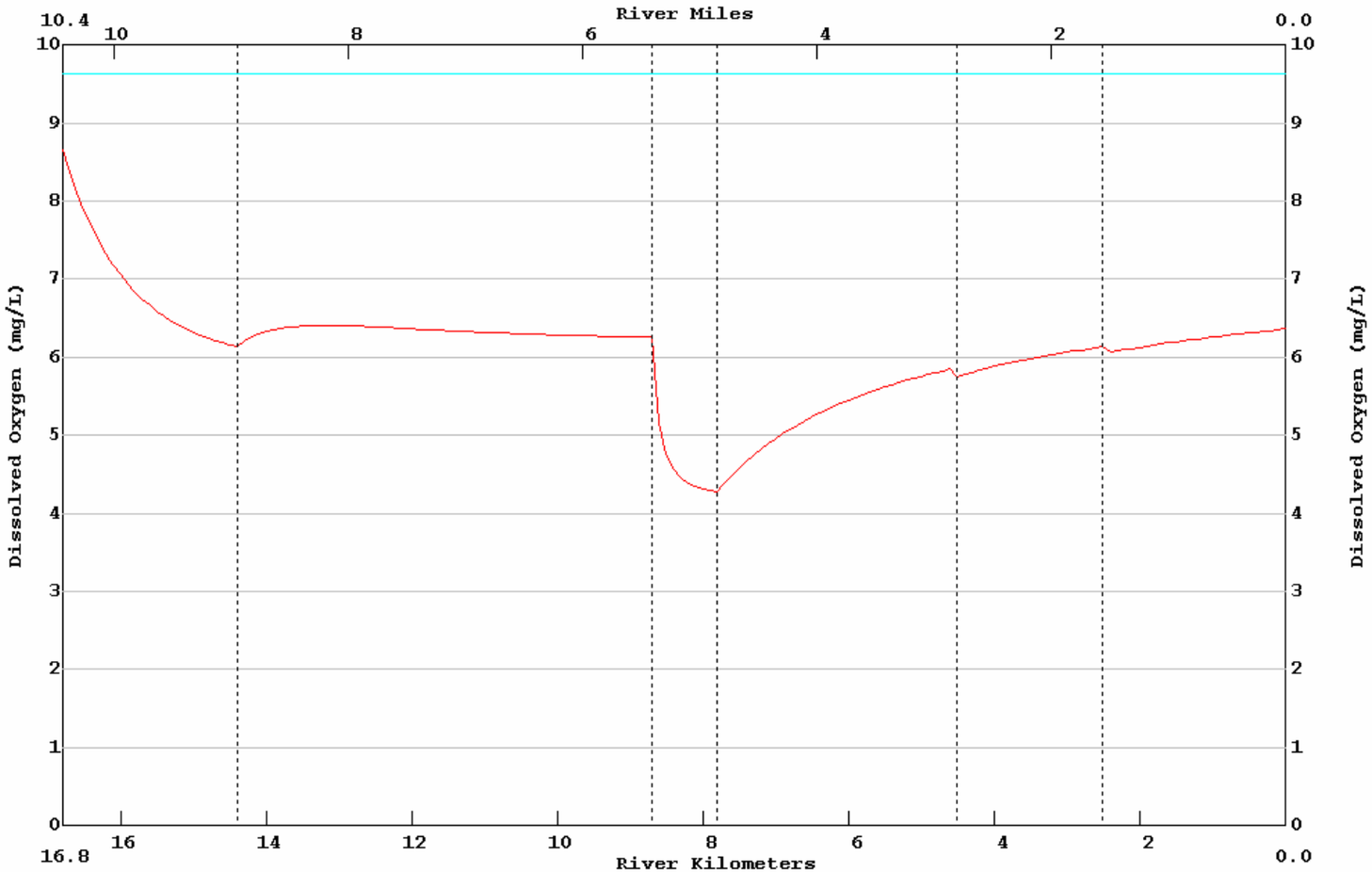
LA-QUAL Version 8.00 Run at 10:26 on 08/23/2007 File O:\Personal_Folders\Karen\Anacoco\2005\Input Files\3 DO Standard\
WAC WINTER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD min= 4.28 max= 8.66
WEST ANACOCO CREEK WATERSHED MODEL



WEST ANACOCO CREEK 110501 WINTER PROJECTION FOR A 3.0 DO MG/L STANDARD INPUT DATA SET

```
CNTROL01     WEST ANACOCO CREEK WATERSHED MODEL
CNTROL02     WAC WINTER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD
CNTROL04 YES METRIC UNITS
ENDATA01
MODOPT01  NO TEMPERATURE
MODOPT02  NO SALINITY
MODOPT03 YES CONSERVATIVE MATERIAL  I = CHLORIDES                 IN MG/L
MODOPT04 YES CONSERVATIVE MATERIAL II = CONDUCTIVITY              IN MG/L
MODOPT05 YES DISSOLVED OXYGEN
MODOPT06 YES BOD1 BIOCHEMICAL OXYGEN DEMAND
MODOPT06 YES BOD2 BIOCHEMICAL OXYGEN DEMAND
MODOPT08 YES NBOD OXYGEN DEMAND
MODOPT10  NO PHOSPHORUS
MODOPT11  NO CHLOROPHYLL A
MODOPT12  NO MACROPHYTES
MODOPT13  NO COLIFORM
ENDATA02
PROGRAM  KL MINIMUM                        =     0.7
PROGRAM  INHIBITION CONTROL VALUE          =     3.
PROGRAM  K2 MAXIMUM                        =     25.0
PROGRAM  HYDRAULIC CALCULATION METHOD      =     2.
PROGRAM  SETTLING RATE UNITS               =     2.
PROGRAM  ALGAE OXYGEN PROD                 =     0.
PROGRAM  EFFECTIVE BOD DUE TO ALGAE        =     0.15
ENDATA03
!Temperature Correction Constants
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901
!        ******** ********
ENDATA04
ENDATA05
ENDATA06
ENDATA07
!Reach Identification Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901
!         ***  -- ********************************----------**********----------
!          R#  ID   SITE NAME                          RKM        RKM    LENGTH
REACH ID    1  WA WAC1 TO WAC2                         16.8       14.4     0.1
```

```
REACH ID    2  WA WAC2 TO WAC3                          14.4        8.7     0.1
REACH ID    3  WA WAC3 TO WAC4                           8.7        7.8     0.1
REACH ID    4  WA WAC4 TO Elder Branch Creek             7.8        4.5     0.1
REACH ID    5  WA Elder Branch TO Little Sandy           4.5        2.5     0.1
REACH ID    6  WA Little Sandy TO WAC5                   2.5        0.0     0.1
ENDATA08
!Advective Hydraulic Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  -------*******-------*******-------*******-------*******
!                a      b       c     d      e        f
!               WIDTH  WIDTH   WIDTH DEPTH  DEPTH   DEPTH
!          R#   COEFF   EXP    CONST COEFF   EXP    CONST SLOPE MANNING
HYDR-1      1   0.00   0.20    3.658 0.00   0.30    0.195
HYDR-1      2   0.00   0.20    6.401 0.00   0.30    0.305
HYDR-1      3   0.00   0.20    2.438 0.00   0.30    0.177
HYDR-1      4   0.00   0.20    6.909 0.00   0.30    0.566
HYDR-1      5   0.00   0.20   11.380 0.00   0.30    0.955
HYDR-1      6   0.00   0.20   15.850 0.00   0.30    1.344
ENDATA09
!Dispersive Hydraulic Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  -----**********----------**********----------
!              TIDAL
!          R#  RANGE    a          b         c         d
ENDATA10
!Initial Conditions
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  --------********--------********--------********--------********
!          R#    TEMP  SALINITY   DO     NH3 N  NIT NIT  PHOS   CHL A   MACROPHYTES
INITIAL     1    17.20    0.00   3.00                           16.6
INITIAL     2    17.20    0.00   3.00                           16.7
INITIAL     3    17.20    0.00   3.00                            3.2
INITIAL     4    17.20    0.00   3.00                            3.2
INITIAL     5    17.20    0.00   3.00                            3.2
INITIAL     6    17.20    0.00   3.00                           32.9
ENDATA11
!Reaeration, Sediment Oxygen Demand and BOD Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8---------9
```

```
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -----******----- ******-------*******-------*******-------*******--------***
!               REA    KL                     BOD 1  BOD 1                BOD 2    BOD 2
!          R#   EQ    MIN                 SOD  DECAY  SETT                DECAY    SETT
COEF-1      1   11.0                    2.841 0.2757 0.20                0.0331   0.20
COEF-1      2   11.0                    2.379 0.2253 0.20                0.0314   0.20
COEF-1      3   11.0                    5.192 0.2705 0.20                0.0310   0.20
COEF-1      4   11.0                    0.905 0.2244 0.50                0.0306   0.50
COEF-1      5   11.0                    0.090 0.2244 0.50                0.0306   0.50
COEF-1      6   11.0                    0.090 0.2244 0.50                0.0306   0.50
ENDATA12
!Nitrogen and Phosphorus Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -------*******-------*******-------*******-------
!              NBOD     NBOD
!          R#  DECAY    SETT
COEF-2      1  0.0967   0.20
COEF-2      2  0.1436   0.20
COEF-2      3  0.1139   0.20
COEF-2      4  0.2147   0.50
COEF-2      5  0.2147   0.50
COEF-2      6  0.2147   0.50
ENDATA13
ENDATA14
!Coliform and Nonconservative Cofficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -------*******-------*******
ENDATA15
!Incremental Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  ---------*********---------*********---------*********
!          R#   OUTFLOW   INFLOW  TEMP     SALINITY CHLORIDE  COND
INCR-1      1     0.0000  0.0003  19.620      0.00     0
INCR-1      2     0.0000  0.0003  19.620      0.00     4.0      60
INCR-1      3     0.0000  0.1589  19.620      0.00     4.7      65
INCR-1      4     0.0000  0.1589  19.620      0.00     3.8      33
INCR-1      5     0.0000  0.1589  19.620      0.00     3.8      33
INCR-1      6     0.0000  0.1589  19.620      0.00     2.5
```

```
ENDATA16
!Incremental Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!          ***  ---------********---------********---------********
!           R#      DO     BOD 1     NBOD    NH3 N   NIT NIT    BOD 2
INCR-2       1     3.86   0.4324    0.0000                     0.5641
INCR-2       2     3.86   0.4324    0.0000                     0.5641
INCR-2       3     3.86   0.4324    0.0000                     0.5641
INCR-2       4     3.86   0.4324    0.0000                     0.5641
INCR-2       5     3.86   0.4324    0.0000                     0.5641
INCR-2       6     3.86   0.4324    0.0000                     0.5641
ENDATA17
!Incremental Data for Phosphorus, Chlorophyll, Coliform and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!          ***  ---------********---------********
!           R#   PHOSPH    CHL A   COLIFORM NONCONSERVATIVE
INCR-3       1
INCR-3       2
INCR-3       3
INCR-3       4
INCR-3       5
INCR-3       6
ENDATA18
!Nonpoint Source Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!          ***  ---------********---------********---------********
!           R#     BOD 1    NBOD   COLIFORM NONCONS    DO      BOD 2
NONPOINT     1     1.421    0.947                              1.515
NONPOINT     2    13.321    5.709                              7.612
NONPOINT     3    23.759   15.839                             46.637
NONPOINT     4    45.228   36.183                             72.365
NONPOINT     5    44.975   71.960                             89.950
NONPOINT     6    49.508  148.524                            153.025
ENDATA19
!Headwater Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ****  -------------------- *** --------********--------********--------
```

```
!         E#    NAME                      FLOW    TEMP  SALIN   CHLORIDE   COND
HDWTR-1     1  HEADWATER                 0.0230   17.20  0.00     5.3      73.9
ENDATA20
!Headwater Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ****  ---------********---------********---------********
!          E#      DO      BOD 1    NBOD    NH3 N    NIT NIT  BOD 2
HDWTR-2     1      8.66    0.560    0.0                       0.200
ENDATA21
!Headwater Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ****  ---------********---------********
!          E#  PHOSPHOR   CHL A   COLIFORM  NONCONSERVATIVE
HDWTR-3     1              16.6
ENDATA22
ENDATA23
!Wasteload Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ****  --------------------********---------********---------********
!          E#     NAME               FLOW      TEMP   SALINITY CHLORIDE  COND
WSTLD-1   123  ELDER BRANCH CREEK    0.0230    17.20     0.00      3.4    32.3
WSTLD-1   144  LITTLE SANDY CREEK    0.0230    17.20     0.00      2.7    22.0
ENDATA24
!Wasteload Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ****  ---------********-----********---------*****---------********
!          E#       DO    BOD 1         NBOD    NH3 N          NIT NIT  BOD 2
WSTLD-2   123      3.00   2.358         0.860                           3.530
WSTLD-2   144      3.00   0.676         0.386                           0.480
ENDATA25
!Wasteload Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ****  ---------********---------********
!          E#  PHOSPHOR  CHL A    COLIFORM NONCONSERVATIVE
WSTLD-3   123             2.3
WSTLD-3   144
```

```
ENDATA26
LOWER BC TEMPERATURE                        =  17.20
LOWER BC SALINITY                           =   0.00
LOWER BC CONSERVATIVE MATERIAL I            =   3.70
LOWER BC CONSERVATIVE MATERIAL II           =  33.10
LOWER BC DISSOLVED OXYGEN                   =   3.00
LOWER BC BOD1 BIOCHEMICAL OXYGEN DEMAND     =   6.126
LOWER BC BOD2 BIOCHEMICAL OXYGEN DEMAND     =   3.647
LOWER BC CHLOROPHYLL A                      =   32.9
LOWER BC NBOD                               =   2.275
ENDATA27
!Dam Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ****  ******************** ** ******** ******** ********
ENDATA28
ENDATA29
NUMBER OF PLOTS = 1
NUMBER OF REACHES IN PLOT 1 =   6                        INCREMENT =  0.1
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** **
PLOT RCH  1  2  3  4  5  6
ENDATA30
ENDATA31
```

WEST ANACOCO CREEK 110501 WINTER PROJECTION FOR A 3.0 DO MG/L STANDARD OUTPUT DATA SET

```
LA-QUAL Version 8.00
Louisiana Department of Environmental Quality

Input file is O:\Personal_Folders\Karen\Anacoco\2005\Input Files\3 DO Standard\WACwin30.txt
Output produced at 14:05 on 08/23/2007

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

CARD TYPE       CONTROL TITLES

TITLE01         WEST ANACOCO CREEK WATERSHED MODEL
TITLE02         WAC WINTER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD
CNTROL04  YES   METRIC UNITS
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 = CONDUCTIVITY               IN MG/L
MODOPT05  YES   DISSOLVED OXYGEN
MODOPT06  YES   BOD1 BIOCHEMICAL OXYGEN DEMAND
MODOPT06  YES   BOD2 BIOCHEMICAL OXYGEN DEMAND
MODOPT08  YES   NBOD OXYGEN DEMAND
MODOPT10   NO   PHOSPHORUS
MODOPT11   NO   CHLOROPHYLL A
MODOPT12   NO   MACROPHYTES
MODOPT13   NO   COLIFORM
ENDATA02

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

CARD TYPE       DESCRIPTION OF CONSTANT                       VALUE

PROGRAM         KL MINIMUM                        =         0.70000 meters/day
PROGRAM         INHIBITION CONTROL VALUE          =         3.00000 (inhibit all rates but SOD)
PROGRAM         K2 MAXIMUM                        =        25.00000 per day
PROGRAM         HYDRAULIC CALCULATION METHOD      =         2.00000 (widths and depths)
PROGRAM         SETTLING RATE UNITS               =         2.00000 (values entered as per day)
PROGRAM         ALGAE OXYGEN PROD                 =         0.00000 mg O/ug chl a/day
PROGRAM         EFFECTIVE BOD DUE TO ALGAE        =         0.15000 mg/L BOD per ug/L chl a
ENDATA03

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

 CARD TYPE     RATE CODE     THETA VALUE

ENDATA04

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

CARD TYPE       DESCRIPTION OF CONSTANT                       VALUE
```

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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

$$$ DATA TYPE 8 (REACH IDENTIFICATION DATA) $$$
                                                      BEGIN        END     ELEM    REACH     ELEMS   BEGIN    END
CARD TYPE  REACH  ID  NAME                            REACH       REACH   LENGTH   LENGTH    PER RCH   ELEM   ELEM
                                                         km          km       km       km               NUM    NUM

REACH ID      1   WA  WAC1 TO WAC2                     16.80  TO   14.40   0.1000     2.40      24       1     24
REACH ID      2   WA  WAC2 TO WAC3                     14.40  TO    8.70   0.1000     5.70      57      25     81
REACH ID      3   WA  WAC3 TO WAC4                      8.70  TO    7.80   0.1000     0.90       9      82     90
REACH ID      4   WA  WAC4 TO Elder Branch Creek        7.80  TO    4.50   0.1000     3.30      33      91    123
REACH ID      5   WA  Elder Branch TO Little Sandy      4.50  TO    2.50   0.1000     2.00      20     124    143
REACH ID      6   WA  Little Sandy TO WAC5              2.50  TO    0.00   0.1000     2.50      25     144    168
ENDATA08

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

CARD TYPE  REACH  ID       WIDTH       WIDTH       WIDTH       DEPTH       DEPTH       DEPTH      SLOPE    MANNINGS
                            "A"         "B"         "C"         "D"         "E"         "F"                  "N"

HYDR-1        1   WA       0.000       0.200       3.658       0.000       0.300       0.195     0.00000   0.000
HYDR-1        2   WA       0.000       0.200       6.401       0.000       0.300       0.305     0.00000   0.000
HYDR-1        3   WA       0.000       0.200       2.438       0.000       0.300       0.177     0.00000   0.000
HYDR-1        4   WA       0.000       0.200       6.909       0.000       0.300       0.566     0.00000   0.000
HYDR-1        5   WA       0.000       0.200      11.380       0.000       0.300       0.955     0.00000   0.000
HYDR-1        6   WA       0.000       0.200      15.850       0.000       0.300       1.344     0.00000   0.000
ENDATA09

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

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

ENDATA10

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

CARD TYPE      REACH  ID        TEMP     SALIN        DO       NH3     NO3+2      PHOS     CHL A     MACRO

INITIAL            1   WA       17.20      0.00      3.00      0.00      0.00      0.00     16.60      0.00
INITIAL            2   WA       17.20      0.00      3.00      0.00      0.00      0.00     16.70      0.00
INITIAL            3   WA       17.20      0.00      3.00      0.00      0.00      0.00      3.20      0.00
INITIAL            4   WA       17.20      0.00      3.00      0.00      0.00      0.00      3.20      0.00
INITIAL            5   WA       17.20      0.00      3.00      0.00      0.00      0.00      3.20      0.00
INITIAL            6   WA       17.20      0.00      3.00      0.00      0.00      0.00     32.90      0.00
ENDATA11
```

```
$$$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) $$$
                                                                                BOD     ANAER                          BOD2     ANAER
CARD     RCH  RCH  K2                  K2        K2        K2    BKGRND      BOD       BOD      CONV     BOD2      BOD2      BOD2      CONV     BOD2
TYPE     NUM   ID  OPT                 "A"       "B"       "C"       SOD    DECAY      SETT    TO SOD    DECAY     DECAY      SETT    TO SOD    DECAY
                                                                  g/m²/d  per day       m/d             per day   per day       m/d             per day

COEF-1     1   WA  11 TEXAS          0.000     0.000     0.000     2.841    0.276     0.200     0.000     0.000     0.033     0.200     0.000     0.000
COEF-1     2   WA  11 TEXAS          0.000     0.000     0.000     2.379    0.225     0.200     0.000     0.000     0.031     0.200     0.000     0.000
COEF-1     3   WA  11 TEXAS          0.000     0.000     0.000     5.192    0.271     0.200     0.000     0.000     0.031     0.200     0.000     0.000
COEF-1     4   WA  11 TEXAS          0.000     0.000     0.000     0.905    0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
COEF-1     5   WA  11 TEXAS          0.000     0.000     0.000     0.090    0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
COEF-1     6   WA  11 TEXAS          0.000     0.000     0.000     0.090    0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
ENDATA12

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

CARD TYPE      REACH  ID        NBOD      NBOD   ORGN CONV       NH3       NH3      PHOS     DENIT
                                DECA      SETT  TO NH3 SRCE     DECA      SRCE      SRCE      RATE

COEF-2           1   WA       0.097     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2           2   WA       0.144     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2           3   WA       0.114     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2           4   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
COEF-2           5   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
COEF-2           6   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
ENDATA13

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

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

ENDATA14

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

CARD TYPE      REACH  ID    COLIFORM       NCM       NCM    NCM CONV
                            DIE-OFF     DECAY      SETT     TO SOD

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   WA       0.00000     0.00030     19.62      0.00      0.00      0.00   0.00013   0.00000
INCR-1           2   WA       0.00000     0.00030     19.62      0.00      4.00     60.00   0.00005   0.00000
INCR-1           3   WA       0.00000     0.15890     19.62      0.00      4.70     65.00   0.17656   0.00000
INCR-1           4   WA       0.00000     0.15890     19.62      0.00      3.80     33.00   0.04815   0.00000
INCR-1           5   WA       0.00000     0.15890     19.62      0.00      3.80     33.00   0.07945   0.00000
INCR-1           6   WA       0.00000     0.15890     19.62      0.00      2.50      0.00   0.06356   0.00000
ENDATA16

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

CARD TYPE      REACH  ID          DO       BOD      NBOD                          BOD#2

INCR-2           1   WA        3.86      0.43      0.00      0.00      0.00      0.56
```

```
INCR-2            2   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            3   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            4   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            5   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2            6   WA        3.86      0.43      0.00      0.00      0.00      0.56
ENDATA17

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

 CARD TYPE      REACH  ID        PHOS     CHL A      COLI       NCM

INCR-3            1   WA        0.00      0.00      0.00      0.00
INCR-3            2   WA        0.00      0.00      0.00      0.00
INCR-3            3   WA        0.00      0.00      0.00      0.00
INCR-3            4   WA        0.00      0.00      0.00      0.00
INCR-3            5   WA        0.00      0.00      0.00      0.00
INCR-3            6   WA        0.00      0.00      0.00      0.00
ENDATA18

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

CARD TYPE      REACH  ID       BOD#1     NBOD       COLI       NCM        DO     BOD#2

NONPOINT          1   WA        1.42      0.95      0.00      0.00      0.00      1.51
NONPOINT          2   WA       13.32      5.71      0.00      0.00      0.00      7.61
NONPOINT          3   WA       23.76     15.84      0.00      0.00      0.00     46.64
NONPOINT          4   WA       45.23     36.18      0.00      0.00      0.00     72.36
NONPOINT          5   WA       44.97     71.96      0.00      0.00      0.00     89.95
NONPOINT          6   WA       49.51    148.52      0.00      0.00      0.00    153.02
ENDATA19

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

CARD TYPE     ELEMENT   NAME                  UNIT     FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                        m³/s      cfs   deg C      ppt      MG/L      MG/L

HDWTR-1           1     HEADWATER               0   0.02300    0.812   17.20     0.00     5.300    73.900
ENDATA20

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

CARD TYPE     ELEMENT   NAME                        DO     BOD#1     NBOD                          BOD#2
                                                   mg/L      mg/L      mg/L      mg/L      mg/L      mg/L

HDWTR-2           1     HEADWATER                 8.66      0.56      0.00      0.00      0.00      0.20
ENDATA21

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

CARD TYPE     ELEMENT   NAME                       PHOS     CHL A      COLI       NCM
                                                   mg/L      mg/L      mg/L      mg/L

HDWTR-3           1     HEADWATER                  0.00     16.60      0.00      0.00
ENDATA22

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

CARD TYPE   JUNCTION   UPSTRM     RIVER     NAME
             ELEMENT  ELEMENT     KILOM
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ENDATA23

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

CARD TYPE  ELEMENT    RKILO  NAME                     FLOW       FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                      m³/s        cfs      MGD   deg C      ppt      MG/L      MG/L

WSTLD-1      123       4.60  ELDER BRANCH CREEK     0.02300    0.81215    0.525   17.20     0.00     3.400    32.300
WSTLD-1      144       2.50  LITTLE SANDY CREEK     0.02300    0.81215    0.525   17.20     0.00     2.700    22.000
ENDATA24

$$$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) $$$
                                                                          % BOD                            %
CARD TYPE     ELEMENT   NAME                          DO       BOD      RMVL     NBOD                NITRIF                BOD#2
                                                     mg/L      mg/L                mg/L      mg/L                 mg/L      mg/L

WSTLD-2         123     ELDER BRANCH CREEK          3.00      2.36      0.00      0.86      0.00      0.00      0.00      3.53
WSTLD-2         144     LITTLE SANDY CREEK          3.00      0.68      0.00      0.39      0.00      0.00      0.00      0.48
ENDATA25

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

CARD TYPE     ELEMENT   NAME                        PHOS     CHL A      COLI       NCM
                                                    mg/L      mg/L      mg/L      mg/L

WSTLD-3         123     ELDER BRANCH CREEK          0.00      2.30      0.00      0.00
WSTLD-3         144     LITTLE SANDY CREEK          0.00      0.00      0.00      0.00
ENDATA26

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

CARD TYPE    CONSTITUENT                    CONCENTRATION

LOWER BC     TEMPERATURE                        =     17.200     deg C
LOWER BC     SALINITY                           =      0.000     ppt
LOWER BC     CONSERVATIVE MATERIAL I            =      3.700     MG/L
LOWER BC     CONSERVATIVE MATERIAL II           =     33.100     MG/L
LOWER BC     DISSOLVED OXYGEN                   =      3.000     mg/L
LOWER BC     BOD1 BIOCHEMICAL OXYGEN DEMAND     =      6.126     mg/L
LOWER BC     BOD2 BIOCHEMICAL OXYGEN DEMAND     =      3.647     mg/L
LOWER BC     CHLOROPHYLL A                      =     32.900     µg/L
LOWER BC     NBOD                               =      2.275     mg/L
ENDATA27

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

CARD TYPE     ELEMENT   NAME                 EQN      "A"       "B"       "H"

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

$$$ DATA TYPE 30 (PLOT CONTROL CARDS) $$$
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NUMBER OF PLOTS =  1
NUMBER OF REACHES IN PLOT 1 =   6
PLOT RCH  1  2  3  4  5  6
ENDATA30

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


ENDATA31



     .....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 11


FINAL REPORT    HEADWATER                                       WEST ANACOCO CREEK WATERSHED MODEL
REACH NO.  1    WAC1 TO WAC2                                    WAC WINTER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD
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********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
1	HDWTR	0.02300	17.20	0.00	5.30	73.90	8.66	0.00	0.20	0.56	0.20	0.00	0.00	0.00	0.00	16.60	0.00	0.00
EACH	INCR	0.00001	19.62	0.00	0.00	0.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/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	MEAN VELO m/s
1	16.80	16.70	0.02301	0.0	0.03226	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
2	16.70	16.60	0.02303	0.0	0.03228	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
3	16.60	16.50	0.02304	0.0	0.03230	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
4	16.50	16.40	0.02305	0.0	0.03231	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
5	16.40	16.30	0.02306	0.0	0.03233	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
6	16.30	16.20	0.02308	0.0	0.03235	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
7	16.20	16.10	0.02309	0.0	0.03237	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
8	16.10	16.00	0.02310	0.0	0.03238	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
9	16.00	15.90	0.02311	0.0	0.03240	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
10	15.90	15.80	0.02313	0.0	0.03242	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
11	15.80	15.70	0.02314	0.0	0.03244	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
12	15.70	15.60	0.02315	0.0	0.03245	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
13	15.60	15.50	0.02316	0.0	0.03247	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
14	15.50	15.40	0.02318	0.0	0.03249	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.032
15	15.40	15.30	0.02319	0.0	0.03251	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
16	15.30	15.20	0.02320	0.0	0.03252	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
17	15.20	15.10	0.02321	0.0	0.03254	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
18	15.10	15.00	0.02323	0.0	0.03256	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
19	15.00	14.90	0.02324	0.0	0.03258	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033

20	14.90	14.80	0.02325	0.0	0.03259	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
21	14.80	14.70	0.02326	0.0	0.03261	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
22	14.70	14.60	0.02328	0.0	0.03263	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
23	14.60	14.50	0.02329	0.0	0.03265	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
24	14.50	14.40	0.02330	0.0	0.03266	0.04	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.033
TOT						0.86			1711.94	8779.20					
AVG					0.0325		0.19	3.66			0.71				
CUM						0.86									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
1	16.700	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	16.600	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	16.500	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	16.400	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	16.300	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	16.200	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	16.100	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	16.000	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	15.900	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	15.800	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	15.700	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	15.600	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	15.500	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	15.400	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	15.300	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	15.200	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	15.100	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	15.000	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	14.900	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	14.800	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	14.700	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	14.600	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	14.500	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	14.400	9.62	3.39	0.24	0.19	0.00	0.03	0.19	0.00	2.38	2.38	2.38	0.07	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			3.59	0.28	0.20	0.00	0.03	0.20	0.00	2.84			0.10	0.20	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
1	16.700	17.20	0.00	5.30	73.86	8.37	0.03	0.23	2.52	0.23	0.02	0.00	0.00	0.00	0.00	16.60	0.00	0.	0.00
2	16.600	17.20	0.00	5.29	73.82	8.11	0.06	0.26	2.55	0.26	0.04	0.00	0.00	0.00	0.00	16.61	0.00	0.	0.00
3	16.500	17.20	0.00	5.29	73.78	7.88	0.09	0.29	2.58	0.29	0.06	0.00	0.00	0.00	0.00	16.61	0.00	0.	0.00
4	16.400	17.20	0.00	5.29	73.74	7.68	0.12	0.32	2.61	0.32	0.08	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
5	16.300	17.20	0.00	5.29	73.70	7.50	0.14	0.35	2.64	0.35	0.10	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
6	16.200	17.20	0.00	5.28	73.66	7.33	0.17	0.38	2.66	0.38	0.11	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
7	16.100	17.20	0.00	5.28	73.62	7.19	0.20	0.41	2.69	0.41	0.13	0.00	0.00	0.00	0.00	16.63	0.00	0.	0.00

8	16.000	17.20	0.00	5.28	73.58	7.06	0.22	0.43	2.72	0.43	0.15	0.00	0.00	0.00	0.00	16.63	0.00	0.	0.00
9	15.900	17.20	0.00	5.27	73.54	6.94	0.25	0.46	2.75	0.46	0.17	0.00	0.00	0.00	0.00	16.64	0.00	0.	0.00
10	15.800	17.20	0.00	5.27	73.50	6.84	0.27	0.49	2.77	0.49	0.19	0.00	0.00	0.00	0.00	16.64	0.00	0.	0.00
11	15.700	17.20	0.00	5.27	73.46	6.74	0.30	0.52	2.80	0.52	0.21	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
12	15.600	17.20	0.00	5.27	73.42	6.66	0.32	0.54	2.82	0.54	0.22	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
13	15.500	17.20	0.00	5.26	73.38	6.59	0.35	0.57	2.85	0.57	0.24	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
14	15.400	17.20	0.00	5.26	73.34	6.52	0.37	0.60	2.87	0.60	0.26	0.00	0.00	0.00	0.00	16.66	0.00	0.	0.00
15	15.300	17.20	0.00	5.26	73.30	6.46	0.40	0.63	2.90	0.63	0.27	0.00	0.00	0.00	0.00	16.66	0.00	0.	0.00
16	15.200	17.20	0.00	5.25	73.26	6.41	0.42	0.65	2.92	0.65	0.29	0.00	0.00	0.00	0.00	16.67	0.00	0.	0.00
17	15.100	17.20	0.00	5.25	73.22	6.36	0.44	0.68	2.94	0.68	0.31	0.00	0.00	0.00	0.00	16.67	0.00	0.	0.00
18	15.000	17.20	0.00	5.25	73.18	6.32	0.46	0.70	2.97	0.70	0.32	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
19	14.900	17.20	0.00	5.25	73.14	6.28	0.49	0.73	2.99	0.73	0.34	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
20	14.800	17.20	0.00	5.24	73.11	6.25	0.51	0.76	3.01	0.76	0.36	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
21	14.700	17.20	0.00	5.24	73.07	6.22	0.53	0.78	3.03	0.78	0.37	0.00	0.00	0.00	0.00	16.69	0.00	0.	0.00
22	14.600	17.20	0.00	5.24	73.03	6.19	0.55	0.81	3.05	0.81	0.39	0.00	0.00	0.00	0.00	16.69	0.00	0.	0.00
23	14.500	17.20	0.00	5.23	72.99	6.16	0.57	0.83	3.08	0.83	0.40	0.00	0.00	0.00	0.00	16.70	0.00	0.	0.00
24	14.400	17.20	0.00	5.23	72.95	6.14	0.59	0.86	3.10	0.86	0.42	0.00	0.00	0.00	0.00	16.70	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 2 WAC2 TO WAC3 WAC WINTER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
25	UPR RCH	0.02330	17.20	0.00	5.23	72.95	6.14	0.59	0.86	3.10	0.86	0.42	0.00	0.00	0.00	16.70	0.00	0.00
EACH	INCR	0.00001	19.62	0.00	4.00	60.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	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	MEAN VELO m/s
25	14.40	14.30	0.02331	0.0	0.01194	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
26	14.30	14.20	0.02331	0.0	0.01194	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
27	14.20	14.10	0.02332	0.0	0.01194	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
28	14.10	14.00	0.02332	0.0	0.01195	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
29	14.00	13.90	0.02333	0.0	0.01195	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
30	13.90	13.80	0.02333	0.0	0.01195	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
31	13.80	13.70	0.02334	0.0	0.01195	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
32	13.70	13.60	0.02334	0.0	0.01196	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
33	13.60	13.50	0.02335	0.0	0.01196	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
34	13.50	13.40	0.02335	0.0	0.01196	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
35	13.40	13.30	0.02336	0.0	0.01196	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
36	13.30	13.20	0.02336	0.0	0.01197	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
37	13.20	13.10	0.02337	0.0	0.01197	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
38	13.10	13.00	0.02337	0.0	0.01197	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
39	13.00	12.90	0.02338	0.0	0.01198	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
40	12.90	12.80	0.02338	0.0	0.01198	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
41	12.80	12.70	0.02339	0.0	0.01198	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
42	12.70	12.60	0.02339	0.0	0.01198	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
43	12.60	12.50	0.02340	0.0	0.01199	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
44	12.50	12.40	0.02341	0.0	0.01199	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
45	12.40	12.30	0.02341	0.0	0.01199	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012

46	12.30	12.20	0.02342	0.0	0.01199	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
47	12.20	12.10	0.02342	0.0	0.01200	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
48	12.10	12.00	0.02343	0.0	0.01200	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
49	12.00	11.90	0.02343	0.0	0.01200	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
50	11.90	11.80	0.02344	0.0	0.01200	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
51	11.80	11.70	0.02344	0.0	0.01201	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
52	11.70	11.60	0.02345	0.0	0.01201	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
53	11.60	11.50	0.02345	0.0	0.01201	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
54	11.50	11.40	0.02346	0.0	0.01202	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
55	11.40	11.30	0.02346	0.0	0.01202	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
56	11.30	11.20	0.02347	0.0	0.01202	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
57	11.20	11.10	0.02347	0.0	0.01202	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
58	11.10	11.00	0.02348	0.0	0.01203	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
59	11.00	10.90	0.02348	0.0	0.01203	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
60	10.90	10.80	0.02349	0.0	0.01203	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
61	10.80	10.70	0.02349	0.0	0.01203	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
62	10.70	10.60	0.02350	0.0	0.01204	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
63	10.60	10.50	0.02351	0.0	0.01204	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
64	10.50	10.40	0.02351	0.0	0.01204	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
65	10.40	10.30	0.02352	0.0	0.01205	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
66	10.30	10.20	0.02352	0.0	0.01205	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
67	10.20	10.10	0.02353	0.0	0.01205	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
68	10.10	10.00	0.02353	0.0	0.01205	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
69	10.00	9.90	0.02354	0.0	0.01206	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
70	9.90	9.80	0.02354	0.0	0.01206	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
71	9.80	9.70	0.02355	0.0	0.01206	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
72	9.70	9.60	0.02355	0.0	0.01206	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
73	9.60	9.50	0.02356	0.0	0.01207	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
74	9.50	9.40	0.02356	0.0	0.01207	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
75	9.40	9.30	0.02357	0.0	0.01207	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
76	9.30	9.20	0.02357	0.0	0.01207	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
77	9.20	9.10	0.02358	0.0	0.01208	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
78	9.10	9.00	0.02358	0.0	0.01208	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
79	9.00	8.90	0.02359	0.0	0.01208	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
80	8.90	8.80	0.02359	0.0	0.01209	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
81	8.80	8.70	0.02360	0.0	0.01209	0.10	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.012
TOT						5.49			11128.14	36485.70					
AVG					0.0120		0.31	6.40			1.95				
CUM						6.35									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
25	14.300	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	14.200	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	14.100	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	14.000	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	13.900	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	13.800	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	13.700	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	13.600	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	13.500	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	13.400	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	13.300	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

36	13.200	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	13.100	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	13.000	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	12.900	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	12.800	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	12.700	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	12.600	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	12.500	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	12.400	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	12.300	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	12.200	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	12.100	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	12.000	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	11.900	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	11.800	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	11.700	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	11.600	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	11.500	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	11.400	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	11.300	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	11.200	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	11.100	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	11.000	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	10.900	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	10.800	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	10.700	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	10.600	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	10.500	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	10.400	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	10.300	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	10.200	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	10.100	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	10.000	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	9.900	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	9.800	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	9.700	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	9.600	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	9.500	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	9.400	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	9.300	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	9.200	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	9.100	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	9.000	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	8.900	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	8.800	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81	8.700	9.62	2.17	0.20	0.19	0.00	0.03	0.19	0.00	1.99	1.99	1.99	0.11	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			2.30	0.23	0.20	0.00	0.03	0.20	0.00	2.38			0.14	0.20	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
25	14.300	17.20	0.00	5.23	72.95	6.20	0.68	0.90	3.15	0.90	0.46	0.00	0.00	0.00	0.00	16.46	0.00	0.	0.00
26	14.200	17.20	0.00	5.23	72.94	6.26	0.77	0.95	3.20	0.95	0.49	0.00	0.00	0.00	0.00	16.23	0.00	0.	0.00

27	14.100	17.20	0.00	5.23	72.94	6.30	0.85	0.99	3.25	0.99	0.53	0.00	0.00	0.00	0.00	15.99	0.00	0.	0.00
28	14.000	17.20	0.00	5.23	72.94	6.33	0.93	1.04	3.30	1.04	0.56	0.00	0.00	0.00	0.00	15.75	0.00	0.	0.00
29	13.900	17.20	0.00	5.23	72.93	6.35	1.01	1.08	3.34	1.08	0.59	0.00	0.00	0.00	0.00	15.52	0.00	0.	0.00
30	13.800	17.20	0.00	5.23	72.93	6.37	1.09	1.13	3.38	1.13	0.62	0.00	0.00	0.00	0.00	15.28	0.00	0.	0.00
31	13.700	17.20	0.00	5.23	72.93	6.38	1.16	1.17	3.42	1.17	0.65	0.00	0.00	0.00	0.00	15.04	0.00	0.	0.00
32	13.600	17.20	0.00	5.23	72.93	6.39	1.23	1.21	3.45	1.21	0.68	0.00	0.00	0.00	0.00	14.81	0.00	0.	0.00
33	13.500	17.20	0.00	5.23	72.92	6.40	1.30	1.25	3.48	1.25	0.71	0.00	0.00	0.00	0.00	14.57	0.00	0.	0.00
34	13.400	17.20	0.00	5.23	72.92	6.41	1.36	1.29	3.51	1.29	0.74	0.00	0.00	0.00	0.00	14.33	0.00	0.	0.00
35	13.300	17.20	0.00	5.23	72.92	6.41	1.42	1.33	3.54	1.33	0.77	0.00	0.00	0.00	0.00	14.09	0.00	0.	0.00
36	13.200	17.20	0.00	5.23	72.91	6.41	1.49	1.36	3.56	1.36	0.79	0.00	0.00	0.00	0.00	13.86	0.00	0.	0.00
37	13.100	17.20	0.00	5.23	72.91	6.41	1.54	1.40	3.59	1.40	0.82	0.00	0.00	0.00	0.00	13.62	0.00	0.	0.00
38	13.000	17.20	0.00	5.23	72.91	6.41	1.60	1.44	3.61	1.44	0.85	0.00	0.00	0.00	0.00	13.38	0.00	0.	0.00
39	12.900	17.20	0.00	5.23	72.90	6.40	1.65	1.47	3.63	1.47	0.87	0.00	0.00	0.00	0.00	13.15	0.00	0.	0.00
40	12.800	17.20	0.00	5.23	72.90	6.40	1.70	1.51	3.64	1.51	0.89	0.00	0.00	0.00	0.00	12.91	0.00	0.	0.00
41	12.700	17.20	0.00	5.23	72.90	6.40	1.75	1.54	3.66	1.54	0.92	0.00	0.00	0.00	0.00	12.67	0.00	0.	0.00
42	12.600	17.20	0.00	5.23	72.90	6.39	1.80	1.57	3.67	1.57	0.94	0.00	0.00	0.00	0.00	12.44	0.00	0.	0.00
43	12.500	17.20	0.00	5.23	72.89	6.39	1.85	1.61	3.68	1.61	0.96	0.00	0.00	0.00	0.00	12.20	0.00	0.	0.00
44	12.400	17.20	0.00	5.23	72.89	6.38	1.89	1.64	3.69	1.64	0.98	0.00	0.00	0.00	0.00	11.96	0.00	0.	0.00
45	12.300	17.20	0.00	5.23	72.89	6.38	1.94	1.67	3.70	1.67	1.00	0.00	0.00	0.00	0.00	11.73	0.00	0.	0.00
46	12.200	17.20	0.00	5.23	72.88	6.37	1.98	1.70	3.70	1.70	1.02	0.00	0.00	0.00	0.00	11.49	0.00	0.	0.00
47	12.100	17.20	0.00	5.23	72.88	6.37	2.02	1.73	3.71	1.73	1.04	0.00	0.00	0.00	0.00	11.25	0.00	0.	0.00
48	12.000	17.20	0.00	5.23	72.88	6.36	2.06	1.76	3.71	1.76	1.06	0.00	0.00	0.00	0.00	11.02	0.00	0.	0.00
49	11.900	17.20	0.00	5.22	72.88	6.36	2.10	1.79	3.71	1.79	1.08	0.00	0.00	0.00	0.00	10.78	0.00	0.	0.00
50	11.800	17.20	0.00	5.22	72.87	6.35	2.13	1.82	3.71	1.82	1.10	0.00	0.00	0.00	0.00	10.54	0.00	0.	0.00
51	11.700	17.20	0.00	5.22	72.87	6.35	2.17	1.84	3.71	1.84	1.11	0.00	0.00	0.00	0.00	10.31	0.00	0.	0.00
52	11.600	17.20	0.00	5.22	72.87	6.35	2.20	1.87	3.71	1.87	1.13	0.00	0.00	0.00	0.00	10.07	0.00	0.	0.00
53	11.500	17.20	0.00	5.22	72.86	6.34	2.23	1.90	3.71	1.90	1.15	0.00	0.00	0.00	0.00	9.83	0.00	0.	0.00
54	11.400	17.20	0.00	5.22	72.86	6.34	2.26	1.92	3.70	1.92	1.16	0.00	0.00	0.00	0.00	9.59	0.00	0.	0.00
55	11.300	17.20	0.00	5.22	72.86	6.33	2.29	1.95	3.70	1.95	1.18	0.00	0.00	0.00	0.00	9.36	0.00	0.	0.00
56	11.200	17.20	0.00	5.22	72.86	6.33	2.32	1.97	3.69	1.97	1.19	0.00	0.00	0.00	0.00	9.12	0.00	0.	0.00
57	11.100	17.20	0.00	5.22	72.85	6.32	2.35	2.00	3.68	2.00	1.21	0.00	0.00	0.00	0.00	8.88	0.00	0.	0.00
58	11.000	17.20	0.00	5.22	72.85	6.32	2.38	2.02	3.67	2.02	1.22	0.00	0.00	0.00	0.00	8.65	0.00	0.	0.00
59	10.900	17.20	0.00	5.22	72.85	6.32	2.40	2.04	3.66	2.04	1.23	0.00	0.00	0.00	0.00	8.41	0.00	0.	0.00
60	10.800	17.20	0.00	5.22	72.84	6.31	2.43	2.07	3.65	2.07	1.25	0.00	0.00	0.00	0.00	8.17	0.00	0.	0.00
61	10.700	17.20	0.00	5.22	72.84	6.31	2.45	2.09	3.64	2.09	1.26	0.00	0.00	0.00	0.00	7.94	0.00	0.	0.00
62	10.600	17.20	0.00	5.22	72.84	6.30	2.47	2.11	3.63	2.11	1.27	0.00	0.00	0.00	0.00	7.70	0.00	0.	0.00
63	10.500	17.20	0.00	5.22	72.84	6.30	2.49	2.13	3.61	2.13	1.28	0.00	0.00	0.00	0.00	7.46	0.00	0.	0.00
64	10.400	17.20	0.00	5.22	72.83	6.30	2.52	2.15	3.60	2.15	1.30	0.00	0.00	0.00	0.00	7.23	0.00	0.	0.00
65	10.300	17.20	0.00	5.22	72.83	6.29	2.54	2.17	3.59	2.17	1.31	0.00	0.00	0.00	0.00	6.99	0.00	0.	0.00
66	10.200	17.20	0.00	5.22	72.83	6.29	2.56	2.19	3.57	2.19	1.32	0.00	0.00	0.00	0.00	6.75	0.00	0.	0.00
67	10.100	17.20	0.00	5.22	72.82	6.29	2.58	2.21	3.55	2.21	1.33	0.00	0.00	0.00	0.00	6.52	0.00	0.	0.00
68	10.000	17.20	0.00	5.22	72.82	6.29	2.59	2.23	3.54	2.23	1.34	0.00	0.00	0.00	0.00	6.28	0.00	0.	0.00
69	9.900	17.20	0.00	5.22	72.82	6.28	2.61	2.25	3.52	2.25	1.35	0.00	0.00	0.00	0.00	6.04	0.00	0.	0.00
70	9.800	17.20	0.00	5.22	72.82	6.28	2.63	2.27	3.50	2.27	1.36	0.00	0.00	0.00	0.00	5.81	0.00	0.	0.00
71	9.700	17.20	0.00	5.22	72.81	6.28	2.65	2.29	3.48	2.29	1.37	0.00	0.00	0.00	0.00	5.57	0.00	0.	0.00
72	9.600	17.20	0.00	5.22	72.81	6.27	2.66	2.31	3.46	2.31	1.38	0.00	0.00	0.00	0.00	5.33	0.00	0.	0.00
73	9.500	17.20	0.00	5.22	72.81	6.27	2.68	2.32	3.44	2.32	1.39	0.00	0.00	0.00	0.00	5.09	0.00	0.	0.00
74	9.400	17.20	0.00	5.22	72.80	6.27	2.69	2.34	3.42	2.34	1.40	0.00	0.00	0.00	0.00	4.86	0.00	0.	0.00
75	9.300	17.20	0.00	5.22	72.80	6.27	2.71	2.36	3.40	2.36	1.41	0.00	0.00	0.00	0.00	4.62	0.00	0.	0.00
76	9.200	17.20	0.00	5.22	72.80	6.27	2.72	2.37	3.38	2.37	1.42	0.00	0.00	0.00	0.00	4.38	0.00	0.	0.00
77	9.100	17.20	0.00	5.22	72.80	6.26	2.73	2.39	3.36	2.39	1.42	0.00	0.00	0.00	0.00	4.15	0.00	0.	0.00
78	9.000	17.20	0.00	5.22	72.79	6.26	2.75	2.40	3.33	2.40	1.43	0.00	0.00	0.00	0.00	3.91	0.00	0.	0.00
79	8.900	17.20	0.00	5.22	72.79	6.26	2.76	2.42	3.31	2.42	1.44	0.00	0.00	0.00	0.00	3.67	0.00	0.	0.00
80	8.800	17.20	0.00	5.22	72.79	6.26	2.77	2.44	3.29	2.44	1.45	0.00	0.00	0.00	0.00	3.44	0.00	0.	0.00
81	8.700	17.20	0.00	5.22	72.78	6.26	2.78	2.45	3.26	2.45	1.45	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
82	UPR RCH	0.02360	17.20	0.00	5.22	72.78	6.26	2.78	2.45	3.26	2.45	1.45	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.01766	19.62	0.00	4.70	65.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/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	MEAN VELO m/s
82	8.70	8.60	0.04126	0.0	0.09560	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.096
83	8.60	8.50	0.05891	0.0	0.13652	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.137
84	8.50	8.40	0.07657	0.0	0.17743	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.177
85	8.40	8.30	0.09422	0.0	0.21835	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.218
86	8.30	8.20	0.11188	0.0	0.25926	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.259
87	8.20	8.10	0.12953	0.0	0.30018	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.300
88	8.10	8.00	0.14719	0.0	0.34109	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.341
89	8.00	7.90	0.16484	0.0	0.38200	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.382
90	7.90	7.80	0.18250	0.0	0.42292	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.423
TOT						0.05			388.37	2194.20					
AVG					0.2088		0.18	2.44			0.43				
CUM						6.40									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
82	8.600	9.62	4.50	0.24	0.19	0.00	0.03	0.19	0.00	4.35	4.35	4.35	0.09	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83	8.500	9.62	4.96	0.24	0.19	0.00	0.03	0.19	0.00	4.35	4.35	4.35	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	8.400	9.62	5.33	0.24	0.19	0.00	0.03	0.19	0.00	4.35	4.35	4.35	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	8.300	9.62	5.64	0.24	0.19	0.00	0.03	0.19	0.00	4.35	4.35	4.35	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	8.200	9.62	5.91	0.24	0.19	0.00	0.03	0.19	0.00	4.35	4.35	4.35	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	8.100	9.62	6.15	0.24	0.19	0.00	0.03	0.19	0.00	4.35	4.35	4.35	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	8.000	9.62	6.37	0.24	0.19	0.00	0.03	0.19	0.00	4.35	4.35	4.35	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	7.900	9.62	6.57	0.24	0.19	0.00	0.03	0.19	0.00	4.35	4.35	4.35	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	7.800	9.62	6.75	0.24	0.19	0.00	0.03	0.19	0.00	4.35	4.35	4.35	0.08	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			6.14	0.27	0.20	0.00	0.03	0.20	0.00	5.19			0.11	0.20	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
82	8.600	17.20	0.00	5.00	69.45	5.17	2.50	3.09	2.98	3.09	1.32	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

83	8.500	17.20	0.00	4.91	68.12	4.76	2.39	3.34	2.87	3.34	1.27	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
84	8.400	17.20	0.00	4.86	67.40	4.57	2.33	3.48	2.81	3.48	1.24	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
85	8.300	17.20	0.00	4.83	66.95	4.45	2.30	3.57	2.78	3.57	1.22	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
86	8.200	17.20	0.00	4.81	66.64	4.39	2.27	3.63	2.75	3.63	1.21	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
87	8.100	17.20	0.00	4.79	66.42	4.34	2.25	3.67	2.73	3.67	1.20	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
88	8.000	17.20	0.00	4.78	66.25	4.31	2.24	3.70	2.72	3.70	1.19	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
89	7.900	17.20	0.00	4.77	66.11	4.29	2.23	3.73	2.71	3.73	1.19	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
90	7.800	17.20	0.00	4.77	66.01	4.28	2.22	3.75	2.70	3.75	1.18	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 4 WAC4 TO Elder Branch Creek WAC WINTER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
91	UPR RCH	0.18250	17.20	0.00	4.77	66.01	4.28	2.22	3.75	2.70	3.75	1.18	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.00482	19.62	0.00	3.80	33.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	
123	WSTLD	0.02300	17.20	0.00	3.40	32.30	3.00	2.36	3.53	2.36	3.53	0.86	0.00	0.00	0.00	2.30	0.00	0.00

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

ELEM NO.	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	MEAN VELO m/s
91	7.80	7.70	0.18732	0.0	0.04790	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.048
92	7.70	7.60	0.19213	0.0	0.04913	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.049
93	7.60	7.50	0.19695	0.0	0.05036	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.050
94	7.50	7.40	0.20176	0.0	0.05159	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.052
95	7.40	7.30	0.20658	0.0	0.05283	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.053
96	7.30	7.20	0.21139	0.0	0.05406	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.054
97	7.20	7.10	0.21621	0.0	0.05529	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.055
98	7.10	7.00	0.22102	0.0	0.05652	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.057
99	7.00	6.90	0.22584	0.0	0.05775	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.058
100	6.90	6.80	0.23065	0.0	0.05898	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.059
101	6.80	6.70	0.23547	0.0	0.06021	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.060
102	6.70	6.60	0.24028	0.0	0.06145	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.061
103	6.60	6.50	0.24510	0.0	0.06268	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.063
104	6.50	6.40	0.24991	0.0	0.06391	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.064
105	6.40	6.30	0.25473	0.0	0.06514	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.065
106	6.30	6.20	0.25954	0.0	0.06637	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.066
107	6.20	6.10	0.26436	0.0	0.06760	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.068
108	6.10	6.00	0.26917	0.0	0.06883	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.069
109	6.00	5.90	0.27399	0.0	0.07006	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.070
110	5.90	5.80	0.27880	0.0	0.07130	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.071
111	5.80	5.70	0.28362	0.0	0.07253	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.073
112	5.70	5.60	0.28843	0.0	0.07376	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.074
113	5.60	5.50	0.29325	0.0	0.07499	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.075
114	5.50	5.40	0.29806	0.0	0.07622	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.076
115	5.40	5.30	0.30288	0.0	0.07745	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.077
116	5.30	5.20	0.30769	0.0	0.07868	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.079
117	5.20	5.10	0.31251	0.0	0.07992	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.080
118	5.10	5.00	0.31732	0.0	0.08115	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.081
119	5.00	4.90	0.32214	0.0	0.08238	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.082

120	4.90	4.80	0.32695	0.0	0.08361	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.084
121	4.80	4.70	0.33177	0.0	0.08484	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.085
122	4.70	4.60	0.33658	0.0	0.08607	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.086
123	4.60	4.50	0.36440	6.3	0.09319	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.093
TOT						0.58			12904.63	22799.71					
AVG					0.0656		0.57	6.91			3.91				
CUM						6.98									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
91	7.700	9.62	1.32	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	7.600	9.62	1.33	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	7.500	9.62	1.34	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	7.400	9.62	1.35	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	7.300	9.62	1.35	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	7.200	9.62	1.36	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	7.100	9.62	1.37	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	7.000	9.62	1.38	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
99	6.900	9.62	1.39	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	6.800	9.62	1.40	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101	6.700	9.62	1.40	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102	6.600	9.62	1.41	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
103	6.500	9.62	1.42	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
104	6.400	9.62	1.43	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	6.300	9.62	1.43	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
106	6.200	9.62	1.44	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107	6.100	9.62	1.45	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
108	6.000	9.62	1.46	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
109	5.900	9.62	1.46	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	5.800	9.62	1.47	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
111	5.700	9.62	1.48	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112	5.600	9.62	1.48	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113	5.500	9.62	1.49	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114	5.400	9.62	1.50	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	5.300	9.62	1.50	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116	5.200	9.62	1.51	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117	5.100	9.62	1.52	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
118	5.000	9.62	1.52	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
119	4.900	9.62	1.53	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	4.800	9.62	1.53	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
121	4.700	9.62	1.54	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
122	4.600	9.62	1.55	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	4.500	9.62	1.58	0.20	0.47	0.00	0.03	0.47	0.00	0.76	0.76	0.76	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			1.53	0.22	0.50	0.00	0.03	0.50	0.00	0.90			0.21	0.50	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM

91	7.700	17.20	0.00	4.74	65.16	4.39	2.22	3.76	2.70	3.76	1.20	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
92	7.600	17.20	0.00	4.72	64.35	4.49	2.22	3.76	2.70	3.76	1.22	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
93	7.500	17.20	0.00	4.70	63.59	4.58	2.23	3.77	2.71	3.77	1.24	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
94	7.400	17.20	0.00	4.67	62.86	4.66	2.23	3.78	2.71	3.78	1.25	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
95	7.300	17.20	0.00	4.65	62.16	4.74	2.23	3.79	2.71	3.79	1.27	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
96	7.200	17.20	0.00	4.63	61.50	4.82	2.23	3.79	2.71	3.79	1.28	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
97	7.100	17.20	0.00	4.62	60.86	4.89	2.24	3.80	2.72	3.80	1.30	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
98	7.000	17.20	0.00	4.60	60.25	4.96	2.24	3.80	2.72	3.80	1.31	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
99	6.900	17.20	0.00	4.58	59.67	5.02	2.24	3.81	2.72	3.81	1.32	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
100	6.800	17.20	0.00	4.56	59.12	5.08	2.24	3.82	2.72	3.82	1.33	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
101	6.700	17.20	0.00	4.55	58.58	5.13	2.24	3.82	2.72	3.82	1.34	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
102	6.600	17.20	0.00	4.53	58.07	5.19	2.25	3.82	2.73	3.82	1.35	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
103	6.500	17.20	0.00	4.52	57.58	5.24	2.25	3.83	2.73	3.83	1.36	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
104	6.400	17.20	0.00	4.51	57.10	5.28	2.25	3.83	2.73	3.83	1.37	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
105	6.300	17.20	0.00	4.49	56.65	5.33	2.25	3.84	2.73	3.84	1.38	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
106	6.200	17.20	0.00	4.48	56.21	5.37	2.25	3.84	2.73	3.84	1.39	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
107	6.100	17.20	0.00	4.47	55.79	5.41	2.25	3.85	2.73	3.85	1.39	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
108	6.000	17.20	0.00	4.46	55.38	5.45	2.25	3.85	2.73	3.85	1.40	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
109	5.900	17.20	0.00	4.44	54.99	5.49	2.25	3.85	2.73	3.85	1.41	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
110	5.800	17.20	0.00	4.43	54.61	5.52	2.26	3.86	2.74	3.86	1.42	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
111	5.700	17.20	0.00	4.42	54.24	5.56	2.26	3.86	2.74	3.86	1.42	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
112	5.600	17.20	0.00	4.41	53.88	5.59	2.26	3.86	2.74	3.86	1.43	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
113	5.500	17.20	0.00	4.40	53.54	5.62	2.26	3.86	2.74	3.86	1.43	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
114	5.400	17.20	0.00	4.39	53.21	5.65	2.26	3.87	2.74	3.87	1.44	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
115	5.300	17.20	0.00	4.38	52.89	5.68	2.26	3.87	2.74	3.87	1.44	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
116	5.200	17.20	0.00	4.37	52.58	5.71	2.26	3.87	2.74	3.87	1.45	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
117	5.100	17.20	0.00	4.36	52.28	5.73	2.26	3.88	2.74	3.88	1.46	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
118	5.000	17.20	0.00	4.36	51.98	5.76	2.26	3.88	2.74	3.88	1.46	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
119	4.900	17.20	0.00	4.35	51.70	5.78	2.26	3.88	2.74	3.88	1.46	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
120	4.800	17.20	0.00	4.34	51.42	5.80	2.26	3.88	2.74	3.88	1.47	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
121	4.700	17.20	0.00	4.33	51.16	5.83	2.26	3.88	2.74	3.88	1.47	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
122	4.600	17.20	0.00	4.32	50.90	5.85	2.27	3.89	2.75	3.89	1.48	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
123	4.500	17.20	0.00	4.26	49.49	5.69	2.27	3.87	2.75	3.87	1.44	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 5 Elder Branch TO Little Sandy WAC WINTER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
124	UPR RCH	0.36440	17.20	0.00	4.26	49.49	5.69	2.27	3.87	2.75	3.87	1.44	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.00794	19.62	0.00	3.80	33.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	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	MEAN VELO m/s
124	4.50	4.40	0.37235	6.2	0.03426	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.034
125	4.40	4.30	0.38029	6.0	0.03499	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.035
126	4.30	4.20	0.38824	5.9	0.03572	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.036
127	4.20	4.10	0.39618	5.8	0.03645	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.036

128	4.10	4.00	0.40413	5.7	0.03719	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.037
129	4.00	3.90	0.41207	5.6	0.03792	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.038
130	3.90	3.80	0.42002	5.5	0.03865	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.039
131	3.80	3.70	0.42796	5.4	0.03938	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.039
132	3.70	3.60	0.43591	5.3	0.04011	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.040
133	3.60	3.50	0.44385	5.2	0.04084	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.041
134	3.50	3.40	0.45180	5.1	0.04157	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.042
135	3.40	3.30	0.45974	5.0	0.04230	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.042
136	3.30	3.20	0.46769	4.9	0.04303	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.043
137	3.20	3.10	0.47563	4.8	0.04376	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.044
138	3.10	3.00	0.48358	4.8	0.04450	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.044
139	3.00	2.90	0.49152	4.7	0.04523	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.045
140	2.90	2.80	0.49947	4.6	0.04596	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.046
141	2.80	2.70	0.50741	4.5	0.04669	0.02	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.047
142	2.70	2.60	0.51536	4.5	0.04742	0.02	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.047
143	2.60	2.50	0.52330	4.4	0.04815	0.02	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.048
TOT						0.57			21735.80	22760.00					
AVG					0.0408		0.96	11.38			10.87				
CUM						7.55									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
124	4.400	9.62	0.75	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	4.300	9.62	0.76	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126	4.200	9.62	0.76	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127	4.100	9.62	0.77	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128	4.000	9.62	0.77	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.16	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
129	3.900	9.62	0.77	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	3.800	9.62	0.78	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
131	3.700	9.62	0.78	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132	3.600	9.62	0.79	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
133	3.500	9.62	0.79	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
134	3.400	9.62	0.79	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	3.300	9.62	0.80	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
136	3.200	9.62	0.80	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
137	3.100	9.62	0.81	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
138	3.000	9.62	0.81	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
139	2.900	9.62	0.81	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	2.800	9.62	0.82	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
141	2.700	9.62	0.82	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142	2.600	9.62	0.82	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
143	2.500	9.62	0.83	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			0.84	0.22	0.50	0.00	0.03	0.50	0.00	0.09			0.21	0.50	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM

124	4.400	17.20	0.00	4.25	49.13	5.72	2.25	3.87	2.95	3.87	1.49	0.00	0.00	0.00	0.00	4.69	0.00	0.	0.00
125	4.300	17.20	0.00	4.24	48.80	5.75	2.23	3.87	3.16	3.87	1.54	0.00	0.00	0.00	0.00	6.17	0.00	0.	0.00
126	4.200	17.20	0.00	4.23	48.47	5.78	2.22	3.88	3.36	3.88	1.58	0.00	0.00	0.00	0.00	7.66	0.00	0.	0.00
127	4.100	17.20	0.00	4.22	48.16	5.81	2.20	3.88	3.57	3.88	1.62	0.00	0.00	0.00	0.00	9.14	0.00	0.	0.00
128	4.000	17.20	0.00	4.21	47.87	5.83	2.18	3.89	3.78	3.89	1.66	0.00	0.00	0.00	0.00	10.63	0.00	0.	0.00
129	3.900	17.20	0.00	4.21	47.58	5.86	2.17	3.89	3.99	3.89	1.70	0.00	0.00	0.00	0.00	12.11	0.00	0.	0.00
130	3.800	17.20	0.00	4.20	47.30	5.88	2.16	3.89	4.19	3.89	1.73	0.00	0.00	0.00	0.00	13.60	0.00	0.	0.00
131	3.700	17.20	0.00	4.19	47.04	5.90	2.14	3.90	4.40	3.90	1.76	0.00	0.00	0.00	0.00	15.08	0.00	0.	0.00
132	3.600	17.20	0.00	4.18	46.78	5.92	2.13	3.90	4.61	3.90	1.79	0.00	0.00	0.00	0.00	16.57	0.00	0.	0.00
133	3.500	17.20	0.00	4.18	46.54	5.94	2.12	3.90	4.83	3.90	1.82	0.00	0.00	0.00	0.00	18.05	0.00	0.	0.00
134	3.400	17.20	0.00	4.17	46.30	5.96	2.11	3.91	5.04	3.91	1.85	0.00	0.00	0.00	0.00	19.54	0.00	0.	0.00
135	3.300	17.20	0.00	4.16	46.07	5.98	2.10	3.91	5.25	3.91	1.88	0.00	0.00	0.00	0.00	21.02	0.00	0.	0.00
136	3.200	17.20	0.00	4.16	45.85	6.00	2.09	3.91	5.46	3.91	1.90	0.00	0.00	0.00	0.00	22.51	0.00	0.	0.00
137	3.100	17.20	0.00	4.15	45.63	6.01	2.08	3.91	5.68	3.91	1.93	0.00	0.00	0.00	0.00	23.99	0.00	0.	0.00
138	3.000	17.20	0.00	4.15	45.42	6.03	2.07	3.91	5.89	3.91	1.95	0.00	0.00	0.00	0.00	25.48	0.00	0.	0.00
139	2.900	17.20	0.00	4.14	45.22	6.05	2.06	3.92	6.10	3.92	1.97	0.00	0.00	0.00	0.00	26.96	0.00	0.	0.00
140	2.800	17.20	0.00	4.13	45.03	6.06	2.05	3.92	6.32	3.92	1.99	0.00	0.00	0.00	0.00	28.45	0.00	0.	0.00
141	2.700	17.20	0.00	4.13	44.84	6.08	2.04	3.92	6.53	3.92	2.01	0.00	0.00	0.00	0.00	29.93	0.00	0.	0.00
142	2.600	17.20	0.00	4.12	44.66	6.09	2.04	3.92	6.75	3.92	2.03	0.00	0.00	0.00	0.00	31.42	0.00	0.	0.00
143	2.500	17.20	0.00	4.12	44.48	6.11	2.03	3.92	6.96	3.92	2.05	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 6 Little Sandy TO WAC5 WAC WINTER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
144	UPR RCH	0.52330	17.20	0.00	4.12	44.48	6.11	2.03	3.92	6.96	3.92	2.05	0.00	0.00	0.00	32.90	0.00	0.00
EACH	INCR	0.00636	19.62	0.00	2.50	0.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	
144	WSTLD	0.02300	17.20	0.00	2.70	22.00	3.00	0.68	0.48	0.68	0.48	0.39	0.00	0.00	0.00	0.00	0.00	0.00

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

ELEM NO.	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	MEAN VELO m/s
144	2.50	2.40	0.55266	8.3	0.02594	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
145	2.40	2.30	0.55901	8.2	0.02624	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
146	2.30	2.20	0.56537	8.1	0.02654	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
147	2.20	2.10	0.57172	8.0	0.02684	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
148	2.10	2.00	0.57808	8.0	0.02714	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
149	2.00	1.90	0.58444	7.9	0.02744	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
150	1.90	1.80	0.59079	7.8	0.02773	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
151	1.80	1.70	0.59715	7.7	0.02803	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
152	1.70	1.60	0.60350	7.6	0.02833	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
153	1.60	1.50	0.60986	7.5	0.02863	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
154	1.50	1.40	0.61622	7.5	0.02893	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
155	1.40	1.30	0.62257	7.4	0.02923	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
156	1.30	1.20	0.62893	7.3	0.02952	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
157	1.20	1.10	0.63528	7.2	0.02982	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
158	1.10	1.00	0.64164	7.2	0.03012	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
159	1.00	0.90	0.64800	7.1	0.03042	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
160	0.90	0.80	0.65435	7.0	0.03072	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.031

161	0.80	0.70	0.66071	7.0	0.03102	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.031
162	0.70	0.60	0.66706	6.9	0.03131	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.031
163	0.60	0.50	0.67342	6.8	0.03161	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.032
164	0.50	0.40	0.67978	6.8	0.03191	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.032
165	0.40	0.30	0.68613	6.7	0.03221	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.032
166	0.30	0.20	0.69249	6.6	0.03251	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.033
167	0.20	0.10	0.69884	6.6	0.03281	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.033
168	0.10	0.00	0.70520	6.5	0.03310	0.03	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.033
TOT						0.99			53255.98	39625.00					
AVG					0.0294		1.34	15.85			21.30				
CUM						8.53									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
144	2.400	9.62	0.51	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	2.300	9.62	0.52	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146	2.200	9.62	0.52	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147	2.100	9.62	0.52	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
148	2.000	9.62	0.52	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
149	1.900	9.62	0.52	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	1.800	9.62	0.52	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
151	1.700	9.62	0.53	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152	1.600	9.62	0.53	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153	1.500	9.62	0.53	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
154	1.400	9.62	0.53	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	1.300	9.62	0.53	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
156	1.200	9.62	0.53	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157	1.100	9.62	0.53	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
158	1.000	9.62	0.54	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
159	0.900	9.62	0.54	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.800	9.62	0.54	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
161	0.700	9.62	0.54	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162	0.600	9.62	0.54	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
163	0.500	9.62	0.54	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
164	0.400	9.62	0.54	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.300	9.62	0.55	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166	0.200	9.62	0.55	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167	0.100	9.62	0.55	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	0.000	9.62	0.55	0.20	0.47	0.00	0.03	0.47	0.00	0.08	0.08	0.08	0.17	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			0.56	0.22	0.50	0.00	0.03	0.50	0.00	0.09			0.21	0.50	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
144	2.400	17.20	0.00	4.04	43.03	5.99	1.94	3.79	6.87	3.79	2.02	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
145	2.300	17.20	0.00	4.02	42.54	6.01	1.91	3.79	6.84	3.79	2.06	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
146	2.200	17.20	0.00	4.01	42.07	6.03	1.88	3.80	6.81	3.80	2.10	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

147	2.100	17.20	0.00	3.99	41.60	6.05	1.85	3.81	6.78	3.81	2.14	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
148	2.000	17.20	0.00	3.97	41.14	6.07	1.82	3.81	6.75	3.81	2.18	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
149	1.900	17.20	0.00	3.96	40.69	6.09	1.79	3.82	6.73	3.82	2.21	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
150	1.800	17.20	0.00	3.94	40.26	6.10	1.77	3.83	6.70	3.83	2.25	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
151	1.700	17.20	0.00	3.93	39.83	6.12	1.74	3.83	6.68	3.83	2.28	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
152	1.600	17.20	0.00	3.91	39.41	6.13	1.72	3.84	6.66	3.84	2.31	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
153	1.500	17.20	0.00	3.90	39.00	6.15	1.70	3.84	6.64	3.84	2.34	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
154	1.400	17.20	0.00	3.88	38.59	6.16	1.68	3.85	6.61	3.85	2.36	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
155	1.300	17.20	0.00	3.87	38.20	6.18	1.66	3.85	6.60	3.85	2.39	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
156	1.200	17.20	0.00	3.85	37.81	6.19	1.64	3.86	6.58	3.86	2.42	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
157	1.100	17.20	0.00	3.84	37.44	6.20	1.62	3.86	6.56	3.86	2.44	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
158	1.000	17.20	0.00	3.83	37.07	6.22	1.61	3.87	6.54	3.87	2.46	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
159	0.900	17.20	0.00	3.82	36.70	6.23	1.59	3.87	6.52	3.87	2.49	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
160	0.800	17.20	0.00	3.80	36.35	6.24	1.57	3.87	6.51	3.87	2.51	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
161	0.700	17.20	0.00	3.79	36.00	6.25	1.56	3.88	6.49	3.88	2.53	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
162	0.600	17.20	0.00	3.78	35.65	6.27	1.54	3.88	6.48	3.88	2.55	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
163	0.500	17.20	0.00	3.77	35.32	6.28	1.53	3.88	6.47	3.88	2.56	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
164	0.400	17.20	0.00	3.75	34.99	6.29	1.52	3.89	6.45	3.89	2.58	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
165	0.300	17.20	0.00	3.74	34.66	6.30	1.51	3.89	6.44	3.89	2.60	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
166	0.200	17.20	0.00	3.73	34.34	6.31	1.49	3.89	6.43	3.89	2.62	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
167	0.100	17.20	0.00	3.72	34.03	6.32	1.48	3.90	6.42	3.90	2.63	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
168	0.000	17.20	0.00	3.71	33.72	6.33	1.47	3.90	6.41	3.90	2.65	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

```
STREAM SUMMARY                                          WEST ANACOCO CREEK WATERSHED MODEL
HEADWATER                                               WAC WINTER 30% REDUCTION MAN-MADE TO MEET 3 MG/L DO STANDARD

 TRAVEL TIME       =          8.53 DAYS

 MAXIMUM EFFLUENT  =          8.32 PERCENT

 FLOW              =   0.02301 TO    0.70520   m³/s
 DISPERSION        =   0.0000  TO    0.0000    m²/s
 VELOCITY          =   0.01194 TO    0.42292   m/s
 DEPTH             =   0.18    TO    1.34      m
 WIDTH             =   2.44    TO   15.85      m

 BOD DECAY         =    0.20   TO    0.24      per day
 NH3 DECAY         =    0.00   TO    0.00      per day
 SOD               =    0.08   TO    4.35      g/m²/d
 NH3 SOURCE        =    0.00   TO    0.00      g/m²/d
 REAERATION        =    0.51   TO    6.75      per day
 BOD SETTLING      =    0.19   TO    0.47      per day
 NBOD DECAY        =    0.07   TO    0.17      per day
 NBOD SETTLING     =    0.19   TO    0.47      per day

 TEMPERATURE       =   17.20   TO   17.20      deg C
 DISSOLVED OXYGEN  =    4.28   TO    8.37      mg/L


     .....EXECUTION COMPLETED
```

Appendix D4 - Winter Justifications

West Anacoco Creek 110501 Winter Projection for 4 DO

DATA TYPE 3 - PROGRAM CONSTANTS			
CONSTANT NAME	**VALUE**	**UNITS**	**DATA SOURCE**
KL MINIMUM	0.7	m/day	The minimum KL of 2.3 ft/day converted to 0.70 m/day.
INHIBITION CONTROL VALUE	3		The water column dissolved oxygen demand is assumed to come primarily from facultative bacteria under anoxic conditions and SOD is not influenced by modeled dissolved oxygen levels in the upper water column.
K2 MAXIMUM	25	1/day at 20 deg C	EPA Policy in the absence of a measured value.
HYDRAULIC CALCULATION METHOD	2		The low slopes in this waterbody cause a substantial amount of water to be present during critical flow conditions. This method allows the model to predict a more accurate depth and width during low flow conditions.
ALGAE OXYGEN PRODUCTION	0		Standard practice for steady state calibration to a wide variation in DO.
EFFECTIVE BOD DUE TO ALGAE	0.15		Standard practice for steady state calibration to a wide variation in DO.
SETTLING RATE UNITS	2		By making the settling rate a velocity the rate becomes dependent upon the depth.

DATA TYPE 8 - REACH IDENTIFICATION DATA						
Reach	**ID**	**Name**	**Upstream River Kilometer**	**Downstream River Kilometer**	**Element Length, meters**	**Data Source**
1	WA	WAC1 to WAC2	16.80	14.40	100.0000	ARC MAP Calc.
2	WA	WAC2 to WAC3	14.40	8.70	100.0000	ARC MAP Calc.
3	WA	WAC3 to WAC4	8.70	7.80	100.0000	ARC MAP Calc.
4	WA	WAC4 to Elder Branch Creek	7.80	4.50	100.0000	ARC MAP Calc.
5	WA	Elder Branch Creek to Little Sandy Creek	4.50	2.50	100.0000	ARC MAP Calc.
6	WA	Little Sandy Creek to WAC5	2.50	0.00	100.0000	ARC MAP Calc.

	DATA TYPE 9 - ADVECTIVE HYDRAULIC COEFFICIENTS								
Reach	**Name**	**Width Coeff. "a"**	**Width Exp. "b"**	**Width Const. "c"**	**Data Source**	**Depth Coeff. "d"**	**Depth Exp. "e"**	**Depth Const. "f"**	**Data Source**
1	WAC1 to WAC2	0	0.2	3.658	WAC2	0	0.3	0.195	WAC2
2	WAC2 to WAC3	0	0.2	6.401	WAC3	0	0.3	0.305	WAC3
3	WAC3 to WAC4	0	0.2	2.438	WAC4	0	0.3	0.177	WAC4
4	WAC4 to Elder Branch Creek	0	0.2	6.909	WAC4 - 1/3 (WAC5 - WAC4)	0	0.3	0.566	WAC4 - 1/3 (WAC5 - WAC4)
5	Elder Branch Creek to Little Sandy Creek	0	0.2	11.380	WAC4 - 1/3 (WAC5 - WAC4)	0	0.3	0.955	WAC4 - 1/3 (WAC5 - WAC4)
6	Little Sandy Creek to WAC5	0	0.2	15.850	WAC5	0	0.3	1.344	WAC5

West Anacoco 110501 Winter Projection Justification for 4 DO

	DATA TYPE 11 - INITIAL CONDITIONS							
Reach	**Name**	**DO, mg/l**	**Data Source**	**Temp, deg C**	**Sal, ppt**	**Data Source**	**Chlorophyll a**	**Data Source**
1	WAC1 to WAC2	4.00	1 + Minimum Continuous Monitoring WAC1	17.20	0.00	Average WAC1,WAC2 Continuous Monitoring	16.60	WAC1
2	WAC2 to WAC3	4.00	1 + Minimum Contiuous Monitoring WAC3	17.20	0.00	Average WAC2,WAC3 Continuous Monitoring	16.70	WAC2
3	WAC3 to WAC4	4.00	1 + Minimum WAC3,WAC4 Continuous Monitoring	17.20	0.00	Average WAC3,WAC4 Continuous Monitoring	3.20	WAC3
4	WAC4 to Elder Branch Creek	4.00	1 + Minimum WAC4,WAC5 Continuous Monitoring	17.20	0.00	Average WAC4,WAC5 Continuous Monitoring	3.20	WAC3
5	Elder Branch Creek to Little Sandy Creek	4.00	1 + Minimum WAC4,WAC5 Continuous Monitoring	17.20	0.00	Average WAC4,WAC5 Continuous Monitoring	3.20	WAC3
6	Little Sandy Creek to WAC5	4.00	1 + Minimum WAC4,WAC5 Continuous Monitoring	17.20	0.00	Average WAC4,WAC5 Continuous Monitoring	32.90	WAC5

		DATA TYPE 12 - REAERATION, SEDIMENT OXYGEN DEMAND AND BOD COEFFICIENTS						DATA TYPE 12 - REAERATION, SEDIMENT OXYGEN DEMAND AND BOD COEFFICIENTS						
REACH	**NAME**	**K2 OPT**	**Data Source**	**a**	**BKGRND SOD, gmO2/m2/day at 20 deg C**	**Data Source**	**Aerobic BOD1 Dec Rate (1/day)**	**Data Source**	**BOD1 SETT RATE (1/day)**	**Data Source**	**Aerobic BOD2 Dec Rate (1/day)**	**Data Source**	**BOD2 SETT RATE (1/day)**	**Data Source**
1	WAC1 to WAC2	11	Texas Equation		2.21	Calibration	0.2757	AVG (WAC1,WAC2)	0.2	Calibration	0.0331	AVG (WAC1,WAC2)	0.2	Calibration
2	WAC2 to WAC3	11	Texas Equation		1.89	Calibration	0.2253	AVG (WAC2,WAC3)	0.2	Calibration	0.0314	AVG (WAC2,WAC3)	0.2	Calibration
3	WAC3 to WAC4	11	Texas Equation		2.36	Calibration	0.2705	AVG (WAC3,WAC4)	0.2	Calibration	0.0310	AVG (WAC3,WAC4)	0.2	Calibration
4	WAC4 to Elder Branch Creek	11	Texas Equation		0.52	Calibration	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration
5	Elder Branch Creek to Little Sandy Creek	11	Texas Equation		0.05	Calibration	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration
6	Little Sandy Creek to WAC5	11	Texas Equation		0.05	Calibration	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration

DATA TYPE 13 - NITROGEN AND PHOSPHORUS COEFFICIENTS					
Reach	Name	NBOD decay rate, 1/day	Data Source	NBOD settling rate, 1/day	Data Source
1	WAC1 to WAC2	0.0967	AVG (WAC1,WAC2)	0.20	Calibration
2	WAC2 to WAC3	0.1436	AVG (WAC2,WAC3)	0.20	Calibration
3	WAC3 to WAC4	0.1139	AVG (WAC3,WAC4)	0.20	Calibration
4	WAC4 to Elder Branch Creek	0.2147	AVG (WAC4,WAC5)	0.50	Calibration
5	Elder Branch Creek to Little Sandy Creek	0.2147	AVG (WAC4,WAC5)	0.50	Calibration
6	Little Sandy Creek to WAC5	0.2147	AVG (WAC4,WAC5)	0.50	Calibration

DATA TYPES 16 - INCREMENTAL DATA FOR TEMP AND CONS											
Reach	Reach Name	Incr. Ouflow, m3	Incr. Inflow, m3	Data Source	Temp	Data Source	Salinity ppt	Data Source	Chl	Cond	Data Source
1	WAC1 to WAC2		0.0003	INFLOW 1/2(WAC3 - WAC1)	19.62	WAC11a	0.000	Continuous Monitoring	0	0	Calibration
2	WAC2 to WAC3		0.0003	INFLOW 1/2(WAC3 - WAC1)	19.62	WAC11a	0.000	Continuous Monitoring	4	60	Calibration
3	WAC3 to WAC4		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	4.7	65	Calibration
4	WAC4 to Elder Branch Creek		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	3.8	33	Calibration
5	Elder Branch Creek to Little Sandy Creek		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	3.8	33	Calibration
6	Little Sandy Creek to WAC5		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	2.5		Calibration

DATA TYPES 17 - INCREMENTAL DATA FOR DO, BOD, AND NITROGEN						
Reach	**Reach Name**	**DO, mg/l**	**BOD1, mg/l**	**BOD2, mg/l**	**NBOD, mg/l**	**Data Source**
1	WAC1 to WAC2	3.86	0.4324	0.5641	0.0000	WAC11a
2	WAC2 to WAC3	3.86	0.4324	0.5641	0.0000	WAC11a
3	WAC3 to WAC4	3.86	0.4324	0.5641	0.0000	WAC11a
4	WAC4 to Elder Branch Creek	3.86	0.4324	0.5641	0.0000	WAC11a
5	Elder Branch Creek to Little Sandy Creek	3.86	0.4324	0.5641	0.0000	WAC11a
6	Little Sandy Creek to WAC5	3.86	0.4324	0.5641	0.0000	WAC11a

DATA TYPE 19 - NONPOINT SOURCES						
Reach	**Reach Name**	**Length of Reach, km**	**UCBOD1, kg/day**	**UCBOD2, kg/day**	**NBOD, kg/day**	**Data Source**
1	WAC1 to WAC2	2.40	1.10	1.18	0.74	Calibration
2	WAC2 to WAC3	5.70	10.61	6.06	4.55	Calibration
3	WAC3 to WAC4	0.90	10.79	21.19	7.20	Calibration
4	WAC4 to Elder Branch Creek	3.30	26.14	41.83	20.91	Calibration
5	Elder Branch Creek to Little Sandy Creek	2.00	24.87	49.75	39.80	Calibration
6	Little Sandy Creek to WAC5	2.50	27.54	85.12	82.62	Calibration

DATA TYPES 20 - HEADWATER DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES								
Headwater Name	**Element No.**	**Logical Unit Number**	**Headwater Flow, cms**	**Temp, deg C**	**Salinity**	**Chlorides**	**Conductivity**	**Data Source**
Headwater 1	1	1	0.0023	17.2	0	5.3	73.90	WAC1 Continuous Monitoring - Temp and Salinity, Lab Data - Chlorides, Insitu - Conductivity

DATA TYPES 21 - HEADWATER DATA FOR DO, BOD, AND NITROGEN					
Headwater Name	**Dissolved Oxygen, mg/L**	**UCBOD1, mg/l**	**UCBOD2, mg/l**	**NBOD, mg/l**	**Data Source**
Headwater 1	8.66	0.56	0.09	0	1 + WAC1 Continuous Monitoring Minimum - DO Lab Data - UCBOD1, UCBOD2, AND NBOD

DATA TYPES 22 - HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES					
Headwater Name	**Chlorophyll a, ug/L**	**Date Source**			
Headwater 1	16.6	WAC1 Lab Data			

	DATA TYPES 24 - WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES								
Wasteload / Withdrawal Name	**EL #**	**Flow, cms**	**Temperature, deg C**	**Data Source**	**Chlorides**	**Data Source**	**Salinity**	**Conductivity**	**Data Source**
Elder Branch Creek	123	0.0023	17.20	WAC10 Continuous Monitoring Average	3.4	WAC10 Lab Data	0.0	32.3	WAC10 Insitu - Conductivity Continuous Monitoring - Salinity
Little Sandy Creek	144	0.0023	17.20	WAC11 Insitu	2.7	WAC11 Lab Data	0.0	22.0	WAC11 Insitu - Conductivity and Salinity

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DATA TYPES 25 - WASTELOAD DATA FOR DO, BOD, AND NITROGEN

Wasteload / Withdrawal Name	EL #	DO, mg/l	Data Source	UCBOD1, mg/l	UCBOD2, mg/l	UNBOD, mg/l	Data Source
Elder Branch Creek	123	4.00	WAC10 Continuous Monitoring	2.358	1.51	0.78	WAC10 Lab Data
Little Sandy Creek	144	4.00	WAC11 Insitu	0.676	0.21	0.386	WAC11 Lab Data

DATA TYPES 26 - WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES

Wasteload / Withdrawal Name	EL #	Chl a, ug/L	Data Source	Phosphorus	Coliform	Nonconservatives	Data Source
Elder Branch Creek	123	2.3	WAC10 Lab Data				
Little Sandy Creek	144						

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DATA TYPES 27 - LOWER BOUNDARY CONDITIONS			
Parameter	**Value**	**Units**	**Data Source**
TEMPERATURE	17.20	^{O}C	WAC5 Continuous Monitoring
SALINITY	0.00	ppt	WAC5 Continuous Monitoring
CHLORIDES	3.7	ppm	WAC5 Lab Data
CONDUCTIVITY	33.10	umhos/cm	WAC5 Insitu
DISSOLVED OXYGEN	4.00	mg/L	1 + WAC5 Continuous Monitoring Minimum
CBOD1	6.126	mg/L	WAC5 Lab Data
CBOD2	3.647	mg/L	WAC5 Lab Data
CHLOROPHYLL A	32.9	ug/L	WAC5 Lab Data
NBOD	2.275	mg/L	WAC5 Lab Data

West Anacoco Creek 110501 Winter Projection for 3 DO

DATA TYPE 3 - PROGRAM CONSTANTS			
CONSTANT NAME	**VALUE**	**UNITS**	**DATA SOURCE**
KL MINIMUM	0.7	m/day	The minimum KL of 2.3 ft/day converted to 0.70 m/day.
INHIBITION CONTROL VALUE	3		The water column dissolved oxygen demand is assumed to come primarily from facultative bacteria under anoxic conditions and SOD is not influenced by modeled dissolved oxygen levels in the upper water column.
K2 MAXIMUM	25	1/day at 20 deg C	EPA Policy in the absence of a measured value.
HYDRAULIC CALCULATION METHOD	2		The low slopes in this waterbody cause a substantial amount of water to be present during critical flow conditions. This method allows the model to predict a more accurate depth and width during low flow conditions.
ALGAE OXYGEN PRODUCTION	0		Standard practice for steady state calibration to a wide variation in DO.
EFFECTIVE BOD DUE TO ALGAE	0.15		Standard practice for steady state calibration to a wide variation in DO.
SETTLING RATE UNITS	2		By making the settling rate a velocity the rate becomes dependent upon the depth.

DATA TYPE 8 - REACH IDENTIFICATION DATA						
Reach	**ID**	**Name**	**Upstream River Kilometer**	**Downstream River Kilometer**	**Element Length, meters**	**Data Source**
1	WA	WAC1 to WAC2	16.80	14.40	100.0000	ARC MAP Calc.
2	WA	WAC2 to WAC3	14.40	8.70	100.0000	ARC MAP Calc.
3	WA	WAC3 to WAC4	8.70	7.80	100.0000	ARC MAP Calc.
4	WA	WAC4 to Elder Branch Creek	7.80	4.50	100.0000	ARC MAP Calc.
5	WA	Elder Branch Creek to Little Sandy Creek	4.50	2.50	100.0000	ARC MAP Calc.
6	WA	Little Sandy Creek to WAC5	2.50	0.00	100.0000	ARC MAP Calc.

	DATA TYPE 9 - ADVECTIVE HYDRAULIC COEFFICIENTS								
Reach	**Name**	**Width Coeff. "a"**	**Width Exp. "b"**	**Width Const. "c"**	**Data Source**	**Depth Coeff. "d"**	**Depth Exp. "e"**	**Depth Const. "f"**	**Data Source**
1	WAC1 to WAC2	0	0.2	3.658	WAC2	0	0.3	0.195	WAC2
2	WAC2 to WAC3	0	0.2	6.401	WAC3	0	0.3	0.305	WAC3
3	WAC3 to WAC4	0	0.2	2.438	WAC4	0	0.3	0.177	WAC4
4	WAC4 to Elder Branch Creek	0	0.2	6.909	WAC4 - 1/3 (WAC5 - WAC4)	0	0.3	0.566	WAC4 - 1/3 (WAC5 - WAC4)
5	Elder Branch Creek to Little Sandy Creek	0	0.2	11.380	WAC4 - 1/3 (WAC5 - WAC4)	0	0.3	0.955	WAC4 - 1/3 (WAC5 - WAC4)
6	Little Sandy Creek to WAC5	0	0.2	15.850	WAC5	0	0.3	1.344	WAC5

West Anacoco 110501 Winter Projection Justification for 3 DO

	DATA TYPE 11 - INITIAL CONDITIONS							
Reach	**Name**	**DO, mg/l**	**Data Source**	**Temp, deg C**	**Sal, ppt**	**Data Source**	**Chlorophyll a**	**Data Source**
1	WAC1 to WAC2	3.00	1 + Minimum Continuous Monitoring WAC1	17.20	0.00	Average WAC1,WAC2 Continuous Monitoring	16.60	WAC1
2	WAC2 to WAC3	3.00	1 + Minimum Contiuous Monitoring WAC3	17.20	0.00	Average WAC2,WAC3 Continuous Monitoring	16.70	WAC2
3	WAC3 to WAC4	3.00	1 + Minimum WAC3,WAC4 Continuous Monitoring	17.20	0.00	Average WAC3,WAC4 Continuous Monitoring	3.20	WAC3
4	WAC4 to Elder Branch Creek	3.00	1 + Minimum WAC4,WAC5 Continuous Monitoring	17.20	0.00	Average WAC4,WAC5 Continuous Monitoring	3.20	WAC3
5	Elder Branch Creek to Little Sandy Creek	3.00	1 + Minimum WAC4,WAC5 Continuous Monitoring	17.20	0.00	Average WAC4,WAC5 Continuous Monitoring	3.20	WAC3
6	Little Sandy Creek to WAC5	3.00	1 + Minimum WAC4,WAC5 Continuous Monitoring	17.20	0.00	Average WAC4,WAC5 Continuous Monitoring	32.90	WAC5

		DATA TYPE 12 - REAERATION, SEDIMENT OXYGEN DEMAND AND BOD COEFFICIENTS						DATA TYPE 12 - REAERATION, SEDIMENT OXYGEN DEMAND AND BOD COEFFICIENTS						
REACH	**NAME**	**K2 OPT**	**Data Source**	**a**	**BKGRND SOD, gmO2/m2/day at 20 deg C**	**Data Source**	**Aerobic BOD1 Dec Rate (1/day)**	**Data Source**	**BOD1 SETT RATE (1/day)**	**Data Source**	**Aerobic BOD2 Dec Rate (1/day)**	**Data Source**	**BOD2 SETT RATE (1/day)**	**Data Source**
1	WAC1 to WAC2	11	Texas Equation		2.84	Calibration	0.2757	AVG (WAC1,WAC2)	0.2	Calibration	0.0331	AVG (WAC1,WAC2)	0.2	Calibration
2	WAC2 to WAC3	11	Texas Equation		2.38	Calibration	0.2253	AVG (WAC2,WAC3)	0.2	Calibration	0.0314	AVG (WAC2,WAC3)	0.2	Calibration
3	WAC3 to WAC4	11	Texas Equation		5.19	Calibration	0.2705	AVG (WAC3,WAC4)	0.2	Calibration	0.0310	AVG (WAC3,WAC4)	0.2	Calibration
4	WAC4 to Elder Branch Creek	11	Texas Equation		0.10	Calibration	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration
5	Elder Branch Creek to Little Sandy Creek	11	Texas Equation		0.09	Calibration	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration
6	Little Sandy Creek to WAC5	11	Texas Equation		0.09	Calibration	0.2244	AVG (WAC4,WAC5)	0.5	Calibration	0.0306	AVG (WAC4,WAC5)	0.5	Calibration

DATA TYPE 13 - NITROGEN AND PHOSPHORUS COEFFICIENTS					
Reach	**Name**	**NBOD decay rate, 1/day**	**Data Source**	**NBOD settling rate, 1/day**	**Data Source**
1	WAC1 to WAC2	0.0967	AVG (WAC1,WAC2)	0.20	Calibration
2	WAC2 to WAC3	0.1436	AVG (WAC2,WAC3)	0.20	Calibration
3	WAC3 to WAC4	0.1139	AVG (WAC3,WAC4)	0.20	Calibration
4	WAC4 to Elder Branch Creek	0.2147	AVG (WAC4,WAC5)	0.50	Calibration
5	Elder Branch Creek to Little Sandy Creek	0.2147	AVG (WAC4,WAC5)	0.50	Calibration
6	Little Sandy Creek to WAC5	0.2147	AVG (WAC4,WAC5)	0.50	Calibration

DATA TYPES 16 - INCREMENTAL DATA FOR TEMP AND CONS											
Reach	**Reach Name**	**Incr. Ouflow, m3**	**Incr. Inflow, m3**	**Data Source**	**Temp**	**Data Source**	**Salinity ppt**	**Data Source**	**Chl**	**Cond**	**Data Source**
1	WAC1 to WAC2		0.0003	INFLOW 1/2(WAC3 - WAC1)	19.62	WAC11a	0.000	Continuous Monitoring	0	0	Calibration
2	WAC2 to WAC3		0.0003	INFLOW 1/2(WAC3 - WAC1)	19.62	WAC11a	0.000	Continuous Monitoring	4	60	Calibration
3	WAC3 to WAC4		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	4.7	65	Calibration
4	WAC4 to Elder Branch Creek		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	3.8	33	Calibration
5	Elder Branch Creek to Little Sandy Creek		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	3.8	33	Calibration
6	Little Sandy Creek to WAC5		0.1589	INFLOW (WAC5 - WAC3 - ELDER - LITTLE SANDY)/4	19.62	WAC11a	0.000	Continuous Monitoring	2.5		Calibration

DATA TYPES 17 - INCREMENTAL DATA FOR DO, BOD, AND NITROGEN						
Reach	**Reach Name**	**DO, mg/l**	**BOD1, mg/l**	**BOD2, mg/l**	**NBOD, mg/l**	**Data Source**
1	WAC1 to WAC2	3.86	0.4324	0.5641	0.0000	WAC11a
2	WAC2 to WAC3	3.86	0.4324	0.5641	0.0000	WAC11a
3	WAC3 to WAC4	3.86	0.4324	0.5641	0.0000	WAC11a
4	WAC4 to Elder Branch Creek	3.86	0.4324	0.5641	0.0000	WAC11a
5	Elder Branch Creek to Little Sandy Creek	3.86	0.4324	0.5641	0.0000	WAC11a
6	Little Sandy Creek to WAC5	3.86	0.4324	0.5641	0.0000	WAC11a

DATA TYPE 19 - NONPOINT SOURCES						
Reach	**Reach Name**	**Length of Reach, km**	**UCBOD1, kg/day**	**UCBOD2, kg/day**	**NBOD, kg/day**	**Data Source**
1	WAC1 to WAC2	2.40	1.42	1.52	0.95	Calibration
2	WAC2 to WAC3	5.70	13.32	7.61	5.71	Calibration
3	WAC3 to WAC4	0.90	23.76	46.64	15.84	Calibration
4	WAC4 to Elder Branch Creek	3.30	45.23	72.37	36.18	Calibration
5	Elder Branch Creek to Little Sandy Creek	2.00	44.98	89.95	71.96	Calibration
6	Little Sandy Creek to WAC5	2.50	49.51	153.03	148.52	Calibration

DATA TYPES 20 - HEADWATER DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES								
Headwater Name	**Element No.**	**Logical Unit Number**	**Headwater Flow, cms**	**Temp, deg C**	**Salinity**	**Chlorides**	**Conductivity**	**Data Source**
Headwater 1	1	1	0.0023	17.2	0	5.3	73.90	WAC1 Continuous Monitoring - Temp and Salinity, Lab Data - Chlorides, Insitu - Conductivity

DATA TYPES 21 - HEADWATER DATA FOR DO, BOD, AND NITROGEN					
Headwater Name	**Dissolved Oxygen, mg/L**	**UCBOD1, mg/l**	**UCBOD2, mg/l**	**NBOD, mg/l**	**Data Source**
Headwater 1	8.66	0.56	0.2	0	1 + WAC1 Continuous Monitoring Minimum - DO Lab Data - UCBOD1, UCBOD2, AND NBOD

DATA TYPES 22 - HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES					
Headwater Name	**Chlorophyll a, ug/L**	**Date Source**			
Headwater 1	16.6	WAC1 Lab Data			

	DATA TYPES 24 - WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES								
Wasteload / Withdrawal Name	EL #	Flow, cms	Temperature, deg C	Data Source	Chlorides	Data Source	Salinity	Conductivity	Data Source
Elder Branch Creek	123	0.0023	17.20	WAC10 Continuous Monitoring Average	3.4	WAC10 Lab Data	0.0	32.3	WAC10 Insitu - Conductivity Continuous Monitoring - Salinity
Little Sandy Creek	144	0.0023	17.20	WAC11 Insitu	2.7	WAC11 Lab Data	0.0	22.0	WAC11 Insitu - Conductivity and Salinity

West Anacoco 110501 Winter Projection Justification for 3 DO

DATA TYPES 25 - WASTELOAD DATA FOR DO, BOD, AND NITROGEN							
Wasteload / Withdrawal Name	EL #	DO, mg/l	Data Source	UCBOD1, mg/l	UCBOD2, mg/l	UNBOD, mg/l	Data Source
Elder Branch Creek	123	3.00	WAC10 Continuous Monitoring	2.358	3.53	0.86	WAC10 Lab Data
Little Sandy Creek	144	3.00	WAC11 Insitu	0.676	0.48	0.386	WAC11 Lab Data

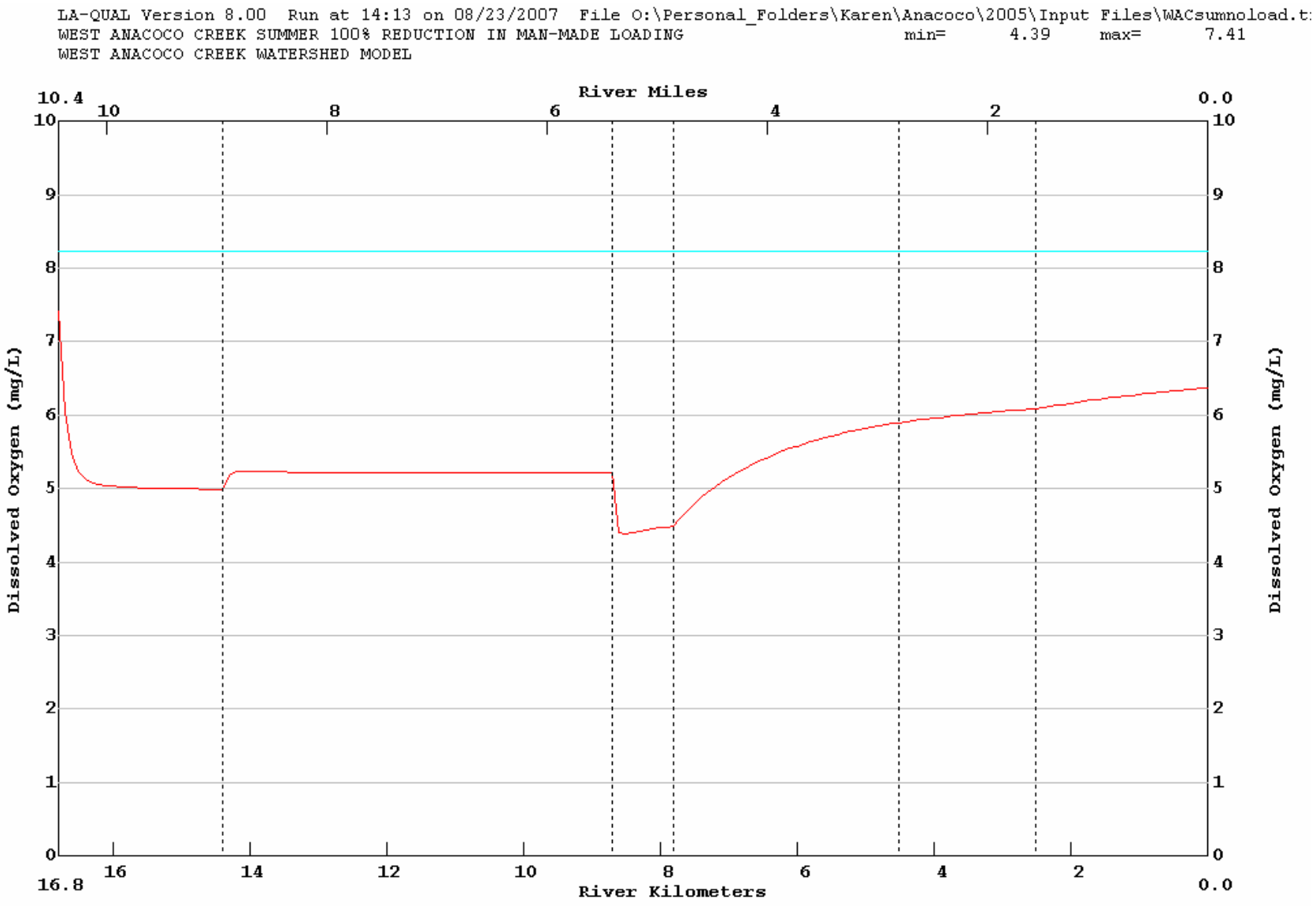
DATA TYPES 26 - WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES							
Wasteload / Withdrawal Name	EL #	Chl a, ug/L	Data Source	Phosphorus	Coliform	Nonconservatives	Data Source
Elder Branch Creek	123	2.3	WAC10 Lab Data				
Little Sandy Creek	144						

West Anacoco 110501 Winter Projection Justification for 3 DO

DATA TYPES 27 - LOWER BOUNDARY CONDITIONS

Parameter	Value	Units	Data Source
TEMPERATURE	17.20	^{O}C	WAC5 Continuous Monitoring
SALINITY	0.00	ppt	WAC5 Continuous Monitoring
CHLORIDES	3.7	ppm	WAC5 Lab Data
CONDUCTIVITY	33.10	umhos/cm	WAC5 Insitu
DISSOLVED OXYGEN	3.00	mg/L	1 + WAC5 Continuous Monitoring Minimum
CBOD1	6.126	mg/L	WAC5 Lab Data
CBOD2	3.647	mg/L	WAC5 Lab Data
CHLOROPHYLL A	32.9	ug/L	WAC5 Lab Data
NBOD	2.275	mg/L	WAC5 Lab Data

Appendix D5 – Summer No Man-Made Loading Output Graphs and Input, Overlay, and Output Files


LA-QUAL Version 8.00 Run at 14:13 on 08/23/2007 File O:\Personal_Folders\Karen\Anacoco\2005\Input Files\WACsumnoload.t
WEST ANACOCO CREEK SUMMER 100% REDUCTION IN MAN-MADE LOADING min= 4.39 max= 7.41
WEST ANACOCO CREEK WATERSHED MODEL
River Miles
10.4
10
8
6
4
2
0.0
Dissolved Oxygen (mg/L)
0
1
2
3
4
5
6
7
8
9
10
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers

WEST ANACOCO CREEK 110501 SUMMER NO MAN-MADE LOADING PROJECTION INPUT DATA SET

```
CNTROL01     WEST ANACOCO CREEK WATERSHED MODEL
CNTROL02     WEST ANACOCO CREEK SUMMER 100% REDUCTION IN MAN-MADE LOADING
CNTROL04 YES METRIC UNITS
ENDATA01
MODOPT01  NO TEMPERATURE
MODOPT02  NO SALINITY
MODOPT03 YES CONSERVATIVE MATERIAL  I = CHLORIDES                  IN MG/L
MODOPT04 YES CONSERVATIVE MATERIAL II = CONDUCTIVITY               IN MG/L
MODOPT05 YES DISSOLVED OXYGEN
MODOPT06 YES BOD1 BIOCHEMICAL OXYGEN DEMAND
MODOPT06 YES BOD2 BIOCHEMICAL OXYGEN DEMAND
MODOPT08 YES NBOD OXYGEN DEMAND
MODOPT10  NO PHOSPHORUS
MODOPT11  NO CHLOROPHYLL A
MODOPT12  NO MACROPHYTES
MODOPT13  NO COLIFORM
ENDATA02
PROGRAM  KL MINIMUM                        =     0.7
PROGRAM  INHIBITION CONTROL VALUE          =     3.
PROGRAM  K2 MAXIMUM                        =     25.0
PROGRAM  HYDRAULIC CALCULATION METHOD      =     2.
PROGRAM  SETTLING RATE UNITS               =     2.
PROGRAM  ALGAE OXYGEN PROD                 =     0.
PROGRAM  EFFECTIVE BOD DUE TO ALGAE        =     0.15
ENDATA03
!Temperature Correction Constants
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ******** ********
ENDATA04
ENDATA05
ENDATA06
ENDATA07
!Reach Identification Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -- ******************************----------*********----------
!          R#  ID   SITE NAME                          RKM        RKM    LENGTH
REACH ID    1  WA WAC1 TO WAC2                         16.8       14.4     0.1
REACH ID    2  WA WAC2 TO WAC3                         14.4        8.7     0.1
```

```
REACH ID    3  WA WAC3 TO WAC4                          8.7        7.8     0.1
REACH ID    4  WA WAC4 TO Elder Branch Creek            7.8        4.5     0.1
REACH ID    5  WA Elder Branch TO Little Sandy          4.5        2.5     0.1
REACH ID    6  WA Little Sandy TO WAC5                  2.5        0.0     0.1
ENDATA08
!Advective Hydraulic Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -------*******-------*******-------*******-------*******
!                a      b       c     d      e        f
!               WIDTH  WIDTH   WIDTH DEPTH  DEPTH   DEPTH
!          R#   COEFF   EXP    CONST COEFF   EXP    CONST SLOPE MANNING
HYDR-1      1   0.00   0.20    3.658 0.00   0.30    0.195
HYDR-1      2   0.00   0.20    6.401 0.00   0.30    0.305
HYDR-1      3   0.00   0.20    2.438 0.00   0.30    0.177
HYDR-1      4   0.00   0.20    6.909 0.00   0.30    0.566
HYDR-1      5   0.00   0.20   11.380 0.00   0.30    0.955
HYDR-1      6   0.00   0.20   15.850 0.00   0.30    1.344
ENDATA09
!Dispersive Hydraulic Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -----**********----------**********----------
!              TIDAL
!          R#  RANGE    a          b         c         d
ENDATA10
!Initial Conditions
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  --------********--------********--------********--------********
!          R#    TEMP  SALINITY   DO     NH3 N  NIT NIT  PHOS   CHL A   MACROPHYTES
INITIAL     1    25.23    0.00   5.00                           16.6
INITIAL     2    25.23    0.00   5.00                           16.7
INITIAL     3    25.23    0.00   5.00                            3.2
INITIAL     4    25.23    0.00   5.00                            3.2
INITIAL     5    25.23    0.00   5.00                            3.2
INITIAL     6    25.23    0.00   5.00                           32.9
ENDATA11
!Reaeration, Sediment Oxygen Demand and BOD Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8---------9
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
```

```
!          ***  -----*****----- ******------******------******------******------******-------***
!                REA    KL                      BOD 1  BOD 1                 BOD 2    BOD 2
!           R#   EQ    MIN                 SOD  DECAY  SETT                  DECAY    SETT
COEF-1       1   11.0                     1.731 0.2757 0.20                  0.0331   0.20
COEF-1       2   11.0                     1.530 0.2253 0.20                  0.0314   0.20
COEF-1       3   11.0                     0.233 0.2705 0.20                  0.0310   0.20
COEF-1       4   11.0                     0.237 0.2244 0.50                  0.0306   0.50
COEF-1       5   11.0                     0.020 0.2244 0.50                  0.0306   0.50
COEF-1       6   11.0                     0.020 0.2244 0.50                  0.0306   0.50
ENDATA12
!Nitrogen and Phosphorus Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  -------******-------******-------******-------
!               NBOD     NBOD
!           R#  DECAY    SETT
COEF-2       1  0.0967   0.20
COEF-2       2  0.1436   0.20
COEF-2       3  0.1139   0.20
COEF-2       4  0.2147   0.50
COEF-2       5  0.2147   0.50
COEF-2       6  0.2147   0.50
ENDATA13
ENDATA14
!Coliform and Nonconservative Cofficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  -------******-------******
ENDATA15
!Incremental Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  ---------********---------********---------********
!           R#   OUTFLOW   INFLOW  TEMP     SALINITY CHLORIDE  COND
INCR-1       1     0.0000  0.0003  19.620      0.00     0
INCR-1       2     0.0000  0.0003  19.620      0.00     4.0      60
INCR-1       3     0.0000  0.1589  19.620      0.00     4.7      65
INCR-1       4     0.0000  0.1589  19.620      0.00     3.8      33
INCR-1       5     0.0000  0.1589  19.620      0.00     3.8      33
INCR-1       6     0.0000  0.1589  19.620      0.00     2.5
ENDATA16
```

```
!Incremental Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  ---------********---------********---------********
!          R#      DO     BOD 1     NBOD    NH3 N   NIT NIT    BOD 2
INCR-2      1     3.86   0.4324    0.0000                     0.5641
INCR-2      2     3.86   0.4324    0.0000                     0.5641
INCR-2      3     3.86   0.4324    0.0000                     0.5641
INCR-2      4     3.86   0.4324    0.0000                     0.5641
INCR-2      5     3.86   0.4324    0.0000                     0.5641
INCR-2      6     3.86   0.4324    0.0000                     0.5641
ENDATA17
!Incremental Data for Phosphorus, Chlorophyll, Coliform and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  ---------********---------********
!          R#   PHOSPH    CHL A   COLIFORM NONCONSERVATIVE
INCR-3      1
INCR-3      2
INCR-3      3
INCR-3      4
INCR-3      5
INCR-3      6
ENDATA18
!Nonpoint Source Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  ---------********---------********---------********
!          R#     BOD 1    NBOD   COLIFORM NONCONS    DO      BOD 2
NONPOINT    1     0.865    0.577                              0.923
NONPOINT    2     8.569    3.673                              4.897
NONPOINT    3     1.068    0.712                              2.097
NONPOINT    4    11.826    9.460                             18.921
NONPOINT    5     9.799   15.678                             19.597
NONPOINT    6    11.064   33.192                             34.197
ENDATA19
!Headwater Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  -------------------- *** --------********--------********--------
!         E#    NAME                      FLOW    TEMP  SALIN   CHLORIDE   COND
```

```
HDWTR-1     1  HEADWATER                 0.0023   25.23  0.00     5.3      73.9
ENDATA20
!Headwater Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********---------********---------********
!          E#      DO      BOD 1    NBOD    NH3 N    NIT NIT  BOD 2
HDWTR-2     1      7.41    0.560    0.0                       0.000
ENDATA21
!Headwater Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********---------********
!          E#  PHOSPHOR   CHL A   COLIFORM  NONCONSERVATIVE
HDWTR-3     1              16.6
ENDATA22
ENDATA23
!Wasteload Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  --------------------********---------********---------********
!          E#     NAME                FLOW      TEMP   SALINITY CHLORIDE  COND
WSTLD-1   123  ELDER BRANCH CREEK    0.0023    25.23     0.00      3.4    32.3
WSTLD-1   144  LITTLE SANDY CREEK    0.0023    25.23     0.00      2.7    22.0
ENDATA24
!Wasteload Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********-----********---------*****---------********
!          E#       DO    BOD 1         NBOD    NH3 N          NIT NIT  BOD 2
WSTLD-2   123      5.00   2.358         0.710                           0.000
WSTLD-2   144      5.00   0.676         0.386                           0.000
ENDATA25
!Wasteload Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!        ****  ---------********---------********
!          E#  PHOSPHOR  CHL A    COLIFORM NONCONSERVATIVE
WSTLD-3   123            2.3
WSTLD-3   144
ENDATA26
```

```
LOWER BC TEMPERATURE                        =  25.23
LOWER BC SALINITY                           =   0.00
LOWER BC CONSERVATIVE MATERIAL I            =   3.70
LOWER BC CONSERVATIVE MATERIAL II           =  33.10
LOWER BC DISSOLVED OXYGEN                   =   5.00
LOWER BC BOD1 BIOCHEMICAL OXYGEN DEMAND     =   6.126
LOWER BC BOD2 BIOCHEMICAL OXYGEN DEMAND     =   3.647
LOWER BC CHLOROPHYLL A                      =   32.9
LOWER BC NBOD                               =   2.275
ENDATA27
!Dam Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ****  ******************** ** ******** ******** ********
ENDATA28
ENDATA29
NUMBER OF PLOTS = 1
NUMBER OF REACHES IN PLOT 1 =   6                        INCREMENT =  0.1
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** **
PLOT RCH  1  2  3  4  5  6
ENDATA30
ENDATA31
```

WEST ANACOCO CREEK 110501 SUMMER NO MAN-MADE LOADING PROJECTION OUTPUT DATA SET

```
LA-QUAL Version 8.00
Louisiana Department of Environmental Quality

Input file is O:\Personal_Folders\Karen\Anacoco\2005\Input Files\WACsumnoload.txt
Output produced at 14:13 on 08/23/2007

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

CARD TYPE       CONTROL TITLES

TITLE01         WEST ANACOCO CREEK WATERSHED MODEL
TITLE02         WEST ANACOCO CREEK SUMMER 100% REDUCTION IN MAN-MADE LOADING
CNTROL04  YES   METRIC UNITS
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 = CONDUCTIVITY               IN MG/L
MODOPT05  YES   DISSOLVED OXYGEN
MODOPT06  YES   BOD1 BIOCHEMICAL OXYGEN DEMAND
MODOPT06  YES   BOD2 BIOCHEMICAL OXYGEN DEMAND
MODOPT08  YES   NBOD OXYGEN DEMAND
MODOPT10   NO   PHOSPHORUS
MODOPT11   NO   CHLOROPHYLL A
MODOPT12   NO   MACROPHYTES
MODOPT13   NO   COLIFORM
ENDATA02

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

CARD TYPE       DESCRIPTION OF CONSTANT                       VALUE

PROGRAM         KL MINIMUM                        =         0.70000 meters/day
PROGRAM         INHIBITION CONTROL VALUE          =         3.00000 (inhibit all rates but SOD)
PROGRAM         K2 MAXIMUM                        =        25.00000 per day
PROGRAM         HYDRAULIC CALCULATION METHOD      =         2.00000 (widths and depths)
PROGRAM         SETTLING RATE UNITS               =         2.00000 (values entered as per day)
PROGRAM         ALGAE OXYGEN PROD                 =         0.00000 mg O/ug chl a/day
PROGRAM         EFFECTIVE BOD DUE TO ALGAE        =         0.15000 mg/L BOD per ug/L chl a
ENDATA03

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

 CARD TYPE     RATE CODE     THETA VALUE

ENDATA04
```

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

CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

ENDATA05

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

CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

ENDATA06

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

CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

ENDATA07

$$$ DATA TYPE 8 (REACH IDENTIFICATION DATA) $$$
                                                      BEGIN        END     ELEM    REACH     ELEMS   BEGIN    END
CARD TYPE  REACH  ID  NAME                            REACH       REACH   LENGTH   LENGTH    PER RCH   ELEM   ELEM
                                                         km          km       km       km               NUM    NUM

REACH ID      1   WA  WAC1 TO WAC2                     16.80  TO   14.40   0.1000     2.40      24       1     24
REACH ID      2   WA  WAC2 TO WAC3                     14.40  TO    8.70   0.1000     5.70      57      25     81
REACH ID      3   WA  WAC3 TO WAC4                      8.70  TO    7.80   0.1000     0.90       9      82     90
REACH ID      4   WA  WAC4 TO Elder Branch Creek        7.80  TO    4.50   0.1000     3.30      33      91    123
REACH ID      5   WA  Elder Branch TO Little Sandy      4.50  TO    2.50   0.1000     2.00      20     124    143
REACH ID      6   WA  Little Sandy TO WAC5              2.50  TO    0.00   0.1000     2.50      25     144    168
ENDATA08

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

CARD TYPE  REACH  ID       WIDTH       WIDTH       WIDTH       DEPTH       DEPTH       DEPTH      SLOPE    MANNINGS
                            "A"         "B"         "C"         "D"         "E"         "F"                  "N"

HYDR-1        1   WA       0.000       0.200       3.658       0.000       0.300       0.195     0.00000   0.000
HYDR-1        2   WA       0.000       0.200       6.401       0.000       0.300       0.305     0.00000   0.000
HYDR-1        3   WA       0.000       0.200       2.438       0.000       0.300       0.177     0.00000   0.000
HYDR-1        4   WA       0.000       0.200       6.909       0.000       0.300       0.566     0.00000   0.000
HYDR-1        5   WA       0.000       0.200      11.380       0.000       0.300       0.955     0.00000   0.000
HYDR-1        6   WA       0.000       0.200      15.850       0.000       0.300       1.344     0.00000   0.000
ENDATA09

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

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

ENDATA10

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

CARD TYPE      REACH  ID        TEMP     SALIN        DO       NH3     NO3+2      PHOS     CHL A     MACRO

INITIAL            1   WA       25.23      0.00      5.00      0.00      0.00      0.00     16.60      0.00
INITIAL            2   WA       25.23      0.00      5.00      0.00      0.00      0.00     16.70      0.00
INITIAL            3   WA       25.23      0.00      5.00      0.00      0.00      0.00      3.20      0.00
INITIAL            4   WA       25.23      0.00      5.00      0.00      0.00      0.00      3.20      0.00
```

```
INITIAL           5   WA       25.23      0.00      5.00      0.00      0.00      0.00      3.20      0.00
INITIAL           6   WA       25.23      0.00      5.00      0.00      0.00      0.00     32.90      0.00
ENDATA11

$$$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) $$$
                                                                                   BOD     ANAER                          BOD2     ANAER
CARD     RCH  RCH  K2                    K2        K2        K2    BKGRND       BOD       BOD      CONV      BOD2      BOD2      CONV      BOD2
TYPE     NUM   ID  OPT                  "A"       "B"       "C"       SOD     DECAY      SETT    TO SOD     DECAY     DECAY      SETT    TO SOD     DECAY
                                                                  g/m²/d   per day       m/d             per day   per day       m/d             per day

COEF-1     1   WA  11 TEXAS           0.000     0.000     0.000     1.731     0.276     0.200     0.000     0.000     0.033     0.200     0.000     0.000
COEF-1     2   WA  11 TEXAS           0.000     0.000     0.000     1.530     0.225     0.200     0.000     0.000     0.031     0.200     0.000     0.000
COEF-1     3   WA  11 TEXAS           0.000     0.000     0.000     0.233     0.271     0.200     0.000     0.000     0.031     0.200     0.000     0.000
COEF-1     4   WA  11 TEXAS           0.000     0.000     0.000     0.237     0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
COEF-1     5   WA  11 TEXAS           0.000     0.000     0.000     0.020     0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
COEF-1     6   WA  11 TEXAS           0.000     0.000     0.000     0.020     0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
ENDATA12

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

CARD TYPE      REACH  ID        NBOD      NBOD   ORGN CONV       NH3       NH3      PHOS     DENIT
                                DECA      SETT  TO NH3 SRCE     DECA      SRCE      SRCE      RATE

COEF-2           1   WA       0.097     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2           2   WA       0.144     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2           3   WA       0.114     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2           4   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
COEF-2           5   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
COEF-2           6   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
ENDATA13

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

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

ENDATA14

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

CARD TYPE      REACH  ID    COLIFORM       NCM       NCM    NCM CONV
                            DIE-OFF     DECAY      SETT     TO SOD

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   WA       0.00000     0.00030     19.62      0.00      0.00      0.00   0.00013   0.00000
INCR-1           2   WA       0.00000     0.00030     19.62      0.00      4.00     60.00   0.00005   0.00000
INCR-1           3   WA       0.00000     0.15890     19.62      0.00      4.70     65.00   0.17656   0.00000
INCR-1           4   WA       0.00000     0.15890     19.62      0.00      3.80     33.00   0.04815   0.00000
INCR-1           5   WA       0.00000     0.15890     19.62      0.00      3.80     33.00   0.07945   0.00000
INCR-1           6   WA       0.00000     0.15890     19.62      0.00      2.50      0.00   0.06356   0.00000
ENDATA16

$$$ DATA TYPE 17 (INCREMENTAL DATA FOR DO, BOD, AND NITROGEN) $$$
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CARD TYPE      REACH  ID          DO       BOD      NBOD                          BOD#2

INCR-2           1   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2           2   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2           3   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2           4   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2           5   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2           6   WA        3.86      0.43      0.00      0.00      0.00      0.56
ENDATA17

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

 CARD TYPE      REACH  ID        PHOS     CHL A      COLI       NCM

INCR-3           1   WA        0.00      0.00      0.00      0.00
INCR-3           2   WA        0.00      0.00      0.00      0.00
INCR-3           3   WA        0.00      0.00      0.00      0.00
INCR-3           4   WA        0.00      0.00      0.00      0.00
INCR-3           5   WA        0.00      0.00      0.00      0.00
INCR-3           6   WA        0.00      0.00      0.00      0.00
ENDATA18

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

CARD TYPE      REACH  ID       BOD#1     NBOD       COLI       NCM        DO     BOD#2

NONPOINT         1   WA        0.87      0.58      0.00      0.00      0.00      0.92
NONPOINT         2   WA        8.57      3.67      0.00      0.00      0.00      4.90
NONPOINT         3   WA        1.07      0.71      0.00      0.00      0.00      2.10
NONPOINT         4   WA       11.83      9.46      0.00      0.00      0.00     18.92
NONPOINT         5   WA        9.80     15.68      0.00      0.00      0.00     19.60
NONPOINT         6   WA       11.06     33.19      0.00      0.00      0.00     34.20
ENDATA19

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

CARD TYPE     ELEMENT   NAME                  UNIT     FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                        m³/s      cfs   deg C      ppt      MG/L      MG/L

HDWTR-1          1     HEADWATER               0   0.00230    0.081   25.23     0.00     5.300    73.900
ENDATA20

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

CARD TYPE     ELEMENT   NAME                          DO     BOD#1     NBOD                          BOD#2
                                                     mg/L      mg/L      mg/L      mg/L      mg/L      mg/L

HDWTR-2          1     HEADWATER                    7.41      0.56      0.00      0.00      0.00      0.00
ENDATA21

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

CARD TYPE     ELEMENT   NAME                         PHOS     CHL A      COLI       NCM
                                                     mg/L      mg/L      mg/L      mg/L

HDWTR-3          1     HEADWATER                    0.00     16.60      0.00      0.00
ENDATA22

$$$ DATA TYPE 23 (JUNCTION DATA) $$$
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CARD TYPE   JUNCTION   UPSTRM     RIVER     NAME
             ELEMENT  ELEMENT     KILOM

ENDATA23

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

CARD TYPE  ELEMENT    RKILO  NAME                      FLOW       FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                       m³/s        cfs      MGD   deg C      ppt      MG/L      MG/L

WSTLD-1      123       4.60  ELDER BRANCH CREEK     0.00230    0.08121    0.052   25.23     0.00     3.400    32.300
WSTLD-1      144       2.50  LITTLE SANDY CREEK     0.00230    0.08121    0.052   25.23     0.00     2.700    22.000
ENDATA24

$$$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) $$$
                                                                          % BOD                            %
CARD TYPE     ELEMENT   NAME                           DO       BOD      RMVL     NBOD                 NITRIF                BOD#2
                                                     mg/L      mg/L                mg/L      mg/L                 mg/L      mg/L

WSTLD-2         123     ELDER BRANCH CREEK          5.00      2.36      0.00      0.71      0.00      0.00      0.00      0.00
WSTLD-2         144     LITTLE SANDY CREEK          5.00      0.68      0.00      0.39      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
                                                     mg/L      mg/L      mg/L      mg/L

WSTLD-3         123     ELDER BRANCH CREEK          0.00      2.30      0.00      0.00
WSTLD-3         144     LITTLE SANDY CREEK          0.00      0.00      0.00      0.00
ENDATA26

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

CARD TYPE    CONSTITUENT                    CONCENTRATION

LOWER BC     TEMPERATURE                        =     25.230     deg C
LOWER BC     SALINITY                           =      0.000     ppt
LOWER BC     CONSERVATIVE MATERIAL I            =      3.700     MG/L
LOWER BC     CONSERVATIVE MATERIAL II           =     33.100     MG/L
LOWER BC     DISSOLVED OXYGEN                   =      5.000     mg/L
LOWER BC     BOD1 BIOCHEMICAL OXYGEN DEMAND     =      6.126     mg/L
LOWER BC     BOD2 BIOCHEMICAL OXYGEN DEMAND     =      3.647     mg/L
LOWER BC     CHLOROPHYLL A                      =     32.900     µg/L
LOWER BC     NBOD                               =      2.275     mg/L
ENDATA27

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

CARD TYPE     ELEMENT   NAME                  EQN      "A"       "B"       "H"

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


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

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


ENDATA31



     .....NO ERRORS DETECTED IN INPUT DATA
     .....HYDRAULIC CALCULATIONS COMPLETED
     .....TRIDIAGONAL MATRIX TERMS INITIALIZED
     .....OXYGEN DEPENDENT RATES CONVERGENT IN   4 ITERATIONS
     .....CONSTITUENT CALCULATIONS COMPLETED
     .....GRAPHICS DATA FOR PLOT 1 WRITTEN TO UNIT 11


FINAL REPORT    HEADWATER                                       WEST ANACOCO CREEK WATERSHED MODEL
REACH NO.  1    WAC1 TO WAC2                                    WEST ANACOCO CREEK SUMMER 100% REDUCTION IN MAN-MADE LOADING
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********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
1	HDWTR	0.00230	25.23	0.00	5.30	73.90	7.41	0.00	0.00	0.56	0.00	0.00	0.00	0.00	0.00	16.60	0.00	0.00
EACH	INCR	0.00001	19.62	0.00	0.00	0.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/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	MEAN VELO m/s
1	16.80	16.70	0.00231	0.0	0.00324	0.36	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
2	16.70	16.60	0.00233	0.0	0.00326	0.36	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
3	16.60	16.50	0.00234	0.0	0.00328	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
4	16.50	16.40	0.00235	0.0	0.00329	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
5	16.40	16.30	0.00236	0.0	0.00331	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
6	16.30	16.20	0.00237	0.0	0.00333	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
7	16.20	16.10	0.00239	0.0	0.00335	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
8	16.10	16.00	0.00240	0.0	0.00336	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
9	16.00	15.90	0.00241	0.0	0.00338	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
10	15.90	15.80	0.00242	0.0	0.00340	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
11	15.80	15.70	0.00244	0.0	0.00342	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
12	15.70	15.60	0.00245	0.0	0.00343	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
13	15.60	15.50	0.00246	0.0	0.00345	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
14	15.50	15.40	0.00247	0.0	0.00347	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
15	15.40	15.30	0.00249	0.0	0.00349	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
16	15.30	15.20	0.00250	0.0	0.00350	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004

17	15.20	15.10	0.00251	0.0	0.00352	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
18	15.10	15.00	0.00252	0.0	0.00354	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
19	15.00	14.90	0.00254	0.0	0.00356	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
20	14.90	14.80	0.00255	0.0	0.00357	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
21	14.80	14.70	0.00256	0.0	0.00359	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
22	14.70	14.60	0.00257	0.0	0.00361	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
23	14.60	14.50	0.00259	0.0	0.00363	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
24	14.50	14.40	0.00260	0.0	0.00364	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
TOT						8.08			1711.94	8779.20					
AVG					0.0034		0.19	3.66			0.71				
CUM						8.08									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
1	16.700	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	16.600	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	16.500	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	16.400	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	16.300	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	16.200	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	16.100	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	16.000	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	15.900	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	15.800	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	15.700	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	15.600	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	15.500	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	15.400	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	15.300	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	15.200	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	15.100	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	15.000	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	14.900	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	14.800	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	14.700	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	14.600	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	14.500	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	14.400	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			3.59	0.28	0.20	0.00	0.03	0.20	0.00	1.73			0.10	0.20	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
1	16.700	25.23	0.00	5.27	73.50	6.05	0.15	0.18	2.64	0.18	0.11	0.00	0.00	0.00	0.00	16.60	0.00	0.	0.00
2	16.600	25.23	0.00	5.24	73.11	5.48	0.28	0.34	2.77	0.34	0.20	0.00	0.00	0.00	0.00	16.61	0.00	0.	0.00
3	16.500	25.23	0.00	5.21	72.71	5.24	0.38	0.49	2.87	0.49	0.28	0.00	0.00	0.00	0.00	16.61	0.00	0.	0.00
4	16.400	25.23	0.00	5.19	72.33	5.13	0.46	0.62	2.95	0.62	0.36	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00

5	16.300	25.23	0.00	5.16	71.94	5.08	0.53	0.74	3.02	0.74	0.42	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
6	16.200	25.23	0.00	5.13	71.57	5.05	0.59	0.84	3.08	0.84	0.48	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
7	16.100	25.23	0.00	5.11	71.19	5.04	0.64	0.94	3.13	0.94	0.53	0.00	0.00	0.00	0.00	16.63	0.00	0.	0.00
8	16.000	25.23	0.00	5.08	70.82	5.03	0.67	1.03	3.17	1.03	0.57	0.00	0.00	0.00	0.00	16.63	0.00	0.	0.00
9	15.900	25.23	0.00	5.05	70.45	5.02	0.71	1.11	3.20	1.11	0.61	0.00	0.00	0.00	0.00	16.64	0.00	0.	0.00
10	15.800	25.23	0.00	5.03	70.09	5.02	0.73	1.18	3.23	1.18	0.64	0.00	0.00	0.00	0.00	16.64	0.00	0.	0.00
11	15.700	25.23	0.00	5.00	69.73	5.01	0.76	1.25	3.25	1.25	0.67	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
12	15.600	25.23	0.00	4.98	69.38	5.01	0.77	1.31	3.27	1.31	0.70	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
13	15.500	25.23	0.00	4.95	69.02	5.01	0.79	1.36	3.29	1.36	0.72	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
14	15.400	25.23	0.00	4.93	68.67	5.01	0.80	1.41	3.30	1.41	0.75	0.00	0.00	0.00	0.00	16.66	0.00	0.	0.00
15	15.300	25.23	0.00	4.90	68.33	5.00	0.81	1.46	3.31	1.46	0.76	0.00	0.00	0.00	0.00	16.66	0.00	0.	0.00
16	15.200	25.23	0.00	4.88	67.99	5.00	0.82	1.50	3.32	1.50	0.78	0.00	0.00	0.00	0.00	16.67	0.00	0.	0.00
17	15.100	25.23	0.00	4.85	67.65	5.00	0.83	1.53	3.33	1.53	0.80	0.00	0.00	0.00	0.00	16.67	0.00	0.	0.00
18	15.000	25.23	0.00	4.83	67.31	5.00	0.83	1.57	3.33	1.57	0.81	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
19	14.900	25.23	0.00	4.80	66.98	5.00	0.84	1.60	3.34	1.60	0.82	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
20	14.800	25.23	0.00	4.78	66.65	5.00	0.84	1.63	3.35	1.63	0.83	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
21	14.700	25.23	0.00	4.76	66.33	4.99	0.85	1.65	3.35	1.65	0.84	0.00	0.00	0.00	0.00	16.69	0.00	0.	0.00
22	14.600	25.23	0.00	4.73	66.01	4.99	0.85	1.68	3.35	1.68	0.85	0.00	0.00	0.00	0.00	16.69	0.00	0.	0.00
23	14.500	25.23	0.00	4.71	65.69	4.99	0.85	1.70	3.36	1.70	0.86	0.00	0.00	0.00	0.00	16.70	0.00	0.	0.00
24	14.400	25.23	0.00	4.69	65.37	4.99	0.85	1.72	3.36	1.72	0.86	0.00	0.00	0.00	0.00	16.70	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 2 WAC2 TO WAC3 WEST ANACOCO CREEK SUMMER 100% REDUCTION IN MAN-MADE LOADING

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
25	UPR RCH	0.00260	25.23	0.00	4.69	65.37	4.99	0.85	1.72	3.36	1.72	0.86	0.00	0.00	0.00	16.70	0.00	0.00
EACH	INCR	0.00001	19.62	0.00	4.00	60.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	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	MEAN VELO m/s
25	14.40	14.30	0.00261	0.0	0.00133	0.87	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
26	14.30	14.20	0.00261	0.0	0.00134	0.87	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
27	14.20	14.10	0.00262	0.0	0.00134	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
28	14.10	14.00	0.00262	0.0	0.00134	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
29	14.00	13.90	0.00263	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
30	13.90	13.80	0.00263	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
31	13.80	13.70	0.00264	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
32	13.70	13.60	0.00264	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
33	13.60	13.50	0.00265	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
34	13.50	13.40	0.00265	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
35	13.40	13.30	0.00266	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
36	13.30	13.20	0.00266	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
37	13.20	13.10	0.00267	0.0	0.00137	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
38	13.10	13.00	0.00267	0.0	0.00137	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
39	13.00	12.90	0.00268	0.0	0.00137	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
40	12.90	12.80	0.00268	0.0	0.00137	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
41	12.80	12.70	0.00269	0.0	0.00138	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
42	12.70	12.60	0.00269	0.0	0.00138	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001

43	12.60	12.50	0.00270	0.0	0.00138	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
44	12.50	12.40	0.00271	0.0	0.00139	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
45	12.40	12.30	0.00271	0.0	0.00139	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
46	12.30	12.20	0.00272	0.0	0.00139	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
47	12.20	12.10	0.00272	0.0	0.00139	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
48	12.10	12.00	0.00273	0.0	0.00140	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
49	12.00	11.90	0.00273	0.0	0.00140	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
50	11.90	11.80	0.00274	0.0	0.00140	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
51	11.80	11.70	0.00274	0.0	0.00140	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
52	11.70	11.60	0.00275	0.0	0.00141	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
53	11.60	11.50	0.00275	0.0	0.00141	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
54	11.50	11.40	0.00276	0.0	0.00141	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
55	11.40	11.30	0.00276	0.0	0.00142	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
56	11.30	11.20	0.00277	0.0	0.00142	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
57	11.20	11.10	0.00277	0.0	0.00142	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
58	11.10	11.00	0.00278	0.0	0.00142	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
59	11.00	10.90	0.00278	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
60	10.90	10.80	0.00279	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
61	10.80	10.70	0.00279	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
62	10.70	10.60	0.00280	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
63	10.60	10.50	0.00281	0.0	0.00144	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
64	10.50	10.40	0.00281	0.0	0.00144	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
65	10.40	10.30	0.00282	0.0	0.00144	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
66	10.30	10.20	0.00282	0.0	0.00144	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
67	10.20	10.10	0.00283	0.0	0.00145	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
68	10.10	10.00	0.00283	0.0	0.00145	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
69	10.00	9.90	0.00284	0.0	0.00145	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
70	9.90	9.80	0.00284	0.0	0.00146	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
71	9.80	9.70	0.00285	0.0	0.00146	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
72	9.70	9.60	0.00285	0.0	0.00146	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
73	9.60	9.50	0.00286	0.0	0.00146	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
74	9.50	9.40	0.00286	0.0	0.00147	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
75	9.40	9.30	0.00287	0.0	0.00147	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
76	9.30	9.20	0.00287	0.0	0.00147	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
77	9.20	9.10	0.00288	0.0	0.00147	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
78	9.10	9.00	0.00288	0.0	0.00148	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
79	9.00	8.90	0.00289	0.0	0.00148	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
80	8.90	8.80	0.00289	0.0	0.00148	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
81	8.80	8.70	0.00290	0.0	0.00149	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
TOT						46.84			11128.14	36485.70					
AVG					0.0014		0.31	6.40			1.95				
CUM						54.91									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
25	14.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	14.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	14.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	14.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	13.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	13.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	13.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	13.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

33	13.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	13.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	13.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	13.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	13.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	13.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	12.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	12.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	12.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	12.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	12.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	12.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	12.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	12.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	12.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	12.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	11.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	11.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	11.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	11.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	11.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	11.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	11.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	11.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	11.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	11.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	10.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	10.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	10.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	10.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	10.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	10.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	10.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	10.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	10.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	10.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	9.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	9.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	9.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	9.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	9.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	9.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	9.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	9.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	9.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	9.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	8.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	8.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81	8.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			2.30	0.23	0.20	0.00	0.03	0.20	0.00	1.53			0.14	0.20	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM

25	14.300	25.23	0.00	4.69	65.36	5.18	1.05	1.70	3.52	1.70	0.84	0.00	0.00	0.00	0.00	16.46	0.00	0.	0.00
26	14.200	25.23	0.00	4.69	65.35	5.23	1.19	1.69	3.62	1.69	0.83	0.00	0.00	0.00	0.00	16.23	0.00	0.	0.00
27	14.100	25.23	0.00	4.68	65.34	5.24	1.28	1.68	3.68	1.68	0.82	0.00	0.00	0.00	0.00	15.99	0.00	0.	0.00
28	14.000	25.23	0.00	4.68	65.33	5.24	1.35	1.67	3.71	1.67	0.81	0.00	0.00	0.00	0.00	15.75	0.00	0.	0.00
29	13.900	25.23	0.00	4.68	65.32	5.24	1.39	1.67	3.72	1.67	0.81	0.00	0.00	0.00	0.00	15.52	0.00	0.	0.00
30	13.800	25.23	0.00	4.68	65.31	5.23	1.43	1.66	3.72	1.66	0.80	0.00	0.00	0.00	0.00	15.28	0.00	0.	0.00
31	13.700	25.23	0.00	4.68	65.30	5.23	1.45	1.66	3.70	1.66	0.80	0.00	0.00	0.00	0.00	15.04	0.00	0.	0.00
32	13.600	25.23	0.00	4.68	65.29	5.23	1.46	1.66	3.68	1.66	0.80	0.00	0.00	0.00	0.00	14.81	0.00	0.	0.00
33	13.500	25.23	0.00	4.68	65.28	5.23	1.47	1.65	3.66	1.65	0.80	0.00	0.00	0.00	0.00	14.57	0.00	0.	0.00
34	13.400	25.23	0.00	4.67	65.27	5.23	1.48	1.65	3.63	1.65	0.79	0.00	0.00	0.00	0.00	14.33	0.00	0.	0.00
35	13.300	25.23	0.00	4.67	65.26	5.22	1.49	1.65	3.60	1.65	0.79	0.00	0.00	0.00	0.00	14.09	0.00	0.	0.00
36	13.200	25.23	0.00	4.67	65.25	5.22	1.49	1.65	3.57	1.65	0.79	0.00	0.00	0.00	0.00	13.86	0.00	0.	0.00
37	13.100	25.23	0.00	4.67	65.24	5.22	1.49	1.65	3.53	1.65	0.79	0.00	0.00	0.00	0.00	13.62	0.00	0.	0.00
38	13.000	25.23	0.00	4.67	65.23	5.22	1.49	1.65	3.50	1.65	0.79	0.00	0.00	0.00	0.00	13.38	0.00	0.	0.00
39	12.900	25.23	0.00	4.67	65.21	5.22	1.49	1.65	3.47	1.65	0.79	0.00	0.00	0.00	0.00	13.15	0.00	0.	0.00
40	12.800	25.23	0.00	4.67	65.20	5.22	1.49	1.65	3.43	1.65	0.79	0.00	0.00	0.00	0.00	12.91	0.00	0.	0.00
41	12.700	25.23	0.00	4.67	65.19	5.22	1.50	1.65	3.40	1.65	0.79	0.00	0.00	0.00	0.00	12.67	0.00	0.	0.00
42	12.600	25.23	0.00	4.66	65.18	5.22	1.50	1.64	3.36	1.64	0.79	0.00	0.00	0.00	0.00	12.44	0.00	0.	0.00
43	12.500	25.23	0.00	4.66	65.17	5.22	1.50	1.64	3.33	1.64	0.79	0.00	0.00	0.00	0.00	12.20	0.00	0.	0.00
44	12.400	25.23	0.00	4.66	65.16	5.22	1.50	1.64	3.29	1.64	0.79	0.00	0.00	0.00	0.00	11.96	0.00	0.	0.00
45	12.300	25.23	0.00	4.66	65.15	5.22	1.50	1.64	3.26	1.64	0.79	0.00	0.00	0.00	0.00	11.73	0.00	0.	0.00
46	12.200	25.23	0.00	4.66	65.14	5.22	1.50	1.64	3.22	1.64	0.79	0.00	0.00	0.00	0.00	11.49	0.00	0.	0.00
47	12.100	25.23	0.00	4.66	65.13	5.22	1.50	1.64	3.18	1.64	0.79	0.00	0.00	0.00	0.00	11.25	0.00	0.	0.00
48	12.000	25.23	0.00	4.66	65.12	5.22	1.50	1.64	3.15	1.64	0.79	0.00	0.00	0.00	0.00	11.02	0.00	0.	0.00
49	11.900	25.23	0.00	4.66	65.11	5.22	1.50	1.64	3.11	1.64	0.79	0.00	0.00	0.00	0.00	10.78	0.00	0.	0.00
50	11.800	25.23	0.00	4.65	65.10	5.22	1.50	1.64	3.08	1.64	0.79	0.00	0.00	0.00	0.00	10.54	0.00	0.	0.00
51	11.700	25.23	0.00	4.65	65.09	5.22	1.50	1.64	3.04	1.64	0.79	0.00	0.00	0.00	0.00	10.31	0.00	0.	0.00
52	11.600	25.23	0.00	4.65	65.08	5.22	1.50	1.64	3.01	1.64	0.79	0.00	0.00	0.00	0.00	10.07	0.00	0.	0.00
53	11.500	25.23	0.00	4.65	65.08	5.22	1.50	1.64	2.97	1.64	0.79	0.00	0.00	0.00	0.00	9.83	0.00	0.	0.00
54	11.400	25.23	0.00	4.65	65.07	5.22	1.50	1.64	2.94	1.64	0.79	0.00	0.00	0.00	0.00	9.59	0.00	0.	0.00
55	11.300	25.23	0.00	4.65	65.06	5.22	1.50	1.64	2.90	1.64	0.79	0.00	0.00	0.00	0.00	9.36	0.00	0.	0.00
56	11.200	25.23	0.00	4.65	65.05	5.22	1.50	1.64	2.86	1.64	0.79	0.00	0.00	0.00	0.00	9.12	0.00	0.	0.00
57	11.100	25.23	0.00	4.65	65.04	5.22	1.50	1.64	2.83	1.64	0.79	0.00	0.00	0.00	0.00	8.88	0.00	0.	0.00
58	11.000	25.23	0.00	4.64	65.03	5.22	1.50	1.64	2.79	1.64	0.79	0.00	0.00	0.00	0.00	8.65	0.00	0.	0.00
59	10.900	25.23	0.00	4.64	65.02	5.22	1.50	1.64	2.76	1.64	0.79	0.00	0.00	0.00	0.00	8.41	0.00	0.	0.00
60	10.800	25.23	0.00	4.64	65.01	5.22	1.50	1.64	2.72	1.64	0.79	0.00	0.00	0.00	0.00	8.17	0.00	0.	0.00
61	10.700	25.23	0.00	4.64	65.00	5.22	1.50	1.64	2.69	1.64	0.79	0.00	0.00	0.00	0.00	7.94	0.00	0.	0.00
62	10.600	25.23	0.00	4.64	64.99	5.22	1.50	1.64	2.65	1.64	0.79	0.00	0.00	0.00	0.00	7.70	0.00	0.	0.00
63	10.500	25.23	0.00	4.64	64.98	5.22	1.50	1.64	2.62	1.64	0.79	0.00	0.00	0.00	0.00	7.46	0.00	0.	0.00
64	10.400	25.23	0.00	4.64	64.97	5.22	1.50	1.64	2.58	1.64	0.79	0.00	0.00	0.00	0.00	7.23	0.00	0.	0.00
65	10.300	25.23	0.00	4.64	64.96	5.22	1.50	1.64	2.54	1.64	0.79	0.00	0.00	0.00	0.00	6.99	0.00	0.	0.00
66	10.200	25.23	0.00	4.63	64.95	5.22	1.50	1.64	2.51	1.64	0.79	0.00	0.00	0.00	0.00	6.75	0.00	0.	0.00
67	10.100	25.23	0.00	4.63	64.94	5.22	1.50	1.64	2.47	1.64	0.79	0.00	0.00	0.00	0.00	6.52	0.00	0.	0.00
68	10.000	25.23	0.00	4.63	64.93	5.22	1.50	1.64	2.44	1.64	0.79	0.00	0.00	0.00	0.00	6.28	0.00	0.	0.00
69	9.900	25.23	0.00	4.63	64.92	5.22	1.50	1.64	2.40	1.64	0.79	0.00	0.00	0.00	0.00	6.04	0.00	0.	0.00
70	9.800	25.23	0.00	4.63	64.92	5.22	1.50	1.64	2.37	1.64	0.79	0.00	0.00	0.00	0.00	5.81	0.00	0.	0.00
71	9.700	25.23	0.00	4.63	64.91	5.22	1.50	1.64	2.33	1.64	0.79	0.00	0.00	0.00	0.00	5.57	0.00	0.	0.00
72	9.600	25.23	0.00	4.63	64.90	5.22	1.50	1.64	2.30	1.64	0.79	0.00	0.00	0.00	0.00	5.33	0.00	0.	0.00
73	9.500	25.23	0.00	4.63	64.89	5.22	1.50	1.64	2.26	1.64	0.79	0.00	0.00	0.00	0.00	5.09	0.00	0.	0.00
74	9.400	25.23	0.00	4.63	64.88	5.22	1.50	1.64	2.23	1.64	0.79	0.00	0.00	0.00	0.00	4.86	0.00	0.	0.00
75	9.300	25.23	0.00	4.62	64.87	5.22	1.50	1.64	2.19	1.64	0.79	0.00	0.00	0.00	0.00	4.62	0.00	0.	0.00
76	9.200	25.23	0.00	4.62	64.86	5.22	1.50	1.64	2.15	1.64	0.79	0.00	0.00	0.00	0.00	4.38	0.00	0.	0.00
77	9.100	25.23	0.00	4.62	64.85	5.22	1.50	1.64	2.12	1.64	0.79	0.00	0.00	0.00	0.00	4.15	0.00	0.	0.00
78	9.000	25.23	0.00	4.62	64.84	5.22	1.50	1.64	2.08	1.64	0.79	0.00	0.00	0.00	0.00	3.91	0.00	0.	0.00
79	8.900	25.23	0.00	4.62	64.83	5.22	1.50	1.64	2.05	1.64	0.79	0.00	0.00	0.00	0.00	3.67	0.00	0.	0.00
80	8.800	25.23	0.00	4.62	64.83	5.22	1.50	1.64	2.01	1.64	0.79	0.00	0.00	0.00	0.00	3.44	0.00	0.	0.00
81	8.700	25.23	0.00	4.62	64.82	5.22	1.50	1.64	1.98	1.64	0.79	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER — WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 3 WAC3 TO WAC4 — WEST ANACOCO CREEK SUMMER 100% REDUCTION IN MAN-MADE LOADING

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
82	UPR RCH	0.00290	25.23	0.00	4.62	64.82	5.22	1.50	1.64	1.98	1.64	0.79	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.01766	19.62	0.00	4.70	65.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/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	MEAN VELO m/s
82	8.70	8.60	0.02056	0.0	0.04763	0.02	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.048
83	8.60	8.50	0.03821	0.0	0.08855	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.089
84	8.50	8.40	0.05587	0.0	0.12946	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.129
85	8.40	8.30	0.07352	0.0	0.17038	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.170
86	8.30	8.20	0.09118	0.0	0.21129	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.211
87	8.20	8.10	0.10883	0.0	0.25221	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.252
88	8.10	8.00	0.12649	0.0	0.29312	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.293
89	8.00	7.90	0.14414	0.0	0.33403	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.334
90	7.90	7.80	0.16180	0.0	0.37495	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.375
TOT						0.07			388.37	2194.20					
AVG					0.1414		0.18	2.44			0.43				
CUM						54.99									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
82	8.600	8.23	4.37	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83	8.500	8.23	5.16	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	8.400	8.23	5.72	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	8.300	8.23	6.16	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	8.200	8.23	6.54	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	8.100	8.23	6.86	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.15	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	8.000	8.23	7.15	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.15	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	7.900	8.23	7.41	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.15	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	7.800	8.23	7.64	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.15	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			5.73	0.27	0.20	0.00	0.03	0.20	0.00	0.23			0.11	0.20	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* g/m²/d ** mg/L/day

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

ELEM	ENDING	TEMP	SALN	CM-I	CM-II	DO	BOD#1	BOD#2	EBOD#1	EBOD#2	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	mg/L	mg/L	mg/L	mg/L	µg/L	g/m³	#/100mL	
82	8.600	25.23	0.00	4.69	64.97	4.41	0.64	0.84	1.12	0.84	0.15	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
83	8.500	25.23	0.00	4.69	64.99	4.39	0.58	0.78	1.06	0.78	0.11	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
84	8.400	25.23	0.00	4.70	64.99	4.40	0.55	0.76	1.03	0.76	0.09	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
85	8.300	25.23	0.00	4.70	64.99	4.41	0.54	0.75	1.02	0.75	0.08	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
86	8.200	25.23	0.00	4.70	64.99	4.43	0.53	0.74	1.01	0.74	0.07	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
87	8.100	25.23	0.00	4.70	65.00	4.45	0.53	0.74	1.01	0.74	0.07	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
88	8.000	25.23	0.00	4.70	65.00	4.46	0.52	0.73	1.00	0.73	0.07	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
89	7.900	25.23	0.00	4.70	65.00	4.48	0.52	0.73	1.00	0.73	0.07	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
90	7.800	25.23	0.00	4.70	65.00	4.49	0.52	0.73	1.00	0.73	0.06	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 4 WAC4 TO Elder Branch Creek WEST ANACOCO CREEK SUMMER 100% REDUCTION IN MAN-MADE LOADING

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
91	UPR RCH	0.16180	25.23	0.00	4.70	65.00	4.49	0.52	0.73	1.00	0.73	0.06	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.00482	19.62	0.00	3.80	33.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	
123	WSTLD	0.00230	25.23	0.00	3.40	32.30	5.00	2.36	0.00	2.36	0.00	0.71	0.00	0.00	0.00	2.30	0.00	0.00

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/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	MEAN VELO m/s
91	7.80	7.70	0.16662	0.0	0.04261	0.03	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.043
92	7.70	7.60	0.17143	0.0	0.04384	0.03	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.044
93	7.60	7.50	0.17625	0.0	0.04507	0.03	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.045
94	7.50	7.40	0.18106	0.0	0.04630	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.046
95	7.40	7.30	0.18588	0.0	0.04753	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.048
96	7.30	7.20	0.19069	0.0	0.04876	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.049
97	7.20	7.10	0.19551	0.0	0.05000	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.050
98	7.10	7.00	0.20032	0.0	0.05123	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.051
99	7.00	6.90	0.20514	0.0	0.05246	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.052
100	6.90	6.80	0.20995	0.0	0.05369	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.054
101	6.80	6.70	0.21477	0.0	0.05492	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.055
102	6.70	6.60	0.21958	0.0	0.05615	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.056
103	6.60	6.50	0.22440	0.0	0.05738	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.057
104	6.50	6.40	0.22921	0.0	0.05861	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.059
105	6.40	6.30	0.23403	0.0	0.05985	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.060
106	6.30	6.20	0.23884	0.0	0.06108	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.061
107	6.20	6.10	0.24366	0.0	0.06231	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.062
108	6.10	6.00	0.24847	0.0	0.06354	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.064
109	6.00	5.90	0.25329	0.0	0.06477	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.065
110	5.90	5.80	0.25810	0.0	0.06600	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.066
111	5.80	5.70	0.26292	0.0	0.06723	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.067
112	5.70	5.60	0.26773	0.0	0.06847	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.068
113	5.60	5.50	0.27255	0.0	0.06970	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.070
114	5.50	5.40	0.27736	0.0	0.07093	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.071
115	5.40	5.30	0.28218	0.0	0.07216	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.072
116	5.30	5.20	0.28699	0.0	0.07339	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.073

117	5.20	5.10	0.29181	0.0	0.07462	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.075
118	5.10	5.00	0.29662	0.0	0.07585	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.076
119	5.00	4.90	0.30144	0.0	0.07708	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.077
120	4.90	4.80	0.30625	0.0	0.07832	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.078
121	4.80	4.70	0.31107	0.0	0.07955	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.080
122	4.70	4.60	0.31588	0.0	0.08078	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.081
123	4.60	4.50	0.32300	0.7	0.08260	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.083
TOT						0.64			12904.63	22799.71					
AVG					0.0600		0.57	6.91			3.91				
CUM						55.62									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
91	7.700	8.23	1.49	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	7.600	8.23	1.51	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	7.500	8.23	1.52	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	7.400	8.23	1.53	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	7.300	8.23	1.54	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	7.200	8.23	1.55	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	7.100	8.23	1.56	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	7.000	8.23	1.57	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
99	6.900	8.23	1.58	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	6.800	8.23	1.59	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101	6.700	8.23	1.60	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102	6.600	8.23	1.61	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
103	6.500	8.23	1.62	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
104	6.400	8.23	1.63	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	6.300	8.23	1.64	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
106	6.200	8.23	1.65	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107	6.100	8.23	1.66	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
108	6.000	8.23	1.67	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
109	5.900	8.23	1.67	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	5.800	8.23	1.68	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
111	5.700	8.23	1.69	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112	5.600	8.23	1.70	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113	5.500	8.23	1.71	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114	5.400	8.23	1.72	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	5.300	8.23	1.72	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116	5.200	8.23	1.73	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117	5.100	8.23	1.74	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
118	5.000	8.23	1.75	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
119	4.900	8.23	1.76	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	4.800	8.23	1.76	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
121	4.700	8.23	1.77	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
122	4.600	8.23	1.78	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	4.500	8.23	1.79	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			1.49	0.22	0.50	0.00	0.03	0.50	0.00	0.24			0.21	0.50	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
91	7.700	25.23	0.00	4.67	64.07	4.60	0.53	0.75	1.01	0.75	0.08	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
92	7.600	25.23	0.00	4.65	63.20	4.70	0.54	0.77	1.02	0.77	0.10	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
93	7.500	25.23	0.00	4.62	62.37	4.79	0.55	0.79	1.03	0.79	0.11	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
94	7.400	25.23	0.00	4.60	61.59	4.87	0.56	0.81	1.04	0.81	0.12	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
95	7.300	25.23	0.00	4.58	60.85	4.95	0.56	0.83	1.04	0.83	0.13	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
96	7.200	25.23	0.00	4.56	60.15	5.02	0.57	0.84	1.05	0.84	0.15	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
97	7.100	25.23	0.00	4.54	59.48	5.09	0.58	0.86	1.06	0.86	0.16	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
98	7.000	25.23	0.00	4.53	58.84	5.15	0.58	0.87	1.06	0.87	0.17	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
99	6.900	25.23	0.00	4.51	58.24	5.20	0.59	0.89	1.07	0.89	0.17	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
100	6.800	25.23	0.00	4.49	57.66	5.26	0.59	0.90	1.07	0.90	0.18	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
101	6.700	25.23	0.00	4.48	57.11	5.31	0.60	0.91	1.08	0.91	0.19	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
102	6.600	25.23	0.00	4.46	56.58	5.35	0.60	0.92	1.08	0.92	0.20	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
103	6.500	25.23	0.00	4.45	56.07	5.40	0.61	0.93	1.09	0.93	0.21	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
104	6.400	25.23	0.00	4.43	55.59	5.44	0.61	0.94	1.09	0.94	0.21	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
105	6.300	25.23	0.00	4.42	55.12	5.48	0.62	0.95	1.10	0.95	0.22	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
106	6.200	25.23	0.00	4.41	54.68	5.51	0.62	0.96	1.10	0.96	0.22	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
107	6.100	25.23	0.00	4.40	54.25	5.55	0.62	0.97	1.10	0.97	0.23	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
108	6.000	25.23	0.00	4.39	53.84	5.58	0.63	0.98	1.11	0.98	0.23	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
109	5.900	25.23	0.00	4.37	53.44	5.61	0.63	0.98	1.11	0.98	0.24	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
110	5.800	25.23	0.00	4.36	53.06	5.64	0.63	0.99	1.11	0.99	0.24	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
111	5.700	25.23	0.00	4.35	52.69	5.66	0.63	1.00	1.11	1.00	0.25	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
112	5.600	25.23	0.00	4.34	52.34	5.69	0.64	1.01	1.12	1.01	0.25	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
113	5.500	25.23	0.00	4.33	52.00	5.71	0.64	1.01	1.12	1.01	0.26	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
114	5.400	25.23	0.00	4.32	51.67	5.74	0.64	1.02	1.12	1.02	0.26	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
115	5.300	25.23	0.00	4.32	51.35	5.76	0.64	1.02	1.12	1.02	0.26	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
116	5.200	25.23	0.00	4.31	51.04	5.78	0.65	1.03	1.13	1.03	0.27	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
117	5.100	25.23	0.00	4.30	50.74	5.80	0.65	1.03	1.13	1.03	0.27	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
118	5.000	25.23	0.00	4.29	50.45	5.82	0.65	1.04	1.13	1.04	0.27	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
119	4.900	25.23	0.00	4.28	50.17	5.84	0.65	1.04	1.13	1.04	0.28	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
120	4.800	25.23	0.00	4.27	49.90	5.86	0.65	1.05	1.13	1.05	0.28	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
121	4.700	25.23	0.00	4.27	49.64	5.87	0.66	1.05	1.14	1.05	0.28	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
122	4.600	25.23	0.00	4.26	49.39	5.89	0.66	1.06	1.14	1.06	0.29	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
123	4.500	25.23	0.00	4.25	49.02	5.90	0.67	1.06	1.15	1.06	0.29	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 5 Elder Branch TO Little Sandy WEST ANACOCO CREEK SUMMER 100% REDUCTION IN MAN-MADE LOADING

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
124	UPR RCH	0.32300	25.23	0.00	4.25	49.02	5.90	0.67	1.06	1.15	1.06	0.29	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.00794	19.62	0.00	3.80	33.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/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	MEAN VELO m/s
124	4.50	4.40	0.33095	0.7	0.03045	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.030

125	4.40	4.30	0.33889	0.7	0.03118	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.031
126	4.30	4.20	0.34684	0.7	0.03191	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.032
127	4.20	4.10	0.35478	0.6	0.03264	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.033
128	4.10	4.00	0.36273	0.6	0.03338	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.033
129	4.00	3.90	0.37067	0.6	0.03411	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.034
130	3.90	3.80	0.37862	0.6	0.03484	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.035
131	3.80	3.70	0.38656	0.6	0.03557	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.036
132	3.70	3.60	0.39451	0.6	0.03630	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.036
133	3.60	3.50	0.40245	0.6	0.03703	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.037
134	3.50	3.40	0.41040	0.6	0.03776	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.038
135	3.40	3.30	0.41834	0.5	0.03849	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.038
136	3.30	3.20	0.42629	0.5	0.03922	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.039
137	3.20	3.10	0.43423	0.5	0.03996	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.040
138	3.10	3.00	0.44218	0.5	0.04069	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.041
139	3.00	2.90	0.45012	0.5	0.04142	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.041
140	2.90	2.80	0.45807	0.5	0.04215	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.042
141	2.80	2.70	0.46601	0.5	0.04288	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.043
142	2.70	2.60	0.47396	0.5	0.04361	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.044
143	2.60	2.50	0.48190	0.5	0.04434	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.044
TOT						0.63			21735.80	22760.00					
AVG					0.0369		0.96	11.38			10.87				
CUM						56.25									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
124	4.400	8.23	0.85	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	4.300	8.23	0.86	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126	4.200	8.23	0.86	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127	4.100	8.23	0.87	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128	4.000	8.23	0.88	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
129	3.900	8.23	0.88	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	3.800	8.23	0.89	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
131	3.700	8.23	0.89	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132	3.600	8.23	0.90	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
133	3.500	8.23	0.90	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
134	3.400	8.23	0.91	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	3.300	8.23	0.91	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
136	3.200	8.23	0.91	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
137	3.100	8.23	0.92	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
138	3.000	8.23	0.92	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
139	2.900	8.23	0.93	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	2.800	8.23	0.93	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
141	2.700	8.23	0.94	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142	2.600	8.23	0.94	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
143	2.500	8.23	0.95	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			0.82	0.22	0.50	0.00	0.03	0.50	0.00	0.02			0.21	0.50	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
124	4.400	25.23	0.00	4.24	48.64	5.91	0.66	1.05	1.36	1.05	0.30	0.00	0.00	0.00	0.00	4.69	0.00	0.	0.00
125	4.300	25.23	0.00	4.23	48.27	5.92	0.65	1.05	1.58	1.05	0.31	0.00	0.00	0.00	0.00	6.17	0.00	0.	0.00
126	4.200	25.23	0.00	4.22	47.92	5.94	0.64	1.05	1.79	1.05	0.32	0.00	0.00	0.00	0.00	7.66	0.00	0.	0.00
127	4.100	25.23	0.00	4.21	47.59	5.95	0.64	1.05	2.01	1.05	0.33	0.00	0.00	0.00	0.00	9.14	0.00	0.	0.00
128	4.000	25.23	0.00	4.20	47.27	5.96	0.63	1.05	2.22	1.05	0.34	0.00	0.00	0.00	0.00	10.63	0.00	0.	0.00
129	3.900	25.23	0.00	4.19	46.96	5.97	0.62	1.05	2.44	1.05	0.34	0.00	0.00	0.00	0.00	12.11	0.00	0.	0.00
130	3.800	25.23	0.00	4.18	46.67	5.98	0.62	1.05	2.65	1.05	0.35	0.00	0.00	0.00	0.00	13.60	0.00	0.	0.00
131	3.700	25.23	0.00	4.17	46.39	5.99	0.61	1.04	2.87	1.04	0.36	0.00	0.00	0.00	0.00	15.08	0.00	0.	0.00
132	3.600	25.23	0.00	4.17	46.12	6.00	0.60	1.04	3.09	1.04	0.36	0.00	0.00	0.00	0.00	16.57	0.00	0.	0.00
133	3.500	25.23	0.00	4.16	45.86	6.01	0.60	1.04	3.31	1.04	0.37	0.00	0.00	0.00	0.00	18.05	0.00	0.	0.00
134	3.400	25.23	0.00	4.15	45.61	6.02	0.59	1.04	3.52	1.04	0.37	0.00	0.00	0.00	0.00	19.54	0.00	0.	0.00
135	3.300	25.23	0.00	4.15	45.37	6.03	0.59	1.04	3.74	1.04	0.38	0.00	0.00	0.00	0.00	21.02	0.00	0.	0.00
136	3.200	25.23	0.00	4.14	45.14	6.03	0.58	1.04	3.96	1.04	0.38	0.00	0.00	0.00	0.00	22.51	0.00	0.	0.00
137	3.100	25.23	0.00	4.13	44.92	6.04	0.58	1.04	4.18	1.04	0.39	0.00	0.00	0.00	0.00	23.99	0.00	0.	0.00
138	3.000	25.23	0.00	4.13	44.70	6.05	0.58	1.04	4.40	1.04	0.39	0.00	0.00	0.00	0.00	25.48	0.00	0.	0.00
139	2.900	25.23	0.00	4.12	44.50	6.06	0.57	1.04	4.62	1.04	0.40	0.00	0.00	0.00	0.00	26.96	0.00	0.	0.00
140	2.800	25.23	0.00	4.12	44.30	6.07	0.57	1.04	4.84	1.04	0.40	0.00	0.00	0.00	0.00	28.45	0.00	0.	0.00
141	2.700	25.23	0.00	4.11	44.11	6.07	0.57	1.04	5.06	1.04	0.40	0.00	0.00	0.00	0.00	29.93	0.00	0.	0.00
142	2.600	25.23	0.00	4.10	43.92	6.08	0.56	1.04	5.28	1.04	0.41	0.00	0.00	0.00	0.00	31.42	0.00	0.	0.00
143	2.500	25.23	0.00	4.10	43.74	6.09	0.56	1.03	5.50	1.03	0.41	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 6 Little Sandy TO WAC5 WEST ANACOCO CREEK SUMMER 100% REDUCTION IN MAN-MADE LOADING

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
144	UPR RCH	0.48190	25.23	0.00	4.10	43.74	6.09	0.56	1.03	5.50	1.03	0.41	0.00	0.00	0.00	32.90	0.00	0.00
EACH	INCR	0.00636	19.62	0.00	2.50	0.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	
144	WSTLD	0.00230	25.23	0.00	2.70	22.00	5.00	0.68	0.00	0.68	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00

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

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/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	MEAN VELO m/s
144	2.50	2.40	0.49056	0.9	0.02303	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.023
145	2.40	2.30	0.49691	0.9	0.02333	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.023
146	2.30	2.20	0.50327	0.9	0.02362	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.024
147	2.20	2.10	0.50962	0.9	0.02392	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.024
148	2.10	2.00	0.51598	0.9	0.02422	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.024
149	2.00	1.90	0.52234	0.9	0.02452	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
150	1.90	1.80	0.52869	0.9	0.02482	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
151	1.80	1.70	0.53505	0.9	0.02512	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
152	1.70	1.60	0.54140	0.8	0.02542	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
153	1.60	1.50	0.54776	0.8	0.02571	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
154	1.50	1.40	0.55412	0.8	0.02601	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
155	1.40	1.30	0.56047	0.8	0.02631	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
156	1.30	1.20	0.56683	0.8	0.02661	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
157	1.20	1.10	0.57318	0.8	0.02691	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027

158	1.10	1.00	0.57954	0.8	0.02721	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
159	1.00	0.90	0.58590	0.8	0.02750	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
160	0.90	0.80	0.59225	0.8	0.02780	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
161	0.80	0.70	0.59861	0.8	0.02810	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
162	0.70	0.60	0.60496	0.8	0.02840	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
163	0.60	0.50	0.61132	0.8	0.02870	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
164	0.50	0.40	0.61768	0.7	0.02900	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
165	0.40	0.30	0.62403	0.7	0.02929	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
166	0.30	0.20	0.63039	0.7	0.02959	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
167	0.20	0.10	0.63674	0.7	0.02989	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
168	0.10	0.00	0.64310	0.7	0.03019	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
TOT						1.09			53255.98	39625.00					
AVG					0.0264		1.34	15.85			21.30				
CUM						57.35									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
144	2.400	8.23	0.58	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	2.300	8.23	0.58	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146	2.200	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147	2.100	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
148	2.000	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
149	1.900	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	1.800	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
151	1.700	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152	1.600	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153	1.500	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
154	1.400	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	1.300	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
156	1.200	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157	1.100	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
158	1.000	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
159	0.900	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.800	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
161	0.700	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162	0.600	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
163	0.500	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
164	0.400	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.300	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166	0.200	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167	0.100	8.23	0.63	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	0.000	8.23	0.63	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			0.55	0.22	0.50	0.00	0.03	0.50	0.00	0.02			0.21	0.50	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM

144	2.400	25.23	0.00	4.07	43.07	6.10	0.55	1.02	5.48	1.02	0.42	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
145	2.300	25.23	0.00	4.05	42.52	6.12	0.53	1.02	5.47	1.02	0.42	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
146	2.200	25.23	0.00	4.03	41.98	6.13	0.52	1.02	5.46	1.02	0.43	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
147	2.100	25.23	0.00	4.01	41.46	6.15	0.51	1.01	5.44	1.01	0.44	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
148	2.000	25.23	0.00	4.00	40.95	6.16	0.50	1.01	5.43	1.01	0.44	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
149	1.900	25.23	0.00	3.98	40.45	6.17	0.49	1.00	5.42	1.00	0.45	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
150	1.800	25.23	0.00	3.96	39.96	6.19	0.48	1.00	5.41	1.00	0.46	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
151	1.700	25.23	0.00	3.94	39.49	6.20	0.47	1.00	5.40	1.00	0.46	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
152	1.600	25.23	0.00	3.92	39.03	6.21	0.46	0.99	5.39	0.99	0.47	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
153	1.500	25.23	0.00	3.91	38.57	6.23	0.45	0.99	5.39	0.99	0.47	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
154	1.400	25.23	0.00	3.89	38.13	6.24	0.44	0.99	5.38	0.99	0.47	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
155	1.300	25.23	0.00	3.88	37.70	6.25	0.44	0.98	5.37	0.98	0.48	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
156	1.200	25.23	0.00	3.86	37.28	6.26	0.43	0.98	5.36	0.98	0.48	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
157	1.100	25.23	0.00	3.85	36.86	6.27	0.42	0.98	5.36	0.98	0.49	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
158	1.000	25.23	0.00	3.83	36.46	6.28	0.42	0.98	5.35	0.98	0.49	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
159	0.900	25.23	0.00	3.82	36.06	6.29	0.41	0.98	5.35	0.98	0.49	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
160	0.800	25.23	0.00	3.80	35.68	6.30	0.40	0.97	5.34	0.97	0.50	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
161	0.700	25.23	0.00	3.79	35.30	6.31	0.40	0.97	5.33	0.97	0.50	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
162	0.600	25.23	0.00	3.78	34.93	6.32	0.39	0.97	5.33	0.97	0.50	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
163	0.500	25.23	0.00	3.76	34.56	6.33	0.39	0.97	5.33	0.97	0.50	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
164	0.400	25.23	0.00	3.75	34.21	6.34	0.39	0.97	5.32	0.97	0.51	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
165	0.300	25.23	0.00	3.74	33.86	6.35	0.38	0.96	5.32	0.96	0.51	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
166	0.200	25.23	0.00	3.72	33.52	6.36	0.38	0.96	5.31	0.96	0.51	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
167	0.100	25.23	0.00	3.71	33.18	6.36	0.37	0.96	5.31	0.96	0.51	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
168	0.000	25.23	0.00	3.70	32.85	6.37	0.37	0.96	5.31	0.96	0.51	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

```
STREAM SUMMARY                                          WEST ANACOCO CREEK WATERSHED MODEL
HEADWATER                                               WEST ANACOCO CREEK SUMMER 100% REDUCTION IN MAN-MADE LOADING

 TRAVEL TIME       =          57.35 DAYS

 MAXIMUM EFFLUENT  =           0.94 PERCENT

 FLOW              =   0.00231 TO    0.64310   m³/s
 DISPERSION        =   0.0000  TO    0.0000    m²/s
 VELOCITY          =   0.00133 TO    0.37495   m/s
 DEPTH             =   0.18    TO    1.34      m
 WIDTH             =   2.44    TO   15.85      m

 BOD DECAY         =    0.29   TO    0.35      per day
 NH3 DECAY         =    0.00   TO    0.00      per day
 SOD               =    0.03   TO    2.41      g/m²/d
 NH3 SOURCE        =    0.00   TO    0.00      g/m²/d
 REAERATION        =    0.58   TO    7.64      per day
 BOD SETTLING      =    0.23   TO    0.57      per day
 NBOD DECAY        =    0.13   TO    0.29      per day
 NBOD SETTLING     =    0.23   TO    0.57      per day

 TEMPERATURE       =   25.23   TO   25.23      deg C
 DISSOLVED OXYGEN  =    4.39   TO    6.37      mg/L


     .....EXECUTION COMPLETED
```

Appendix E - Projection Model Development

Appendix E1 – Summer Loading

Summer Projection,

Modeled stream or water body

Shaded cells are input values
Values to be used in the projection models.

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Reach Number and Description	Reduced Background Benthic Load	Reduced Man-Made Benthic Load	Reduced TCBL adjusted for MOS	Reduced Man-Made Loads: Reduced UCBOD1 Load	Reduced UCBOD2 Load	Reduced Total UCBOD Load	Reduced UNBOD Load	Reduced SOD Load at Projection Temp.	SOD @ 20°C	Projected Model Loads: Non-Point UCBOD1 INPUTS	Non-Point UCBOD2 INPUTS	Non-Point UNBOD INPUTS	**Total MOS at Projection Temp.**	**Non-Point UCBOD1 LA**	**Non-Point UCBOD2 LA**	**Non-Point UCBOD LA**	**Non-Point UNBOD LA**	**SOD LA at Projection Temp.**
	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	g O_2 / [(m^2)(day)]	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day
Reach 1 - WAC1 to WAC2	**2.00**	**0.44**	**2.55**	**0.19**	**0.20**	**0.39**	**0.13**	**4.65**	**2.207**	**1.103**	**1.177**	**0.736**	**1.29**	**1.06**	**1.13**	**2.18**	**0.70**	**25.76**
Reach 2 - WAC2 to WAC3	**2.00**	**0.38**	**2.48**	**1.63**	**0.93**	**2.56**	**0.70**	**14.75**	**1.894**	**10.606**	**6.060**	**4.545**	**4.50**	**10.20**	**5.83**	**16.03**	**4.37**	**92.36**
Reach 3 - WAC3 to WAC4	**2.00**	**14.57**	**20.21**	**7.78**	**15.27**	**23.05**	**5.19**	**5.19**	**2.358**	**10.793**	**21.185**	**7.195**	**8.36**	**8.85**	**17.37**	**26.22**	**5.90**	**5.90**
Reach 4 - WAC4 to Elder Branch Creek	**2.00**	**1.94**	**4.42**	**11.45**	**18.32**	**29.78**	**9.16**	**7.26**	**0.523**	**26.141**	**41.826**	**20.913**	**11.55**	**23.28**	**37.24**	**60.52**	**18.62**	**14.76**
Reach 5 - Elder Branch Creek - Little Sandy Branch Creek	**2.00**	**2.46**	**5.08**	**12.06**	**24.12**	**36.18**	**19.30**	**0.76**	**0.050**	**24.874**	**49.748**	**39.799**	**14.06**	**21.86**	**43.72**	**65.58**	**34.97**	**1.38**
Reach 6 - Little Sandy Branch Creek - WAC5	**2.00**	**2.38**	**4.98**	**13.18**	**40.74**	**53.92**	**39.54**	**1.32**	**0.050**	**27.540**	**85.123**	**82.620**	**23.70**	**24.24**	**74.94**	**99.18**	**72.73**	**2.43**
Sub-Total	12.00	22.17	39.71	46.29	99.59	145.88	74.01	33.93		101.06	205.12	155.81	63.46	**89.48**	**180.22**	**269.71**	**137.30**	**142.59**

Summer TMDL calculations and Projection model calculations for Headwater / Tributary loads:

WEST ANACOCO CREEK (110501) Loading Calculations for a 4.0 mg/L DO

Shaded cells are input values for calculations.	MARGIN OF SAFETY (MOS) (%) =	20%
Values to be used in the projection models.	If modeling the nitrogen series, be sure that columns "H	

Headwater / Tributary Load Determinations

	FROM CALIBRATION						BACKGROUND VALUES							Reduced Background Loads				Reduced Man-Made Loads				PROJECTION VALUES								
Headwater / Tributary Description and Reach #	Seasonal Critical flow (cms)	UCBOD1 (mg O_2/L)	UCBOD2 (mg O_2/L)	Total UCBOD (mg O_2/L)	UNBOD (mg O_2/L)	Total UNBOD (mg O_2/L)	Background UCBOD1 conc. (mg O_2/L)	Background UCBOD2 conc. (mg O_2/L)	Background UCBOD conc. (mg O_2/L)	Background UNBOD conc. (mg O_2/L)	Background UNBOD conc. (mg O_2/L)	Background % Reduction	Percent reduction of Man-Made loads	Reduced Background UCBOD1 load (kg O_2/day)	Reduced Background UCBOD2 load (kg O_2/day)	Total reduced Background UCBOD load (kg O_2/day)	Reduced Background UNBOD load (kg O_2/day)	Reduced UCBOD1 load (kg O_2/day)	Reduced UCBOD2 load (kg O_2/day)	Reduced UCBOD load (kg O_2/day)	Reduced UNBOD load (kg O_2/day)	Projection UCBOD1 input conc. (mg O_2/L)	Projection UCBOD2 input conc. (mg O_2/L)	Projection UCBOD input conc. (mg O_2/L)	Projection UNBOD input conc. (mg O_2/L)	Total MOS (kg O_2/day)	Total CBOD1 LA (kg O_2/day)	Total CBOD2 LA (kg O_2/day)	Total CBOD LA (kg O_2/day)	Total NBOD LA (kg O_2/day)
Headwater	0.00230	0.56	0.23	0.79	0.00	0.00	5.88	0.00	5.88	0.00	0.00	0%	70%	0.11	0.00	0.16	0.00	0.00	0.01	0.00	0.00	0.56	0.09	0.79	0.00	0.00	0.11	0.01	0.16	0.00
Elder Branch Creek	0.00230	2.36	4.04	6.40	0.88	0.88	5.17	0.00	5.17	0.71	0.71	0%	70%	0.47	0.00	1.03	0.14	0.00	0.24	0.07	0.01	2.36	1.51	5.63	0.78	0.02	0.47	0.24	1.10	0.15
Little Sandy Creek	0.00230	0.68	0.55	1.22	0.39	0.39	4.47	0.00	4.47	1.41	1.41	0%	70%	0.13	0.00	0.24	0.08	0.00	0.03	0.00	0.00	0.68	0.21	1.22	0.39	0.00	0.13	0.03	0.24	0.08
SUB-TOTAL TMDL LOADING														0.71	0.00	1.43	0.22	0	0	0.07	0.01					0.02	0.71	0.29	1.50	0.23

WEST ANACOCO CREEK (110501) Loading Calculations for a 4.0 mg/L DO Standard

Shaded cells are input values for calculations.	If modeling the nitrogen series, be sure that columns "H" & "R" are clear of all v	
Values to be used in the projection models.	MARGIN OF SAFETY (MOS) (%) =	20%

Incremental Load Determinations:

Reach Description and #	Calibration Load Determinations						Background Loading Concentrations						Reduced Background Loads			
	Projection Flow (cms)	Calb. UCBOD1 conc. (mg O_2/L)	Calb. UCBOD2 conc. (mg O_2/L)	Calb. Total UCBOD conc. (mg O_2/L)	Calb. UNBOD conc. (mg O_2/L)	Calb. Total UNBOD conc. (mg O_2/L)	Background Conc. UCBOD1 (mg O_2/L)	Background Conc. UCBOD2 (mg O_2/L)	Background Conc. Total UCBOD (mg O_2/L)	Background UNBOD (mg O_2/L)	Background Conc. Total UNBOD (mg O_2/L)	Background % Reduction	Reduced Background UCBOD1 (kg O_2/day)	Reduced Background UCBOD2 (kg O_2/day)	Reduced Background Total UCBOD (kg O_2/day)	Reduced Background UNBOD (kg O_2/day)
Reach 1 - WAC1 to WAC2	0.00030	0.4324	0.5641	1.00	0.0000	0.00	0.4324	0.5641	1.00	0.0000	0.00	0%	0.01	0.01	0.03	0.00
Reach 2 - WAC2 to WAC3	0.00030	0.4324	0.5641	1.00	0.0000	0.00	0.4324	0.5641	1.00	0.0000	0.00	0%	0.01	0.01	0.03	0.00
Reach 3 - WAC3 to WAC4	-0.00830	0.4324	0.5641	1.00	0.0000	0.00	0.4324	0.5641	1.00	0.0000	0.00	0%	-0.31	-0.40	-0.71	0.00
Reach 4 - WAC4 to Elder Branch Creek	0.21480	0.4324	0.5641	1.00	0.0000	0.00	0.4324	0.5641	1.00	0.0000	0.00	0%	8.02	10.47	18.49	0.00
Reach 5 - Elder Branch Creek - Little Sandy Branch Creek	0.21480	0.43	0.56	1.00	0.00	0.00	0.43	0.56	1.00	0.00	0.00	0%	8.02	10.47	18.49	0.00
Reach 6 - Little Sandy Branch Creek - WAC5	0.21480	0.43	0.56	1.00	0.00	0.00	0.43	0.56	1.00	0.00	0.00	0%	8.02	10.47	18.49	0.00
Sub-Total benthic loading													23.79	31.03	54.82	0.00

WEST ANACOCO CREEK

Shaded cells are input values for calculatio

Values to be used in the projection models.

Incremental Load Determinations:

Calibration Load Determinations	Reduced Man-Made Loads					Projection Model Input determinations:								
Reach Description and #	Actual % Reduction of Man-Made Loads	Reduced UCBOD1 Load (kg O_2/day)	Reduced UCBOD2 Load (kg O_2/day)	Reduced Total UCBOD Load (kg O_2/day)	Reduced UNBOD Load (kg O_2/day)	Projection UCBOD1 conc. (mg O_2/L)	Projection UCBOD2 conc. (mg O_2/L)	Projection Total UCBOD conc. (mg O_2/L)	Projection UNBOD conc. (mg O_2/L)	Total MOS (kg O_2/day)	Total CBOD1 LA (kg O_2/day)	Total CBOD2 LA (kg O_2/day)	Total CBOD LA (kg O_2/day)	Total NBOD LA (kg O_2/day)
Reach 1 - WAC1 to WAC2	70%	0.00	0.00	0.00	0.00	0.4324	0.5641	1.00	0.00	0.00	0.01	0.01	0.03	0.00
Reach 2 - WAC2 to WAC3	70%	0.00	0.00	0.00	0.00	0.4324	0.5641	1.00	0.00	0.00	0.01	0.01	0.03	0.00
Reach 3 - WAC3 to WAC4	70%	0.00	0.00	0.00	0.00	0.4324	0.5641	1.00	0.00	0.00	-0.31	-0.40	-0.71	0.00
Reach 4 - WAC4 to Elder Branch Creek	70%	0.00	0.00	0.00	0.00	0.4324	0.5641	1.00	0.00	0.00	8.02	10.47	18.49	0.00
Reach 5 - Elder Branch Creek - Little Sandy Branch Creek	70%	0.00	0.00	0.00	0.00	0.43	0.56	1.00	0.00	0.00	8.02	10.47	18.49	0.00
Reach 6 - Little Sandy Branch Creek - WAC5	70%	0.00	0.00	0.00	0.00	0.43	0.56	1.00	0.00	0.00	8.02	10.47	18.49	0.00
Sub-Total benthic loading		0.00	0.00	0.00	0.00					0.00	23.79	31.03	54.82	0.00

Summer Projection, Non-Point Benthic Load Input and TMDL Calculations:

Modeled stream or water body: **WEST ANACOCO CREEK (110501) Loading for a 3.0 mg/L DO Standard**

Shaded cells are input values for calculations. MARGIN OF SAFETY (MOS) (%) = [MOG + MOU] = **20%**

Values to be used in the projection models.

	Calibration Model Values													
Reach Number and Description	Non-Point UCBOD1	Non-Point UCBOD2	Total Non-Point UCBOD	Total Non-Point UNBOD	SOD @ 20°C	Total Calb. Benthic Load (TCBL)	Reach Length	Proj. Model Avg. Reach Width	Proj. Temp.	Background Benthic Load	Effective Background Benthic Load	Man-Made Benthic Load	Background percentage reduction	Percentage Reduction of man-made sources
	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	Kilo-meters	Meters	(deg Celcius)	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	%	%
Reach 1 - WAC1 to WAC2	**0.171**	**0.182**	**0.353**	**0.114**	**3.00**	**3.467**	**2.40**	**3.66**	**25.23**	**2.00**	**2.00**	**1.47**	**0%**	**30%**
Reach 2 - WAC2 to WAC3	**0.384**	**0.219**	**0.603**	**0.164**	**2.50**	**3.267**	**5.70**	**6.40**	**25.23**	**2.00**	**2.00**	**1.27**	**0%**	**30%**
Reach 3 - WAC3 to WAC4	**12.303**	**24.151**	**36.454**	**8.202**	**5.90**	**50.556**	**0.90**	**2.44**	**25.23**	**2.00**	**2.00**	**48.56**	**0%**	**30%**
Reach 4 - WAC4 to Elder Branch Creek	**2.193**	**3.509**	**5.702**	**1.754**	**1.00**	**8.456**	**3.30**	**6.91**	**25.23**	**2.00**	**2.00**	**6.46**	**0%**	**30%**
Reach 5 - Elder Branch Creek - Little Sandy Branch Creek	**2.197**	**4.394**	**6.591**	**3.515**	**0.10**	**10.205**	**2.00**	**11.38**	**25.23**	**2.00**	**2.00**	**8.21**	**0%**	**30%**
Reach 6 - Little Sandy Branch Creek - WAC5	**1.388**	**4.290**	**5.678**	**4.164**	**0.10**	**9.942**	**2.50**	**15.85**	**25.23**	**2.00**	**2.00**	**7.94**	**0%**	**30%**
Sub-Total											12.00	73.89		

Summer Projection,

Modeled stream or water body

Shaded cells are input values
Values to be used in the projection models.

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				Reduced Man-Made Loads						Projected Model Loads								
Reach Number and Description	Reduced Background Benthic Load	Reduced Man-Made Benthic Load	Reduced TCBL adjusted for MOS	Reduced UCBOD1 Load	Reduced UCBOD2 Load	Reduced Total UCBOD Load	Reduced UNBOD Load	Reduced SOD Load at Projection Temp.	SOD @ 20°C	Non-Point UCBOD1 INPUTS	Non-Point UCBOD2 INPUTS	Non-Point UNBOD INPUTS	**Total MOS at Projection Temp.**	**Non-Point UCBOD1 LA**	**Non-Point UCBOD2 LA**	**Non-Point UCBOD LA**	**Non-Point UNBOD LA**	**SOD LA at Projection Temp.**
	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	g O_2 / [(m^2)(day)]	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day
Reach 1 - WAC1 to WAC2	**2.00**	**1.03**	**3.28**	**0.44**	**0.47**	**0.92**	**0.30**	**10.84**	**2.841**	**1.421**	**1.515**	**0.947**	**3.01**	**1.31**	**1.40**	**2.71**	**0.87**	**31.96**
Reach 2 - WAC2 to WAC3	**2.00**	**0.89**	**3.11**	**3.80**	**2.17**	**5.97**	**1.63**	**34.43**	**2.379**	**13.321**	**7.612**	**5.709**	**10.51**	**12.37**	**7.07**	**19.44**	**5.30**	**112.04**
Reach 3 - WAC3 to WAC4	**2.00**	**33.99**	**44.49**	**18.15**	**35.63**	**53.78**	**12.10**	**12.10**	**5.192**	**23.759**	**46.637**	**15.839**	**19.50**	**19.22**	**37.73**	**56.95**	**12.81**	**12.81**
Reach 4 - WAC4 to Elder Branch Creek	**2.00**	**4.52**	**7.65**	**26.72**	**42.76**	**69.48**	**21.38**	**16.94**	**0.905**	**45.228**	**72.365**	**36.183**	**26.95**	**38.55**	**61.68**	**100.22**	**30.84**	**24.43**
Reach 5 - Elder Branch Creek - Little Sandy Branch Creek	**2.00**	**5.74**	**9.18**	**28.14**	**56.28**	**84.42**	**45.03**	**1.78**	**0.090**	**44.975**	**89.950**	**71.960**	**32.81**	**37.94**	**75.88**	**113.82**	**60.70**	**2.40**
Reach 6 - Little Sandy Branch Creek - WAC5	**2.00**	**5.56**	**8.95**	**30.76**	**95.06**	**125.82**	**92.27**	**3.08**	**0.090**	**49.508**	**153.025**	**148.524**	**55.29**	**41.82**	**129.26**	**171.08**	**125.46**	**4.19**
Sub-Total	12.00	51.73	76.66	108.02	232.38	340.39	172.70	79.17		178.21	371.10	279.16	148.07	**151.21**	**313.01**	**464.22**	**235.99**	**187.83**

Summer TMDL calculations and Projection model calculations for Headwater / Tributary loads:

WEST ANACOCO CREEK (110501) Loading for a 3.0 mg/L DO Standard

Shaded cells are input values for calculations.	MARGIN OF SAFETY (MOS) (%) =	20%
Values to be used in the projection models.	If modeling the nitrogen series, be sure that columns "H	

Headwater

	FROM CALIBRATION						BACKGROUND VALUES						
Headwater / Tributary Description and Reach #	Seasonal Critical flow (cms)	UCBOD1 (mg O_2/L)	UCBOD2 (mg O_2/L)	Total UCBOD (mg O_2/L)	UNBOD (mg O_2/L)	Total UNBOD (mg O_2/L)	Background UCBOD1 conc. (mg O_2/L)	Background UCBOD2 conc. (mg O_2/L)	Background UCBOD conc. (mg O_2/L)	Background UNBOD conc. (mg O_2/L)	Background UNBOD conc. (mg O_2/L)	Background % Reduction	Percent reduction of Man-Made loads
Headwater	0.00230	0.56	0.23	0.79	0.00	0.00	5.88	0.00	5.88	0.00	0.00	0%	30%
Elder Branch Creek	0.00230	2.36	4.04	6.40	0.88	0.88	5.17	0.00	5.17	0.71	0.71	0%	30%
Little Sandy Creek	0.00230	0.68	0.55	1.22	0.39	0.39	4.47	0.00	4.47	1.41	1.41	0%	30%
SUB-TOTAL TMDL LOADING													

Summer TMDL calculations and Projection model calculations for Headwater / Tributary loads:

WEST ANACOCO CREEK

Shaded cells are input values for ca
Values to be used in the projection r

Headwater / Tributary Load Determinations

	Reduced Background Loads				Reduced Man-Made Loads				PROJECTION VALUES								
Headwater / Tributary Description and Reach #	Reduced Background UCBOD1 load (kg O_2/day)	Reduced Background UCBOD2 load (kg O_2/day)	Total reduced Background UCBOD load (kg O_2/day)	Reduced Background UNBOD load (kg O_2/day)	Reduced UCBOD1 load (kg O_2/day)	Reduced UCBOD2 load (kg O_2/day)	Reduced UCBOD load (kg O_2/day)	Reduced UNBOD load (kg O_2/day)	Projection UCBOD1 input conc. (mg O_2/L)	Projection UCBOD2 input conc. (mg O_2/L)	Projection UCBOD input conc. (mg O_2/L)	Projection UNBOD input conc. (mg O_2/L)	**Total MOS (kg O_2/day)**	**Total CBOD1 LA (kg O_2/day)**	**Total CBOD2 LA (kg O_2/day)**	**Total CBOD LA (kg O_2/day)**	**Total NBOD LA (kg O_2/day)**
Headwater	0.11	0.00	0.16	0.00	0.00	0.03	0.00	0.00	0.56	0.20	0.79	0.00	0.00	0.11	0.03	0.16	0.00
Elder Branch Creek	0.47	0.00	1.03	0.14	0.00	0.56	0.17	0.02	2.36	3.53	6.24	0.86	0.05	0.47	0.56	1.20	0.17
Little Sandy Creek	0.13	0.00	0.24	0.08	0.00	0.08	0.00	0.00	0.68	0.48	1.22	0.39	0.00	0.13	0.08	0.24	0.08
SUB-TOTAL TMDL LOADING	0.71	0.00	1.43	0.22	0	1	0.17	0.02					0.05	0.71	0.67	1.60	0.24

Summer TMDL calculations and Projection model calculations for Incremental loads:

WEST ANACOCO CREEK (110501) Loading for a 3.0 mg/L DO Standard

Shaded cells are input values for calculations.	If modeling the nitrogen series, be sure that columns "H" & "R" are clear of all v	
Values to be used in the projection models.	MARGIN OF SAFETY (MOS) (%) =	20%

Incremental Load Determinations:

Reach Description and #	Calibration Load Determinations						Background Loading Concentrations						Reduced Background Loads			
	Projection Flow (cms)	Calb. UCBOD1 conc. (mg O_2/L)	Calb. UCBOD2 conc. (mg O_2/L)	Calb. Total UCBOD conc. (mg O_2/L)	Calb. UNBOD conc. (mg O_2/L)	Calb. Total UNBOD conc. (mg O_2/L)	Background Conc. UCBOD1 (mg O_2/L)	Background Conc. UCBOD2 (mg O_2/L)	Background Conc. Total UCBOD (mg O_2/L)	Background UNBOD (mg O_2/L)	Background Conc. Total UNBOD (mg O_2/L)	Background % Reduction	Reduced Background UCBOD1 (kg O_2/day)	Reduced Background UCBOD2 (kg O_2/day)	Reduced Background Total UCBOD (kg O_2/day)	Reduced Background UNBOD (kg O_2/day)
Reach 1 - WAC1 to WAC2	0.00030	0.4324	0.5641	1.00	0.0000	0.00	0.4324	0.5641	1.00	0.0000	0.00	0%	0.01	0.01	0.03	0.00
Reach 2 - WAC2 to WAC3	0.00030	0.4324	0.5641	1.00	0.0000	0.00	0.4324	0.5641	1.00	0.0000	0.00	0%	0.01	0.01	0.03	0.00
Reach 3 - WAC3 to WAC4	-0.00830	0.4324	0.5641	1.00	0.0000	0.00	0.4324	0.5641	1.00	0.0000	0.00	0%	-0.31	-0.40	-0.71	0.00
Reach 4 - WAC4 to Elder Branch Creek	0.21480	0.4324	0.5641	1.00	0.0000	0.00	0.4324	0.5641	1.00	0.0000	0.00	0%	8.02	10.47	18.49	0.00
Reach 5 - Elder Branch Creek - Little Sandy Branch Creek	0.21480	0.43	0.56	1.00	0.00	0.00	0.43	0.56	1.00	0.00	0.00	0%	8.02	10.47	18.49	0.00
Reach 6 - Little Sandy Branch Creek - WAC5	0.21480	0.43	0.56	1.00	0.00	0.00	0.43	0.56	1.00	0.00	0.00	0%	8.02	10.47	18.49	0.00
Sub-Total benthic loading													23.79	31.03	54.82	0.00

Summer TMDL calculations and Projection model calculations for Incremental loads:

WEST ANACOCO CREEK

Shaded cells are input values for calculatio

Values to be used in the projection models.

Incremental Load Determinations:

Calibration Load Determinations	Reduced Man-Made Loads					Projection Model Input determinations:								
Reach Description and #	Actual % Reduction of Man-Made Loads	Reduced UCBOD1 Load (kg O_2/day)	Reduced UCBOD2 Load (kg O_2/day)	Reduced Total UCBOD Load (kg O_2/day)	Reduced UNBOD Load (kg O_2/day)	Projection UCBOD1 conc. (mg O_2/L)	Projection UCBOD2 conc. (mg O_2/L)	Projection Total UCBOD conc. (mg O_2/L)	Projection UNBOD conc. (mg O_2/L)	Total MOS (kg O_2/day)	Total CBOD1 LA (kg O_2/day)	Total CBOD2 LA (kg O_2/day)	Total CBOD LA (kg O_2/day)	Total NBOD LA (kg O_2/day)
Reach 1 - WAC1 to WAC2	30%	0.00	0.00	0.00	0.00	0.4324	0.5641	1.00	0.00	0.00	0.01	0.01	0.03	0.00
Reach 2 - WAC2 to WAC3	30%	0.00	0.00	0.00	0.00	0.4324	0.5641	1.00	0.00	0.00	0.01	0.01	0.03	0.00
Reach 3 - WAC3 to WAC4	30%	0.00	0.00	0.00	0.00	0.4324	0.5641	1.00	0.00	0.00	-0.31	-0.40	-0.71	0.00
Reach 4 - WAC4 to Elder Branch Creek	30%	0.00	0.00	0.00	0.00	0.4324	0.5641	1.00	0.00	0.00	8.02	10.47	18.49	0.00
Reach 5 - Elder Branch Creek - Little Sandy Branch Creek	30%	0.00	0.00	0.00	0.00	0.43	0.56	1.00	0.00	0.00	8.02	10.47	18.49	0.00
Reach 6 - Little Sandy Branch Creek - WAC5	30%	0.00	0.00	0.00	0.00	0.43	0.56	1.00	0.00	0.00	8.02	10.47	18.49	0.00
Sub-Total benthic loading		0.00	0.00	0.00	0.00					0.00	23.79	31.03	54.82	0.00

Appendix E2 – Winter Loading

Winter Projection, Non-Point Benthic Load Input and TMDL Calculations:

Modeled stream or water body: **WEST ANACOCO CREEK (110501) Loading Calculations for a 4.0 mg/L DO Standard**

Shaded cells are input values for calculations.	MARGIN OF SAFETY (MOS) (%) = [MOG + MOU] =	**20%**
Values to be used in the projection models.	Note: Margin of Safety applies only to Man-Made loads, not Background loads.	

	Calibration Model Values															
Reach Number and Description	Non-Point UCBOD1	Non-Point UCBOD2	Total Non-Point UCBOD	Total Nonpoint Organic-N	Calibration Model Benthic Source Rate for Ammonia	Total Non-Point UNBOD	SOD @ 20°C	Total Calb. Benthic Load (TCBL)	Reach Length	Proj. Model Avg. Reach Width	Proj. Temp.	Background Benthic Load	Effective Background Benthic Load	Man-Made Benthic Load	Background percentage reduction	Percentage Reduction of man-made sources
	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g / [(m^2)(day)]	g / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	Kilo-meters	Meters	(deg Celcius)	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	%	%
Reach 1 - WAC1 to WAC2	**0.171**	**0.182**	**0.353**	**0.000**	**0.000**	**0.114**	**3.00**	**3.467**	**2.40**	**3.66**	**17.20**	**2.00**	**2.00**	**1.47**	**0%**	**70%**
Reach 2 - WAC2 to WAC3	**0.384**	**0.219**	**0.603**	**0.000**	**0.000**	**0.164**	**2.50**	**3.267**	**5.70**	**6.40**	**17.20**	**2.00**	**2.00**	**1.27**	**0%**	**70%**
Reach 3 - WAC3 to WAC4	**12.303**	**24.151**	**36.454**	**0.000**	**0.000**	**8.202**	**5.90**	**50.556**	**0.90**	**2.44**	**17.20**	**2.00**	**2.00**	**48.56**	**0%**	**70%**
Reach 4 - WAC4 to Elder Branch Creek	**2.193**	**3.509**	**5.702**	**0.000**	**0.000**	**1.754**	**1.00**	**8.456**	**3.30**	**15.85**	**17.20**	**2.00**	**2.00**	**6.46**	**0%**	**70%**
Sub-Total													**8.00**	**77.89**		

Winter Projection, N

Modeled stream or water body

Shaded cells are input values
Values to be used in the projection models.

				Reduced Man-Made Loads						Projected Model Loads									
Reach Number and Description	Reduced Background Benthic Load	Reduced Man-Made Benthic Load	Reduced TCBL adjusted for MOS	Reduced UCBOD1 Load	Reduced UCBOD2 Load	Reduced Total UCBOD Load	Reduced UNBOD Load	Reduced SOD Load at Projection Temp.	SOD @ 20°C	Non-Point UCBOD1 INPUTS	Non-Point UCBOD2 INPUTS	Total Non-Point UCBOD INPUTS	Non-Point UNBOD INPUTS	**Total MOS at Projection Temp.**	**Non-Point UCBOD1 LA**	**Non-Point UCBOD2 LA**	**Non-Point UCBOD LA**	**Non-Point UNBOD LA**	**SOD LA at Projection Temp.**
	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	g O_2 / [(m^2)(day)]	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day
Reach 1 - WAC1 to WAC2	**2.00**	**0.44**	**2.55**	**0.19**	**0.20**	**0.39**	**0.13**	**2.80**	**2.207**	**1.103**	**1.177**	**2.280**	**0.736**	**0.83**	**1.06**	**1.13**	**2.18**	**0.70**	**15.54**
Reach 2 - WAC2 to WAC3	**2.00**	**0.38**	**2.48**	**1.63**	**0.93**	**2.56**	**0.70**	**8.90**	**1.894**	**10.606**	**6.060**	**16.666**	**4.545**	**3.04**	**10.20**	**5.83**	**16.03**	**4.37**	**55.70**
Reach 3 - WAC3 to WAC4	**2.00**	**14.57**	**20.21**	**7.78**	**15.27**	**23.05**	**5.19**	**3.13**	**2.358**	**10.793**	**21.185**	**31.978**	**7.195**	**7.84**	**8.85**	**17.37**	**26.22**	**5.90**	**3.56**
Reach 4 - WAC4 to Elder Branch Creek	**2.00**	**1.94**	**4.42**	**26.27**	**42.04**	**68.31**	**21.02**	**10.04**	**0.523**	**59.969**	**95.950**	**155.919**	**47.975**	**24.84**	**53.40**	**85.44**	**138.84**	**42.72**	**20.41**
Sub-Total	**8.00**	**23.37**	**37.21**	**35.87**	**58.44**	**94.31**	**27.03**	**24.87**		**82.47**	**124.37**	**206.84**	**60.45**	**36.55**	**73.50**	**109.76**	**183.27**	**53.69**	**95.21**

Winter TMDL calculations and Projection model calculations for Headwater / Tributary loads:

WEST ANACOCO CREEK (110501) Loading Calculations for a 4.0 mg/L DO

Shaded cells are input values for calculations.	MARGIN OF SAFETY (MOS) (%) =	20%
Values to be used in the projection models.	If modeling the nitrogen series, be sure that columns "H	

Headwate

	FROM CALIBRATION						BACKGROUND VALUES						
Headwater / Tributary Description and Reach #	Seasonal Critical flow (cms)	UCBOD1 (mg O_2/L)	UCBOD2 (mg O_2/L)	Total UCBOD (mg O_2/L)	UNBOD (mg O_2/L)	Total UNBOD (mg O_2/L)	Background UCBOD1 conc. (mg O_2/L)	Background UCBOD2 conc. (mg O_2/L)	Background UCBOD conc. (mg O_2/L)	Background UNBOD conc. (mg O_2/L)	Background UNBOD conc. (mg O_2/L)	Background % Reduction	Percent reduction of Man-Made loads
Headwater	0.02300	0.56	0.23	0.79	0.00	0.00	5.88	0.00	5.88	0.00	0.00	0%	70%
Elder Branch Creek	0.02300	2.36	4.04	6.40	0.88	0.88	5.17	0.00	5.17	0.71	0.71	0%	70%
Little Sandy Creek	0.02300	0.68	0.55	1.22	0.39	0.39	4.47	0.00	4.47	1.41	1.41	0%	70%
SUB-TOTAL TMDL LOADING													

Winter TMDL calculations and Projection model calculations for Headwater / Tributary loads:

WEST ANACOCO CREEK

Shaded cells are input values for ca
Values to be used in the projection r

Headwater / Tributary Load Determinations

	Reduced Background Loads				Reduced Man-Made Loads				PROJECTION VALUES									
Headwater / Tributary Description and Reach #	Reduced Background UCBOD1 load (kg O_2/day)	Reduced Background UCBOD2 load (kg O_2/day)	Total reduced Background UCBOD load (kg O_2/day)	Reduced Background UNBOD load (kg O_2/day)	Reduced UCBOD1 load (kg O_2/day)	Reduced UCBOD2 load (kg O_2/day)	Reduced UCBOD load (kg O_2/day)	Reduced UNBOD load (kg O_2/day)	Projection UCBOD1 input conc. (mg O_2/L)	Projection UCBOD2 input conc. (mg O_2/L)	Projection UCBOD input conc. (mg O_2/L)	Projection UNBOD input conc. (mg O_2/L)	**Total MOS (kg O_2/day)**	**Total CBOD1 LA (kg O_2/day)**	**Total CBOD2 LA (kg O_2/day)**	**Total CBOD LA (kg O_2/day)**	**Total NBOD LA (kg O_2/day)**	**Total Nit-Nit LA (kg/day)**
Headwater	1.11	0.00	1.57	0.00	0.00	0.14	0.00	0.00	0.56	0.09	0.79	0.00	0.00	1.11	0.14	1.57	0.00	0.00
Elder Branch Creek	4.69	0.00	10.28	1.42	0.00	2.41	0.73	0.10	2.36	1.51	5.63	0.78	0.21	4.69	2.41	11.01	1.52	0.00
Little Sandy Creek	1.34	0.00	2.43	0.77	0.00	0.33	0.00	0.00	0.68	0.21	1.22	0.39	0.00	1.34	0.33	2.43	0.77	0.00
SUB-TOTAL TMDL LOADING	7.14	0.00	14.27	2.18	0	3	0.73	0.10					0.21	7.14	2.87	15.00	2.28	0.00

Winter Projection, Non-Point Benthic Load Input and TMDL Calculations:

Modeled stream or water body: **WEST ANACOCO CREEK (110501) Loading for a 3.0 mg/L DO Standard**

Shaded cells are input values for calculations.	MARGIN OF SAFETY (MOS) (%) = [MOG + MOU] =	**20%**
Values to be used in the projection models.	Note: Margin of Safety applies only to Man-Made loads, not Background loads.	

	Calibration Model Values															
Reach Number and Description	Non-Point UCBOD1	Non-Point UCBOD2	Total Non-Point UCBOD	Total Nonpoint Organic-N	Calibration Model Benthic Source Rate for Ammonia	Total Non-Point UNBOD	SOD @ 20°C	Total Calb. Benthic Load (TCBL)	Reach Length	Proj. Model Avg. Reach Width	Proj. Temp.	Background Benthic Load	Effective Background Benthic Load	Man-Made Benthic Load	Background percentage reduction	Percentage Reduction of man-made sources
	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g / [(m^2)(day)]	g / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	Kilo-meters	Meters	(deg Celcius)	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	%	%
Reach 1 - WAC1 to WAC2	**0.171**	**0.182**	**0.353**	**0.000**	**0.000**	**0.114**	**3.00**	**3.467**	**2.40**	**3.66**	**17.20**	**2.00**	**2.00**	**1.47**	**0%**	**30%**
Reach 2 - WAC2 to WAC3	**0.384**	**0.219**	**0.603**	**0.000**	**0.000**	**0.164**	**2.50**	**3.267**	**5.70**	**6.40**	**17.20**	**2.00**	**2.00**	**1.27**	**0%**	**30%**
Reach 3 - WAC3 to WAC4	**12.303**	**24.151**	**36.454**	**0.000**	**0.000**	**8.202**	**5.90**	**50.556**	**0.90**	**2.44**	**17.20**	**2.00**	**2.00**	**48.56**	**0%**	**30%**
Reach 4 - WAC4 to Elder Branch Creek	**2.193**	**3.509**	**5.702**	**0.000**	**0.000**	**1.754**	**1.00**	**8.456**	**3.30**	**15.85**	**17.20**	**2.00**	**2.00**	**6.46**	**0%**	**30%**
Sub-Total													**8.00**	**77.89**		

Winter Projection, N

Modeled stream or water body

Shaded cells are input values
Values to be used in the projection models.

				Reduced Man-Made Loads						Projected Model Loads									
Reach Number and Description	Reduced Background Benthic Load	Reduced Man-Made Benthic Load	Reduced TCBL adjusted for MOS	Reduced UCBOD1 Load	Reduced UCBOD2 Load	Reduced Total UCBOD Load	Reduced UNBOD Load	Reduced SOD Load at Projection Temp.	SOD @ 20°C	Non-Point UCBOD1 INPUTS	Non-Point UCBOD2 INPUTS	Total Non-Point UCBOD INPUTS	Non-Point UNBOD INPUTS	**Total MOS at Projection Temp.**	**Non-Point UCBOD1 LA**	**Non-Point UCBOD2 LA**	**Non-Point UCBOD LA**	**Non-Point UNBOD LA**	**SOD LA at Projection Temp.**
	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	g O_2 / [(m^2)(day)]	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day
Reach 1 - WAC1 to WAC2	**2.00**	**1.03**	**3.28**	**0.44**	**0.47**	**0.92**	**0.30**	**6.54**	**2.841**	**1.421**	**1.515**	**2.936**	**0.947**	**1.94**	**1.31**	**1.40**	**2.71**	**0.87**	**19.27**
Reach 2 - WAC2 to WAC3	**2.00**	**0.89**	**3.11**	**3.80**	**2.17**	**5.97**	**1.63**	**20.76**	**2.379**	**13.321**	**7.612**	**20.933**	**5.709**	**7.09**	**12.37**	**7.07**	**19.44**	**5.30**	**67.57**
Reach 3 - WAC3 to WAC4	**2.00**	**33.99**	**44.49**	**18.15**	**35.63**	**53.78**	**12.10**	**7.30**	**5.192**	**23.759**	**46.637**	**70.396**	**15.839**	**18.30**	**19.22**	**37.73**	**56.95**	**12.81**	**7.73**
Reach 4 - WAC4 to Elder Branch Creek	**2.00**	**4.52**	**7.65**	**61.30**	**98.08**	**159.38**	**49.04**	**23.43**	**0.905**	**103.756**	**166.009**	**269.765**	**83.005**	**57.97**	**88.43**	**141.49**	**229.92**	**70.74**	**33.81**
Sub-Total	**8.00**	**54.53**	**76.16**	**83.70**	**136.36**	**220.06**	**63.07**	**58.03**		**142.26**	**221.77**	**364.03**	**105.50**	**85.29**	**121.33**	**187.68**	**309.01**	**89.73**	**128.38**

Winter TMDL calculations and Projection model calculations for Headwater / Tributary loads:

WEST ANACOCO CREEK (110501) Loading for a 3.0 mg/L DO Standard

Shaded cells are input values for calculations.	MARGIN OF SAFETY (MOS) (%) =	20%
Values to be used in the projection models.	If modeling the nitrogen series, be sure that columns "H	

Headwate

	FROM CALIBRATION						BACKGROUND VALUES						
Headwater / Tributary Description and Reach #	Seasonal Critical flow (cms)	UCBOD1 (mg O_2/L)	UCBOD2 (mg O_2/L)	Total UCBOD (mg O_2/L)	UNBOD (mg O_2/L)	Total UNBOD (mg O_2/L)	Background UCBOD1 conc. (mg O_2/L)	Background UCBOD2 conc. (mg O_2/L)	Background UCBOD conc. (mg O_2/L)	Background UNBOD conc. (mg O_2/L)	Background UNBOD conc. (mg O_2/L)	Background % Reduction	Percent reduction of Man-Made loads
Headwater	0.02300	0.56	0.23	0.79	0.00	0.00	5.88	0.00	5.88	0.00	0.00	0%	30%
Elder Branch Creek	0.02300	2.36	4.04	6.40	0.88	0.88	5.17	0.00	5.17	0.71	0.71	0%	30%
Little Sandy Creek	0.02300	0.68	0.55	1.22	0.39	0.39	4.47	0.00	4.47	1.41	1.41	0%	30%
SUB-TOTAL TMDL LOADING													

Winter TMDL calculations and Projection model calculations for Headwater / Tributary loads:

WEST ANACOCO CREEK

Shaded cells are input values for ca
Values to be used in the projection r

Headwater / Tributary Load Determinations

	Reduced Background Loads				Reduced Man-Made Loads				PROJECTION VALUES									
Headwater / Tributary Description and Reach #	Reduced Background UCBOD1 load (kg O_2/day)	Reduced Background UCBOD2 load (kg O_2/day)	Total reduced Background UCBOD load (kg O_2/day)	Reduced Background UNBOD load (kg O_2/day)	Reduced UCBOD1 load (kg O_2/day)	Reduced UCBOD2 load (kg O_2/day)	Reduced UCBOD load (kg O_2/day)	Reduced UNBOD load (kg O_2/day)	Projection UCBOD1 input conc. (mg O_2/L)	Projection UCBOD2 input conc. (mg O_2/L)	Projection UCBOD input conc. (mg O_2/L)	Projection UNBOD input conc. (mg O_2/L)	Total MOS (kg O_2/day)	Total CBOD1 LA (kg O_2/day)	Total CBOD2 LA (kg O_2/day)	Total CBOD LA (kg O_2/day)	Total NBOD LA (kg O_2/day)	Total Nit-Nit LA (kg/day)
Headwater	1.11	0.00	1.57	0.00	0.00	0.32	0.00	0.00	0.56	0.20	0.79	0.00	0.00	1.11	0.32	1.57	0.00	0.00
Elder Branch Creek	4.69	0.00	10.28	1.42	0.00	5.62	1.70	0.23	2.36	3.53	6.24	0.86	0.48	4.69	5.62	11.98	1.65	0.00
Little Sandy Creek	1.34	0.00	2.43	0.77	0.00	0.76	0.00	0.00	0.68	0.48	1.22	0.39	0.00	1.34	0.76	2.43	0.77	0.00
SUB-TOTAL TMDL LOADING	7.14	0.00	14.27	2.18	0	7	1.70	0.23					0.48	7.14	6.70	15.98	2.42	0.00

Appendix E3 – Summer No Man-Made Loading

Summer Projection, Non-Point Benthic Load Input and TMDL Calculations:

Modeled stream or water body: **WEST ANACOCO CREEK (110501)**

Shaded cells are input values for calculations.
Values to be used in the projection models.

MARGIN OF SAFETY (MOS) (%) = [MOG + MOU] = **20%**

	Calibration Model Values													
Reach Number and Description	Non-Point UCBOD1	Non-Point UCBOD2	Total Non-Point UCBOD	Total Non-Point UNBOD	SOD @ 20°C	Total Calb. Benthic Load (TCBL)	Reach Length	Proj. Model Avg. Reach Width	Proj. Temp.	Background Benthic Load	Effective Background Benthic Load	Man-Made Benthic Load	Background percentage reduction	Percentage Reduction of man-made sources
	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	Kilo-meters	Meters	(deg Celcius)	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	%	%
Reach 1 - WAC1 to WAC2	**0.171**	**0.182**	**0.353**	**0.114**	**3.00**	**3.467**	**2.40**	**3.66**	**25.23**	**2.00**	**2.00**	**1.47**	**0%**	**100%**
Reach 2 - WAC2 to WAC3	**0.384**	**0.219**	**0.603**	**0.164**	**2.50**	**3.267**	**5.70**	**6.40**	**25.23**	**2.00**	**2.00**	**1.27**	**0%**	**100%**
Reach 3 - WAC3 to WAC4	**12.303**	**24.151**	**36.454**	**8.202**	**5.90**	**50.556**	**0.90**	**2.44**	**25.23**	**2.00**	**2.00**	**48.56**	**0%**	**100%**
Reach 4 - WAC4 to Elder Branch Creek	**2.193**	**3.509**	**5.702**	**1.754**	**1.00**	**8.456**	**3.30**	**6.91**	**25.23**	**2.00**	**2.00**	**6.46**	**0%**	**100%**
Reach 5 - Elder Branch Creek - Little Sandy Branch Creek	**2.197**	**4.394**	**6.591**	**3.515**	**0.10**	**10.205**	**2.00**	**11.38**	**25.23**	**2.00**	**2.00**	**8.21**	**0%**	**100%**
Reach 6 - Little Sandy Branch Creek - WAC5	**1.388**	**4.290**	**5.678**	**4.164**	**0.10**	**9.942**	**2.50**	**15.85**	**25.23**	**2.00**	**2.00**	**7.94**	**0%**	**100%**
Sub-Total											12.00	73.89		

Summer Projection,

Modeled stream or water body

Shaded cells are input values
Values to be used in the projection models.

100

Reach Number and Description	Reduced Background Benthic Load	Reduced Man-Made Benthic Load	Reduced TCBL adjusted for MOS	Reduced Man-Made Loads: Reduced UCBOD1 Load	Reduced UCBOD2 Load	Reduced Total UCBOD Load	Reduced UNBOD Load	Reduced SOD Load at Projection Temp.	SOD @ 20°C	Projected Model Loads: Non-Point UCBOD1 INPUTS	Non-Point UCBOD2 INPUTS	Non-Point UNBOD INPUTS	Total MOS at Projection Temp.	Non-Point UCBOD1 LA	Non-Point UCBOD2 LA	Non-Point UCBOD LA	Non-Point UNBOD LA	SOD LA at Projection Temp.
	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	g O_2 / [(m^2)(day)]	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	g O_2 / [(m^2)(day)]	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day	kg O_2/day
Reach 1 - WAC1 to WAC2	**2.00**	**0.00**	**2.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.731**	**0.865**	**0.923**	**0.577**	**0.00**	**0.87**	**0.92**	**1.79**	**0.58**	**21.12**
Reach 2 - WAC2 to WAC3	**2.00**	**0.00**	**2.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.530**	**8.569**	**4.897**	**3.673**	**0.00**	**8.57**	**4.90**	**13.47**	**3.67**	**77.61**
Reach 3 - WAC3 to WAC4	**2.00**	**0.00**	**2.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.233**	**1.068**	**2.097**	**0.712**	**0.00**	**1.07**	**2.10**	**3.16**	**0.71**	**0.71**
Reach 4 - WAC4 to Elder Branch Creek	**2.00**	**0.00**	**2.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.237**	**11.826**	**18.921**	**9.460**	**0.00**	**11.83**	**18.92**	**30.75**	**9.46**	**7.50**
Reach 5 - Elder Branch Creek - Little Sandy Branch Creek	**2.00**	**0.00**	**2.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.020**	**9.799**	**19.597**	**15.678**	**0.00**	**9.80**	**19.60**	**29.40**	**15.68**	**0.62**
Reach 6 - Little Sandy Branch Creek - WAC5	**2.00**	**0.00**	**2.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.020**	**11.064**	**34.197**	**33.192**	**0.00**	**11.06**	**34.20**	**45.26**	**33.19**	**1.11**
Sub-Total	12.00	0.00	12.00	0.00	0.00	0.00	0.00	0.00		43.19	80.63	63.29	0.00	**43.19**	**80.63**	**123.82**	**63.29**	**108.66**

Summer TMDL calculations and Projection model calculations for Headwater / Tributary loads:

WEST ANACOCO CREEK (110501)

Shaded cells are input values for calculations.	MARGIN OF SAFETY (MOS) (%) =	20%
Values to be used in the projection models.	If modeling the nitrogen series, be sure that columns "H	

Headwater

Headwater / Tributary Description and Reach #	FROM CALIBRATION: Seasonal Critical flow (cms)	UCBOD1 (mg O_2/L)	UCBOD2 (mg O_2/L)	Total UCBOD (mg O_2/L)	UNBOD (mg O_2/L)	Total UNBOD (mg O_2/L)	BACKGROUND VALUES: Background UCBOD1 conc. (mg O_2/L)	Background UCBOD2 conc. (mg O_2/L)	Background UCBOD conc. (mg O_2/L)	Background UNBOD conc. (mg O_2/L)	Background UNBOD conc. (mg O_2/L)	Background % Reduction	Percent reduction of Man-Made loads
Headwater	0.00230	0.56	0.23	0.79	0.00	0.00	5.88	0.00	5.88	0.00	0.00	0%	100%
Elder Branch Creek	0.00230	2.36	4.04	6.40	0.88	0.88	5.17	0.00	5.17	0.71	0.71	0%	100%
Little Sandy Creek	0.00230	0.68	0.55	1.22	0.39	0.39	4.47	0.00	4.47	1.41	1.41	0%	100%
SUB-TOTAL TMDL LOADING													

Summer TMDL calculations and Projection model calculations for Headwater / Tributary loads:

WEST ANACOCO CREEK

Shaded cells are input values for ca	
Values to be used in the projection r	

Headwater / Tributary Load Determinations

Headwater / Tributary Description and Reach #	Reduced Background: Reduced Background UCBOD1 load (kg O_2/day)	Reduced Background UCBOD2 load (kg O_2/day)	Total reduced Background UCBOD load (kg O_2/day)	Reduced Background UNBOD load (kg O_2/day)	Reduced Man-Made Loads: Reduced UCBOD1 load (kg O_2/day)	Reduced UCBOD2 load (kg O_2/day)	Reduced UCBOD load (kg O_2/day)	Reduced UNBOD load (kg O_2/day)	PROJECTION VALUES: Projection UCBOD1 input conc. (mg O_2/L)	Projection UCBOD2 input conc. (mg O_2/L)	Projection UCBOD input conc. (mg O_2/L)	Projection UNBOD input conc. (mg O_2/L)	Total MOS (kg O_2/day)	Total CBOD1 LA (kg O_2/day)	Total CBOD2 LA (kg O_2/day)	Total CBOD LA (kg O_2/day)	Total NBOD LA (kg O_2/day)
Headwater	0.11	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.79	0.00	0.00	0.11	0.00	0.16	0.00
Elder Branch Creek	0.47	0.00	1.03	0.14	0.00	0.00	0.00	0.00	2.36	0.00	5.17	0.71	0.00	0.47	0.00	1.03	0.14
Little Sandy Creek	0.13	0.00	0.24	0.08	0.00	0.00	0.00	0.00	0.68	0.00	1.22	0.39	0.00	0.13	0.00	0.24	0.08
SUB-TOTAL TMDL LOADING	0.71	0.00	1.43	0.22	0	0	0.00	0.00					0.00	0.71	0.00	1.43	0.22

WEST ANACOCO CREEK (110501)

Shaded cells are input values for calculations. | If modeling the nitrogen series, be sure that columns "H" & "R" are clear of all v
Values to be used in the projection models. | MARGIN OF SAFETY (MOS) (%) = **20%**

Incremental Load Determinations:

Reach Description and #	Calibration Load Determinations						Background Loading Concentrations						Reduced Background Loads				Reduced Man-Made Loads				
	Projection Flow (cms)	Calb. UCBOD1 conc. (mg O_2/L)	Calb. UCBOD2 conc. (mg O_2/L)	Calb. Total UCBOD conc. (mg O_2/L)	Calb. UNBOD conc. (mg O_2/L)	Calb. Total UNBOD conc. (mg O_2/L)	Background Conc. UCBOD1 (mg O_2/L)	Background Conc. UCBOD2 (mg O_2/L)	Background Conc. Total UCBOD (mg O_2/L)	Background UNBOD (mg O_2/L)	Background Conc. Total UNBOD (mg O_2/L)	Background % Reduction	Reduced Background UCBOD1 (kg O_2/day)	Reduced Background UCBOD2 (kg O_2/day)	Reduced Background Total UCBOD (kg O_2/day)	Reduced Background UNBOD (kg O_2/day)	Actual % Reduction of Man-Made Loads	Reduced UCBOD1 Load (kg O_2/day)	Reduced UCBOD2 Load (kg O_2/day)	Reduced Total UCBOD Load (kg O_2/day)	Reduced UNBOD Load (kg O_2/day)
Reach 1 - WAC1 to WAC2	**0.00030**	**0.4324**	**0.5641**	**1.00**	**0.0000**	**0.00**	**0.4324**	**0.5641**	**1.00**	**0.0000**	**0.00**	**0%**	**0.01**	**0.01**	**0.03**	**0.00**	**100%**	**0.00**	**0.00**	**0.00**	**0.00**
Reach 2 - WAC2 to WAC3	**0.00030**	**0.4324**	**0.5641**	**1.00**	**0.0000**	**0.00**	**0.4324**	**0.5641**	**1.00**	**0.0000**	**0.00**	**0%**	**0.01**	**0.01**	**0.03**	**0.00**	**100%**	**0.00**	**0.00**	**0.00**	**0.00**
Reach 3 - WAC3 to WAC4	**-0.00830**	**0.4324**	**0.5641**	**1.00**	**0.0000**	**0.00**	**0.4324**	**0.5641**	**1.00**	**0.0000**	**0.00**	**0%**	**-0.31**	**-0.40**	**-0.71**	**0.00**	**100%**	**0.00**	**0.00**	**0.00**	**0.00**
Reach 4 - WAC4 to Elder Branch Creek	**0.21480**	**0.4324**	**0.5641**	**1.00**	**0.0000**	**0.00**	**0.4324**	**0.5641**	**1.00**	**0.0000**	**0.00**	**0%**	**8.02**	**10.47**	**18.49**	**0.00**	**100%**	**0.00**	**0.00**	**0.00**	**0.00**
Reach 5 - Elder Branch Creek - Little Sandy Branch Creek	**0.21480**	**0.43**	**0.56**	**1.00**	**0.00**	**0.00**	**0.43**	**0.56**	**1.00**	**0.00**	**0.00**	**0%**	**8.02**	**10.47**	**18.49**	**0.00**	**100%**	**0.00**	**0.00**	**0.00**	**0.00**
Reach 6 - Little Sandy Branch Creek - WAC5	**0.21480**	**0.43**	**0.56**	**1.00**	**0.00**	**0.00**	**0.43**	**0.56**	**1.00**	**0.00**	**0.00**	**0%**	**8.02**	**10.47**	**18.49**	**0.00**	**100%**	**0.00**	**0.00**	**0.00**	**0.00**
Sub-Total benthic loading													**23.79**	**31.03**	**54.82**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**

WEST ANACOCO CREEK

Shaded cells are input values for calculatio
Values to be used in the projection models.

Incremental Load Determinations:

Calibration Load Determinations	Projection Model Input determinations:								
Reach Description and #	Projection UCBOD1 conc. (mg O_2/L)	Projection UCBOD2 conc. (mg O_2/L)	Projection Total UCBOD conc. (mg O_2/L)	Projection UNBOD conc. (mg O_2/L)	**Total MOS (kg O_2/day)**	**Total CBOD1 LA (kg O_2/day)**	**Total CBOD2 LA (kg O_2/day)**	**Total CBOD LA (kg O_2/day)**	**Total NBOD LA (kg O_2/day)**
Reach 1 - WAC1 to WAC2	**0.4324**	**0.5641**	**1.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.03**	**0.00**
Reach 2 - WAC2 to WAC3	**0.4324**	**0.5641**	**1.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.03**	**0.00**
Reach 3 - WAC3 to WAC4	**0.4324**	**0.5641**	**1.00**	**0.00**	**0.00**	**-0.31**	**-0.40**	**-0.71**	**0.00**
Reach 4 - WAC4 to Elder Branch Creek	**0.4324**	**0.5641**	**1.00**	**0.00**	**0.00**	**8.02**	**10.47**	**18.49**	**0.00**
Reach 5 - Elder Branch Creek - Little Sandy Branch Creek	**0.43**	**0.56**	**1.00**	**0.00**	**0.00**	**8.02**	**10.47**	**18.49**	**0.00**
Reach 6 - Little Sandy Branch Creek - WAC5	**0.43**	**0.56**	**1.00**	**0.00**	**0.00**	**8.02**	**10.47**	**18.49**	**0.00**
Sub-Total benthic loading					**0.00**	**23.79**	**31.03**	**54.82**	**0.00**

Appendix F – Survey Data Measurements and Analysis Results

Appendix F1 – Water Quality Data

West Anacoco Creek TMDL Survey (Subsegment 110501) Lab Data Summary

SITE ID NUMBER	Date	Time	Chlorides	Sulfate	Hardness	Alkalinity	pH	Specific Conductance	Sodium	TOC	TP	TDS	Nitrate+Nitrite Nitrogen	TKN	Ammonia-Nitrogen	Color	Turbidity	TSS	Chl A
WAC1	29-Jun-05	9:00:00 AM	5.3	ND	29.3	31	7.03	80.2	6.6	9.8	0.2	81.3	ND	1.16	ND	200	11	8.7	16.6
WAC2	29-Jun-05	10:15:00 AM	4	ND	12.4	10.4	6.9	43.3	4.3	3.7	0.14	54	0.09	0.68	0.11	55	14	13.3	16.7
WAC3	29-Jun-05	8:30:00 AM	4.6	2.1	19.7	25	7.22	71.2	7.7	5.6	0.1	80	ND	0.55	ND	60	13	12	3.2
WAC4	29-Jun-05	9:30:00 AM	4.7	1.8	19.5	24.5	7.36	70.4	7.6	6.3	0.12	86.7	0.1	0.65	ND	80	15	8	
WAC5	29-Jun-05	10:45:00 AM	3.7	2.1	11.2	7.9	6.44	41.7	4	7.1	0.09	40.7	ND	0.95	ND	50	14	20.7	32.9
WAC10	29-Jun-05	12:15:00 AM	3.4	ND	13.1	8.7	6.59	36.2	2.9	5.6	0.06	44.7	0.09	0.58	0.2	90	10	17	2.3
WAC11	29-Jun-05	9:00:00 AM	2.7	1.4	5.5	5.1	6.42	27.8	2.9	ND	ND	42	0.12	0.19	ND	22	1.8	ND	
WAC11A	29-Jun-05	9:00:00 AM	2.4	12.5	9.3	4.3	6.53	52.4	4.6	ND	ND	94	ND	ND	ND	ND	ND	4	

West Anacoco Creek TMDL Survey (Subsegment 110501) Insitu Data

SITE	DEPTH	TEMPERATURE deg C	DISSOLVED OXYGEN CONCENTRATION mg/L	DISSOLVED OXYGEN PERCENT SATURATION (100% = 1)	pH Standard Units	SPECIFIC CONDUCTANCE umhos/cm	SECCHI DISK DEPTH inches	SALINITY ug/L	BATTERY volts
WAC1	0.15	24.72	0.42	5.0	6.55	73.9	18	0.02	7.4
WAC2	1.00	23.70	0.60	7.3	6.34	38.3	18	0.01	7.3
WAC3	0.30	23.67	2.70	32.3	6.93	64.7	24	0.02	7.7
WAC4	0.15	24.32	2.68	32.3	6.56	65.2	12	0.02	7.6
WAC5	1.00	29.93	4.79	62.8	6.24	33.1	30	0.00	6.3
WAC10	0.10	25.93	5.07	61.0	6.27	32.3	3	0.00	6.3
WAC11	0.10	20.90	7.38	82.6	6.26	22.0	6	0.00	6.3
WAC11a	0.50	19.62	3.86	41.9	5.60	44.4	18	0.01	6.3

West Anacoco Creek 110501 Water Quality Lab Data

Site	Site Description	Site Location	Lab ID	Lab Sample Type	Analysis Name	Result	Units	Analysis Set Up	Analysis Read	Date Nitrates Sampled
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20931	FB	TSS	ND	ppm	6/30/2005	7/1/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20931	FB	TDS	ND	ppm	7/1/2005	7/5/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20931	FB	Alkalinity	ND	ppm	7/6/2005	7/6/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20931	FB	Turbidity	ND	NTU	6/30/2005	6/30/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20931	FB	Specific Conductance	ND	umhos/cm	7/6/2005	7/6/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20931	FB	True Color	ND	PCU	6/30/2005	6/30/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20931	FB	Chloride, Ion Chromatograph	ND	ppm	7/12/2005	7/12/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20931	FB	Sulfate	ND	ppm	7/12/2005	7/12/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20932	FB	Sodium	ND	ppm	7/5/2005	7/6/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20933	FB	Hardness	ND	ppm	7/22/2005	7/22/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20933	FB	Nitrate+Nitrite Nitrogen	ND	ppm	7/5/2005	7/5/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20933	FB	TP	ND	ppm	7/13/2005	7/13/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20933	FB	TKN	0.14	ppm	7/13/2005	7/13/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20933	FB	Ammonia-Nitrogen	ND	ppm	7/14/2005	7/14/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20934	FB	TOC	ND	ppm	7/20/2005	7/21/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	pH, Ultimate BOD survey	6.19	pH units	8/31/2005	8/31/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	TOC (60 Day BOD)	ND	ppm	9/1/2005	9/2/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	TKN (60 Day BOD)	0.16	ppm	9/8/2005	9/8/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	NO2NO3 - Initial Reading	ND	ppm	7/19/2005	7/19/2005	6/30/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	NO2NO3 - Reading 1	ND	ppm	7/19/2005	7/19/2005	7/1/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	NO2NO3 - Reading 2	ND	ppm	7/19/2005	7/19/2005	7/4/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	NO2NO3 - Reading 3	ND	ppm	7/19/2005	7/19/2005	7/6/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	NO2NO3 - Reading 4	ND	ppm	7/19/2005	7/19/2005	7/8/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	NO2NO3 - Reading 5	ND	ppm	7/19/2005	7/19/2005	7/11/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	NO2NO3 - Reading 6	ND	ppm	7/19/2005	7/19/2005	7/15/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	NO2NO3 - Reading 7	ND	ppm	8/4/2005	8/4/2005	7/20/2005

WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	NO2NO3 - Reading 8	ND	ppm	8/4/2005	8/4/2005	7/29/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	NO2NO3 - Reading 9	ND	ppm	8/19/2005	8/19/2005	8/9/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	NO2NO3 - Reading 10	ND	ppm	9/9/2005	9/9/2005	8/19/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	NO2NO3 - Final	ND	ppm	9/9/2005	9/9/2005	8/31/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	Non-Filtered BOD 60 - Reading 1	0.1	ppm	6/30/2005	7/1/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	Non-Filtered BOD 60 - Reading 2	0.4	ppm	6/30/2005	7/4/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	Non-Filtered BOD 60 - Reading 3	0.5	ppm	6/30/2005	7/6/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	Non-Filtered BOD 60 - Reading 4	0.5	ppm	6/30/2005	7/8/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	Non-Filtered BOD 60 - Reading 5	0.6	ppm	6/30/2005	7/11/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	Non-Filtered BOD 60 - Reading 6	0.6	ppm	6/30/2005	7/15/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	Non-Filtered BOD 60 - Reading 7	0.7	ppm	6/30/2005	7/20/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	Non-Filtered BOD 60 - Reading 8	0.7	ppm	6/30/2005	7/29/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	Non-Filtered BOD 60 - Reading 9	0.7	ppm	6/30/2005	8/9/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	Non-Filtered BOD 60 - Reading 10	0.7	ppm	6/30/2005	8/19/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20935	FB	Non-Filtered BOD 60 - Final	0.8	ppm	6/30/2005	8/31/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20936	TRG	TSS	8.7	ppm	6/30/2005	7/1/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20936	TRG	TDS	81.3	ppm	7/1/2005	7/5/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20936	TRG	Alkalinity	31.0	ppm	7/6/2005	7/6/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20936	TRG	Turbidity	11	NTU	6/30/2005	6/30/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20936	TRG	Specific Conductance	80.2	umhos/cm	7/6/2005	7/6/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20936	TRG	True Color	200	PCU	6/30/2005	6/30/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20936	TRG	Chloride, Ion Chromatograph	5.3	ppm	7/12/2005	7/12/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20936	TRG	Sulfate	ND	ppm	7/12/2005	7/12/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20937	TRG	Sodium	6.6	ppm	7/5/2005	7/6/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20938	TRG	Hardness	29.3	ppm	7/22/2005	7/22/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20938	TRG	Nitrate+Nitrite Nitrogen	ND	ppm	7/5/2005	7/5/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20938	TRG	TP	0.20	ppm	7/7/2005	7/7/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20938	TRG	TKN	1.16	ppm	7/7/2005	7/7/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20938	TRG	Ammonia-Nitrogen	ND	ppm	7/14/2005	7/14/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20939	TRG	TOC	9.8	ppm	7/20/2005	7/21/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	pH, Ultimate BOD survey	7.03	pH units	8/31/2005	8/31/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	TOC (60 Day BOD)	7.7	ppm	9/1/2005	9/2/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	TKN (60 Day BOD)	0.83	ppm	9/8/2005	9/8/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	NO2NO3 - Initial Reading	ND	ppm	7/19/2005	7/19/2005	6/30/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	NO2NO3 - Reading 1	ND	ppm	7/19/2005	7/19/2005	7/1/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	NO2NO3 - Reading 2	ND	ppm	7/19/2005	7/19/2005	7/4/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	NO2NO3 - Reading 3	ND	ppm	7/19/2005	7/19/2005	7/6/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	NO2NO3 - Reading 4	ND	ppm	7/19/2005	7/19/2005	7/8/2005

WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	NO2NO3 - Reading 5	ND	ppm	7/19/2005	7/19/2005	7/11/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	NO2NO3 - Reading 6	0.27	ppm	7/19/2005	7/19/2005	7/15/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	NO2NO3 - Reading 7	0.33	ppm	8/4/2005	8/4/2005	7/20/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	NO2NO3 - Reading 8	0.51	ppm	8/4/2005	8/4/2005	7/29/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	NO2NO3 - Reading 9	0.57	ppm	8/19/2005	8/19/2005	8/9/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	NO2NO3 - Reading 10	0.59	ppm	9/9/2005	9/9/2005	8/19/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	NO2NO3 - Final	0.63	ppm	9/9/2005	9/9/2005	8/31/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	Non-Filtered BOD 60 - Reading 1	1.3	ppm	6/30/2005	7/1/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	Non-Filtered BOD 60 - Reading 2	4.7	ppm	6/30/2005	7/4/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	Non-Filtered BOD 60 - Reading 3	6.0	ppm	6/30/2005	7/6/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	Non-Filtered BOD 60 - Reading 4	6.6	ppm	6/30/2005	7/8/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	Non-Filtered BOD 60 - Reading 5	7.5	ppm	6/30/2005	7/11/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	Non-Filtered BOD 60 - Reading 6	9.5	ppm	6/30/2005	7/15/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	Non-Filtered BOD 60 - Reading 7	10.7	ppm	6/30/2005	7/20/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	Non-Filtered BOD 60 - Reading 8	12.6	ppm	6/30/2005	7/29/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	Non-Filtered BOD 60 - Reading 9	14.1	ppm	6/30/2005	8/9/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	Non-Filtered BOD 60 - Reading 10	15.2	ppm	6/30/2005	8/19/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20940	TRG	Non-Filtered BOD 60 - Final	16.4	ppm	6/30/2005	8/31/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20941	TRG	Chlorophyll A (calculated)	16.6	ug/L	7/18/2005	7/19/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20941	TRG	Chlorophyll A (raw)	414	ug/L	7/18/2005	7/19/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20941	TRG	Volume of sample, Chlorophyll A (raw)	250	ml	7/18/2005	7/19/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20942	FD	TSS	9.3	ppm	6/30/2005	7/1/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20942	FD	TDS	83.3	ppm	7/1/2005	7/5/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20942	FD	Alkalinity	30.3	ppm	7/6/2005	7/6/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20942	FD	Turbidity	12	NTU	6/30/2005	6/30/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20942	FD	Specific Conductance	81.0	umhos/cm	7/6/2005	7/6/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20942	FD	True Color	180	PCU	6/30/2005	6/30/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20942	FD	Chloride, Ion Chromatograph	5.3	ppm	7/12/2005	7/12/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20942	FD	Sulfate	ND	ppm	7/12/2005	7/12/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20943	FD	Sodium	6.5	ppm	7/5/2005	7/6/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20944	FD	Hardness	29.7	ppm	7/22/2005	7/22/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20944	FD	Nitrate+Nitrite Nitrogen	ND	ppm	7/5/2005	7/5/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20944	FD	TP	0.24	ppm	7/7/2005	7/7/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20944	FD	TKN	1.36	ppm	7/7/2005	7/7/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20944	FD	Ammonia-Nitrogen	0.10	ppm	7/14/2005	7/14/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20945	FD	TOC	11.2	ppm	7/20/2005	7/21/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	pH, Ultimate BOD survey	7.15	pH units	8/31/2005	8/31/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	TOC (60 Day BOD)	7.2	ppm	9/1/2005	9/2/2005	

WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	TKN (60 Day BOD)	0.83	ppm	9/8/2005	9/8/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	NO2NO3 - Initial Reading	ND	ppm	7/19/2005	7/19/2005	6/30/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	NO2NO3 - Reading 1	ND	ppm	7/19/2005	7/19/2005	7/1/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	NO2NO3 - Reading 2	ND	ppm	7/19/2005	7/19/2005	7/4/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	NO2NO3 - Reading 3	ND	ppm	7/19/2005	7/19/2005	7/6/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	NO2NO3 - Reading 4	ND	ppm	7/19/2005	7/19/2005	7/8/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	NO2NO3 - Reading 5	0.05	ppm	7/19/2005	7/19/2005	7/11/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	NO2NO3 - Reading 6	0.31	ppm	7/19/2005	7/19/2005	7/15/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	NO2NO3 - Reading 7	0.40	ppm	8/4/2005	8/4/2005	7/20/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	NO2NO3 - Reading 8	0.60	ppm	8/4/2005	8/4/2005	7/29/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	NO2NO3 - Reading 9	0.66	ppm	8/19/2005	8/19/2005	8/9/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	NO2NO3 - Reading 10	0.68	ppm	9/9/2005	9/9/2005	8/19/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	NO2NO3 - Final	0.72	ppm	9/9/2005	9/9/2005	8/31/2005
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	Non-Filtered BOD 60 - Reading 1	1.5	ppm	6/30/2005	7/1/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	Non-Filtered BOD 60 - Reading 2	5.4	ppm	6/30/2005	7/4/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	Non-Filtered BOD 60 - Reading 3	6.8	ppm	6/30/2005	7/6/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	Non-Filtered BOD 60 - Reading 4	7.6	ppm	6/30/2005	7/8/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	Non-Filtered BOD 60 - Reading 5	8.5	ppm	6/30/2005	7/11/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	Non-Filtered BOD 60 - Reading 6	10.8	ppm	6/30/2005	7/15/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	Non-Filtered BOD 60 - Reading 7	12.0	ppm	6/30/2005	7/20/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	Non-Filtered BOD 60 - Reading 8	14.3	ppm	6/30/2005	7/29/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	Non-Filtered BOD 60 - Reading 9	15.8	ppm	6/30/2005	8/9/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	Non-Filtered BOD 60 - Reading 10	16.9	ppm	6/30/2005	8/19/2005	
WAC1	West Anacoco Creek	At Prewitt Chapel/Roy Lee Snell Road	AH20946	FD	Non-Filtered BOD 60 - Final	18.1	ppm	6/30/2005	8/31/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20947	TRG	TSS	13.3	ppm	6/30/2005	7/1/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20947	TRG	TDS	54.0	ppm	7/1/2005	7/5/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20947	TRG	Alkalinity	10.4	ppm	7/6/2005	7/6/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20947	TRG	Turbidity	14	NTU	6/30/2005	6/30/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20947	TRG	Specific Conductance	43.3	umhos/cm	7/6/2005	7/6/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20947	TRG	True Color	55	PCU	6/30/2005	6/30/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20947	TRG	Chloride, Ion Chromatograph	4.0	ppm	7/12/2005	7/12/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20947	TRG	Sulfate	ND	ppm	7/12/2005	7/12/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20948	TRG	Sodium	4.3	ppm	7/5/2005	7/6/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20949	TRG	Hardness	12.4	ppm	7/22/2005	7/22/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20949	TRG	Nitrate+Nitrite Nitrogen	0.09	ppm	7/5/2005	7/5/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20949	TRG	TP	0.14	ppm	7/7/2005	7/7/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20949	TRG	TKN	0.68	ppm	7/7/2005	7/7/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20949	TRG	Ammonia-Nitrogen	0.11	ppm	7/14/2005	7/14/2005	

WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20950	TRG	TOC	3.7	ppm	7/20/2005	7/21/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	pH, Ultimate BOD survey	6.90	pH units	8/31/2005	8/31/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	TOC (60 Day BOD)	2.3	ppm	9/1/2005	9/2/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	TKN (60 Day BOD)	0.38	ppm	9/8/2005	9/8/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	NO2NO3 - Initial Reading	0.07	ppm	7/19/2005	7/19/2005	6/30/2005
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	NO2NO3 - Reading 1	0.07	ppm	7/19/2005	7/19/2005	7/1/2005
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	NO2NO3 - Reading 2	0.07	ppm	7/19/2005	7/19/2005	7/4/2005
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	NO2NO3 - Reading 3	0.07	ppm	7/19/2005	7/19/2005	7/6/2005
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	NO2NO3 - Reading 4	0.07	ppm	7/19/2005	7/19/2005	7/8/2005
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	NO2NO3 - Reading 5	0.08	ppm	7/19/2005	7/19/2005	7/11/2005
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	NO2NO3 - Reading 6	0.18	ppm	7/19/2005	7/19/2005	7/15/2005
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	NO2NO3 - Reading 7	0.32	ppm	8/4/2005	8/4/2005	7/20/2005
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	NO2NO3 - Reading 8	0.39	ppm	8/4/2005	8/4/2005	7/29/2005
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	NO2NO3 - Reading 9	0.40	ppm	8/19/2005	8/19/2005	8/9/2005
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	NO2NO3 - Reading 10	0.40	ppm	9/9/2005	9/9/2005	8/19/2005
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	NO2NO3 - Final	0.42	ppm	9/9/2005	9/9/2005	8/31/2005
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	Non-Filtered BOD 60 - Reading 1	0.7	ppm	6/30/2005	7/1/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	Non-Filtered BOD 60 - Reading 2	2.2	ppm	6/30/2005	7/4/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	Non-Filtered BOD 60 - Reading 3	2.8	ppm	6/30/2005	7/6/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	Non-Filtered BOD 60 - Reading 4	3.2	ppm	6/30/2005	7/8/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	Non-Filtered BOD 60 - Reading 5	3.7	ppm	6/30/2005	7/11/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	Non-Filtered BOD 60 - Reading 6	4.7	ppm	6/30/2005	7/15/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	Non-Filtered BOD 60 - Reading 7	5.8	ppm	6/30/2005	7/20/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	Non-Filtered BOD 60 - Reading 8	6.7	ppm	6/30/2005	7/29/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	Non-Filtered BOD 60 - Reading 9	7.3	ppm	6/30/2005	8/9/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	Non-Filtered BOD 60 - Reading 10	7.6	ppm	6/30/2005	8/19/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20951	TRG	Non-Filtered BOD 60 - Final	8.1	ppm	6/30/2005	8/31/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20952	TRG	Chlorophyll A (calculated)	16.7	ug/L	7/18/2005	7/19/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20952	TRG	Chlorophyll A (raw)	300	ug/L	7/18/2005	7/19/2005	
WAC2	West Anacoco Creek	At Highway 392 (Mainstem)	AH20952	TRG	Volume of sample, Chlorophyll A (raw)	180	ml	7/18/2005	7/19/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20953	TRG	TSS	12.0	ppm	6/30/2005	7/1/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20953	TRG	TDS	80.0	ppm	7/1/2005	7/5/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20953	TRG	Alkalinity	25.0	ppm	7/6/2005	7/6/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20953	TRG	Turbidity	13	NTU	6/30/2005	6/30/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20953	TRG	Specific Conductance	71.2	umhos/cm	7/6/2005	7/6/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20953	TRG	True Color	60	PCU	6/30/2005	6/30/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20953	TRG	Chloride, Ion Chromatograph	4.6	ppm	7/12/2005	7/12/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20953	TRG	Sulfate	2.1	ppm	7/12/2005	7/12/2005	

WAC3	West Anacoco Creek	At Highway 171	AH20954	TRG	Sodium	7.7	ppm	7/5/2005	7/6/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20955	TRG	Hardness	19.7	ppm	7/22/2005	7/22/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20955	TRG	Nitrate+Nitrite Nitrogen	ND	ppm	7/5/2005	7/5/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20955	TRG	TP	0.10	ppm	7/7/2005	7/7/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20955	TRG	TKN	0.55	ppm	7/7/2005	7/7/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20955	TRG	Ammonia-Nitrogen	ND	ppm	7/14/2005	7/14/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20956	TRG	TOC	5.6	ppm	7/20/2005	7/21/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	pH, Ultimate BOD survey	7.22	pH units	8/31/2005	8/31/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	TOC (60 Day BOD)	3.7	ppm	9/1/2005	9/2/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	TKN (60 Day BOD)	0.47	ppm	9/8/2005	9/8/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	NO2NO3 - Initial Reading	ND	ppm	7/19/2005	7/19/2005	6/30/2005
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	NO2NO3 - Reading 1	ND	ppm	7/19/2005	7/19/2005	7/1/2005
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	NO2NO3 - Reading 2	ND	ppm	7/19/2005	7/19/2005	7/4/2005
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	NO2NO3 - Reading 3	0.05	ppm	7/19/2005	7/19/2005	7/6/2005
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	NO2NO3 - Reading 4	ND	ppm	7/19/2005	7/19/2005	7/8/2005
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	NO2NO3 - Reading 5	0.06	ppm	7/19/2005	7/19/2005	7/11/2005
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	NO2NO3 - Reading 6	0.13	ppm	7/19/2005	7/19/2005	7/15/2005
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	NO2NO3 - Reading 7	0.18	ppm	8/4/2005	8/4/2005	7/20/2005
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	NO2NO3 - Reading 8	0.25	ppm	8/4/2005	8/4/2005	7/29/2005
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	NO2NO3 - Reading 9	0.28	ppm	8/19/2005	8/19/2005	8/9/2005
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	NO2NO3 - Reading 10	0.26	ppm	9/9/2005	9/9/2005	8/19/2005
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	NO2NO3 - Final	0.28	ppm	9/9/2005	9/9/2005	8/31/2005
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	Non-Filtered BOD 60 - Reading 1	0.5	ppm	6/30/2005	7/1/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	Non-Filtered BOD 60 - Reading 2	1.7	ppm	6/30/2005	7/4/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	Non-Filtered BOD 60 - Reading 3	2.2	ppm	6/30/2005	7/6/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	Non-Filtered BOD 60 - Reading 4	2.5	ppm	6/30/2005	7/8/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	Non-Filtered BOD 60 - Reading 5	2.9	ppm	6/30/2005	7/11/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	Non-Filtered BOD 60 - Reading 6	3.6	ppm	6/30/2005	7/15/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	Non-Filtered BOD 60 - Reading 7	4.4	ppm	6/30/2005	7/20/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	Non-Filtered BOD 60 - Reading 8	5.2	ppm	6/30/2005	7/29/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	Non-Filtered BOD 60 - Reading 9	5.8	ppm	6/30/2005	8/9/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	Non-Filtered BOD 60 - Reading 10	6.2	ppm	6/30/2005	8/19/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20957	TRG	Non-Filtered BOD 60 - Final	6.7	ppm	6/30/2005	8/31/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20958	TRG	Volume of sample, Chlorophyll A (raw)	200	ml	7/18/2005	7/19/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20958	TRG	Chlorophyll A (calculated)	3.2	ug/L	7/18/2005	7/19/2005	
WAC3	West Anacoco Creek	At Highway 171	AH20958	TRG	Chlorophyll A (raw)	63.4	ug/L	7/18/2005	7/19/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20959	TRG	TSS	8.0	ppm	6/30/2005	7/1/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20959	TRG	TDS	86.7	ppm	7/1/2005	7/5/2005	

WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20959	TRG	Alkalinity	24.5	ppm	7/6/2005	7/6/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20959	TRG	Turbidity	15	NTU	6/30/2005	6/30/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20959	TRG	Specific Conductance	70.4	umhos/cm	7/6/2005	7/6/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20959	TRG	True Color	80	PCU	6/30/2005	6/30/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20959	TRG	Chloride, Ion Chromatograph	4.7	ppm	7/12/2005	7/12/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20959	TRG	Sulfate	1.8	ppm	7/12/2005	7/12/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20960	TRG	Sodium	7.6	ppm	7/5/2005	7/6/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20961	TRG	Hardness	19.5	ppm	7/22/2005	7/22/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20961	TRG	Nitrate+Nitrite Nitrogen	0.10	ppm	7/5/2005	7/5/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20961	TRG	TP	0.12	ppm	7/7/2005	7/7/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20961	TRG	TKN	0.65	ppm	7/7/2005	7/7/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20961	TRG	Ammonia-Nitrogen	ND	ppm	7/14/2005	7/14/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20962	TRG	TOC	6.3	ppm	7/20/2005	7/21/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	pH, Ultimate BOD survey	7.36	pH units	8/31/2005	8/31/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	TOC (60 Day BOD)	4.6	ppm	9/1/2005	9/2/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	TKN (60 Day BOD)	0.62	ppm	9/8/2005	9/8/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	NO2NO3 - Initial Reading	0.08	ppm	7/19/2005	7/19/2005	6/30/2005
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	NO2NO3 - Reading 1	0.08	ppm	7/19/2005	7/19/2005	7/1/2005
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	NO2NO3 - Reading 2	0.08	ppm	7/19/2005	7/19/2005	7/4/2005
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	NO2NO3 - Reading 3	0.08	ppm	7/19/2005	7/19/2005	7/6/2005
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	NO2NO3 - Reading 4	0.09	ppm	7/19/2005	7/19/2005	7/8/2005
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	NO2NO3 - Reading 5	0.13	ppm	7/19/2005	7/19/2005	7/11/2005
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	NO2NO3 - Reading 6	0.21	ppm	7/19/2005	7/19/2005	7/15/2005
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	NO2NO3 - Reading 7	0.29	ppm	8/4/2005	8/4/2005	7/20/2005
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	NO2NO3 - Reading 8	0.35	ppm	8/4/2005	8/4/2005	7/29/2005
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	NO2NO3 - Reading 9	0.36	ppm	8/19/2005	8/19/2005	8/9/2005
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	NO2NO3 - Reading 10	0.35	ppm	9/9/2005	9/9/2005	8/19/2005
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	NO2NO3 - Final	0.37	ppm	9/9/2005	9/9/2005	8/31/2005
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	Non-Filtered BOD 60 - Reading 1	0.7	ppm	6/30/2005	7/1/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	Non-Filtered BOD 60 - Reading 2	1.9	ppm	6/30/2005	7/4/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	Non-Filtered BOD 60 - Reading 3	2.3	ppm	6/30/2005	7/6/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	Non-Filtered BOD 60 - Reading 4	2.7	ppm	6/30/2005	7/8/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	Non-Filtered BOD 60 - Reading 5	3.3	ppm	6/30/2005	7/11/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	Non-Filtered BOD 60 - Reading 6	4.2	ppm	6/30/2005	7/15/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	Non-Filtered BOD 60 - Reading 7	5.0	ppm	6/30/2005	7/20/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	Non-Filtered BOD 60 - Reading 8	5.9	ppm	6/30/2005	7/29/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	Non-Filtered BOD 60 - Reading 9	6.6	ppm	6/30/2005	8/9/2005	
WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	Non-Filtered BOD 60 - Reading 10	7.2	ppm	6/30/2005	8/19/2005	

WAC4	West Anacoco Creek	Off McKinnis Road @ Railroad Crossing	AH20963	TRG	Non-Filtered BOD 60 - Final	7.7	ppm	6/30/2005	8/31/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20964	TRG	TSS	20.7	ppm	6/30/2005	7/1/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20964	TRG	TDS	40.7	ppm	7/1/2005	7/5/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20964	TRG	Alkalinity	7.9	ppm	7/6/2005	7/6/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20964	TRG	Turbidity	14	NTU	6/30/2005	6/30/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20964	TRG	Specific Conductance	41.7	umhos/cm	7/6/2005	7/6/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20964	TRG	True Color	50	PCU	6/30/2005	6/30/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20964	TRG	Chloride, Ion Chromatograph	3.7	ppm	7/12/2005	7/12/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20964	TRG	Sulfate	2.1	ppm	7/12/2005	7/12/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20965	TRG	Sodium	4.0	ppm	7/5/2005	7/6/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20966	TRG	Hardness	11.2	ppm	7/22/2005	7/22/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20966	TRG	Nitrate+Nitrite Nitrogen	ND	ppm	7/5/2005	7/5/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20966	TRG	TP	0.09	ppm	7/7/2005	7/7/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20966	TRG	TKN	0.95	ppm	7/7/2005	7/7/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20966	TRG	Ammonia-Nitrogen	ND	ppm	7/14/2005	7/14/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20967	TRG	TOC	7.1	ppm	7/20/2005	7/21/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	pH, Ultimate BOD survey	6.44	pH units	8/31/2005	8/31/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	TOC (60 Day BOD)	5.1	ppm	9/1/2005	9/2/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	TKN (60 Day BOD)	0.76	ppm	9/8/2005	9/8/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	NO2NO3 - Initial Reading	ND	ppm	7/19/2005	7/19/2005	6/30/2005
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	NO2NO3 - Reading 1	ND	ppm	7/19/2005	7/19/2005	7/1/2005
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	NO2NO3 - Reading 2	ND	ppm	7/19/2005	7/19/2005	7/4/2005
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	NO2NO3 - Reading 3	ND	ppm	7/19/2005	7/19/2005	7/6/2005
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	NO2NO3 - Reading 4	ND	ppm	7/19/2005	7/19/2005	7/8/2005
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	NO2NO3 - Reading 5	ND	ppm	7/19/2005	7/19/2005	7/11/2005
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	NO2NO3 - Reading 6	0.05	ppm	7/19/2005	7/19/2005	7/15/2005
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	NO2NO3 - Reading 7	0.27	ppm	8/4/2005	8/4/2005	7/20/2005
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	NO2NO3 - Reading 8	0.47	ppm	8/4/2005	8/4/2005	7/29/2005
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	NO2NO3 - Reading 9	0.49	ppm	8/19/2005	8/19/2005	8/9/2005
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	NO2NO3 - Reading 10	0.50	ppm	9/9/2005	9/9/2005	8/19/2005
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	NO2NO3 - Final	0.52	ppm	9/9/2005	9/9/2005	8/31/2005
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	Non-Filtered BOD 60 - Reading 1	0.6	ppm	6/30/2005	7/1/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	Non-Filtered BOD 60 - Reading 2	2.8	ppm	6/30/2005	7/4/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	Non-Filtered BOD 60 - Reading 3	3.7	ppm	6/30/2005	7/6/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	Non-Filtered BOD 60 - Reading 4	4.3	ppm	6/30/2005	7/8/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	Non-Filtered BOD 60 - Reading 5	4.7	ppm	6/30/2005	7/11/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	Non-Filtered BOD 60 - Reading 6	5.5	ppm	6/30/2005	7/15/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	Non-Filtered BOD 60 - Reading 7	7.2	ppm	6/30/2005	7/20/2005	

WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	Non-Filtered BOD 60 - Reading 8	8.8	ppm	6/30/2005	7/29/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	Non-Filtered BOD 60 - Reading 9	9.7	ppm	6/30/2005	8/9/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	Non-Filtered BOD 60 - Reading 10	10.4	ppm	6/30/2005	8/19/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20968	TRG	Non-Filtered BOD 60 - Final	11.0	ppm	6/30/2005	8/31/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20969	TRG	Chlorophyll A (raw)	592	ug/L	7/18/2005	7/19/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20969	TRG	Volume of sample, Chlorophyll A (raw)	180	ml	7/18/2005	7/19/2005	
WAC5	West Anacoco Creek	Boat site upstream of Vernon Lake	AH20969	TRG	Chlorophyll A (calculated)	32.9	ug/L	7/18/2005	7/19/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20970	TRG	TSS	17.0	ppm	6/30/2005	7/1/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20970	TRG	TDS	44.7	ppm	7/1/2005	7/5/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20970	TRG	Alkalinity	8.7	ppm	7/6/2005	7/6/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20970	TRG	Turbidity	10	NTU	6/30/2005	6/30/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20970	TRG	Specific Conductance	36.2	umhos/cm	7/6/2005	7/6/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20970	TRG	True Color	90	PCU	6/30/2005	6/30/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20970	TRG	Chloride, Ion Chromatograph	3.4	ppm	7/12/2005	7/12/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20970	TRG	Sulfate	ND	ppm	7/12/2005	7/12/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20971	TRG	Sodium	2.9	ppm	7/5/2005	7/6/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20972	TRG	Hardness	13.1	ppm	7/22/2005	7/22/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20972	TRG	Nitrate+Nitrite Nitrogen	0.09	ppm	7/5/2005	7/5/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20972	TRG	TP	0.06	ppm	7/7/2005	7/7/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20972	TRG	TKN	0.58	ppm	7/7/2005	7/7/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20972	TRG	Ammonia-Nitrogen	0.20	ppm	7/15/2005	7/15/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20973	TRG	TOC	5.6	ppm	7/20/2005	7/21/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	pH, Ultimate BOD survey	6.59	pH units	8/31/2005	8/31/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	TOC (60 Day BOD)	3.8	ppm	9/1/2005	9/2/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	TKN (60 Day BOD)	0.53	ppm	9/8/2005	9/8/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	NO2NO3 - Initial Reading	0.07	ppm	7/19/2005	7/19/2005	6/30/2005
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	NO2NO3 - Reading 1	0.07	ppm	7/19/2005	7/19/2005	7/1/2005
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	NO2NO3 - Reading 2	0.07	ppm	7/19/2005	7/19/2005	7/4/2005
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	NO2NO3 - Reading 3	0.08	ppm	7/19/2005	7/19/2005	7/6/2005
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	NO2NO3 - Reading 4	0.08	ppm	7/19/2005	7/19/2005	7/8/2005
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	NO2NO3 - Reading 5	0.09	ppm	7/19/2005	7/19/2005	7/11/2005
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	NO2NO3 - Reading 6	0.12	ppm	7/19/2005	7/19/2005	7/15/2005
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	NO2NO3 - Reading 7	0.19	ppm	8/4/2005	8/4/2005	7/20/2005
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	NO2NO3 - Reading 8	0.22	ppm	8/4/2005	8/4/2005	7/29/2005
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	NO2NO3 - Reading 9	0.26	ppm	8/19/2005	8/19/2005	8/9/2005
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	NO2NO3 - Reading 10	0.25	ppm	9/9/2005	9/9/2005	8/19/2005
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	NO2NO3 - Final	0.26	ppm	9/9/2005	9/9/2005	8/31/2005
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	Non-Filtered BOD 60 - Reading 1	0.4	ppm	6/30/2005	7/1/2005	

WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	Non-Filtered BOD 60 - Reading 2	1.2	ppm	6/30/2005	7/4/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	Non-Filtered BOD 60 - Reading 3	1.5	ppm	6/30/2005	7/6/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	Non-Filtered BOD 60 - Reading 4	1.8	ppm	6/30/2005	7/8/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	Non-Filtered BOD 60 - Reading 5	2.2	ppm	6/30/2005	7/11/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	Non-Filtered BOD 60 - Reading 6	2.9	ppm	6/30/2005	7/15/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	Non-Filtered BOD 60 - Reading 7	3.8	ppm	6/30/2005	7/20/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	Non-Filtered BOD 60 - Reading 8	4.6	ppm	6/30/2005	7/29/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	Non-Filtered BOD 60 - Reading 9	5.4	ppm	6/30/2005	8/9/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	Non-Filtered BOD 60 - Reading 10	6.0	ppm	6/30/2005	8/19/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20974	TRG	Non-Filtered BOD 60 - Final	6.5	ppm	6/30/2005	8/31/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20975	TRG	Chlorophyll A (calculated)	2.3	ug/L	7/18/2005	7/19/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20975	TRG	Chlorophyll A (raw)	45.6	ug/L	7/18/2005	7/19/2005	
WAC10	Elder Branch Creek	At Barham Road	AH20975	TRG	Volume of sample, Chlorophyll A (raw)	200	ml	7/18/2005	7/19/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20976	TRG	TSS	ND	ppm	6/30/2005	7/1/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20976	TRG	TDS	42.0	ppm	7/1/2005	7/5/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20976	TRG	Alkalinity	5.1	ppm	7/6/2005	7/6/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20976	TRG	Turbidity	1.8	NTU	6/30/2005	6/30/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20976	TRG	Specific Conductance	27.8	umhos/cm	7/6/2005	7/6/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20976	TRG	True Color	22	PCU	6/30/2005	6/30/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20976	TRG	Chloride, Ion Chromatograph	2.7	ppm	7/12/2005	7/12/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20976	TRG	Sulfate	1.4	ppm	7/12/2005	7/12/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20977	TRG	Sodium	2.9	ppm	7/5/2005	7/6/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20978	TRG	Hardness	5.5	ppm	8/1/2005	8/1/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20978	TRG	Nitrate+Nitrite Nitrogen	0.12	ppm	7/5/2005	7/5/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20978	TRG	TP	ND	ppm	7/7/2005	7/7/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20978	TRG	TKN	0.19	ppm	7/7/2005	7/7/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20978	TRG	Ammonia-Nitrogen	ND	ppm	7/15/2005	7/15/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20979	TRG	TOC	ND	ppm	7/20/2005	7/21/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	pH, Ultimate BOD survey	6.42	pH units	8/31/2005	8/31/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	TOC (60 Day BOD)	ND	ppm	9/1/2005	9/2/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	TKN (60 Day BOD)	0.14	ppm	9/8/2005	9/8/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	NO2NO3 - Initial Reading	0.10	ppm	7/19/2005	7/19/2005	6/30/2005
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	NO2NO3 - Reading 1	0.10	ppm	7/19/2005	7/19/2005	7/1/2005
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	NO2NO3 - Reading 2	0.10	ppm	7/19/2005	7/19/2005	7/4/2005
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	NO2NO3 - Reading 3	0.10	ppm	7/19/2005	7/19/2005	7/6/2005
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	NO2NO3 - Reading 4	0.10	ppm	7/19/2005	7/19/2005	7/8/2005
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	NO2NO3 - Reading 5	0.10	ppm	7/19/2005	7/19/2005	7/11/2005
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	NO2NO3 - Reading 6	0.10	ppm	7/19/2005	7/19/2005	7/15/2005

WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	NO2NO3 - Reading 7	0.09	ppm	8/4/2005	8/4/2005	7/20/2005
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	NO2NO3 - Reading 8	0.09	ppm	8/4/2005	8/4/2005	7/29/2005
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	NO2NO3 - Reading 9	0.13	ppm	8/19/2005	8/19/2005	8/9/2005
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	NO2NO3 - Reading 10	0.14	ppm	9/9/2005	9/9/2005	8/19/2005
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	NO2NO3 - Final	0.17	ppm	9/9/2005	9/9/2005	8/31/2005
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	Non-Filtered BOD 60 - Reading 1	0.2	ppm	6/30/2005	7/1/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	Non-Filtered BOD 60 - Reading 2	0.6	ppm	6/30/2005	7/4/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	Non-Filtered BOD 60 - Reading 3	0.6	ppm	6/30/2005	7/6/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	Non-Filtered BOD 60 - Reading 4	0.7	ppm	6/30/2005	7/8/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	Non-Filtered BOD 60 - Reading 5	0.7	ppm	6/30/2005	7/11/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	Non-Filtered BOD 60 - Reading 6	0.8	ppm	6/30/2005	7/15/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	Non-Filtered BOD 60 - Reading 7	0.9	ppm	6/30/2005	7/20/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	Non-Filtered BOD 60 - Reading 8	1.1	ppm	6/30/2005	7/29/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	Non-Filtered BOD 60 - Reading 9	1.2	ppm	6/30/2005	8/9/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	Non-Filtered BOD 60 - Reading 10	1.3	ppm	6/30/2005	8/19/2005	
WAC11	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20980	TRG	Non-Filtered BOD 60 - Final	1.5	ppm	6/30/2005	8/31/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20984	TRG	TSS	4.0	ppm	6/30/2005	7/1/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20984	TRG	TDS	94.0	ppm	7/1/2005	7/5/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20984	TRG	Alkalinity	4.3	ppm	7/6/2005	7/6/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20984	TRG	Turbidity	ND	NTU	6/30/2005	6/30/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20984	TRG	Specific Conductance	52.4	umhos/cm	7/6/2005	7/6/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20984	TRG	True Color	ND	PCU	6/30/2005	6/30/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20984	TRG	Chloride, Ion Chromatograph	2.4	ppm	7/12/2005	7/12/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20984	TRG	Sulfate	12.5	ppm	7/12/2005	7/12/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20985	TRG	Sodium	4.6	ppm	7/5/2005	7/6/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20986	TRG	Hardness	9.3	ppm	7/22/2005	7/22/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20986	TRG	Nitrate+Nitrite Nitrogen	ND	ppm	7/5/2005	7/5/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20986	TRG	TP	ND	ppm	7/7/2005	7/7/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20986	TRG	TKN	ND	ppm	7/7/2005	7/7/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20986	TRG	Ammonia-Nitrogen	ND	ppm	7/15/2005	7/15/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20987	TRG	TOC	ND	ppm	7/20/2005	7/21/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	pH, Ultimate BOD survey	6.53	pH units	8/31/2005	8/31/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	TOC (60 Day BOD)	ND	ppm	9/1/2005	9/2/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	TKN (60 Day BOD)	0.13	ppm	9/8/2005	9/8/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	NO2NO3 - Initial Reading	ND	ppm	7/19/2005	7/19/2005	6/30/2005
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	NO2NO3 - Reading 1	ND	ppm	7/19/2005	7/19/2005	7/1/2005
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	NO2NO3 - Reading 2	ND	ppm	7/19/2005	7/19/2005	7/4/2005
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	NO2NO3 - Reading 3	ND	ppm	7/19/2005	7/19/2005	7/6/2005

WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	NO2NO3 - Reading 4	ND	ppm	7/19/2005	7/19/2005	7/8/2005
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	NO2NO3 - Reading 5	ND	ppm	7/19/2005	7/19/2005	7/11/2005
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	NO2NO3 - Reading 6	ND	ppm	7/19/2005	7/19/2005	7/15/2005
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	NO2NO3 - Reading 7	ND	ppm	8/4/2005	8/4/2005	7/20/2005
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	NO2NO3 - Reading 8	ND	ppm	8/4/2005	8/4/2005	7/29/2005
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	NO2NO3 - Reading 9	ND	ppm	8/19/2005	8/19/2005	8/9/2005
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	NO2NO3 - Reading 10	ND	ppm	9/9/2005	9/9/2005	8/19/2005
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	NO2NO3 - Final	0.07	ppm	9/9/2005	9/9/2005	8/31/2005
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	Non-Filtered BOD 60 - Reading 1	0.1	ppm	6/30/2005	7/1/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	Non-Filtered BOD 60 - Reading 2	0.4	ppm	6/30/2005	7/4/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	Non-Filtered BOD 60 - Reading 3	0.4	ppm	6/30/2005	7/6/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	Non-Filtered BOD 60 - Reading 4	0.4	ppm	6/30/2005	7/8/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	Non-Filtered BOD 60 - Reading 5	0.4	ppm	6/30/2005	7/11/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	Non-Filtered BOD 60 - Reading 6	0.4	ppm	6/30/2005	7/15/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	Non-Filtered BOD 60 - Reading 7	0.5	ppm	6/30/2005	7/20/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	Non-Filtered BOD 60 - Reading 8	0.5	ppm	6/30/2005	7/29/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	Non-Filtered BOD 60 - Reading 9	0.5	ppm	6/30/2005	8/9/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	Non-Filtered BOD 60 - Reading 10	0.5	ppm	6/30/2005	8/19/2005	
WAC11A	Little Sandy Branch Creek	100 ft upstream of bridge at Highway 392	AH20988	TRG	Non-Filtered BOD 60 - Final	0.6	ppm	6/30/2005	8/31/2005	

Appendix F2 – Cross Sections and Discharge Measurements

West Anacoco Creek 110501

Field Data Summary -- Discharges and Cross Sections

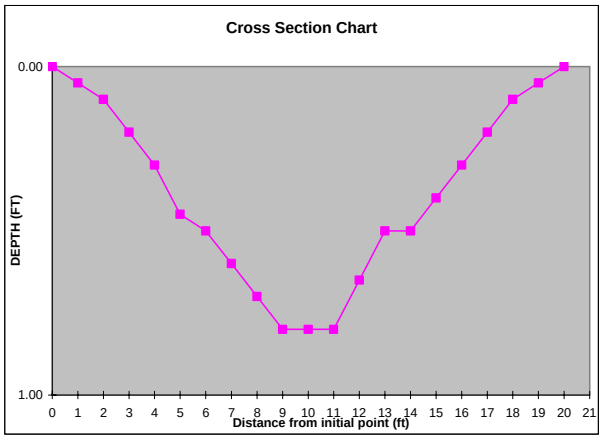
Site #	Width (ft)	Width (m)	Depth (ft)	Depth (m)	Flow (cfs)	Flow (cms)
WAC1	20	6.096	0.4	0.12192	0.080	0.0023
WAC2	12.0	3.658	0.64	0.195		
WAC3	21.0	6.401	1.00	0.305	0.101	0.0029
WAC4	8.0	2.438	0.58	0.177	-0.190	-0.0054
WAC5	52.0	15.850	4.41	1.344	23.380	0.6620
WAC10	4.4	1.341	0.22	0.067	0.050	0.0014
WAC11	4.8	1.463	0.36	0.110	0.759	0.0215
WAC11a					0.021	0.0006

STREAM CROSS-SECTION SPREADSHEET

Site Number: WAC1 **Subsegment:** 110501 **Waterbody:** West Anacoco Creek
Site Description: At Roy Lee Snell Road
Type of Equipment: ☐ Fathometer ☐ Hydrotrac ☑ Manual
Initial Bank: ☐ RDB ☑ LDB
Tapedown:
Guage Height:
Date: 6/29/2005

WIDTH[1] (ft):	20.00
AREA[2] (ft^2):	8.00
AVG. DEPTH[3] (ft):	0.40

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	0.00	0.00	0.00	
2	1.0	1.00	0.05	0.05	0.63%
3	2.0	1.00	0.10	0.10	1.25%
4	3.0	1.00	0.20	0.20	2.50%
5	4.0	1.00	0.30	0.30	3.75%
6	5.0	1.00	0.45	0.45	5.63%
7	6.0	1.00	0.50	0.50	6.25%
8	7.0	1.00	0.60	0.60	7.50%
9	8.0	1.00	0.70	0.70	8.75%
10	9.0	1.00	0.80	0.80	10.00%
11	10.0	1.00	0.80	0.80	10.00%
12	11.0	1.00	0.80	0.80	10.00%
13	12.0	1.00	0.65	0.65	8.13%
14	13.0	1.00	0.50	0.50	6.25%
15	14.0	1.00	0.50	0.50	6.25%
16	15.0	1.00	0.40	0.40	5.00%
17	16.0	1.00	0.30	0.30	3.75%
18	17.0	1.00	0.20	0.20	2.50%
19	18.0	1.00	0.10	0.10	1.25%
20	19.0	1.00	0.05	0.05	0.63%
21	20.0	0.50	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					
	Total	20.00		8.00	100.00%



Data Collection Crew	Cal Fontenot, Dickinson	Office Data Work	Griffith
Measurement made by:	Cal Fontenot, Dickinson	Data Inputed by / Date:	7/6/2005
Notetaker/Recorder:	Cal Fontenot, Dickinson	Data Input Checked by / Date:	7/6/2005
Other:			

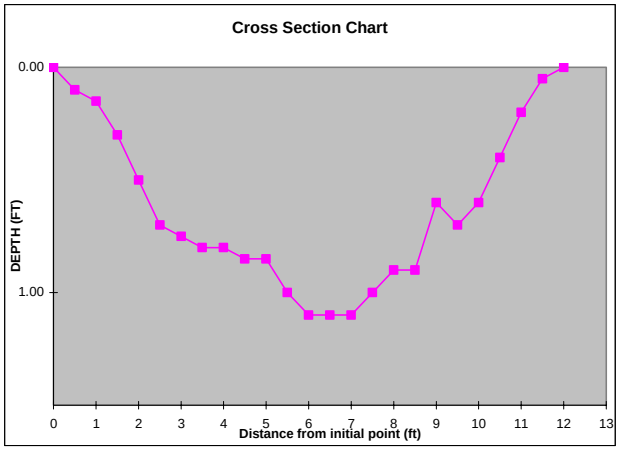
Note 1: WIDTH (ft) = sum of the width column
Note 2: AREA (sq.ft.) = sum of the area column
Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
Note 4: Width of element
Note 5: Area=Width*Depth for element
Note 6: Percent area = element area/total area x 100%
Note 7: Percent area 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 CROSS-SECTION SPREADSHEET

Site Number: WAC2 **Subsegment:** 110501 **Waterbody:** West Anacoco Creek
Site Description: At Highway 392
Type of Equipment: ☐ Fathometer ☐ Hydrotrac ☑ Manual
Initial Bank: ☐ RDB ☑ LDB
Tapedown:
Guage Height:
Date: 6/29/2005

WIDTH[1] (ft):	12.00
AREA[2] (ft^2):	7.73
AVG. DEPTH[3](ft):	0.64

Distance from initial point (ft)	Width[4] (ft)	Depth (ft)	Area[5] (sq.ft.)	Area of element as % of Total Area[6 & 7]
0.0	0.00	0.00	0.00	
0.5	0.50	0.10	0.05	0.65%
1.0	0.50	0.15	0.08	0.97%
1.5	0.50	0.30	0.15	1.94%
2.0	0.50	0.50	0.25	3.24%
2.5	0.50	0.70	0.35	4.53%
3.0	0.50	0.75	0.38	4.85%
3.5	0.50	0.80	0.40	5.18%
4.0	0.50	0.80	0.40	5.18%
4.5	0.50	0.85	0.43	5.50%
5.0	0.50	0.85	0.43	5.50%
5.5	0.50	1.00	0.50	6.47%
6.0	0.50	1.10	0.55	7.12%
6.5	0.50	1.10	0.55	7.12%
7.0	0.50	1.10	0.55	7.12%
7.5	0.50	1.00	0.50	6.47%
8.0	0.50	0.90	0.45	5.83%
8.5	0.50	0.90	0.45	5.83%
9.0	0.50	0.60	0.30	3.88%
9.5	0.50	0.70	0.35	4.53%
10.0	0.50	0.60	0.30	3.88%
10.5	0.50	0.40	0.20	2.59%
11.0	0.50	0.20	0.10	1.29%
11.5	0.50	0.05	0.03	0.32%
12.0	0.25	0.00	0.00	0.00%
Total	12.00		7.73	100.00%



Data Collection Crew	Cal Fontenot, Dickinson	Office Data Work	Griffith
Measurement made by:	Cal Fontenot, Dickinson	Data Inputed by / Date:	7/6/2005
Notetaker/Recorder:	Cal Fontenot, Dickinson	Data Input Checked by / Date:	7/6/2005
Other:			

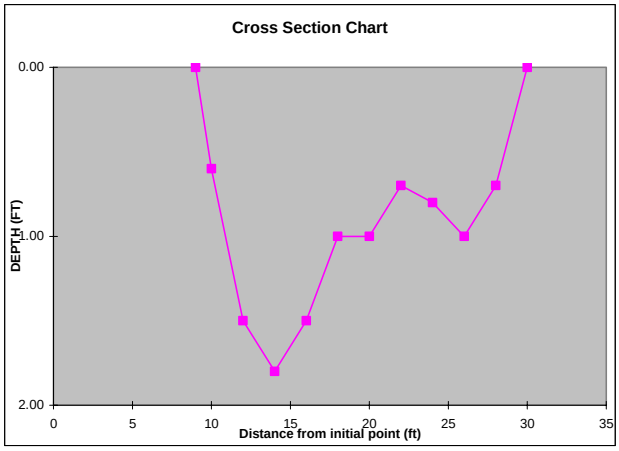
Note 1: WIDTH (ft) = sum of the width column
Note 2: AREA (sq.ft.) = sum of the area column
Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
Note 4: Width of element
Note 5: Area=Width*Depth for element
Note 6: Percent area = element area/total area x 100%
Note 7: Percent area 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 CROSS-SECTION SPREADSHEET

Site Number: WAC3 **Subsegment:** 110501 **Waterbody:** West Anacoco Creek
Site Description: At U.S. Highway 171
Type of Equipment: ☐ Fathometer ☐ Hydrotrac ☑ Manual
Initial Bank: ☐ RDB ☑ LDB
Tapedown:
Guage Height:
Date: 6/29/2005

WIDTH[1] (ft):	21.00
AREA[2] (ft^2):	20.90
AVG. DEPTH[3](ft):	1.00

Distance from initial point (ft)	Width[4] (ft)	Depth (ft)	Area[5] (sq.ft.)	Area of element as % of Total Area[6 & 7]
9.0	0.00	0.00	0.00	0.00%
10.0	1.50	0.60	0.90	4.31%
12.0	2.00	1.50	3.00	14.35%
14.0	2.00	1.80	3.60	17.22%
16.0	2.00	1.50	3.00	14.35%
18.0	2.00	1.00	2.00	9.57%
20.0	2.00	1.00	2.00	9.57%
22.0	2.00	0.70	1.40	6.70%
24.0	2.00	0.80	1.60	7.66%
26.0	2.00	1.00	2.00	9.57%
28.0	2.00	0.70	1.40	6.70%
30.0	1.00	0.00	0.00	0.00%
Total	21.00		20.90	100.00%



Data Collection Crew	Brignac, Jones	Office Data Work	Griffith
Measurement made by:	Brignac, Jones	Data Inputed by / Date:	7/6/2005
Notetaker/Recorder:	Brignac, Jones	Data Input Checked by / Date:	7/6/2005
Other:			

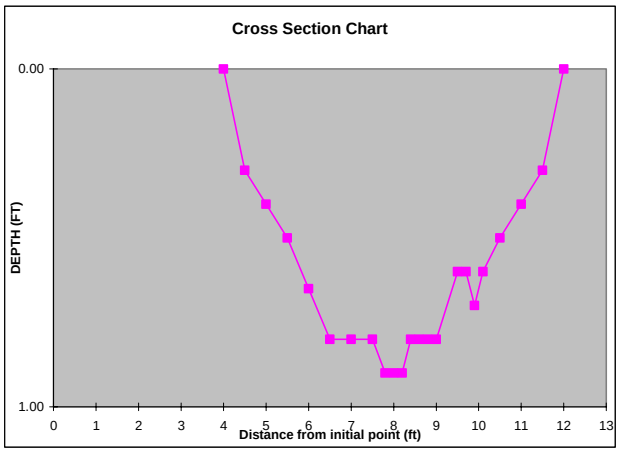
Note 1: WIDTH (ft) = sum of the width column
Note 2: AREA (sq.ft.) = sum of the area column
Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
Note 4: Width of element
Note 5: Area=Width*Depth for element
Note 6: Percent area = element area/total area x 100%
Note 7: Percent area 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 CROSS-SECTION SPREADSHEET

Site Number: WAC4 **Subsegment:** 110501 **Waterbody:** West Anacoco Creek
Site Description: Off of Leech Road at Railroad Crossing
Type of Equipment: ☐ Fathometer ☐ Hydrotrac ☑ Manual
Initial Bank: ☑ RDB ☐ LDB
Tapedown:
Guage Height:
Date: 6/29/2005

WIDTH[1] (ft):	8.00
AREA[2] (ft^2):	4.62
AVG. DEPTH[3](ft):	0.58

Distance from initial point (ft)	Width[4] (ft)	Depth (ft)	Area[5] (sq.ft.)	Area of element as % of Total Area[6 & 7]
4.0	0.00	0.00	0.00	0.00%
4.5	0.50	0.30	0.15	3.25%
5.0	0.50	0.40	0.20	4.33%
5.5	0.50	0.50	0.25	5.42%
6.0	0.50	0.65	0.33	7.04%
6.5	0.50	0.80	0.40	8.67%
7.0	0.50	0.80	0.40	8.67%
7.5	0.40	0.80	0.32	6.93%
7.8	0.25	0.90	0.23	4.88%
8.0	0.20	0.90	0.18	3.90%
8.2	0.20	0.90	0.18	3.90%
8.4	0.20	0.80	0.16	3.47%
8.6	0.20	0.80	0.16	3.47%
8.8	0.20	0.80	0.16	3.47%
9.0	0.35	0.80	0.28	6.07%
9.5	0.35	0.60	0.21	4.55%
9.7	0.20	0.60	0.12	2.60%
9.9	0.20	0.70	0.14	3.03%
10.1	0.30	0.60	0.18	3.90%
10.5	0.45	0.50	0.23	4.88%
11.0	0.50	0.40	0.20	4.33%
11.5	0.50	0.30	0.15	3.25%
12.0	0.25	0.00	0.00	0.00%
Total	8.00		4.62	100.00%



Data Collection Crew	Brignac, Jones	Office Data Work	Griffith
Measurement made by:	Brignac, Jones	Data Inputed by / Date:	7/6/2005
Notetaker/Recorder:	Brignac, Jones	Data Input Checked by / Date:	7/6/2005
Other:			

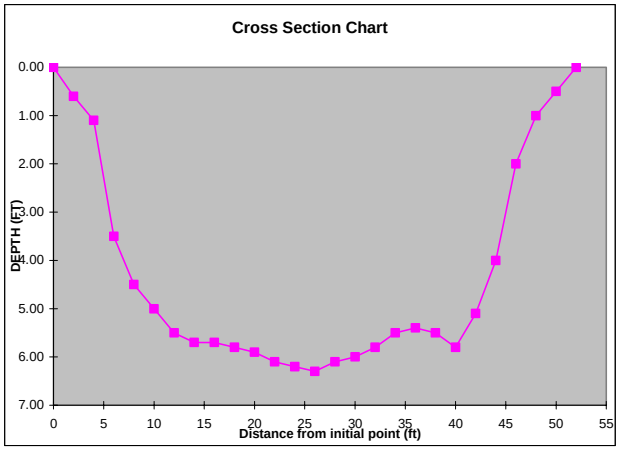
Note 1: WIDTH (ft) = sum of the width column
Note 2: AREA (sq.ft.) = sum of the area column
Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
Note 4: Width of element
Note 5: Area=Width*Depth for element
Note 6: Percent area = element area/total area x 100%
Note 7: Percent area 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 CROSS-SECTION SPREADSHEET

Site Number: WAC5 **Subsegment:** 110501 **Waterbody:** West Anacoco Creek
Site Description: 100 yards upstream of Vernon lake
Type of Equipment: ☐ Fathometer ☐ Hydrotrac ☑ Manual
Initial Bank: ☐ RDB ☑ LDB
Tapedown:
Guage Height:
Date: 6/30/2005

WIDTH[1] (ft):	52.00
AREA[2] (ft²):	229.20
AVG. DEPTH[3](ft):	4.41

Distance from initial point (ft)	Width[4] (ft)	Depth (ft)	Area[5] (sq.ft.)	Area of element as % of Total Area[6 & 7]
0.0	0.00	0.00	0.00	
2.0	2.00	0.60	1.20	0.52%
4.0	2.00	1.10	2.20	0.96%
6.0	2.00	3.50	7.00	3.05%
8.0	2.00	4.50	9.00	3.93%
10.0	2.00	5.00	10.00	4.36%
12.0	2.00	5.50	11.00	4.80%
14.0	2.00	5.70	11.40	4.97%
16.0	2.00	5.70	11.40	4.97%
18.0	2.00	5.80	11.60	5.06%
20.0	2.00	5.90	11.80	5.15%
22.0	2.00	6.10	12.20	5.32%
24.0	2.00	6.20	12.40	5.41%
26.0	2.00	6.30	12.60	5.50%
28.0	2.00	6.10	12.20	5.32%
30.0	2.00	6.00	12.00	5.24%
32.0	2.00	5.80	11.60	5.06%
34.0	2.00	5.50	11.00	4.80%
36.0	2.00	5.40	10.80	4.71%
38.0	2.00	5.50	11.00	4.80%
40.0	2.00	5.80	11.60	5.06%
42.0	2.00	5.10	10.20	4.45%
44.0	2.00	4.00	8.00	3.49%
46.0	2.00	2.00	4.00	1.75%
48.0	2.00	1.00	2.00	0.87%
50.0	2.00	0.50	1.00	0.44%
52.0	1.00	0.00	0.00	0.00%
Total	52.00		229.20	100.00%



Data Collection Crew	Griffith, Chuck Fontenot	Office Data Work	Griffith
Measurement made by:	Griffith, Chuck Fontenot	Data Inputed by / Date:	7/6/2005
Notetaker/Recorder:	Griffith	Data Input Checked by / Date:	7/6/2005
Other:			

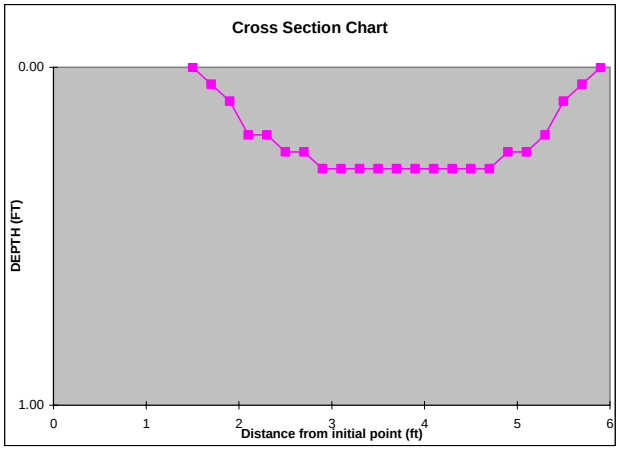
Note 1: WIDTH (ft) = sum of the width column
Note 2: AREA (sq.ft.) = sum of the area column
Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
Note 4: Width of element
Note 5: Area=Width*Depth for element
Note 6: Percent area = element area/total area x 100%
Note 7: Percent area 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 CROSS-SECTION SPREADSHEET

Site Number: WAC10 **Subsegment:** 110501 **Waterbody:** Elder Branch Creek
Site Description: At Barham Road
Type of Equipment: ☐ Fathometer ☐ Hydrotrac ☑ Manual
Initial Bank: ☐ RDB ☑ LDB
Tapedown:
Guage Height:
Date: 6/29/2005

WIDTH[1] (ft):	4.40
AREA[2] (ft^2):	0.98
AVG. DEPTH[3](ft):	0.22

Distance from initial point (ft)	Width[4] (ft)	Depth (ft)	Area[5] (sq.ft.)	Area of element as % of Total Area[6 & 7]
1.5	0.00	0.00	0.00	0.00%
1.7	0.20	0.05	0.01	1.02%
1.9	0.20	0.10	0.02	2.04%
2.1	0.20	0.20	0.04	4.08%
2.3	0.20	0.20	0.04	4.08%
2.5	0.20	0.25	0.05	5.10%
2.7	0.20	0.25	0.05	5.10%
2.9	0.20	0.30	0.06	6.12%
3.1	0.20	0.30	0.06	6.12%
3.3	0.20	0.30	0.06	6.12%
3.5	0.20	0.30	0.06	6.12%
3.7	0.20	0.30	0.06	6.12%
3.9	0.20	0.30	0.06	6.12%
4.1	0.20	0.30	0.06	6.12%
4.3	0.20	0.30	0.06	6.12%
4.5	0.20	0.30	0.06	6.12%
4.7	0.20	0.30	0.06	6.12%
4.9	0.20	0.25	0.05	5.10%
5.1	0.20	0.25	0.05	5.10%
5.3	0.20	0.20	0.04	4.08%
5.5	0.20	0.10	0.02	2.04%
5.7	0.20	0.05	0.01	1.02%
5.9	0.10	0.00	0.00	0.00%
Total	4.40		0.98	100.00%



Data Collection Crew	Griffith, Fine	Office Data Work	Griffith
Measurement made by:	Griffith, Fine	Data Inputed by / Date:	7/6/2005
Notetaker/Recorder:	Griffith	Data Input Checked by / Date:	7/6/2005
Other:			

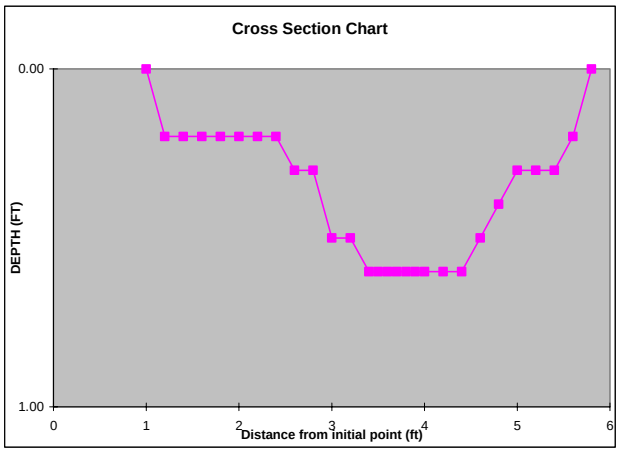
Note 1: WIDTH (ft) = sum of the width column
Note 2: AREA (sq.ft.) = sum of the area column
Note 3: AVG. DEPTH (ft) = area/width (using the values from this table)
Note 4: Width of element
Note 5: Area=Width*Depth for element
Note 6: Percent area = element area/total area x 100%
Note 7: Percent area 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 CROSS-SECTION SPREADSHEET

Site Number: WAC11 **Subsegment:** 110501 **Waterbody:** Little Sandy Branch Creek
Site Description: At Highway 392
Type of Equipment: ☐ Fathometer ☐ Hydrotrac ☑ Manual
Initial Bank: ☐ RDB ☑ LDB
Tapedown:
Guage Height:
Date: 6/29/2005

WIDTH[1] (ft):	4.80
AREA[2] (ft^2):	1.72
AVG. DEPTH[3](ft):	0.36

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	0.00	0.00	0.00	0.00%
1.2	0.20	0.20	0.04	2.33%
1.4	0.20	0.20	0.04	2.33%
1.6	0.20	0.20	0.04	2.33%
1.8	0.20	0.20	0.04	2.33%
2.0	0.20	0.20	0.04	2.33%
2.2	0.20	0.20	0.04	2.33%
2.4	0.20	0.20	0.04	2.33%
2.6	0.20	0.30	0.06	3.49%
2.8	0.20	0.30	0.06	3.49%
3.0	0.20	0.50	0.10	5.81%
3.2	0.20	0.50	0.10	5.81%
3.4	0.15	0.60	0.09	5.23%
3.5	0.10	0.60	0.06	3.49%
3.6	0.10	0.60	0.06	3.49%
3.7	0.10	0.60	0.06	3.49%
3.8	0.10	0.60	0.06	3.49%
3.9	0.10	0.60	0.06	3.49%
4.0	0.15	0.60	0.09	5.23%
4.2	0.20	0.60	0.12	6.98%
4.4	0.20	0.60	0.12	6.98%
4.6	0.20	0.50	0.10	5.81%
4.8	0.20	0.40	0.08	4.65%
5.0	0.20	0.30	0.06	3.49%
5.2	0.20	0.30	0.06	3.49%
5.4	0.20	0.30	0.06	3.49%
5.6	0.20	0.20	0.04	2.33%
5.8	0.10	0.00	0.00	0.00%
Total	4.80		1.72	100.00%



Data Collection Crew	Griffith, Fine	Office Data Work	Griffith
Measurement made by:	Griffith, Fine	Data Inputed by / Date:	7/6/2005
Notetaker/Recorder:	Griffith, Fine	Data Input Checked by / Date:	7/6/2005
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.
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Note 9: The cross sections are taken at areas representative of the stream.

West Anacoco Creek 110501
Estimated Flow Measurements

Immeasurable Flow

Site	Area (ft2)	Velocity (ft/s)	Flow (cfs)	Flow (cms)
WAC1	8	0.01	0.08	0.0023

Drogue Measurement

Estimated Discharge = Average Velocity * Cross-sectional Area * 0.6

Site WAC5	Distance (feet)	Time (seconds)	Velocity (ft/sec)
MS	5	30	0.17
		Average Velocity:	**0.17**
		Cross-sectional Area:	**229.20**
		Estimated Discharge:	**23.38**

Spring from Pipe

WAC11a	Volume (m3)	Time (seconds)	Estimated Discharge:
	0.01893	30	0.00063 cms

West Anacoco Creek 110501				
Calibration Flow Input Values				
SITE	**Calculation**	**Q (CFS)**	**Q (CMS)**	**Waterbody**
Headwater	WAC1 Minimal Flow	0.0800	0.0023	West Anacoco Creek
Incremental Reach 1	INFLOW 1/2(WAC3 - WAC1)	0.0105	0.0003	West Anacoco Creek
Incremental Reach 2	INFLOW 1/2(WAC3 - WAC1)	0.0105	0.0003	West Anacoco Creek
Incremental Reach 3	OUTFLOW (WAC3 + WAC1)	0.2910	0.0082	West Anacoco Creek
Incremental Reach 4	INFLOW (WAC5 - WAC4 - ELDER - LITTLE SANDY)	22.7607	0.6445	West Anacoco Creek
Wasteload	WAC10	0.0500	0.0014	Elder Branch Creek
Wasteload	WAC11+ WAC11a	0.7596	0.0215	Little Sandy Creek

FLOWTRACKER WADING DISCHARGE

Site: WAC3
Initial Bank: REW
Serial Number: P863
Date: 2005/06/29 08:36:40

Width:	4
Area:	0.42
Discharge:	0.101
Average Velocity:	0.242

Section	Distance	Depth	Area	Velocity				Section Discharge	% Discharge
				.2D	.6D	.8D	Average		
1	2.5	0	0		0		0	0	0
2	2.7	0.1	0.02		0.006		0.006	0	0
3	2.9	0.1	0.02		0.008		0.008	0	0
4	3.1	0.1	0.02		0.023		0.023	0	0
5	3.3	0.1	0.02		0.035		0.035	0.001	1.00%
6	3.5	0.1	0.02		0.025		0.025	0.001	1.00%
7	3.7	0.1	0.04		0.212		0.212	0.008	7.90%
8	4.3	0.2	0.08		0.723		0.723	0.058	57.40%
9	4.5	0.1	0.02		0.723		0.723	0.014	13.90%
10	4.7	0.1	0.02		0.302		0.302	0.006	5.90%
11	4.9	0.1	0.02		0.002		0.002	0	0
12	5.1	0.1	0.02		0.19		0.19	0.004	4.00%
13	5.3	0.1	0.02		0.309		0.309	0.006	5.90%
14	5.5	0.1	0.02		0.015		0.015	0	0
15	5.7	0.1	0.02		0.107		0.107	0.002	2.00%
16	5.9	0.1	0.02		0.382		0.382	0.008	7.90%
17	6.1	0.1	0.02		0.016		0.016	0	0
18	6.3	0.1	0.02		0.003		0.003	0	0
19	6.5	0	0		0		0	0	0

FLOWTRACKER WADING DISCHARGE

Site: WAC4
Initial Bank: REW
Serial Number: P863
Date: 2005/06/29 09:30:53

Width:	8
Area:	4.61
Discharge:	-0.19
Average Velocity:	-0.041

Section	Distance	Depth	Area	Velocity .2D	Velocity .6D	Velocity .8D	Velocity Average	Section Discharge	% Discharge
1	4	0	0		0		0	0	0
2	4.5	0.3	0.15		0.19		0.19	0.028	-14.70%
3	5	0.4	0.2		0.029		0.029	0.006	-3.20%
4	5.5	0.5	0.25		0.045		0.045	0.011	-5.80%
5	6	0.65	0.325		0.069		0.069	0.022	-11.60%
6	6.5	0.8	0.4		0.028		0.028	0.011	-5.80%
7	7	0.8	0.4		0.003		0.003	0.001	-0.50%
8	7.5	0.8	0.32		0.003		0.003	0.001	-0.50%
9	7.8	0.9	0.225		0.318		0.318	0.071	-37.40%
10	8	0.9	0.18		0.316		0.316	0.057	-30.00%
11	8.2	0.9	0.18		0.004		0.004	0.001	-0.50%
12	8.4	0.8	0.16		0.1		0.1	0.016	-8.40%
13	8.6	0.8	0.16		0.06		0.06	0.01	-5.30%
14	8.8	0.8	0.16		0.328		0.328	0.052	-27.40%
15	9	0.8	0.28		0.057		0.057	0.016	-8.40%
16	9.5	0.6	0.21		0.874		0.874	0.183	-96.30%
17	9.7	0.6	0.12		0.228		0.228	0.027	-14.20%
18	9.9	0.7	0.14		0.673		0.673	0.094	-49.50%
19	10.1	0.6	0.18		0.407		0.407	0.073	-38.40%
20	10.5	0.5	0.225		0.003		0.003	0.001	-0.50%
21	11	0.4	0.2		0.681		0.681	0.136	-71.60%
22	11.5	0.3	0.15		0.196		0.196	0.029	-15.30%
23	12	0	0		0		0	0	0

FLOWTRACKER WADING DISCHARGE

Site: WAC10
Initial Bank: LEW
Serial Number: P729
Date: 2005/06/29 12:10:19

Width:	4.3
Area:	0.74
Discharge:	0.05
Average Velocity:	0.066

Section	Distance	Depth	Area	Velocity .2D	Velocity .6D	Velocity .8D	Velocity Average	Section Discharge	% Discharge
1	1.5	0	0		0		0	0	0
2	1.8	0.1	0.025		0		0	0	0
3	2	0.1	0.02		0.005		0.005	0	0
4	2.2	0.1	0.02		0.016		0.016	0	0
5	2.4	0.2	0.04		0.008		0.008	0	0
6	2.6	0.2	0.04		0.073		0.073	0.003	6.00%
7	2.8	0.2	0.03		0.142		0.142	0.004	8.00%
8	2.9	0.2	0.02		0.05		0.05	0.001	2.00%
9	3	0.2	0.03		0.088		0.088	0.003	6.00%
10	3.2	0.2	0.04		0.12		0.12	0.005	10.00%
11	3.4	0.2	0.04		0.114		0.114	0.005	10.00%
12	3.6	0.2	0.04		0.08		0.08	0.003	6.00%
13	3.8	0.2	0.04		0.094		0.094	0.004	8.00%
14	4	0.2	0.04		0.065		0.065	0.003	6.00%
15	4.2	0.2	0.04		0.049		0.049	0.002	4.00%
16	4.4	0.2	0.04		0.088		0.088	0.004	8.00%
17	4.6	0.2	0.04		0.058		0.058	0.002	4.00%
18	4.8	0.2	0.04		0.077		0.077	0.003	6.00%
19	5	0.2	0.04		0.071		0.071	0.003	6.00%
20	5.2	0.2	0.04		0.073		0.073	0.003	6.00%
21	5.4	0.2	0.04		0.027		0.027	0.001	2.00%
22	5.6	0.2	0.04		0.034		0.034	0.001	2.00%
23	5.8	0	0		0		0	0	0

FLOWTRACKER WADING DISCHARGE

Site: WAC11
Initial Bank: LEW
Serial Number: P729
Date: 2005/06/29 09:14:46

Width:	4.8
Area:	1.72
Discharge:	0.759
Average Velocity:	0.442

Section	Distance	Depth	Area	Velocity .2D	Velocity .6D	Velocity .8D	Velocity Average	Section Discharge	% Discharge
1	1	0	0		0		0	0	0
2	1.2	0.2	0.04		0.007		0.007	0	0
3	1.4	0.2	0.04		0.099		0.099	0.004	0.50%
4	1.6	0.2	0.04		0.039		0.039	0.002	0.30%
5	1.8	0.2	0.04		0.033		0.033	0.001	0.10%
6	2	0.2	0.04		0.348		0.348	0.014	1.80%
7	2.2	0.2	0.04		0.194		0.194	0.008	1.10%
8	2.4	0.2	0.04		0.57		0.57	0.023	3.00%
9	2.6	0.3	0.06		0.346		0.346	0.021	2.80%
10	2.8	0.3	0.06		0.234		0.234	0.014	1.80%
11	3	0.5	0.1		0.241		0.241	0.024	3.20%
12	3.2	0.5	0.1		0.421		0.421	0.042	5.50%
13	3.4	0.6	0.091		0.518		0.518	0.047	6.20%
14	3.5	0.6	0.061		0.637		0.637	0.039	5.10%
15	3.6	0.6	0.06		0.848		0.848	0.051	6.70%
16	3.7	0.6	0.059		0.677		0.677	0.04	5.30%
17	3.8	0.6	0.06		0.866		0.866	0.052	6.90%
18	3.9	0.6	0.06		0.82		0.82	0.049	6.50%
19	4	0.6	0.089		0.705		0.705	0.063	8.30%
20	4.2	0.6	0.12		0.545		0.545	0.065	8.60%
21	4.4	0.6	0.12		0.528		0.528	0.063	8.30%
22	4.6	0.5	0.1		0.454		0.454	0.045	5.90%
23	4.8	0.4	0.08		0.308		0.308	0.025	3.30%
24	5	0.3	0.06		0.27		0.27	0.016	2.10%
25	5.2	0.3	0.06		0.348		0.348	0.021	2.80%
26	5.4	0.3	0.06		0.324		0.324	0.019	2.50%
27	5.6	0.2	0.04		0.304		0.304	0.012	1.60%
28	5.8	0	0		0		0	0	0

Appendix F3 – Field Notes

West Anacoco Creek Survey Report

West Anacoco Creek (subsegment 110501) is located in the Sabine River Basin and is approximately 12 miles long. The survey started at Roy Lee Snell Road near Hornbeck and continued to Vernon Lake in Anacoco. It was conducted from June 28, 2005 through June 30, 2005. The majority of land use along West Anacoco Creek is forestry. West Anacoco Creek is mostly comprised of riparian forest with some wetlands near the bottom of the subsegment. The creek is fed by rainwater with the exception of one spring in the lower western side of the subsegment.

The Watershed Surveys Group took water quality samples and In-Situ readings throughout the length of the creek and in two tributaries on June 29th. There was some measurable flow taken with a flowtracker 6A at sites WAC3, WAC4, WAC10, and WAC11. A dye study was attempted; however, the dye failed to reach the two dye monitors due to lack of flow and thus no data was recorded. There were a total of six continuous monitors used on the survey, all of which recorded data throughout a 48 hour period starting on June 28th. GPS readings were taken prior to the survey and cross-sections were performed during the survey. The Weather Station was not deployed because it was not in operable condition. All field observations, lab, and monitor data are included in this report.

Sites WAC6, WAC7, WAC8, and WAC9 were not included in the survey because of lack of flow. The continuous monitor at WAC2 failed to measure dissolved oxygen. There were no other problems encountered.

Site Information

Site #: WAC1 Subsegment: 110501 Date: 11-28-05 Time: 1320hrs

Waterbody: West Anacoco Creek

Tapedown 1: 7.01 @ 1320hrs Staff Gauge 1: _____ Gauge Height 1: _____

Site Location†: At Prewitt Chapel / Roy Lee Snell Rd

Personnel: Hughes, Dickinson, Finkbiet

Type of Work: Recon ☐ Data Collection ☒

Weather Conditions:
- Clear ☒
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☐
- 11 – 40% ☐
- 41 – 70% ☒
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☒
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☐
- 1-5 ☒
- 6-10 ☐
- 11-15 ☐
- >16 ☐

Wind Direction:
NW ☐ N ☐ NE ☐
SW ☐ S ☐ SE ☐
E ☐ W ☐
Variable ☒

Stream Characteristics: Flowing: ☐ Measurable Flow: ☐
- Flow Direction Upstream ☐ Downstream ☐ Tidally Influenced: ☐
- Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
- Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐
- Floating/Aquatic Vegetation % Surface Coverage: <1 ☒ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ **Water Quality Field Parameters:** ☐ **Profiling:** ☐

Water Quality Field Parameters

Time: _____ **Temp.(°C):** _____ **pH:** _____ **SpCond(µhmos/cm):** _____

D.O.: _____ **D.O. %:** _____ **Salinity:** _____ **Depth (m):** _____ **Secchi (in):** _____

InSitu Probe S/N: _____ **Surveyor 4a S/N:** _____

Continuous Monitor Deployed: ☒ Continuous Monitor S/N: 41999 @ 1320hrs

Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m): Sin ~ 0.15m

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☐ Using Discharge Equipment: ☐
- Type: Wading ☐ Bridge Board ☐ Boat Board ☐
- Drogue Estimate: ☐ Oye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☐ Type of Measurement Manual: ☐ Fathometer ☐

Cross Section File Name: _____ Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

† All work is done within 100 yard radius of Site unless otherwise noted in Data Plan

WAC1 110501 6/28/05 1370 hrs

Tapedown Established: ☒ Tapedown Location: South side of bridge on Roy Snell Road

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☒ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☒ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐

Sand/Silt ☒ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☒ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☒

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ Bridge Safe: ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____
D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____
D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____
D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Comments: _____

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft = 0.15 m	20 = 68	25 = 77
1.0 ft = 0.30 m	21 = 69.8	26 = 78.8
1.5 ft = 0.45 m	22 = 71.6	27 = 80.6
2.0 ft = 0.60 m	23 = 73.4	28 = 82.4
2.5 ft = 0.75 m	24 = 75.2	29 = 84.2

Field Site Survey.doc
Revision 3.0
Revised 11/9/04

Site Information

Site #: WAC1 Subsegment: 110501 Date: 4-29-05 Time: 0900hrs

Waterbody: West Anacoco Creek

Tapedown 1: 9.05 @ 0900hrs Staff Gauge 1: _____ Gauge Height 1: _____

Site Location†: At Prewitt Chapel / Roy Lee Snell Road

Personnel: Hughes, Dickinson, Fontenot

Type of Work: Recon ☐ Data Collection ☒

Weather Conditions:
- Clear ☒
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☒
- 11 – 40% ☐
- 41 – 70% ☐
- 71 – 100% ☐

Temperature (°F):
- Hot > 85° ☒
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☒
- 1-5 ☐
- 6-10 ☐
- 11-15 ☐
- >15 ☐

Wind Direction:
NW ☐ N ☐ NE ☐
SW ☐ S ☐ SE ☐
E ☐ W ☐
Variable ☒

Stream Characteristics: Flowing: ☐ Measurable Flow: ☐
Flow Direction Upstream ☐ Downstream ☐ Tidally Influenced: ☐
Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
Algae Present ☒ Sedimentation/Turbidity Present in Water Column ☐
Floating/Aquatic Vegetation % Surface Coverage: <1 ☒ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☒ **Water Quality Field Parameters:** ☒ **Profiling:** ☐

Water Quality Field Parameters

Time: 0900hrs Temp.(°C): 24.72 pH: 6.55 SpCond(µhmos/cm): 73.9
D.O.: 0.48 D.O. %: 5.0 Salinity: 0.02 Depth (m): 0.15m Secchi (in): ___
InSitu Probe S/N: A0808 Surveyor 4a S/N: 51970

Continuous Monitor Deployed: ☐ Continuous Monitor S/N: _____
Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m): _____

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____
Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☒ Using Discharge Equipment: ☐
Type: Wading ☐ Bridge Board ☐ Boat Board ☐
Drogue Estimate: ☒ Dye Estimate: ☐

Right Descending Bank Distance (ft): 0 ft Time (s): 60 s
Mid Stream Distance (ft): 0 ft Time (s): 60 s
Left Descending Bank Distance (ft): 0 ft Time (s): 60 s

Cross Section Measurement: ☒ Type of Measurement Manual: ☒ Fathometer ☐
Cross Section File Name: WAC1 Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____
Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____
Camera: _____

† All work is done within 100 yard radius of Site unless otherwise noted in Data Plan

Site Information

Site #: WAC1 Subsegment: 110501 Date: 6-30-05 Time: 1320hrs

Waterbody: West Anacoco Creek

Tapedown 1: 9.12 @ 1325hrs Staff Gauge 1: _____ Gauge Height 1: _____

Site Location†: At Prewitt Chapel / Roy Lee Snell Road

Personnel: Hughes, Dickinson, Fontenot

Type of Work: Recon ☐ Data Collection ☒

Weather Conditions:
- Clear ☒
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☐
- 11 – 40% ☐
- 41 – 70% ☒
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☒
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☐
- 1-5 ☐
- 6-10 ☒
- 11-15 ☐
- >16 ☐

Wind Direction:
- NW ☒ N ☐ NE ☐
- SW ☐ S ☐ SE ☐
- E ☐ W ☐
- Variable ☐

Stream Characteristics: Flowing: ☐ Measurable Flow: ☐
- Flow Direction Upstream ☐ Downstream ☐ Tidally Influenced: ☐
- Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
- Algae Present ☒ Sedimentation/Turbidity Present in Water Column ☐
- Floating/Aquatic Vegetation % Surface Coverage: <1 ☒ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ **Water Quality Field Parameters:** ☐ **Profiling:** ☐

Water Quality Field Parameters

Time: _____ **Temp.(°C):** _____ **pH:** _____ **SpCond(µhmos/cm):** _____

D.O.: _____ **D.O. %:** _____ **Salinity:** _____ **Depth (m):** _____ **Secchi (in):** _____

InSitu Probe S/N: _____ **Surveyor 4a S/N:** _____

Continuous Monitor Deployed: ☐ **Continuous Monitor S/N:** 41999 @ 1320hrs

Continuous Monitor Retrieved: ☒ **Continuous Monitor Deployment Depth (m):** _____

Flow Measurement: ☐ **Type of Measurement:** Wading ☐ **Bridge Board** ☐ **Boat Board** ☐

AquaCalc File Name: _____ **AquaCalc S/N:** _____

Tapedown 2: _____ **Staff Gauge 2:** _____ **Gauge Height 2:** _____

Flow Estimated: ☐ Using Discharge Equipment: ☐
- Type: Wading ☐ Bridge Board ☐ Boat Board ☐
- Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☐ **Type of Measurement Manual:** ☐ **Fathometer** ☐

Cross Section File Name: _____ **Fathometer S/N:** _____

GPS Measurement: ☐ **GPS SSF File Name:** _____

Site GPS: ☐ **Cross Section GPS:** ☐ **GPS Unit:** _____

Photos Taken: ☐ **Picture File #s:** _____

Camera: _____

† All work is done within 100 yard radius of Site unless otherwise noted in Data Plan

WAC1 110501 4/30/05 1320hrs

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____
Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐
Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☒ Man Altered Waterbody: ☐
Man-Made Waterbody: ☐
Stream Dry/Intermittent: ☐
Stream Bottom: Sandy ☒ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐
Sand/Silt ☒ Rock/Gravel/Silt ☐ Concrete ☐
Control Structure Present: ☐ Location: _____
Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐
Land Use: Agriculture ☐ Forestry ☒ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐
Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☒

Recon Information:
Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐
Measurement Location: _____
Cross Section Location: _____
Continuous Monitor Deployment: _____
Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____
Bridge ☐ **Bridge Safe:** ☐ **Bridge Width:** _____ **Bridge Height:** _____

Profiling Measurements:

Time: _____	Temp.(°C): _____	pH: _____	Spcond(µhmos/cm): _____
D.O.: _____	D.O. %: _____	Salinity: _____	Depth (m): _____
Time: _____	Temp.(°C): _____	pH: _____	Spcond(µhmos/cm): _____
D.O.: _____	D.O. %: _____	Salinity: _____	Depth (m): _____
Time: _____	Temp.(°C): _____	pH: _____	Spcond(µhmos/cm): _____
D.O.: _____	D.O. %: _____	Salinity: _____	Depth (m): _____

Comments: _____

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft = 0.15 m	20 = 68	25 = 77
1.0 ft = 0.30 m	21 = 69.8	26 = 78.8
1.5 ft = 0.45 m	22 = 71.6	27 = 80.6
2.0 ft = 0.60 m	23 = 73.4	28 = 82.4
2.5 ft = 0.75 m	24 = 75.2	29 = 84.2

Field Site Survey doc
Revision 3.0
Revised 11/8/04

Site Information

Site #: WAC 2 Subsegment: 110501 Date: 6-28-05 Time: 1255hrs

Waterbody: West Anacoco Creek

Tapedown 1: 9.62 @ 1255hrs Staff Gauge 1: _____ Gauge Height 1: _____

Site Location†: At Hwy 392 (Mainstem)

Personnel: Hughes, Dickinson, Fontenot

Type of Work: Recon ☐ Data Collection ☒

Weather Conditions:
- Clear ☒
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☐
- 11 – 40% ☐
- 41 – 70% ☒
- 71 – 100% ☐

Temperature (°F):
- Hot > 85° ☒
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☒
- 1-5 ☐
- 6-10 ☐
- 11-15 ☐
- >15 ☐

Wind Direction:
- NW ☐ N ☐ NE ☐
- SW ☐ S ☐ SE ☐
- E ☐ W ☐
- Variable ☒

Stream Characteristics: Flowing: ☐ Measurable Flow: ☐
- Flow Direction Upstream ☐ Downstream ☐ Tidally Influenced: ☐
- Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
- Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐
- Floating/Aquatic Vegetation % Surface Coverage: <1 ☒ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ **Water Quality Field Parameters:** ☐ **Profiling:** ☐

Water Quality Field Parameters

Time: _____ **Temp.(°C):** _____ **pH:** _____ **SpCond(µhmos/cm):** _____

D.O.: _____ **D.O. %:** _____ **Salinity:** _____ **Depth (m):** _____ **Secchi (in):** _____

InSitu Probe S/N: _____ **Surveyor 4a S/N:** _____

Continuous Monitor Deployed: ☒ Continuous Monitor S/N: 4091

Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m): 0.5m

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☐ Using Discharge Equipment: ☐
- Type: Wading ☐ Bridge Board ☐ Boat Board ☐
- Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☐ Type of Measurement Manual: ☐ Fathometer ☐

Cross Section File Name: _____ Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

† All work is done within 100 yard radius of Site unless otherwise noted in Data Plan

WAC 2 110501 6/28/05 - 1255hrs

Tapedown Established: ☒ Tapedown Location: Southside of bridge on Hwy 392

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☒ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☒ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐

Sand/Silt ☒ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☒ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☒

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ Bridge Safe: ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Comments: _____

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft = 0.15 m	20 = 68	25 = 77
1.0 ft = 0.30 m	21 = 69.8	26 = 78.8
1.5 ft = 0.45 m	22 = 71.6	27 = 80.6
2.0 ft = 0.60 m	23 = 73.4	28 = 82.4
2.5 ft = 0.75 m	24 = 75.2	29 = 84.2

Field Site Survey.doc
Revision 3.0
Revised 11/8/04

Site Information

Site #: WAC2 Subsegment: 110501 Date: 6 29-05 Time: 1015 hrs

Waterbody: West Anacoco Creek

Tapedown 1: 9.63 @1015hrs Staff Gauge 1: _____ Gauge Height 1: _____

Site Location[1]: At Hwy 342 (Main Stem)

Personnel: Hughes, Dickenson, Fontenot

Type of Work: Recon ☐ Data Collection ☒

Weather Conditions:
- Clear ☒
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☒
- 11 – 40% ☐
- 41 – 70% ☐
- 71 – 100% ☐

Temperature (°F):
- Hot > 85° ☒
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☐
- 1-5 ☒
- 6-10 ☐
- 11-15 ☐
- >16 ☐

Wind Direction:
NW ☐ N ☐ NE ☐
SW ☐ S ☐ SE ☐
E ☐ W ☐
Variable ☒

Stream Characteristics: Flowing: ☐ Measurable Flow: ☐
Flow Direction Upstream ☐ Downstream ☐ Tidally Influenced: ☐
Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐
Floating/Aquatic Vegetation % Surface Coverage: <1 ☒ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☒

Water Quality Samples Taken: ☒ Water Quality Field Parameters: ☒ Profiling: ☐

Water Quality Field Parameters

IBv-7.3 IBa-12.2

Time: 1015 Temp.(°C): 23.70 pH: 4.34 SpCond(µhmos/cm): 38.3
D.O.: 0.60 D.O. %: 7.3 Salinity: 0.01 Depth (m): 0.75 Secchi (in): 18 inches
InSitu Probe S/N: 40808 Surveyor 4a S/N: 81970

Continuous Monitor Deployed: ☐ Continuous Monitor S/N: _____
Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m): _____

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____
Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☒ Using Discharge Equipment: ☐
Type: Wading ☐ Bridge Board ☐ Boat Board ☐
Drogue Estimate: ☒ Dye Estimate: ☐

Right Descending Bank Distance (ft): 0 ft Time (s): 60.0 s
Mid Stream Distance (ft): 0 ft Time (s): 60.0 s
Left Descending Bank Distance (ft): 0 ft Time (s): 60.0 s

Cross Section Measurement: ☒ Type of Measurement Manual: ☒ Fathometer ☐
Cross Section File Name: WAC2 Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____
Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____
Camera: _____

[1] All work is done within 100 yard radius of Site unless otherwise noted in Data Plan

WAC2 110501 6/29/05 1015hrs

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☒ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☒ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐

Sand/Silt ☒ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☒ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☒

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ Bridge Safe: ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____
D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____
D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____
D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Comments: _____

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft = 0.15 m	20 = 68	25 = 77
1.0 ft = 0.30 m	21 = 69.8	26 = 78.8
1.5 ft = 0.45 m	22 = 71.6	27 = 80.6
2.0 ft = 0.60 m	23 = 73.4	28 = 82.4
2.5 ft = 0.75 m	24 = 75.2	29 = 84.2

Field Site Survey.doc
Revision 3.0
Revised 11/8/04

Site Information

1300

Site #: WAC 2 Subsegment: 110501 Date: 6-30-05 Time: 1255 hrs

Waterbody: West Anacoco Creek

Tapedown 1: 9.65 @ 1300 hrs Staff Gauge 1: _____ Gauge Height 1: _____

Site Location†: At Hwy 392

Personnel: Hughes, Dirkinson, Fontenot

Type of Work: Recon ☐ Data Collection ☒

Weather Conditions:
- Clear ☒
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☐
- 11 – 40% ☐
- 41 – 70% ☒
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☒
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☐
- 1-5 ☐
- 6-10 ☒
- 11-15 ☐
- >16 ☐

Wind Direction:
- NW ☒ N ☐ NE ☐
- SW ☐ S ☐ SE ☐
- E ☐ W ☐
- Variable ☐

Stream Characteristics: Flowing: ☐ Measurable Flow: ☐
- Flow Direction Upstream ☐ Downstream ☐ Tidally Influenced: ☐
- Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
- Algae Present ☒ Sedimentation/Turbidity Present in Water Column ☐
- Floating/Aquatic Vegetation % Surface Coverage: <1 ☒ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ **Water Quality Field Parameters:** ☐ **Profiling:** ☐

Water Quality Field Parameters

Time: _____ **Temp.(°C):** _____ **pH:** _____ **SpCond(µhmos/cm):** _____

D.O.: _____ **D.O. %:** _____ **Salinity:** _____ **Depth (m):** _____ **Secchi (in):** _____

InSitu Probe S/N: _____ **Surveyor 4a S/N:** _____

Continuous Monitor Deployed: ☐ **Continuous Monitor S/N:** 40841 @ 1300 hrs

Continuous Monitor Retrieved: ☒ **Continuous Monitor Deployment Depth (m):** 0.5m

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☐ Using Discharge Equipment: ☐
- Type: Wading ☐ Bridge Board ☐ Boat Board ☐
- Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☐ Type of Measurement Manual: ☐ Fathometer ☐

Cross Section File Name: _____ Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

† All work is done within 100 yard radius of Site unless otherwise noted in Data Plan

WAC2 110501 6/30/05 1300hrs

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☒ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☒ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐

Sand/Silt ☒ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☒ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☒

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ Bridge Safe: ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Comments: _____

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft ≈ 0.15 m	20 ≈ 68	25 ≈ 77
1.0 ft ≈ 0.30 m	21 ≈ 69.8	26 ≈ 78.8
1.5 ft ≈ 0.45 m	22 ≈ 71.6	27 ≈ 80.6
2.0 ft ≈ 0.60 m	23 ≈ 73.4	28 ≈ 82.4
2.5 ft ≈ 0.75 m	24 ≈ 75.2	29 ≈ 84.2

Field Site Survey.doc
Revision 3.0
Revised 11/8/04

Site Information

Site #: WAC 3 Subsegment: 110501 Date: 6/28/05 Time: 11:15

Waterbody: West Anacoco Creek Tapedown 1: Staff Gauge 1:

Gauge Height 1: Tapedown 2: Staff Gauge 2: Gauge Height 2:

Site Location: At Highway 171

Personnel: Jones, Reed, Brignac, Earles

Type of Work: Recon ☐ Data Collection ☒

Weather Conditions:	Temperature (°F):	Wind (mph):	Wind Direction:
Clear ☒	Hot >85° ☒	<1 ☒	NW ☐ N ☐ NE ☐
[illegible] ☐	Warm > 75° ☐	1-5 ☐	SW ☐ S ☐ SE ☐
[illegible] ☐	Mild > 65° ☐	6-10 ☐	E ☐ W ☐
Cloud Cover:	Cool > 50° ☐	11-15 ☐	Variable ☐
0-10% ☐	Cold < 50° ☐	>16 ☐	
11 – 40% ☒			
41 – 70% ☐			
71 – 100% ☐			

Stream Characteristics: Flowing: ☒ Measurable Flow: ☒

Flow Direction Upstream ☐ Downstream ☒ Tidally Influenced: ☐

Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐

Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐

Floating/Aquatic Vegetation % Surface Coverage: <1 ☒ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ **Water Quality Field Parameters:** ☐ **Profiling:** ☐

Continuous Monitor Deployed: ☒ Continuous Monitor S/N: 41500

Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m): .75m

Continuous Monitor Location: Downstream of bridge

Water Quality Field Parameters

Time: ____ **Temp.(°C):** ____ **pH:** ____ **Spcond(µhmos/cm):** ____

D.O.: ____ **D.O. %:** ____ **Salinity:** ____ **Depth (m):** ____ **Secchi (in):** ____

Flow Measurement: ☐ Measurement Location: ____

Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: ____

Flow Estimated: ☐ Measurement Location: ____

Using Discharge Equipment: ☐ Type: Wading ☐ Bridge Board ☐ Boat Board ☐

Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank: Distance (ft): ____ Time (s): ____

Mid Stream: Distance (ft): ____ Time (s): ____

Left Descending Bank: Distance (ft): ____ Time (s): ____

Cross Section Measurement: ☐ Measurement Location: ____

Type of Measurement Manual: ☐ Fathometer ☐ Cross Section File Name: ____

GPS Measurement: ☐ GPS SSF File Name: ____

Site GPS: ☐ Cross Section GPS: ☐

Comments: ____

WAC3 110501 6/28/05 11:15

Photos Taken: ☐ Picture File #s: _____

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☒ Man Altered Waterbody: ☐ Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☐ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐ Sand/Silt ☐ Rock/Gravel/Silt ☒

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☒ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☒ 76-100% ☐

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ **Bridge Safe:** ☐ **Bridge Width:** _____ **Bridge Height:** _____

Profiling Measurements:

Time:		**Temp.(°C):**		**pH:**		**Spcond(µhmos/cm):**	
D.O.:		**D.O. %:**		**Salinity:**		**Depth (m):**	
Time:		**Temp.(°C):**		**pH:**		**Spcond(µhmos/cm):**	
D.O.:		**D.O. %:**		**Salinity:**		**Depth (m):**	
Time:		**Temp.(°C):**		**pH:**		**Spcond(µhmos/cm):**	
D.O.:		**D.O. %:**		**Salinity:**		**Depth (m):**	

Equipment Used:

In Situ Probe S/N: _____ Surveyor 4a S/N: _____ GPS Unit _____

AquaCalc S/N _____ Fathometer: _____ Laser Gun _____

Camera S/N: _____

References

Convert Feet to Meters

0.5 ft ≅ 0.15 m

1.0 ft ≅ 0.30 m

1.5 ft ≅ 0.45 m

2.0 ft ≅ 0.60 m

2.5 ft ≅ 0.75 m

Field Site Survey 4aa
Revision 2.0
Revised 3/25/03

Site Information

Site #: WAC 3 Subsegment: 110501 Date: 6/29/05 Time: 0830
Waterbody: West Anacoco Creek Tapedown 1: Staff Gauge 1:
Gauge Height 1: Tapedown 2: Staff Gauge 2: Gauge Height 2:
Site Location: At Highway 171
Personnel: Jones, Rud, Brignac, Garles
Type of Work: Recon ☐ Data Collection ☒

Weather Conditions:	Temperature (°F):	Wind (mph):	Wind Direction:
Clear ☒	Hot >85° ☐	<1 ☒	NW ☐ N ☐ NE ☐
Drizzle/Light Rain ☐	Warm > 75° ☒	1-5 ☐	SW ☐ S ☐ SE ☐
Showers ☐	Mild > 65° ☐	6-10 ☐	E ☐ W ☐
Cloud Cover:	Cool > 60° ☐	11-15 ☐	Variable ☐
0 – 10% ☒	Cold < 60° ☐	>16 ☐	
11 – 40% ☐			
41 – 70% ☐			
71 – 100% ☐			

Stream Characteristics: Flowing: ☒ Measurable Flow: ☒
Flow Direction Upstream ☐ Downstream ☒ Tidally Influenced: ☐
Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐
Floating/Aquatic Vegetation % Surface Coverage: <1 ☒ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☒ Water Quality Field Parameters: ☒ Profiling: ☐
Continuous Monitor Deployed: ☐ Continuous Monitor S/N:
Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m):
Continuous Monitor Location:

Water Quality Field Parameters

Time: 0830 Temp.(°C): 23.67 pH: 6.93 Spcond(µhmos/cm): 64.7
D.O.: 2.7 D.O. %: 32.3 Salinity: 0.02 Depth (m): 0.3 Secchi (in): 24 in

Flow Measurement: ☒ Measurement Location: Downstream of bridge
Type of Measurement: Wading ☒ Bridge Board ☐ Boat Board ☐
Flow Tracker ~~AquaCalc File~~ Name: WAC 3
Flow Estimated: ☐ Measurement Location:
Using Discharge Equipment: ☐ Type: Wading ☐ Bridge Board ☐ Boat Board ☐
Drogue Estimate: ☐ Dye Estimate: ☐
Right Descending Bank: Distance (ft): Time (s):
Mid Stream: Distance (ft): Time (s):
Left Descending Bank: Distance (ft): Time (s):
Cross Section Measurement: ☒ Measurement Location: Downstream of bridge
Type of Measurement Manual: ☒ Fathometer ☐ Cross Section File Name: WAC3
GPS Measurement: ☐ GPS SSF File Name:
Site GPS: ☐ Cross Section GPS: ☐
Comments: [redacted]

WAC3 110501 6/29

Photos Taken: ☐ Picture File #s: _____

Tapedown Established: ☐ Tapedown Location: _____
Benchmark Established: ☐ Benchmark Location: _____
Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐
Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☒ Man Altered Waterbody: ☐ Man-Made Waterbody: ☐
Stream Dry/Intermittent: ☐
Stream Bottom: Sandy ☐ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐ Sand/Silt ☐ Rock/Gravel/Silt ☒
Control Structure Present: ☐ Location: _____
Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐
Land Use: Agriculture ☐ Forestry ☒ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐
Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☒ 76-100% ☐

Recon Information:
Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐
Measurement Location: _____
Cross Section Location: _____
Continuous Monitor Deployment: _____
Continuous Monitor Location: _____
Boat Accessible: ☐ Nearest Launch: _____
Bridge ☐ Bridge Safe ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time:	0830	Temp.(°C):	23.67	pH:	6.93	Spcond(µhmos/cm):	64.7
D.O.:	2.7	D.O. %:	32.3	Salinity:	.02	Depth (m):	.5m
Time:		Temp.(°C):		pH:		Spcond(µhmos/cm):	
D.O.:		D.O. %:		Salinity:		Depth (m):	
Time:		Temp.(°C):		pH:		Spcond(µhmos/cm):	
D.O.:		D.O. %:		Salinity:		Depth (m):	

Equipment Used:
In Situ Probe S/N: 37762 Surveyor 4a S/N: 52703 GPS Unit _____
PNW Packer Aquacalc S/N FT4A Fathometer: _____ Laser Gun _____
Camera S/N: _____

References
Convert Feet to Meters
0.5 ft ≅ 0.15 m
1.0 ft ≅ 0.30 m
1.5 ft ≅ 0.45 m
2.0 ft ≅ 0.60 m
2.5 ft ≅ 0.75 m

23 ft. Across

CROSS	Section	Measurement
1.9 ft	0.0	28 - .7
10	.6	30 - 0.0
12	1.5	
14	1.8	
16	1.5	
18	1.0	
20	1.0	
22	.7	
24	.8	
26	1.0	

Field Site Survey.doc
Revision 2.0
Revised 3/25/03

Site Information

Site #: WAC 3 Subsegment: 110501 Date: 6/30/05 Time: 1115

Waterbody: West Anacoco Creek

Tapedown 1: _____ Staff Gauge 1: _____ Gauge Height 1: _____

Site Location†: U.S. Hwy. 171

Personnel: Garner, Richard, LaFleur

Type of Work: Recon ☐ Data Collection ☑

Weather Conditions:
- Clear ☑
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 –10% ☐
- 11 – 40% ☑
- 41 – 70% ☐
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☑
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☐
- 1-5 ☑
- 6-10 ☐
- 11-15 ☐
- >16 ☐

Wind Direction:
- NW ☐ N ☐ NE ☐
- SW ☐ S ☐ SE ☐
- E ☐ W ☐
- Variable ☑

Stream Characteristics: Flowing: ☑ Measurable Flow: ☑
- Flow Direction Upstream ☐ Downstream ☑ Tidally Influenced: ☐
- Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
- Algae Present ☑ Sedimentation/Turbidity Present in Water Column ☐
- Floating/Aquatic Vegetation % Surface Coverage: <1 ☐ 1-25% ☑ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ Water Quality Field Parameters: ☐ Profiling: ☐

Water Quality Field Parameters

Time: _____ Temp.(°C): _____ pH: _____ SpCond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____ Secchi (in): _____

InSitu Probe S/N: _____ Surveyor 4a S/N: _____

Continuous Monitor Deployed: ☐ Continuous Monitor S/N: 41500

Continuous Monitor Retrieved: ☑ Continuous Monitor Deployment Depth (m):

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☐ Using Discharge Equipment: ☐
- Type: Wading ☐ Bridge Board ☐ Boat Board ☐
- Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☐ Type of Measurement Manual: ☐ Fathometer ☐

Cross Section File Name: _____ Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

† All work is done within 100 yard radius of Site unless otherwise noted in Data Plan

WAC3 110501 6/30/05 1115

Tapedown Established: ☐ **Tapedown Location:** _____

Benchmark Established: ☐ **Benchmark Location:** _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ **Type of Site:** Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☑ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☐ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐

Sand/Silt ☐ Rock/Gravel/Silt ☑ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☑ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☑ 76-100% ☐

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ **Bridge Safe:** ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time:		Temp.(°C):		pH:		Spcond(µhmos/cm):	
D.O.:		D.O. %:		Salinity:		Depth (m):	
Time:		Temp.(°C):		pH:		Spcond(µhmos/cm):	
D.O.:		D.O. %:		Salinity:		Depth (m):	
Time:		Temp.(°C):		pH:		Spcond(µhmos/cm):	
D.O.:		D.O. %:		Salinity:		Depth (m):	

Comments: _____

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft = 0.15 m	20 = 68	25 = 77
1.0 ft = 0.30 m	21 = 69.8	26 = 78.8
1.5 ft = 0.45 m	22 = 71.6	27 = 80.6
2.0 ft = 0.60 m	23 = 73.4	28 = 82.4
2.5 ft = 0.75 m	24 = 75.2	29 = 84.2

Field Site Survey.doc
Revision 3.0
Revised 11/8/04

Site Information

Site #: WAC 3A Subsegment: 110501 Date: 6-28-05 Time: 1220 hrs

Waterbody: West Anacoco Creek

Tapedown 1: _____ Staff Gauge 1: _____ Gauge Height 1: _____

Site Location†: At Hwy 171

Personnel: Greenwood

Type of Work: Recon ☐ Data Collection ☒

Weather Conditions:	*Temperature* (°F):	*Wind* (mph):	*Wind Direction*:
Clear ☒	Hot >85° ☒	<1 ☐	NW ☐ N ☐ NE ☐
Drizzle/Light Rain ☐	Warm > 75° ☐	1-5 ☒	SW ☐ S ☐ SE ☐
Showers ☐	Mild > 65° ☐	6-10 ☐	E ☐ W ☐
Cloud Cover:	Cool > 60° ☐	11-15 ☐	Variable ☒
0 – 10% ☐	Cold < 60° ☐	>16 ☐	
11 – 40% ☐			
41 – 70% ☒			
71 – 100% ☐			

Stream Characteristics: Flowing: ☒ Measurable Flow: ☒

Flow Direction Upstream ☐ Downstream ☒ Tidally Influenced: ☐

Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐

Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐

Floating/Aquatic Vegetation % Surface Coverage: <1 ☒ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ **Water Quality Field Parameters:** ☐ Profiling: ☐

Water Quality Field Parameters

Time: _____ **Temp.(°C):** _____ **pH:** _____ **SpCond(µhmos/cm):** _____

D.O.: _____ **D.O. %:** _____ **Salinity:** _____ **Depth (m):** _____ **Secchi (in):** _____

InSitu Probe S/N: _____ **Surveyor 4a S/N:** _____

Continuous Monitor Deployed: ☐ Continuous Monitor S/N: _____

Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m): _____

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☒ Using Discharge Equipment: ☐

Type: Wading ☐ Bridge Board ☐ Boat Board ☐

Drogue Estimate: ☐ Dye Estimate: ☒ Dye Dump @ 1220 hrs

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☐ Type of Measurement Manual: ☐ Fathometer ☐

Cross Section File Name: _____ Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

† All work is done within 100 yard radius of Site unless otherwise noted in Data Plan

WAC3A 110501 6/28/05 1220hrs

Tapedown Established: ☐ **Tapedown Location:** _____

Benchmark Established: ☐ Benchmark Location: _____
Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐
Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☑ Man Altered Waterbody: ☐
Man-Made Waterbody: ☐
Stream Dry/Intermittent: ☐
Stream Bottom: Sandy ☐ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐
Sand/Silt ☐ Rock/Gravel/Silt ☒ Concrete ☐
Control Structure Present: ☐ Location: _____
Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐
Land Use: Agriculture ☐ Forestry ☒ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐
Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☒

Recon Information:
Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐
Measurement Location: _____
Cross Section Location: _____
Continuous Monitor Deployment: _____
Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____
Bridge ☐ **Bridge Safe:** ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time:		Temp.(°C):		pH:		Spcond(µhmos/cm):	
D.O.:		D.O. %:		Salinity:		Depth (m):	
Time:		Temp.(°C):		pH:		Spcond(µhmos/cm):	
D.O.:		D.O. %:		Salinity:		Depth (m):	
Time:		Temp.(°C):		pH:		Spcond(µhmos/cm):	
D.O.:		D.O. %:		Salinity:		Depth (m):	

Comments: _____

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft = 0.15 m	20 = 68	25 = 77
1.0 ft = 0.30 m	21 = 69.8	26 = 78.8
1.5 ft = 0.45 m	22 = 71.6	27 = 80.6
2.0 ft = 0.60 m	23 = 73.4	28 = 82.4
2.5 ft = 0.75 m	24 = 75.2	29 = 84.2

Field Site Survey.doc
Revision 3.0
Revised 11/9/04

Site Information

Site # WAC 4 Subsegment: 110501 Date: 6/28/05 Time: 10:45

Waterbody: West Anacoco Creek Tapedown 1: Staff Gauge 1:

Gauge Height 1: Tapedown 2: Staff Gauge 2: Gauge Height 2:

Site Location: Off Leach Rd @ RR crossing

Personnel: Jones, Brignac, Reed, Gates

Type of Work: Recon ☐ Data Collection ☒

Weather Conditions:	**Temperature (°F):**	**Wind (mph):**	**Wind Direction:**
Clear ☒	Hot >85° ☒	<1 ☒	NW ☐ N ☐ NE ☐
Drizzle/Light Rain ☐	Warm > 75° ☐	1-5 ☐	SW ☐ S ☐ SE ☐
Showers ☐	Mild > 65° ☐	6-10 ☐	E ☐ W ☐
Cloud Cover:	Cool > 60° ☐	11-15 ☐	Variable ☐
0 – 10% ☐	Cold < 60° ☐	>16 ☐	
11 – 40% ☒			
41 – 70% ☐			
71 – 100% ☐			

Stream Characteristics: Flowing: ☒ Measurable Flow: ☒

Flow Direction Upstream ☐ Downstream ☒ Tidally Influenced: ☐

Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐

Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐

Floating/Aquatic Vegetation % Surface Coverage: <1 ☒ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ **Water Quality Field Parameters:** ☐ Profiling: ☐

Continuous Monitor Deployed: ☒ Continuous Monitor S/N: 41501

Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m): .25 m

Continuous Monitor Location: Downstream of RR crossing

Water Quality Field Parameters

Time: **Temp.(°C):** **pH:** **Specond(µhmos/cm):**

D.O.: **D.O. %:** **Salinity:** **Depth (m):** **Secchi (in):**

Flow Measurement: ☐ Measurement Location:

Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name:

Flow Estimated: ☐ Measurement Location:

Using Discharge Equipment: ☐ Type. Wading ☐ Bridge Board ☐ Boat Board ☐

Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank: Distance (ft): Time (s):

Mid Stream: Distance (ft): Time (s):

Left Descending Bank: Distance (ft): Time (s):

Cross Section Measurement: ☐ Measurement Location:

Type of Measurement Manual: ☐ Fathometer ☐ Cross Section File Name:

GPS Measurement: ☐ GPS SSF File Name:

Site GPS: ☐ Cross Section GPS: ☐

Comments:

WHC4 110501 6/28/05 10:45

Photos Taken: ☐ Picture File #s: _____

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____ Dye monitor Deployed

Physical Site Characteristics: Natural Waterbody: ☒ Man Altered Waterbody: ☐ Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☐ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐ Sand/Silt ☒ Rock/Gravel/Silt ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☒ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☒ 76-100% ☐

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ **Bridge Safe:** ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time:		**Temp.(°C):**		**pH:**		**Spcond(µhmos/cm):**	
D.O.:		**D.O. %:**		**Salinity:**		**Depth (m):**	
Time:		**Temp.(°C):**		**pH:**		**Spcond(µhmos/cm):**	
D.O.:		**D.O. %:**		**Salinity:**		**Depth (m):**	
Time:		**Temp.(°C):**		**pH:**		**Spcond(µhmos/cm):**	
D.O.:		**D.O. %:**		**Salinity:**		**Depth (m):**	

Equipment Used:

In Situ Probe S/N: _____ Surveyor 4a S/N: _____ GPS Unit _____

AquaCalc S/N _____ Fathometer: _____ Laser Gun _____

Camera S/N: _____

References

Convert Feet to Meters

0.5 ft ≅ 0.15 m

1.0 ft ≅ 0.30 m

1.5 ft ≅ 0.45 m

2.0 ft ≅ 0.60 m

2.5 ft ≅ 0.75 m

Field Site Survey doc
Revision 2.0
Revised 3/25/03

Site Information

Site #: WAC 4 Subsegment: 110501 Date: 6/29/05 Time: 0930

Waterbody: West Anacoco Creek Tapedown 1: Staff Gauge 1:

Gauge Height 1: Tapedown 2: Staff Gauge 2: Gauge Height 2:

Site Location: Off Leach Rd @ RR crossing

Personnel: Jones, Reed, Bagnac, Earles

Type of Work: Recon ☐ Data Collection ☒

Weather Conditions:	Temperature (°F):	Wind (mph):	Wind Direction:
Clear ☒	Hot > 85° ☐	<1 ☒	NW ☐ N ☐ NE ☐
Drizzle/Light Rain ☐	Warm > 75° ☒	1-5 ☐	SW ☐ S ☐ SE ☐
Showers ☐	Mild > 65° ☐	6-10 ☐	E ☐ W ☐
Cloud Cover:	Cool > 60° ☐	11-15 ☐	Variable ☐
0 – 10% ☒	Cold < 60° ☐	>16 ☐	
11 – 40% ☐			
41 – 70% ☐			
71 – 100% ☐			

Stream Characteristics: Flowing: ☒ Measurable Flow: ☒

Flow Direction Upstream: ☐ Downstream ☒ Tidally Influenced: ☐

Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐

Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐

Floating/Aquatic Vegetation % Surface Coverage: <1 ☒ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☒ Water Quality Field Parameters: ☒ Profiling: ☐

Continuous Monitor Deployed: ☐ Continuous Monitor S/N:

Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m):

Continuous Monitor Location:

Water Quality Field Parameters

Time: 0930 Temp. (°C): 21.22 pH: 6.56 Specond (µhmos/cm): 65.2

D.O.: 2.68 D.O. %: 32.3 Salinity: 0.02 Depth (m): 0.15 Secchi (in): 12

Flow Measurement: ☒ Measurement Location: Downstream of RR crossing

Type of Measurement: Wading ☒ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: WAC 4

Flow Estimated: ☐ Measurement Location:

Using Discharge Equipment: ☐ Type. Wading ☐ Bridge Board ☐ Boat Board ☐

Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank: Distance (ft): Time (s):

Mid Stream: Distance (ft): Time (s):

Left Descending Bank: Distance (ft): Time (s):

Cross Section Measurement: ☒ Measurement Location:

Type of Measurement Manual: ☒ Fathometer ☐ Cross Section File Name: WAC4

GPS Measurement: ☐ GPS SSF File Name:

Site GPS: ☐ Cross Section GPS: ☐

Comments: Flow is representative cross section

WAC4 110501 6/29/05 093

Photos Taken: ☐ **Picture File #s:** _____

Tapedown Established: ☐ **Tapedown Location:** _____
Benchmark Established: ☐ **Benchmark Location:** _____
Survey Equipment Used: ☐

Time of Travel Measurement: ☐ **Type of Site: Injection** ☐ **Collection** ☐
Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☒ Man Altered Waterbody: ☐ Man-Made Waterbody: ☐
Stream Dry/Intermittent: ☐
Stream Bottom: Sandy ☐ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐ Sand/Silt ☒ Rock/Gravel/Silt ☐
Control Structure Present: ☐ Location: _____
Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐
Land Use: Agriculture ☐ Forestry ☒ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐
Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☒ 76-100% ☐

Recon Information:
Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐
Measurement Location: _____
Cross Section Location: _____
Continuous Monitor Deployment: _____
Continuous Monitor Location: _____
Boat Accessible: ☐ **Nearest Launch:** _____
Bridge ☐ **Bridge Safe:** ☐ **Bridge Width:** _____ **Bridge Height:** _____

Profiling Measurements:

Time:	0930	Temp.(°C):	24.32	pH:	6.56	Spcond(µhmos/cm):	65.2
D.O.:	2.68	D.O. %:	38.3	Salinity:	.03	Depth (m):	
Time:		Temp.(°C):		pH:		Spcond(µhmos/cm):	
D.O.:		D.O. %:		Salinity:		Depth (m):	
Time:		Temp.(°C):		pH:		Spcond(µhmos/cm):	
D.O.:		D.O. %:		Salinity:		Depth (m):	

Equipment Used:
In Situ Probe S/N: 37762 Surveyor 4a S/N: 52703 GPS Unit _____
FKW Tracker ~~Aquabate~~ S/N FT4A Fathometer: _____ Laser Gun _____
Camera S/N: _____

References
Convert Feet to Meters
0.5 ft ≅ 0.15 m
1.0 ft ≅ 0.30 m
1.5 ft ≅ 0.45 m
2.0 ft ≅ 0.60 m
2.5 ft ≅ 0.75 m

Field Site Survey.doc
Revision 2.0
Revised 3/23/03

Site Information

Site #: WAC 4 Subsegment: 110501 Date: 6/30/05 Time: 1130

Waterbody: West Anacoco Creek

Tapedown 1: _____ Staff Gauge 1: _____ Gauge Height 1: _____

Site Location†: At RR crossing on Leach property

Personnel: Richard, Garner, LaFleur

Type of Work: Recon ☐ Data Collection ☑

Weather Conditions:
- Clear ☑
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☐
- 11 – 40% ☑
- 41 – 70% ☐
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☑
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☐
- 1-5 ☑
- 6-10 ☐
- 11-15 ☐
- >16 ☐

Wind Direction:
- NW ☐ N ☐ NE ☐
- SW ☐ S ☐ SE ☐
- E ☐ W ☑
- Variable ☐

Stream Characteristics: Flowing: ☐ Measurable Flow: ☐
- Flow Direction Upstream ☐ Downstream ☐ Tidally Influenced: ☐
- Wind Influence: ☑ Wind Influence Direction: Upstream ☑ Downstream ☐
- Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☑
- Floating/Aquatic Vegetation % Surface Coverage: <1 ☐ 1-25% ☑ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ **Water Quality Field Parameters:** ☐ Profiling: ☐

Water Quality Field Parameters

Time: _____ Temp.(°C): _____ pH: _____ SpCond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____ Secchi (m): _____

InSitu Probe S/N: _____ Surveyor 4a S/N: _____

41501 minisonde 4A

Continuous Monitor Deployed: ☐ Continuous Monitor S/N: 0504000 41472 Datasonde 4X

Continuous Monitor Retrieved: ☑ Continuous Monitor Deployment Depth (m): _____

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☐ Using Discharge Equipment: ☐
- Type: Wading ☐ Bridge Board ☐ Boat Board ☐
- Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☐ Type of Measurement Manual: ☐ Fathometer ☐

Cross Section File Name: _____ Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

† All work is done within 100 yard radius of Site unless otherwise noted in Data Plan

WAC4 110501 6/30/05 1130

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☑ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☐ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐

Sand/Silt ☑ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☑ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☑ 76-100% ☐

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ **Bridge Safe:** ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____
D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____
D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____
D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Comments: _____

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft ≅ 0.15 m	20 ≅ 68	25 ≅ 77
1.0 ft ≅ 0.30 m	21 ≅ 69.8	26 ≅ 78.8
1.5 ft ≅ 0.45 m	22 ≅ 71.6	27 ≅ 80.6
2.0 ft ≅ 0.60 m	23 ≅ 73.4	28 ≅ 82.4
2.5 ft ≅ 0.75 m	24 ≅ 75.2	29 ≅ 84.2

Field Site Survey.doc
Revision 3.9
Revised 11/8/04

Site Information

Site #: WAC5 Subsegment: 110501 Date: 6/28/05 Time: 1130 hrs

Waterbody: West Anacoco Creek

Tapedown 1: _____ Staff Gauge 1: _____ Gauge Height 1: _____

Site Location[1]: 100 yds upstream of lake

Personnel: Griffith, Ch. Fautenot, Fire

Type of Work: Recon ☐ Data Collection ☑

Weather Conditions:
- Clear ☑
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☑
- 11 – 40% ☐
- 41 – 70% ☐
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☑
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☐
- 1-5 ☑
- 6-10 ☐
- 11-15 ☐
- >16 ☐

Wind Direction:
- NW ☐ N ☐ NE ☑
- SW ☐ S ☐ SE ☐
- E ☐ W ☐
- Variable ☐

Stream Characteristics: Flowing: ☑ Measurable Flow: ☑

Flow Direction Upstream ☐ Downstream ☑ Tidally Influenced: ☐

Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐

Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐

Floating/Aquatic Vegetation % Surface Coverage: <1 ☑ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ **Water Quality Field Parameters:** ☐ **Profiling:** ☐

Water Quality Field Parameters

Time: _____ **Temp.(°C):** _____ **pH:** _____ **SpCond(µhmos/cm):** _____

D.O.: _____ **D.O. %:** _____ **Salinity:** _____ **Depth (m):** _____ **Secchi (in):** _____

InSitu Probe S/N: _____ **Surveyor 4a S/N:** _____

Continuous Monitor Deployed: ☑ Continuous Monitor S/N: ~~[illegible]~~ 40810

Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m): 1 m

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____

Tapedown 2: _____ **Staff Gauge 2:** _____ **Gauge Height 2:** _____

Flow Estimated: ☐ Using Discharge Equipment: ☐
- Type: Wading ☐ Bridge Board ☐ Boat Board ☐
- Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☐ Type of Measurement Manual: ☐ Fathometer ☐

Cross Section File Name: _____ Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

[1] [illegible]

WAC5 110501 6/28/05 1130hrs

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☑ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☐ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☑

Sand/Silt ☐ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☑ Forestry ☑ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☑ 76-100% ☐

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ Bridge Safe: ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Comments: _____

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft = 0.15 m	20 = 68	25 = 77
1.0 ft = 0.30 m	21 = 69.8	26 = 78.8
1.5 ft = 0.45 m	22 = 71.6	27 = 80.6
2.0 ft = 0.60 m	23 = 73.4	28 = 82.4
2.5 ft = 0.75 m	24 = 75.2	29 = 84.2

Field Site Survey.doc
Revision 3.0
Revised 11/8/04

Site Information

Site #: WACS Subsegment: 110501 Date: 6/29/05 Time: 1045hrs.

Waterbody: West Anacoco

Tapedown 1: _____ Staff Gauge 1: _____ Gauge Height 1: _____

Site Location†: 100 yds upstream of lake

Personnel: Griffith, Ch. Fonkerot, Fine

Type of Work: Recon ☐ Data Collection ☑

Weather Conditions:
- Clear ☑
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☐
- 11 – 40% ☑
- 41 – 70% ☐
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☑
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☑
- 1-5 ☐
- 6-10 ☐
- 11-15 ☐
- >16 ☐

Wind Direction:
- NW ☐ N ☐ NE ☐
- SW ☐ S ☐ SE ☐
- E ☐ W ☐
- Variable ☐

Stream Characteristics: Flowing: ☐ Measurable Flow: ☐
- Flow Direction Upstream ☐ Downstream ☐ Tidally Influenced: ☐
- Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
- Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐
- Floating/Aquatic Vegetation % Surface Coverage: <1 ☐ 1-25% ☑ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☑ **Water Quality Field Parameters:** ☑ Profiling: ☐

Water Quality Field Parameters

Time: 1045 Temp.(°C): 29.93 pH: 6.24 SpCond(µhmos/cm): 33.1

D.O.: 4.79 D.O. %: 62.8 Salinity: 0 Depth (m): 1 Secchi (in): 30

InSitu Probe S/N: 37761 Batt-6.3 Surveyor 4a S/N: 52704

Continuous Monitor Deployed: ☐ Continuous Monitor S/N: _____

Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m): _____

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☑ Using Discharge Equipment: ☐
- Type: Wading ☐ Bridge Board ☐ Boat Board ☐
- Drogue Estimate: ☑ Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): 5 ft upstream Time (s): 30 seconds

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☑ Type of Measurement Manual: ☑ Fathometer ☐

Cross Section File Name: ~~WAC5~~ GV Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

†

WACS 110501 6/29/05 1045hrs

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☑ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☐ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☑

Sand/Silt ☐ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☑ Forestry ☑ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☑ 76-100% ☐

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ Bridge Safe: ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time:	1045	Temp.(°C):	29.93	pH:	6.24	Spcond(µhmos/cm):	23.1
D.O.:	4.79	D.O. %:	62.8	Salinity:	0	Depth (m):	1
Time:		Temp.(°C):		pH:		Spcond(µhmos/cm):	
D.O.:		D.O. %:		Salinity:		Depth (m):	
Time:		Temp.(°C):		pH:		Spcond(µhmos/cm):	
D.O.:		D.O. %:		Salinity:		Depth (m):	

Comments: The stream was not flowing downstream. The drogue moved slightly upstream (5 ft) in about 1/2 minute. Wind was probably not a factor in the drogue.

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft ≈ 0.15 m	20 ≈ 68	25 ≈ 77
1.0 ft ≈ 0.30 m	21 ≈ 69.8	26 ≈ 78.8
1.5 ft ≈ 0.45 m	22 ≈ 71.6	27 ≈ 80.6
2.0 ft ≈ 0.60 m	23 ≈ 73.4	28 ≈ 82.4
2.5 ft ≈ 0.75 m	24 ≈ 75.2	29 ≈ 84.2

Field Site Survey.doc
Revision 3.0
Revised 11/8/04

Site Information

Site #: WAC5 Subsegment: 110501 Date: 6/30/05 Time: 1230 hrs

Waterbody: West Anacoco Creek

Tapedown 1: _____ Staff Gauge 1: _____ Gauge Height 1: _____

Site Location[1]: 100 yds upstream of lake

Personnel: Ch. Forkner, Grant

Type of Work: Recon ☐ Data Collection ☑

Weather Conditions:
- Clear ☑
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☐
- 11 – 40% ☑
- 41 – 70% ☐
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☑
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☐
- 1-5 ☐
- 6-10 ☑
- 11-15 ☐
- >16 ☐

Wind Direction:
- NW ☐ N ☐ NE ☑
- SW ☐ S ☐ SE ☐
- E ☐ W ☐
- Variable ☐

Stream Characteristics: Flowing: ☐ Measurable Flow: ☐
- Flow Direction Upstream ☐ Downstream ☐ Tidally Influenced: ☐
- Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
- Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐
- Floating/Aquatic Vegetation % Surface Coverage: <1 ☐ 1-25% ☑ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ **Water Quality Field Parameters:** ☐ Profiling: ☐

Water Quality Field Parameters

Time: _____ Temp.(°C): _____ pH: _____ SpCond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____ Secchi (in): _____

InSitu Probe S/N: _____ Surveyor 4a S/N: _____

Continuous Monitor Deployed: ☐ Continuous Monitor S/N: 40810

Continuous Monitor Retrieved: ☑ Continuous Monitor Deployment Depth (m): _____

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☐
- Type: Wading ☐ Using Discharge Equipment: ☐ Bridge Board ☐ Boat Board ☐
- Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☑ Type of Measurement Manual: ☑ Fathometer ☐

Cross Section File Name: WAC5 Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

WACS 110501 6/30/05 1230hrs

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☑ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☐ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☑

Sand/Silt ☐ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☑ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☑ 76-100% ☐

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ Bridge Safe: ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____
D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____
D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____
D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Comments: _____

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft = 0.15 m	20 = 68	25 = 77
1.0 ft = 0.30 m	21 = 69.8	26 = 78.8
1.5 ft = 0.45 m	22 = 71.6	27 = 80.6
2.0 ft = 0.60 m	23 = 73.4	28 = 82.4
2.5 ft = 0.75 m	24 = 75.2	29 = 84.2

Field Site Survey.doc
Revision 3.0
Revised 11/8/04

Site Information

Site #: WAC 5 Subsegment: 110501 Date: 7-5-05 Time: 1245 hrs

Waterbody: West Anacoco Creek

Tapedown 1: _____ Staff Gauge 1: _____ Gauge Height 1: _____

Site Location[1]: 100 yrds upstream of lake

Personnel: Griffith, Finterot, Dickinson

Type of Work: Recon ☐ Data Collection ☒

Weather Conditions:
- Clear ☒
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☐
- 11 – 40% ☐
- 41 – 70% ☒
- 71 – 100% ☐

Temperature (°F):
- Hot > 85° ☒
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☐
- 1-5 ☐
- 6-10 ☒
- 11-15 ☐
- >16 ☐

Wind Direction:
- NW ☐ N ☐ NE ☒
- SW ☐ S ☐ SE ☐
- E ☐ W ☐
- Variable ☐

Stream Characteristics: Flowing: ☐ Measurable Flow: ☐
- Flow Direction Upstream ☐ Downstream ☐ Tidally Influenced: ☐
- Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
- Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐
- Floating/Aquatic Vegetation % Surface Coverage: <1 ☐ 1-25% ☒ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ Water Quality Field Parameters: ☐ Profiling: ☐

Water Quality Field Parameters

Time: _____ Temp. (°C): _____ pH: _____ SpCond (µmhos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____ Secchi (in): _____

InSitu Probe S/N: _____ Surveyor 4a S/N: _____

Continuous Monitor Deployed: ☐ ~~Continuous~~ Dye Monitor S/N: 0504000424169

~~Continuous~~ Dye Monitor Retrieved: ☒ Continuous Monitor Deployment Depth (m): _____

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☐ Using Discharge Equipment: ☐
- Type: Wading ☐ Bridge Board ☐ Boat Board ☐
- Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☐ Type of Measurement Manual: ☐ Fathometer ☐

Cross Section File Name: _____ Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

[1] [illegible]

WACS 110501 9/5/05 1245hrs

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☒ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☐ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☑

Sand/Silt ☒ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☒ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☒ 76-100% ☒

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ Bridge Safe: ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Comments: _____

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft = 0.15 m	20 = 68	25 = 77
1.0 ft = 0.30 m	21 = 69.8	26 = 78.8
1.5 ft = 0.45 m	22 = 71.6	27 = 80.6
2.0 ft = 0.60 m	23 = 73.4	28 = 82.4
2.5 ft = 0.75 m	24 = 75.2	29 = 84.2

Field Site Survey.doc
Revision 3.0
Revised 11/8/04

Site Information

Site #: WAC 6 Subsegment: 110501 Date: 6-28-05 Time: 1305hrs

Waterbody: Unnamed Tributary

Tapedown 1: _____ Staff Gauge 1: _____ Gauge Height 1: _____

Site Location†: At Hwy 396 near West Anacoco Creek

Personnel: Hughes, Forbert, Dickinson

Type of Work: Recon ☐ Data Collection ☑

Weather Conditions:
- Clear ☒
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☐
- 11 – 40% ☐
- 41 – 70% ☒
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☑
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☐
- 1-5 ☒
- 6-10 ☐
- 11-15 ☐
- >16 ☐

Wind Direction:
- NW ☐ N ☐ NE ☐
- SW ☐ S ☐ SE ☐
- E ☐ W ☐
- Variable ☑

Stream Characteristics: Flowing: ☐ Measurable Flow: ☐
- Flow Direction Upstream ☐ Downstream ☐ Tidally Influenced: ☐
- Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
- Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐
- Floating/Aquatic Vegetation % Surface Coverage: <1 ☒ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ **Water Quality Field Parameters:** ☐ **Profiling:** ☐

Water Quality Field Parameters

Time: _____ **Temp.(°C):** _____ **pH:** _____ **SpCond(µhmos/cm):** _____

D.O.: _____ **D.O. %:** _____ **Salinity:** _____ **Depth (m):** _____ **Secchi (in):** _____

InSitu Probe S/N: _____ **Surveyor 4a S/N:** _____

Continuous Monitor Deployed: ☒ Continuous Monitor S/N: ~~[illegible]~~ No Monitor not deployed

Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m): _____

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☐ Using Discharge Equipment: ☐
- Type: Wading ☐ Bridge Board ☐ Boat Board ☐
- Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☐ Type of Measurement Manual: ☐ Fathometer ☐

Cross Section File Name: _____ Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

† All work is done within 100 yard radius of Site unless otherwise noted in Data Plan

WAC6 110501 6/28/05 1305hrs

Tapedown Established: ☒ Tapedown Location: South side of bridge on Hwy 392
Benchmark Established: ☐ Benchmark Location: _____
Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐
Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☒ Man Altered Waterbody: ☐
Man-Made Waterbody: ☐
Stream Dry/Intermittent: ☐
Stream Bottom: Sandy ☒ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐
Sand/Silt ☒ Rock/Gravel/Silt ☐ Concrete ☐
Control Structure Present: ☐ Location: _____
Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐
Land Use: Agriculture ☐ Forestry ☒ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐
Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☒

Recon Information:
Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐
Measurement Location: _____
Cross Section Location: _____
Continuous Monitor Deployment: _____
Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____
Bridge ☐ **Bridge Safe:** ☐ **Bridge Width:** _____ Bridge Height: _____

Profiling Measurements:

Time:	Temp.(°C):	pH:	Spcond(µhmos/cm):
D.O.:	D.O. %:	Salinity:	Depth (m):
Time:	Temp.(°C):	pH:	Spcond(µhmos/cm):
D.O.:	D.O. %:	Salinity:	Depth (m):
Time:	Temp.(°C):	pH:	Spcond(µhmos/cm):
D.O.:	D.O. %:	Salinity:	Depth (m):

Comments: Pooled, no monitor deployed or water quality taken.

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft = 0.15 m	20 = 68	25 = 77
1.0 ft = 0.30 m	21 = 69.8	26 = 78.8
1.5 ft = 0.45 m	22 = 71.6	27 = 80.6
2.0 ft = 0.60 m	23 = 73.4	28 = 82.4
2.5 ft = 0.75 m	24 = 75.2	29 = 84.2

Field Site Survey.doc
Revision 3.0
Revised 11/8/04

Site Information

Site #: WAC 7 Subsegment: 110501 Date: 6-28-05 Time: 1245hrs

Waterbody: Big Branch Creek (East)

Tapedown 1: _____ Staff Gauge 1: _____ Gauge Height 1: _____

Site Location[1]: At Jeff Rd.

Personnel: Hughes, Fontnot, Dickinson

Type of Work: Recon ☐ Data Collection ☒

Weather Conditions:
- Clear ☒
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 –10% ☐
- 11 – 40% ☐
- 41 – 70% ☒
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☒
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☐
- 1-5 ☒
- 6-10 ☐
- 11-15 ☐
- >16 ☐

Wind Direction:
NW ☐ N ☐ NE ☐
SW ☐ S ☐ SE ☐
E ☐ W ☐
Variable ☒

Stream Characteristics: Flowing: ☐ Measurable Flow: ☐
Flow Direction Upstream ☐ Downstream ☐ Tidally Influenced: ☐
Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐
Floating/Aquatic Vegetation % Surface Coverage: <1 ☒ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ **Water Quality Field Parameters:** ☐ **Profiling:** ☐

Water Quality Field Parameters

Time: _____ **Temp.(°C):** _____ **pH:** _____ **SpCond(µhmos/cm):** _____

D.O.: _____ **D.O. %:** _____ **Salinity:** _____ **Depth (m):** _____ **Secchi (in):** _____

InSitu Probe S/N: _____ **Surveyor 4a S/N:** _____

Continuous Monitor Deployed: ☐ Continuous Monitor S/N: _____

Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m): _____

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☐ Using Discharge Equipment: ☐
Type: Wading ☐ Bridge Board ☐ Boat Board ☐
Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☐ Type of Measurement Manual: ☐ Fathometer ☐

Cross Section File Name: _____ Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

[1] All work is done within 100 yard radius of Site unless otherwise noted in Data Plan

WAC7 110501 6/28/05 124shes

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☒ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittant: ☐

Stream Bottom: Sandy ☐ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐

Sand/Silt ☒ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☒ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☒

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ Bridge Safe: ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Comments: due to low H_2O, monitor moved to WAC6 / WAC 8

6 is pooled so monitor was not deployed.

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft = 0.15 m	20 = 68	25 = 77
1.0 ft = 0.30 m	21 = 69.8	26 = 78.8
1.5 ft = 0.45 m	22 = 71.6	27 = 80.6
2.0 ft = 0.60 m	23 = 73.4	28 = 82.4
2.5 ft = 0.75 m	24 = 75.2	29 = 84.2

Field Site Survey.doc
Revision 3.0
Revised 11/8/04

Site Information

Site #: WAC-8 Subsegment: 110501 Date: 6/28/05 Time: 1200

Waterbody: Log Branch Creek

Tapedown 1 _____ Staff Gauge 1: _____ Gauge Height 1: _____

Site Location†: At Jeff Rd

Personnel: Brignac, Jones, Jinbo, E-Mike Reed

Type of Work: Recon ☐ Data Collection ☒

Weather Conditions:
- Clear ☑
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☐
- 11 – 40% ☐
- 41 – 70% ☑
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☑
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☐
- 1-5 ☑
- 6-10 ☐
- 11-15 ☐
- >16 ☐

Wind Direction:
- NW ☐ N ☐ NE ☐
- SW ☐ S ☐ SE ☐
- E ☐ W ☐
- Variable ☑

Stream Characteristics: Flowing: ☐ Measurable Flow: ☐
- Flow Direction Upstream ☐ Downstream ☐ Tidally Influenced: ☐
- Wind Influence ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
- Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐
- Floating/Aquatic Vegetation % Surface Coverage: <1 ☒ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ **Water Quality Field Parameters:** ☐ Profiling: ☐

Water Quality Field Parameters

Time: _____ Temp.(°C): _____ pH: _____ SpCond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____ Secchi (in): _____

InSitu Probe S/N: _____ Surveyor 4a S/N: _____

Continuous Monitor Deployed: ☐ Continuous Monitor S/N: _____

Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m): _____

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☐ Using Discharge Equipment: ☐
- Type: Wading ☐ Bridge Board ☐ Boat Board ☐
- Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☐ Type of Measurement Manual: ☐ Fathometer ☐

Cross Section File Name: _____ Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

† All work is done within 100 yard radius of Site unless otherwise noted in Data Plan

WAC8 110501 6/28/05 1200

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☑ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☐ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐

Sand/Silt ☑ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☐ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☑ 76-100% ☐

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ Bridge Safe: ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Comments: Stream not flowing

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft = 0.15 m	20 = 68	25 = 77
1.0 ft = 0.30 m	21 = 69.8	26 = 78.8
1.5 ft = 0.45 m	22 = 71.6	27 = 80.6
2.0 ft = 0.60 m	23 = 73.4	28 = 82.4
2.5 ft = 0.75 m	24 = 75.2	29 = 84.2

Field Site Survey.doc
Revision 3.0
Revised 11/5/04

Site Information

Site #: WAC9 Subsegment: 110501 Date: 6/28/05 Time: 1300

Waterbody: Brushy Creek

Tapedown 1: Staff Gauge 1: Gauge Height 1:

Site Location[1]: At Barham Rd

Personnel: Bragnac, Jones, Jimbo, E. Mike, Reed

Type of Work: Recon ☐ Data Collection ☑

Weather Conditions:
- Clear ☑
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☐
- 11 – 40% ☐
- 41 – 70% ☑
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☑
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☐
- 1-5 ☑
- 6-10 ☐
- 11-15 ☐
- >16 ☐

Wind Direction:
- NW ☐ N ☐ NE ☐
- SW ☐ S ☐ SE ☐
- E ☐ W ☐
- Variable ☑

Stream Characteristics: Flowing: ☐ Measurable Flow: ☐
Flow Direction Upstream ☐ Downstream ☐ Tidally Influenced: ☐
Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐
Floating/Aquatic Vegetation % Surface Coverage: <1 ☑ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ Water Quality Field Parameters: ☐ Profiling: ☐

Water Quality Field Parameters

Time: Temp.(°C): pH: SpCond(µmhos/cm):

D.O.: D.O. %: Salinity: Depth (m): Secchi (in):

InSitu Probe S/N: Surveyor 4a S/N:

Continuous Monitor Deployed: ☐ Continuous Monitor S/N:

Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m):

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: AquaCalc S/N:

Tapedown 2: Staff Gauge 2: Gauge Height 2:

Flow Estimated: ☐
- Type: Wading ☐
- Drogue Estimate: ☐

Using Discharge Equipment: ☐
- Bridge Board ☐
- Dye Estimate: ☐
- Boat Board ☐

Right Descending Bank Distance (ft): Time (s):

Mid Stream Distance (ft): Time (s):

Left Descending Bank Distance (ft): Time (s):

Cross Section Measurement: ☐ Type of Measurement Manual: ☐ Fathometer ☐

Cross Section File Name: Fathometer S/N:

GPS Measurement: ☐ GPS SSF File Name:

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit:

Photos Taken: ☐ Picture File #s:

Camera:

WAC9 110501 6/28/05 1300

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☑ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☐ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐

Sand/Silt ☑ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☑ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☑ 76-100% ☐

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ Bridge Safe: ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Comments: Stream not flowing

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft = 0.15 m	20 = 68	25 = 77
1.0 ft = 0.30 m	21 = 69.8	26 = 78.8
1.5 ft = 0.45 m	22 = 71.6	27 = 80.6
2.0 ft = 0.60 m	23 = 73.4	28 = 82.4
2.5 ft = 0.75 m	24 = 75.2	29 = 84.2

Field Site Survey.doc
Revision 3.0
Revised 11/8/04

Site Information

Site #: WAC10 Subsegment: 110501 Date: 6/28/05 Time: 1045 hr

Waterbody: Elder Branch Creek

Tapedown 1: _____ Staff Gauge 1: _____ Gauge Height 1: _____

Site Location†: Barham Road

Personnel: Griffith, Ch. Forkhot, Fine

Type of Work: Recon ☐ Data Collection ☑

Weather Conditions:
- Clear ☑
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☑
- 11 – 40% ☐
- 41 – 70% ☐
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☑
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☐
- 1-5 ☑
- 6-10 ☐
- 11-15 ☐
- >15 ☐

Wind Direction:
- NW ☐ N ☐ NE ☑
- SW ☐ S ☐ SE ☐
- E ☐ W ☐
- Variable ☐

Stream Characteristics: Flowing: ☑ Measurable Flow: ☑
- Flow Direction Upstream ☐ Downstream ☑ Tidally Influenced: ☐
- Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
- Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐
- Floating/Aquatic Vegetation % Surface Coverage: <1 ☑ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ **Water Quality Field Parameters:** ☐ **Profiling:** ☐

Water Quality Field Parameters

Time: _____ **Temp.(°C):** _____ **pH:** _____ **SpCond(µhmos/cm):** _____

D.O.: _____ **D.O. %:** _____ **Salinity:** _____ **Depth (m):** _____ **Secchi (in):** _____

InSitu Probe S/N: _____ **Surveyor 4s S/N:** _____

Continuous Monitor Deployed: ☑ Continuous Monitor S/N: 40805

Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m): 0.1

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☐ Using Discharge Equipment: ☐
- Type: Wading ☐ Bridge Board ☐ Boat Board ☐
- Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☐ Type of Measurement: Manual: ☐ Fathometer ☐

Cross Section File Name: _____ Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

† All work is done within 100 yard radius of Site unless otherwise noted in Site Plan

WAC10 110501 6/28/05 1045hrs

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☑ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☑ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐

Sand/Silt ☐ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☑ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☑

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ Bridge Safe: ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____
D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____
D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____
D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Comments: _____

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft = 0.15 m	20 = 68	25 = 77
1.0 ft = 0.30 m	21 = 69.8	26 = 78.8
1.5 ft = 0.45 m	22 = 71.6	27 = 80.6
2.0 ft = 0.60 m	23 = 73.4	28 = 82.4
2.5 ft = 0.75 m	24 = 75.2	29 = 84.2

Field Site Survey.doc
Revision 3.0
Revised 11/8/04

Site Information

Site #: WAC10 Subsegment: 110501 Date: 6/29/05 Time: 1215 ~~1200~~ hrs

Waterbody: Elder Brand Creek

Tapedown 1: _____ Staff Gauge 1: _____ Gauge Height 1: _____

Site Location: At Barham Rd

Personnel: Griffith, Fine, Ch. Funkenar

Type of Work: Recon ☐ Data Collection ☑

Weather Conditions:
- Clear ☑
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☐
- 11 – 40% ☑
- 41 – 70% ☐
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☑
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☑
- 1-5 ☐
- 6-10 ☐
- 11-15 ☐
- >16 ☐

Wind Direction:
- NW ☐ N ☐ NE ☐
- SW ☐ S ☐ SE ☐
- E ☐ W ☐
- Variable ☐

Stream Characteristics: Flowing: ☑ Measurable Flow: ☑

Flow Direction Upstream ☐ Downstream ☑ Tidally Influenced: ☐

Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐

Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐

Floating/Aquatic Vegetation % Surface Coverage: <1 ☐ 1-25% ☑ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken ☑ **Water Quality Field Parameters:** ☑ Profiling: ☐

Water Quality Field Parameters

Time: 1215 Temp.(°C): 25.93 pH: 6.27 SpCond(µhmos/cm): 32.3

D.O.: 5.07 D.O. %: 61 Salinity: 0 Depth (m): 0.1 Secchi (in): 3½

InSitu Probe S/N: 3774 6.3 (Zbat) Surveyor 4a S/N: 52704

Continuous Monitor Deployed: ☐ Continuous Monitor S/N: _____

Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m): _____

Flow Measurement: ☒ Type of Measurement: Wading ☒ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: WAC10 AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☐ Using Discharge Equipment: ☐
- Type: Wading ☐ Bridge Board ☐ Boat Board ☐
- Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☒ Type of Measurement Manual: ☒ Fathometer ☐

Cross Section File Name: WAC10 Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

WAC10 110501 6/29/05 1215hrs

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☑ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☑ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐

Sand/Silt ☐ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☑ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☑

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ Bridge Safe: ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Comments: _____

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft ≈ 0.15 m	20 ≈ 68	25 ≈ 77
1.0 ft ≈ 0.30 m	21 ≈ 69.8	26 ≈ 78.8
1.5 ft ≈ 0.45 m	22 ≈ 71.6	27 ≈ 80.6
2.0 ft ≈ 0.60 m	23 ≈ 73.4	28 ≈ 82.4
2.5 ft ≈ 0.75 m	24 ≈ 75.2	29 ≈ 84.2

Field Site Survey.doc
Revision 3.5
Revised 11/8/04

Site Information

Site #: WAC-10 Subsegment: 110501 Date: 6/30/05 Time: 1105 hrs

Waterbody: Elder Branch Creek

Tapedown 1: _____ Staff Gauge 1: _____ Gauge Height 1: _____

Site Location[1]: At Barham Road

Personnel: GRIFFITH, HH, FONTENOT

Type of Work: Recon ☐ Data Collection ☑

Weather Conditions:
- Clear ☑
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☑
- 11 – 40% ☐
- 41 – 70% ☐
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☑
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☐
- 1-5 ☐
- 6-10 ☑
- 11-15 ☐
- >16 ☐

Wind Direction:
- NW ☐ N ☐ NE ☑
- SW ☐ S ☐ SE ☐
- E ☐ W ☐
- Variable ☐

Stream Characteristics: Flowing: ☑ Measurable Flow: ☑
- Flow Direction Upstream ☐ Downstream ☑ Tidally Influenced: ☐
- Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
- Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐
- Floating/Aquatic Vegetation % Surface Coverage: <1 ☑ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☐ **Water Quality Field Parameters:** ☐ Profiling: ☐

Water Quality Field Parameters

Time: _____ Temp.(°C): _____ pH: _____ SpCond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____ Secchi (in): _____

InSitu Probe S/N: _____ Surveyor 4a S/N: _____

Continuous Monitor Deployed: ☐ Continuous Monitor S/N: 40805

Continuous Monitor Retrieved: ☑ Continuous Monitor Deployment Depth (m): _____

Flow Measurement: ☐ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: _____ AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☐ Using Discharge Equipment: ☐
- Type: Wading ☐ Bridge Board ☐ Boat Board ☐
- Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☐ Type of Measurement Manual: ☐ Fathometer ☐

Cross Section File Name: _____ Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

[1] ...

WAC10 110501 6/30/05 1105hrs

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☑ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☑ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐

Sand/Silt ☐ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☑ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☑

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ Bridge Safe: ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Comments: _____

References

Convert Feet to Meters	Convert Celcius to Fahrenheit	
0.5 ft = 0.15 m	20 = 68	25 = 77
1.0 ft = 0.30 m	21 = 69.8	26 = 78.8
1.5 ft = 0.45 m	22 = 71.6	27 = 80.6
2.0 ft = 0.60 m	23 = 73.4	28 = 82.4
2.5 ft = 0.75 m	24 = 75.2	29 = 84.2

Field Site Survey.doc
Revision 3.0
Revised 11/8/04

Site Information

Site #: WAC11 Subsegment: 110501 Date: 6/29/05 Time: 0900 hrs

Waterbody: Little Sandy Branch Creek

Tapedown 1 _____ Staff Gauge 1: _____ Gauge Height 1: _____

Site Location[1]: At Highway 39

Personnel: Griffith, Fine, Ch Footport

Type of Work: Recon ☐ Data Collection ☑

Weather Conditions:
- Clear ☑
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☑
- 11 – 40% ☐
- 41 – 70% ☐
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☑
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☑
- 1-5 ☐
- 6-10 ☐
- 11-15 ☐
- >16 ☐

Wind Direction:
- NW ☐ N ☐ NE ☐
- SW ☐ S ☐ SE ☐
- E ☐ W ☐
- Variable ☐

Stream Characteristics: Flowing: ☑ Measurable Flow: ☑
- Flow Direction Upstream ☐ Downstream ☑ Tidally Influenced: ☐
- Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐
- Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐
- Floating/Aquatic Vegetation % Surface Coverage: <1 ☑ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☑ Water Quality Field Parameters: ☑ Profiling: ☐

Water Quality Field Parameters

Time: 0900 Temp.(°C): 20.9 pH: 6.26 SpCond(µhmos/cm): 220

D.O.: 1.38 D.O. %: 82.6 Salinity: 0 Depth (m): 0.1 Secchi (in): 6

InSitu Probe S/N: 37161 Surveyor 4a S/N: 52704

Continuous Monitor Deployed: ☐ Continuous Monitor S/N: _____

Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m): _____

Flow Measurement: ☑ Type of Measurement: Wading ☑ Bridge Board ☐ Boat Board ☐

AquaCalc File Name: WAC11 AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☐
- Type: Wading ☐
- Drogue Estimate: ☐

Using Discharge Equipment: ☐
- Bridge Board ☐ Boat Board ☐
- Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☑ Type of Measurement Manual: ☑ Fathometer ☐

Cross Section File Name: WAC11 Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

WAC11 110501 4/29/05 0900hrs

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☑ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☑ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐

Sand/Silt ☐ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☑ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☑

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ Bridge Safe: ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Comments: _____

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft = 0.15 m	20 = 68	25 = 77
1.0 ft = 0.30 m	21 = 69.8	26 = 78.8
1.5 ft = 0.45 m	22 = 71.6	27 = 80.6
2.0 ft = 0.60 m	23 = 73.4	28 = 82.4
2.5 ft = 0.75 m	24 = 75.2	29 = 84.2

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Revised 11/8/04

Site information

Site #: WACIIA Subsegment: 110501 Date: 6/29/05 Time: 0900 hrs

Waterbody: Little Sandy Branch Creek (pipe discharge)

Tapedown 1: _____ Staff Gauge 1: _____ Gauge Height 1: _____

Site Location[1]: At Hwy 392

Personnel: Griffith, Fine, Ch. Foulkrod

Type of Work: Recon ☐ Data Collection ☑

Weather Conditions:
- Clear ☑
- Drizzle/Light Rain ☐
- Showers ☐

Cloud Cover:
- 0 – 10% ☑
- 11 – 40% ☐
- 41 – 70% ☐
- 71 – 100% ☐

Temperature (°F):
- Hot >85° ☑
- Warm > 75° ☐
- Mild > 65° ☐
- Cool > 60° ☐
- Cold < 60° ☐

Wind (mph):
- <1 ☑
- 1-5 ☐
- 6-10 ☐
- 11-15 ☐
- >16 ☐

Wind Direction:
- NW ☐ N ☐ NE ☐
- SW ☐ S ☐ SE ☐
- E ☐ W ☐
- Variable ☐

Stream Characteristics: Flowing: ☑ Measurable Flow: ☑

Flow Direction: Upstream ☐ Downstream ☐ Tidally Influenced: ☐

Wind Influence: ☐ Wind Influence Direction: Upstream ☐ Downstream ☐

Algae Present ☐ Sedimentation/Turbidity Present in Water Column ☐

Floating/Aquatic Vegetation % Surface Coverage: <1 ☑ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☐

Water Quality Samples Taken: ☑ **Water Quality Field Parameters:** ☑ Profiling: ☐

Water Quality Field Parameters

Time: 0900 Temp.(°C): 19.62 pH: 5.6 SpCond(µhmos/cm): 44.4

D.O.: 3.86 D.O. %: 41.9 Salinity: 0.01 Depth (m): 0.5 Secchi (in): 18.0

InSitu Probe S/N: 37761 Surveyor 4a S/N: S2704

Continuous Monitor Deployed: ☐ Continuous Monitor S/N: ~~S2704~~

Continuous Monitor Retrieved: ☐ Continuous Monitor Deployment Depth (m): ~~0.5m~~

Flow Measurement: ☑ Type of Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Flow measurement recorded in "comments" section.

AquaCalc File Name: _____ AquaCalc S/N: _____

Tapedown 2: _____ Staff Gauge 2: _____ Gauge Height 2: _____

Flow Estimated: ☐ Using Discharge Equipment: ☐

Type: Wading ☐ Bridge Board ☐ Boat Board ☐

Drogue Estimate: ☐ Dye Estimate: ☐

Right Descending Bank Distance (ft): _____ Time (s): _____

Mid Stream Distance (ft): _____ Time (s): _____

Left Descending Bank Distance (ft): _____ Time (s): _____

Cross Section Measurement: ☐ Type of Measurement Manual: ☐ Fathometer ☐

Cross Section File Name: _____ Fathometer S/N: _____

GPS Measurement: ☐ GPS SSF File Name: _____

Site GPS: ☐ Cross Section GPS: ☐ GPS Unit: _____

Photos Taken: ☐ Picture File #s: _____

Camera: _____

WACIIA 110501 6/29/05 0900hrs

Tapedown Established: ☐ Tapedown Location: _____

Benchmark Established: ☐ Benchmark Location: _____

Survey Equipment Used: ☐

Time of Travel Measurement: ☐ Type of Site: Injection ☐ Collection ☐

Amount of Dye Injected (ml): _____

Physical Site Characteristics: Natural Waterbody: ☑ Man Altered Waterbody: ☐

Man-Made Waterbody: ☐

Stream Dry/Intermittent: ☐

Stream Bottom: Sandy ☑ Clay ☐ Gravel ☐ Hard Clay ☐ Soft Silt ☐

Sand/Silt ☐ Rock/Gravel/Silt ☐ Concrete ☐

Control Structure Present: ☐ Location: _____

Type: Man Made Dam ☐ Flow Regulation Device ☐ Beaver Dam ☐ Log Jam ☐

Land Use: Agriculture ☐ Forestry ☑ Municipal ☐ Industrial ☐ Field/Pasture ☐ Wetland ☐

Percent Tree Canopy Cover 0-25% ☐ 26-50% ☐ 51-75% ☐ 76-100% ☑

Recon Information:

Discharge Measurement: Wading ☐ Bridge Board ☐ Boat Board ☐

Measurement Location: _____

Cross Section Location: _____

Continuous Monitor Deployment: _____

Continuous Monitor Location: _____

Boat Accessible: ☐ Nearest Launch: _____

Bridge ☐ Bridge Safe: ☐ Bridge Width: _____ Bridge Height: _____

Profiling Measurements:

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Time: _____ Temp.(°C): _____ pH: _____ Spcond(µhmos/cm): _____

D.O.: _____ D.O. %: _____ Salinity: _____ Depth (m): _____

Comments: Flow was done by placing a 5 gal bucket underneath the discharge. It took 30 sec to fill up 5 gal bucket

References

Convert Feet to Meters	Convert Celsius to Fahrenheit	
0.5 ft ≅ 0.15 m	20 ≅ 68	25 ≅ 77
1.0 ft ≅ 0.30 m	21 ≅ 69.8	26 ≅ 78.8
1.5 ft ≅ 0.45 m	22 ≅ 71.6	27 ≅ 80.6
2.0 ft ≅ 0.60 m	23 ≅ 73.4	28 ≅ 82.4
2.5 ft ≅ 0.75 m	24 ≅ 75.2	29 ≅ 84.2

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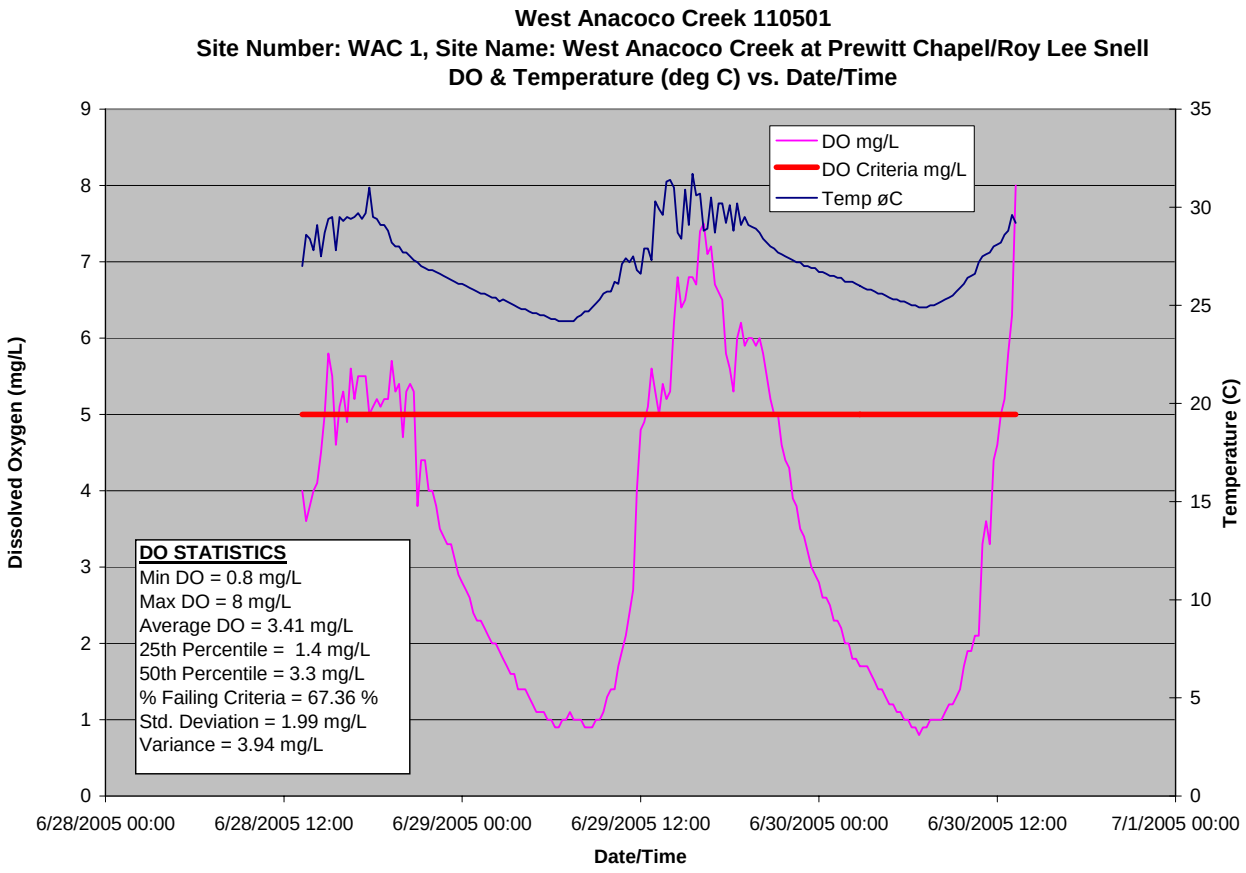
Appendix F4 – Continuous Monitor

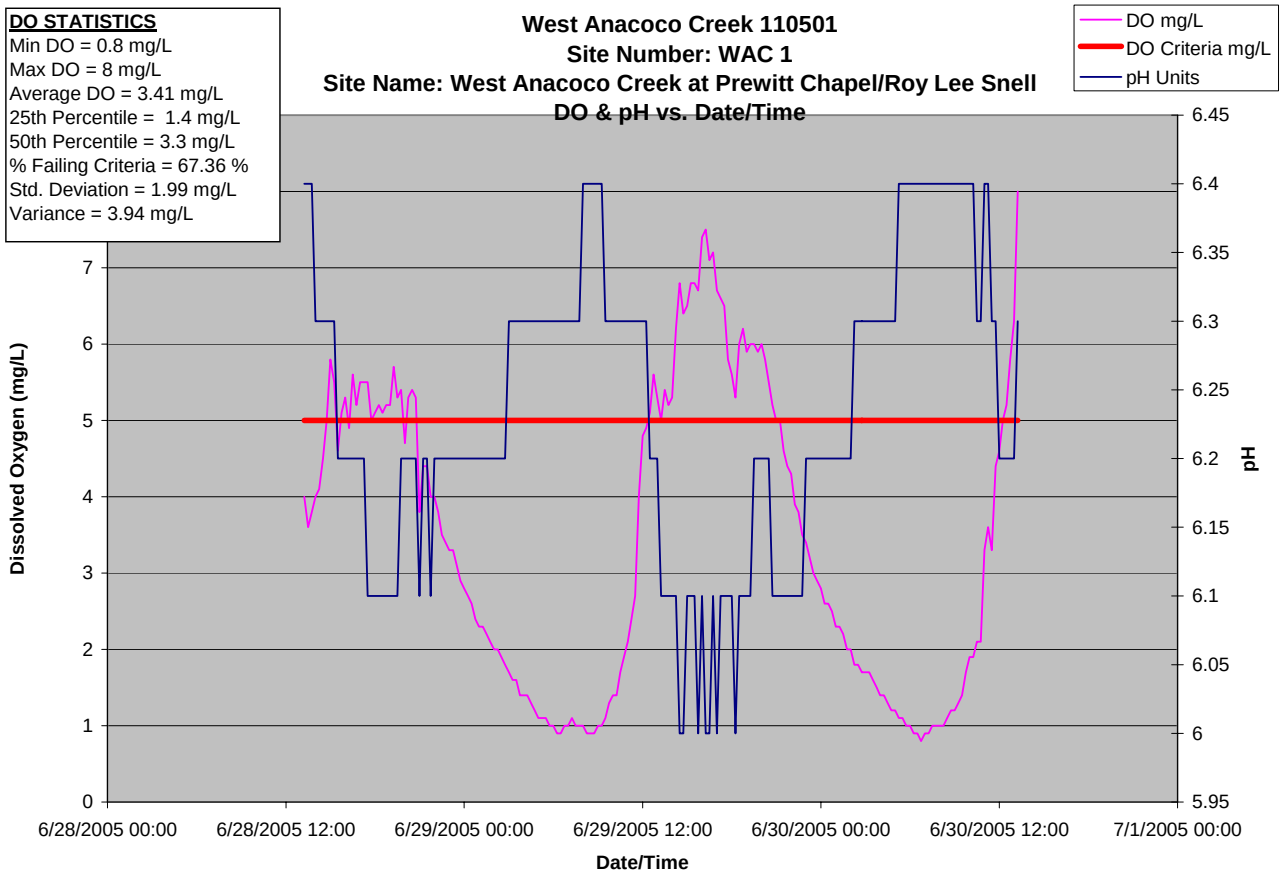
West Anacoco Creek 110501 - Continuous Monitor Data Summary

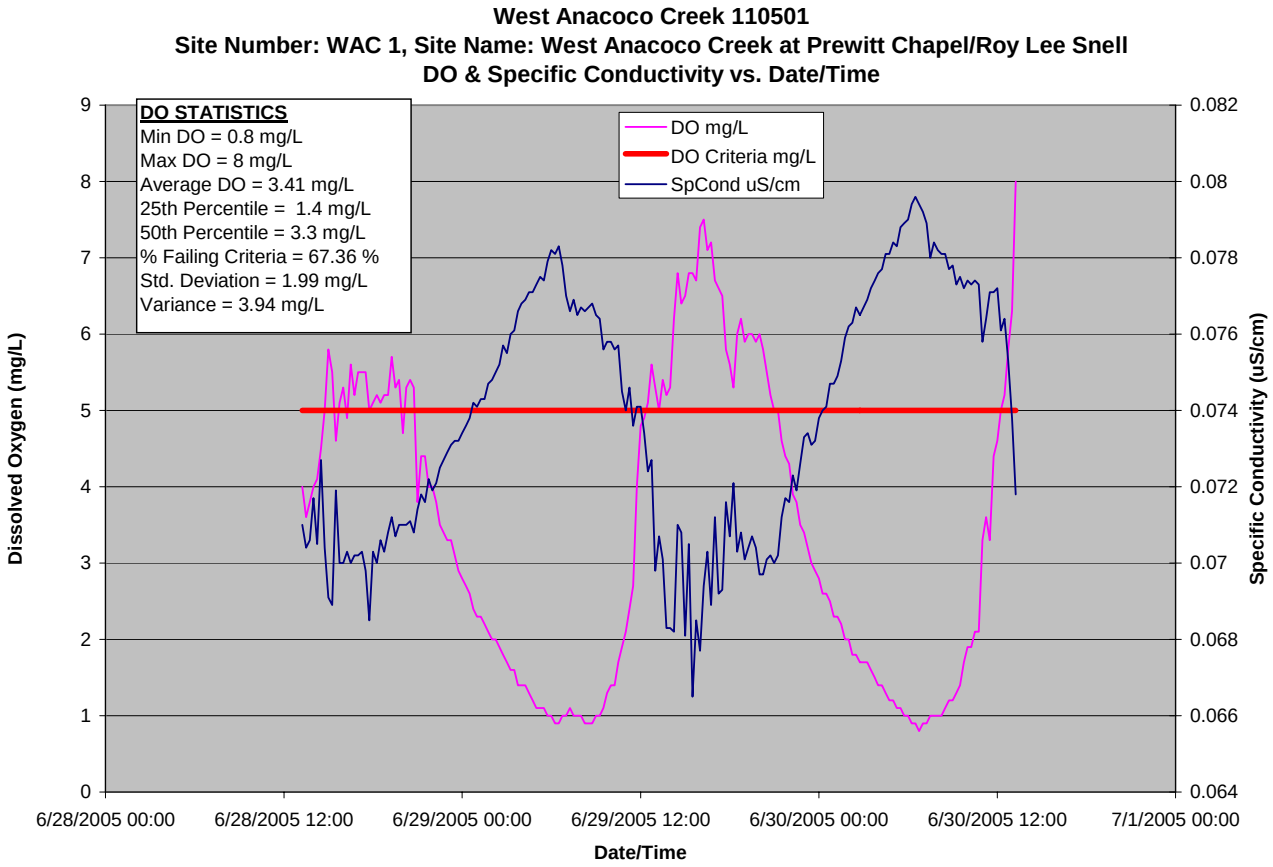
Site		Temp (C)	pH (units)	SpCond (umhos/cm)	DO % Sat	DO (mg/L)	Salinity (ppt)
WAC1	Average	27.08	6.23	0.074	43.49	3.40	0.00
	Minimum	24.20	6.00	0.067	10.00	0.80	0.00
	Maximum	31.70	6.40	0.080	105.00	8.00	0.00
WAC2	Average	23.79	6.00	39.969	4.98	0.42	0.00
	Minimum	23.30	6.00	39.000	1.00	0.10	0.00
	Maximum	24.20	6.00	43.000	17.00	1.40	0.00
WAC3	Average	25.92	6.33	0.065	66.36	5.34	0.00
	Minimum	23.80	6.20	0.062	26.00	2.20	0.00
	Maximum	28.20	6.50	0.069	117.00	9.30	0.00
WAC4	Average	25.17	6.45	0.066	32.87	2.71	0.00
	Minimum	24.20	6.40	0.064	27.00	2.20	0.00
	Maximum	26.10	6.50	0.068	40.00	3.20	0.00
WAC5	Average	31.29	6.28	0.038	81.78	6.04	0.00
	Minimum	30.00	6.10	0.037	64.00	4.80	0.00
	Maximum	33.10	6.40	0.039	103.00	7.40	0.00
WAC10	Average	23.98	6.18	29.567	79.09	6.66	0.00
	Minimum	22.10	6.00	26.000	75.00	6.40	0.00
	Maximum	25.50	6.30	32.000	83.00	7.00	0.00

West Anacoco Creek Initial Conditions

Reach	Temp	Source	Salinity	Source	DO	Source	Chl A	Source
Reach 1	25.43	Cont Mont Avg (WAC1,WAC2)	0.00	Cont Mont Avg (WAC1,WAC2)	1.80	WAC1 - (Min + 1)	16.6	WAC1
Reach 2	24.85	Cont Mont Avg (WAC2,WAC3)	0.00	Cont Mont Avg (WAC2,WAC3)	3.20	WAC3 - (Min + 1)	16.7	WAC2
Reach 3	25.54	Cont Mont Avg (WAC3,WAC4)	0.00	Cont Mont Avg (WAC3,WAC4)	3.20	Cont Mont (Min + 1) (WAC3,WAC4)	3.2	WAC3
Reach 4	28.23	Cont Mont Avg (WAC4,WAC5)	0.00	Cont Mont Avg (WAC4,WAC5)	4.50	Cont Mont (Min + 1) (WAC4,WAC5)	32.9	WAC5
Reach 5	28.23	Cont Mont Avg (WAC4,WAC5)	0.00	Cont Mont Avg (WAC4,WAC5)	4.50	Cont Mont (Min + 1) (WAC4,WAC5)	32.9	WAC5
Reach 6	28.23	Cont Mont Avg (WAC4,WAC5)	0.00	Cont Mont Avg (WAC4,WAC5)	4.50	Cont Mont (Min + 1) (WAC4,WAC5)	32.9	WAC5


West Anacoco Creek 110501
Site Number: WAC 1, Site Name: West Anacoco Creek at Prewitt Chapel/Roy Lee Snell
DO & Temperature (deg C) vs. Date/Time
DO mg/L
DO Criteria mg/L
Temp øC
DO STATISTICS
Min DO = 0.8 mg/L
Max DO = 8 mg/L
Average DO = 3.41 mg/L
25th Percentile = 1.4 mg/L
50th Percentile = 3.3 mg/L
% Failing Criteria = 67.36 %
Std. Deviation = 1.99 mg/L
Variance = 3.94 mg/L
Dissolved Oxygen (mg/L)
Temperature (C)
Date/Time
6/28/2005 00:00
6/28/2005 12:00
6/29/2005 00:00
6/29/2005 12:00
6/30/2005 00:00
6/30/2005 12:00
7/1/2005 00:00


DO STATISTICS
Min DO = 0.8 mg/L
Max DO = 8 mg/L
Average DO = 3.41 mg/L
25th Percentile = 1.4 mg/L
50th Percentile = 3.3 mg/L
% Failing Criteria = 67.36 %
Std. Deviation = 1.99 mg/L
Variance = 3.94 mg/L
West Anacoco Creek 110501
Site Number: WAC 1
Site Name: West Anacoco Creek at Prewitt Chapel/Roy Lee Snell
DO & pH vs. Date/Time
DO mg/L
DO Criteria mg/L
pH Units
Dissolved Oxygen (mg/L)
pH
Date/Time
0
1
2
3
4
5
6
7
5.95
6
6.05
6.1
6.15
6.2
6.25
6.3
6.35
6.4
6.45
6/28/2005 00:00
6/28/2005 12:00
6/29/2005 00:00
6/29/2005 12:00
6/30/2005 00:00
6/30/2005 12:00
7/1/2005 00:00



West Anacoco Creek 110501
Site Number: WAC 1
Site Name: West Anacoco Creek at Prewitt Chapel/Roy Lee Snell Road

	Temp deg C	pH	SpCond uS/cm	DO %	DO mg/L
Minimum	24.20	6.00	0.07	10.00	0.80
Maximum	31.70	6.40	0.08	105.00	8.00
Average	27.08	6.23	0.07	43.53	3.41
Geometric Mean	27.01	6.23	0.07	34.68	2.77
25th Percentile	25.50	6.20	0.07	18.00	1.40
30th Percentile	25.70	6.20	0.07	21.00	1.70
40th Percentile	26.20	6.20	0.07	27.80	2.28
50th Percentile	26.80	6.20	0.07	40.00	3.30
Standard Deviation	1.86	0.11	0.00	26.49	1.99
Variance	3.47	0.01	0.00	701.88	3.94

Data Row Count	193
Total Values Failing DO Criteria	130
Percent failing DO Criteria	67.36 %

West Anacoco Creek 110501 Site WAC 1 Continuous Monitoring Data

Date_	Time	Date+Time	Temp	pH	SpCond	DO PERCENT	DO	SALINITY	Is DO < Criteria	DO Criteria
MMDDYY	HHMM	MMDDYYYY HHMM	øC	Units	uS/cm	Sat	mg/L	ppt	5	mg/L
6/28/2005	13:15	6/28/2005 13:15	27	6.4	0.071	50	4	0	1	5
6/28/2005	13:30	6/28/2005 13:30	28.6	6.4	0.0704	46	3.6	0	1	5
6/28/2005	13:45	6/28/2005 13:45	28.4	6.4	0.0706	49	3.8	0	1	5
6/28/2005	14:00	6/28/2005 14:00	27.8	6.3	0.0717	51	4	0	1	5
6/28/2005	14:15	6/28/2005 14:15	29.1	6.3	0.0705	54	4.1	0	1	5
6/28/2005	14:30	6/28/2005 14:30	27.5	6.3	0.0727	57	4.5	0	1	5
6/28/2005	14:45	6/28/2005 14:45	28.7	6.3	0.0704	64	5	0	0	5
6/28/2005	15:00	6/28/2005 15:00	29.4	6.3	0.0691	75	5.8	0	0	5
6/28/2005	15:15	6/28/2005 15:15	29.5	6.3	0.0689	73	5.5	0	0	5
6/28/2005	15:30	6/28/2005 15:30	27.8	6.2	0.0719	58	4.6	0	1	5
6/28/2005	15:45	6/28/2005 15:45	29.5	6.2	0.07	66	5.1	0	0	5
6/28/2005	16:00	6/28/2005 16:00	29.3	6.2	0.07	69	5.3	0	0	5
6/28/2005	16:15	6/28/2005 16:15	29.5	6.2	0.0703	65	4.9	0	1	5
6/28/2005	16:30	6/28/2005 16:30	29.4	6.2	0.07	73	5.6	0	0	5
6/28/2005	16:45	6/28/2005 16:45	29.5	6.2	0.0702	69	5.2	0	0	5
6/28/2005	17:00	6/28/2005 17:00	29.7	6.2	0.0702	73	5.5	0	0	5
6/28/2005	17:15	6/28/2005 17:15	29.4	6.2	0.0703	73	5.5	0	0	5
6/28/2005	17:30	6/28/2005 17:30	29.7	6.1	0.0698	72	5.5	0	0	5
6/28/2005	17:45	6/28/2005 17:45	31	6.1	0.0685	67	5	0	0	5
6/28/2005	18:00	6/28/2005 18:00	29.5	6.1	0.0703	67	5.1	0	0	5
6/28/2005	18:15	6/28/2005 18:15	29.4	6.1	0.07	68	5.2	0	0	5
6/28/2005	18:30	6/28/2005 18:30	29.1	6.1	0.0706	67	5.1	0	0	5
6/28/2005	18:45	6/28/2005 18:45	29.1	6.1	0.0703	68	5.2	0	0	5
6/28/2005	19:00	6/28/2005 19:00	28.8	6.1	0.0708	67	5.2	0	0	5
6/28/2005	19:15	6/28/2005 19:15	28.2	6.1	0.0712	74	5.7	0	0	5
6/28/2005	19:30	6/28/2005 19:30	28	6.1	0.0707	68	5.3	0	0	5
6/28/2005	19:45	6/28/2005 19:45	28	6.2	0.071	69	5.4	0	0	5
6/28/2005	20:00	6/28/2005 20:00	27.7	6.2	0.071	60	4.7	0	1	5
6/28/2005	20:15	6/28/2005 20:15	27.7	6.2	0.071	67	5.3	0	0	5
6/28/2005	20:30	6/28/2005 20:30	27.5	6.2	0.0711	68	5.4	0	0	5
6/28/2005	20:45	6/28/2005 20:45	27.3	6.2	0.0708	66	5.3	0	0	5

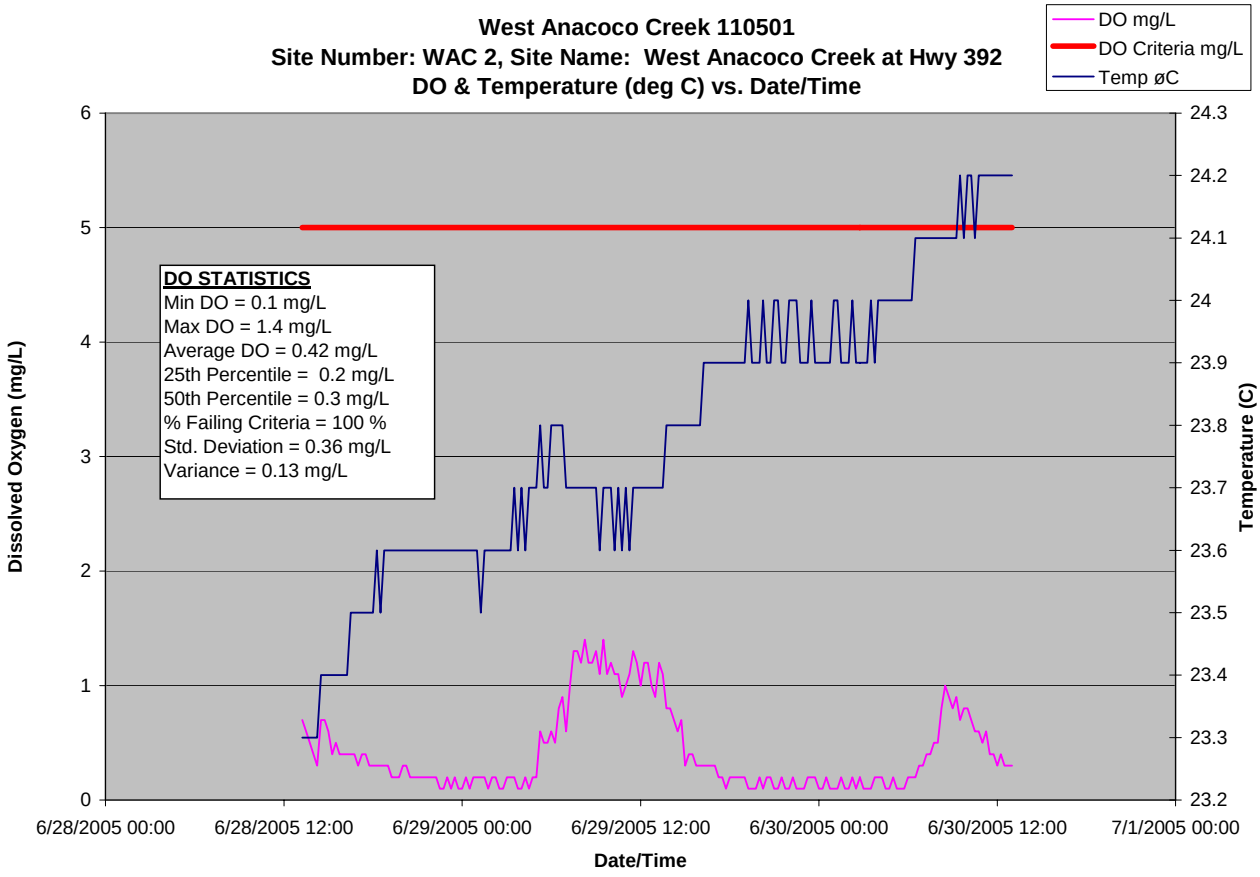
6/28/2005	21:00	6/28/2005 21:00	27.2	6.1	0.0714	48	3.8	0	1	5
6/28/2005	21:15	6/28/2005 21:15	27	6.2	0.0718	56	4.4	0	1	5
6/28/2005	21:30	6/28/2005 21:30	26.9	6.2	0.0716	56	4.4	0	1	5
6/28/2005	21:45	6/28/2005 21:45	26.8	6.1	0.0722	50	4	0	1	5
6/28/2005	22:00	6/28/2005 22:00	26.8	6.2	0.0719	50	4	0	1	5
6/28/2005	22:15	6/28/2005 22:15	26.7	6.2	0.0721	47	3.8	0	1	5
6/28/2005	22:30	6/28/2005 22:30	26.6	6.2	0.0725	44	3.5	0	1	5
6/28/2005	22:45	6/28/2005 22:45	26.5	6.2	0.0727	42	3.4	0	1	5
6/28/2005	23:00	6/28/2005 23:00	26.4	6.2	0.0729	40	3.3	0	1	5
6/28/2005	23:15	6/28/2005 23:15	26.3	6.2	0.0731	40	3.3	0	1	5
6/28/2005	23:30	6/28/2005 23:30	26.2	6.2	0.0732	38	3.1	0	1	5
6/28/2005	23:45	6/28/2005 23:45	26.1	6.2	0.0732	36	2.9	0	1	5
6/29/2005	0:00	6/29/2005 00:00	26.1	6.2	0.0734	34	2.8	0	1	5
6/29/2005	0:15	6/29/2005 00:15	26	6.2	0.0736	34	2.7	0	1	5
6/29/2005	0:30	6/29/2005 00:30	25.9	6.2	0.0738	31	2.6	0	1	5
6/29/2005	0:45	6/29/2005 00:45	25.8	6.2	0.0742	30	2.4	0	1	5
6/29/2005	1:00	6/29/2005 01:00	25.7	6.2	0.0741	28	2.3	0	1	5
6/29/2005	1:15	6/29/2005 01:15	25.6	6.2	0.0743	28	2.3	0	1	5
6/29/2005	1:30	6/29/2005 01:30	25.6	6.2	0.0743	27	2.2	0	1	5
6/29/2005	1:45	6/29/2005 01:45	25.5	6.2	0.0747	26	2.1	0	1	5
6/29/2005	2:00	6/29/2005 02:00	25.4	6.2	0.0748	24	2	0	1	5
6/29/2005	2:15	6/29/2005 02:15	25.4	6.2	0.075	24	2	0	1	5
6/29/2005	2:30	6/29/2005 02:30	25.2	6.2	0.0752	23	1.9	0	1	5
6/29/2005	2:45	6/29/2005 02:45	25.3	6.2	0.0757	22	1.8	0	1	5
6/29/2005	3:00	6/29/2005 03:00	25.2	6.3	0.0755	21	1.7	0	1	5
6/29/2005	3:15	6/29/2005 03:15	25.1	6.3	0.076	19	1.6	0	1	5
6/29/2005	3:30	6/29/2005 03:30	25	6.3	0.0761	18	1.6	0	1	5
6/29/2005	3:45	6/29/2005 03:45	24.9	6.3	0.0766	17	1.4	0	1	5
6/29/2005	4:00	6/29/2005 04:00	24.8	6.3	0.0768	17	1.4	0	1	5
6/29/2005	4:15	6/29/2005 04:15	24.8	6.3	0.0769	17	1.4	0	1	5
6/29/2005	4:30	6/29/2005 04:30	24.7	6.3	0.0771	16	1.3	0	1	5
6/29/2005	4:45	6/29/2005 04:45	24.6	6.3	0.0771	15	1.2	0	1	5
6/29/2005	5:00	6/29/2005 05:00	24.6	6.3	0.0773	14	1.1	0	1	5
6/29/2005	5:15	6/29/2005 05:15	24.5	6.3	0.0775	13	1.1	0	1	5
6/29/2005	5:30	6/29/2005 05:30	24.5	6.3	0.0774	13	1.1	0	1	5
6/29/2005	5:45	6/29/2005 05:45	24.4	6.3	0.0779	11	1	0	1	5

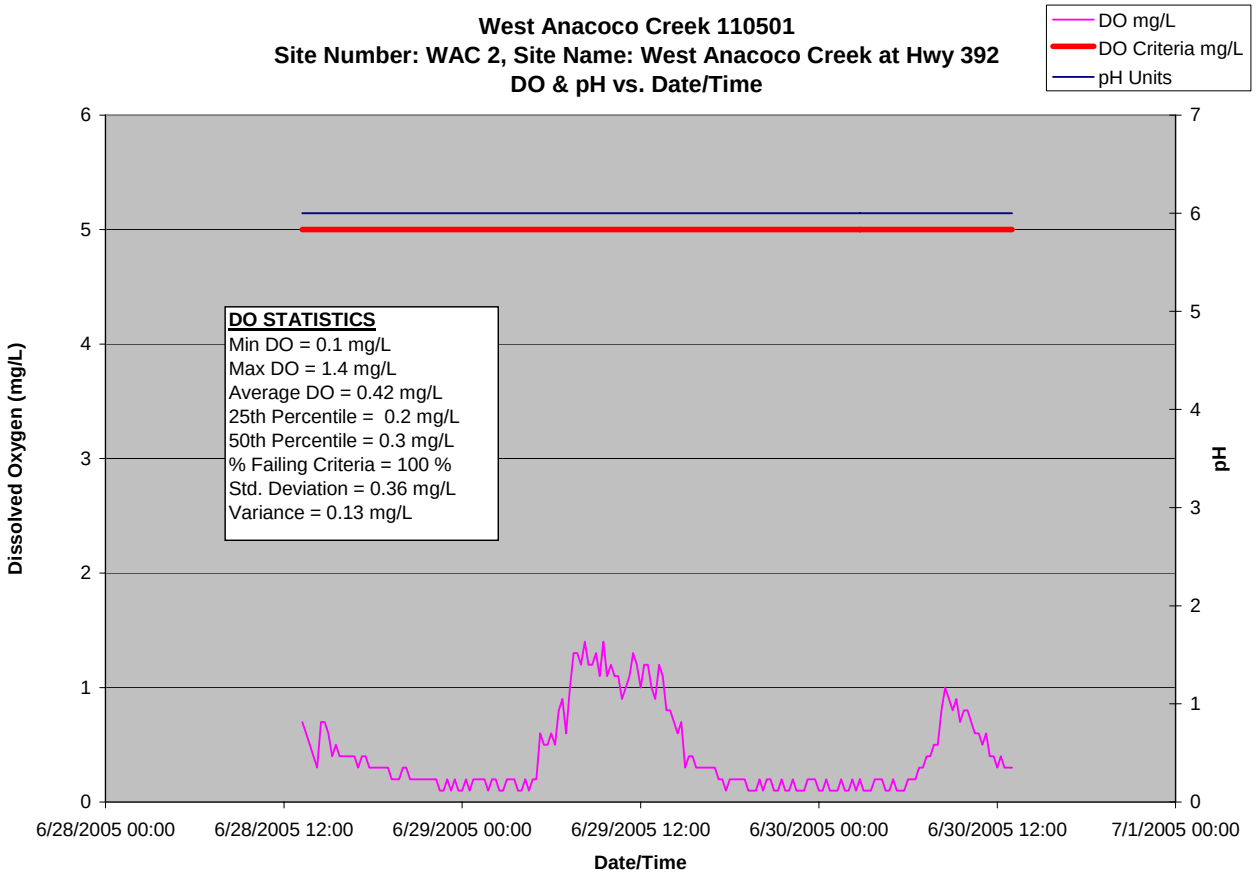
6/29/2005	6:00	6/29/2005 06:00	24.3	6.3	0.0782	11	1	0	1	5
6/29/2005	6:15	6/29/2005 06:15	24.3	6.3	0.0781	11	0.9	0	1	5
6/29/2005	6:30	6/29/2005 06:30	24.2	6.3	0.0783	10	0.9	0	1	5
6/29/2005	6:45	6/29/2005 06:45	24.2	6.3	0.0778	12	1	0	1	5
6/29/2005	7:00	6/29/2005 07:00	24.2	6.3	0.077	12	1	0	1	5
6/29/2005	7:15	6/29/2005 07:15	24.2	6.3	0.0766	13	1.1	0	1	5
6/29/2005	7:30	6/29/2005 07:30	24.2	6.3	0.0769	12	1	0	1	5
6/29/2005	7:45	6/29/2005 07:45	24.4	6.3	0.0765	12	1	0	1	5
6/29/2005	8:00	6/29/2005 08:00	24.5	6.4	0.0767	11	1	0	1	5
6/29/2005	8:15	6/29/2005 08:15	24.7	6.4	0.0766	11	0.9	0	1	5
6/29/2005	8:30	6/29/2005 08:30	24.7	6.4	0.0767	11	0.9	0	1	5
6/29/2005	8:45	6/29/2005 08:45	24.9	6.4	0.0768	10	0.9	0	1	5
6/29/2005	9:00	6/29/2005 09:00	25.1	6.4	0.0765	12	1	0	1	5
6/29/2005	9:15	6/29/2005 09:15	25.3	6.4	0.0764	12	1	0	1	5
6/29/2005	9:30	6/29/2005 09:30	25.6	6.3	0.0756	13	1.1	0	1	5
6/29/2005	9:45	6/29/2005 09:45	25.7	6.3	0.0758	16	1.3	0	1	5
6/29/2005	10:00	6/29/2005 10:00	25.7	6.3	0.0758	17	1.4	0	1	5
6/29/2005	10:15	6/29/2005 10:15	26.2	6.3	0.0756	18	1.4	0	1	5
6/29/2005	10:30	6/29/2005 10:30	26.1	6.3	0.0757	20	1.7	0	1	5
6/29/2005	10:45	6/29/2005 10:45	27.1	6.3	0.0745	23	1.9	0	1	5
6/29/2005	11:00	6/29/2005 11:00	27.4	6.3	0.074	27	2.1	0	1	5
6/29/2005	11:15	6/29/2005 11:15	27.2	6.3	0.0746	30	2.4	0	1	5
6/29/2005	11:30	6/29/2005 11:30	27.5	6.3	0.0736	34	2.7	0	1	5
6/29/2005	11:45	6/29/2005 11:45	26.8	6.3	0.0741	49	4	0	1	5
6/29/2005	12:00	6/29/2005 12:00	26.6	6.3	0.0741	60	4.8	0	1	5
6/29/2005	12:15	6/29/2005 12:15	27.9	6.3	0.0734	62	4.9	0	1	5
6/29/2005	12:30	6/29/2005 12:30	27.9	6.2	0.0724	65	5.1	0	0	5
6/29/2005	12:45	6/29/2005 12:45	27.3	6.2	0.0727	70	5.6	0	0	5
6/29/2005	13:00	6/29/2005 13:00	30.3	6.2	0.0698	71	5.3	0	0	5
6/29/2005	13:15	6/29/2005 13:15	29.9	6.1	0.0707	65	5	0	0	5
6/29/2005	13:30	6/29/2005 13:30	29.6	6.1	0.0701	71	5.4	0	0	5
6/29/2005	13:45	6/29/2005 13:45	31.3	6.1	0.0683	70	5.2	0	0	5
6/29/2005	14:00	6/29/2005 14:00	31.4	6.1	0.0683	72	5.3	0	0	5
6/29/2005	14:15	6/29/2005 14:15	31	6.1	0.0682	84	6.2	0	0	5
6/29/2005	14:30	6/29/2005 14:30	28.7	6	0.071	88	6.8	0	0	5
6/29/2005	14:45	6/29/2005 14:45	28.4	6	0.0708	82	6.4	0	0	5

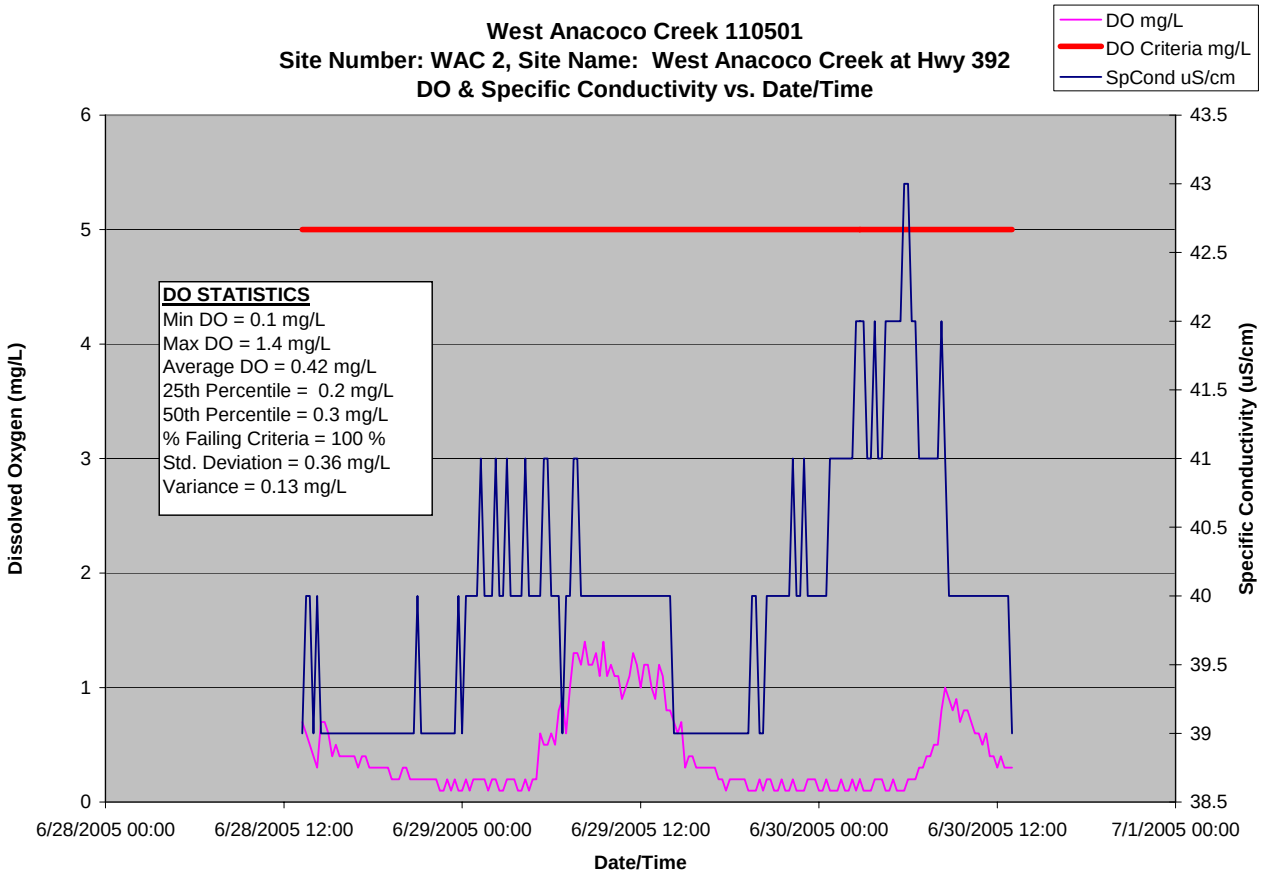
6/29/2005	15:00	6/29/2005 15:00	30.9	6.1	0.0681	87	6.5	0	0	5
6/29/2005	15:15	6/29/2005 15:15	29.1	6.1	0.0705	89	6.8	0	0	5
6/29/2005	15:30	6/29/2005 15:30	31.7	6.1	0.0665	92	6.8	0	0	5
6/29/2005	15:45	6/29/2005 15:45	30.6	6	0.0685	90	6.7	0	0	5
6/29/2005	16:00	6/29/2005 16:00	30.7	6.1	0.0677	99	7.4	0	0	5
6/29/2005	16:15	6/29/2005 16:15	28.8	6	0.0694	97	7.5	0	0	5
6/29/2005	16:30	6/29/2005 16:30	28.9	6	0.0703	92	7.1	0	0	5
6/29/2005	16:45	6/29/2005 16:45	30.5	6.1	0.0689	96	7.2	0	0	5
6/29/2005	17:00	6/29/2005 17:00	28.7	6	0.0712	87	6.7	0	0	5
6/29/2005	17:15	6/29/2005 17:15	30.2	6.1	0.0692	88	6.6	0	0	5
6/29/2005	17:30	6/29/2005 17:30	30.2	6.1	0.0693	87	6.5	0	0	5
6/29/2005	17:45	6/29/2005 17:45	29.2	6.1	0.0716	76	5.8	0	0	5
6/29/2005	18:00	6/29/2005 18:00	30.1	6.1	0.0707	74	5.6	0	0	5
6/29/2005	18:15	6/29/2005 18:15	28.8	6	0.0721	69	5.3	0	0	5
6/29/2005	18:30	6/29/2005 18:30	30.2	6.1	0.0703	79	6	0	0	5
6/29/2005	18:45	6/29/2005 18:45	29.1	6.1	0.0708	81	6.2	0	0	5
6/29/2005	19:00	6/29/2005 19:00	29.5	6.1	0.0701	77	5.9	0	0	5
6/29/2005	19:15	6/29/2005 19:15	29.1	6.1	0.0704	78	6	0	0	5
6/29/2005	19:30	6/29/2005 19:30	29	6.2	0.0707	78	6	0	0	5
6/29/2005	19:45	6/29/2005 19:45	28.9	6.2	0.0704	77	5.9	0	0	5
6/29/2005	20:00	6/29/2005 20:00	28.7	6.2	0.0697	78	6	0	0	5
6/29/2005	20:15	6/29/2005 20:15	28.4	6.2	0.0697	74	5.8	0	0	5
6/29/2005	20:30	6/29/2005 20:30	28.2	6.2	0.0701	71	5.5	0	0	5
6/29/2005	20:45	6/29/2005 20:45	28	6.1	0.0702	66	5.2	0	0	5
6/29/2005	21:00	6/29/2005 21:00	27.9	6.1	0.07	64	5	0	0	5
6/29/2005	21:15	6/29/2005 21:15	27.7	6.1	0.0702	63	5	0	0	5
6/29/2005	21:30	6/29/2005 21:30	27.6	6.1	0.0712	58	4.6	0	1	5
6/29/2005	21:45	6/29/2005 21:45	27.5	6.1	0.0717	56	4.4	0	1	5
6/29/2005	22:00	6/29/2005 22:00	27.4	6.1	0.0716	54	4.3	0	1	5
6/29/2005	22:15	6/29/2005 22:15	27.3	6.1	0.0723	49	3.9	0	1	5
6/29/2005	22:30	6/29/2005 22:30	27.2	6.1	0.0719	48	3.8	0	1	5
6/29/2005	22:45	6/29/2005 22:45	27.2	6.1	0.0726	44	3.5	0	1	5
6/29/2005	23:00	6/29/2005 23:00	27	6.2	0.0733	43	3.4	0	1	5
6/29/2005	23:15	6/29/2005 23:15	27	6.2	0.0734	40	3.2	0	1	5
6/29/2005	23:30	6/29/2005 23:30	26.9	6.2	0.0731	38	3	0	1	5
6/29/2005	23:45	6/29/2005 23:45	26.9	6.2	0.0732	36	2.9	0	1	5

6/30/2005	0:00	6/30/2005 00:00	26.7	6.2	0.0738	35	2.8	0	1	5
6/30/2005	0:15	6/30/2005 00:15	26.7	6.2	0.074	33	2.6	0	1	5
6/30/2005	0:30	6/30/2005 00:30	26.6	6.2	0.0741	32	2.6	0	1	5
6/30/2005	0:45	6/30/2005 00:45	26.5	6.2	0.0747	31	2.5	0	1	5
6/30/2005	1:00	6/30/2005 01:00	26.5	6.2	0.0747	29	2.3	0	1	5
6/30/2005	1:15	6/30/2005 01:15	26.4	6.2	0.0749	29	2.3	0	1	5
6/30/2005	1:30	6/30/2005 01:30	26.4	6.2	0.0753	27	2.2	0	1	5
6/30/2005	1:45	6/30/2005 01:45	26.2	6.2	0.0759	25	2	0	1	5
6/30/2005	2:00	6/30/2005 02:00	26.2	6.2	0.0762	24	2	0	1	5
6/30/2005	2:15	6/30/2005 02:15	26.2	6.3	0.0763	22	1.8	0	1	5
6/30/2005	2:30	6/30/2005 02:30	26.1	6.3	0.0767	22	1.8	0	1	5
6/30/2005	2:45	6/30/2005 02:45	26	6.3	0.0765	21	1.7	0	1	5
6/30/2005	3:00	6/30/2005 03:00	25.9	6.3	0.0767	21	1.7	0	1	5
6/30/2005	3:15	6/30/2005 03:15	25.8	6.3	0.0769	21	1.7	0	1	5
6/30/2005	3:30	6/30/2005 03:30	25.8	6.3	0.0772	19	1.6	0	1	5
6/30/2005	3:45	6/30/2005 03:45	25.7	6.3	0.0774	18	1.5	0	1	5
6/30/2005	4:00	6/30/2005 04:00	25.6	6.3	0.0776	17	1.4	0	1	5
6/30/2005	4:15	6/30/2005 04:15	25.6	6.3	0.0777	17	1.4	0	1	5
6/30/2005	4:30	6/30/2005 04:30	25.5	6.3	0.0781	16	1.3	0	1	5
6/30/2005	4:45	6/30/2005 04:45	25.4	6.3	0.0781	15	1.2	0	1	5
6/30/2005	5:00	6/30/2005 05:00	25.3	6.3	0.0784	15	1.2	0	1	5
6/30/2005	5:15	6/30/2005 05:15	25.3	6.4	0.0783	13	1.1	0	1	5
6/30/2005	5:30	6/30/2005 05:30	25.2	6.4	0.0788	13	1.1	0	1	5
6/30/2005	5:45	6/30/2005 05:45	25.2	6.4	0.0789	12	1	0	1	5
6/30/2005	6:00	6/30/2005 06:00	25.1	6.4	0.079	12	1	0	1	5
6/30/2005	6:15	6/30/2005 06:15	25	6.4	0.0794	11	0.9	0	1	5
6/30/2005	6:30	6/30/2005 06:30	25	6.4	0.0796	11	0.9	0	1	5
6/30/2005	6:45	6/30/2005 06:45	24.9	6.4	0.0794	10	0.8	0	1	5
6/30/2005	7:00	6/30/2005 07:00	24.9	6.4	0.0792	10	0.9	0	1	5
6/30/2005	7:15	6/30/2005 07:15	24.9	6.4	0.0789	10	0.9	0	1	5
6/30/2005	7:30	6/30/2005 07:30	25	6.4	0.078	13	1	0	1	5
6/30/2005	7:45	6/30/2005 07:45	25	6.4	0.0784	12	1	0	1	5
6/30/2005	8:00	6/30/2005 08:00	25.1	6.4	0.0782	12	1	0	1	5
6/30/2005	8:15	6/30/2005 08:15	25.2	6.4	0.0781	13	1	0	1	5
6/30/2005	8:30	6/30/2005 08:30	25.3	6.4	0.0781	13	1.1	0	1	5
6/30/2005	8:45	6/30/2005 08:45	25.4	6.4	0.0777	14	1.2	0	1	5

6/30/2005	9:00	6/30/2005 09:00	25.5	6.4	0.0778	15	1.2	0	1	5
6/30/2005	9:15	6/30/2005 09:15	25.7	6.4	0.0773	16	1.3	0	1	5
6/30/2005	9:30	6/30/2005 09:30	25.9	6.4	0.0775	18	1.4	0	1	5
6/30/2005	9:45	6/30/2005 09:45	26.1	6.4	0.0772	21	1.7	0	1	5
6/30/2005	10:00	6/30/2005 10:00	26.4	6.4	0.0774	24	1.9	0	1	5
6/30/2005	10:15	6/30/2005 10:15	26.5	6.4	0.0773	24	1.9	0	1	5
6/30/2005	10:30	6/30/2005 10:30	26.6	6.3	0.0774	26	2.1	0	1	5
6/30/2005	10:45	6/30/2005 10:45	27.2	6.3	0.0773	26	2.1	0	1	5
6/30/2005	11:00	6/30/2005 11:00	27.5	6.4	0.0758	41	3.3	0	1	5
6/30/2005	11:15	6/30/2005 11:15	27.6	6.4	0.0764	46	3.6	0	1	5
6/30/2005	11:30	6/30/2005 11:30	27.7	6.3	0.0771	41	3.3	0	1	5
6/30/2005	11:45	6/30/2005 11:45	28	6.3	0.0771	56	4.4	0	1	5
6/30/2005	12:00	6/30/2005 12:00	28.1	6.2	0.0772	59	4.6	0	1	5
6/30/2005	12:15	6/30/2005 12:15	28.2	6.2	0.0761	65	5	0	0	5
6/30/2005	12:30	6/30/2005 12:30	28.6	6.2	0.0764	68	5.2	0	0	5
6/30/2005	12:45	6/30/2005 12:45	28.8	6.2	0.0753	75	5.8	0	0	5
6/30/2005	13:00	6/30/2005 13:00	29.6	6.2	0.0738	83	6.3	0	0	5
6/30/2005	13:15	6/30/2005 13:15	29.2	6.3	0.0718	105	8	0	0	5


West Anacoco Creek 110501
Site Number: WAC 2, Site Name: West Anacoco Creek at Hwy 392
DO & Temperature (deg C) vs. Date/Time
DO mg/L
DO Criteria mg/L
Temp øC
DO STATISTICS
Min DO = 0.1 mg/L
Max DO = 1.4 mg/L
Average DO = 0.42 mg/L
25th Percentile = 0.2 mg/L
50th Percentile = 0.3 mg/L
% Failing Criteria = 100 %
Std. Deviation = 0.36 mg/L
Variance = 0.13 mg/L
Dissolved Oxygen (mg/L)
Temperature (C)
Date/Time
6/28/2005 00:00
6/28/2005 12:00
6/29/2005 00:00
6/29/2005 12:00
6/30/2005 00:00
6/30/2005 12:00
7/1/2005 00:00


West Anacoco Creek 110501
Site Number: WAC 2, Site Name: West Anacoco Creek at Hwy 392
DO & pH vs. Date/Time
DO mg/L
DO Criteria mg/L
pH Units
DO STATISTICS
Min DO = 0.1 mg/L
Max DO = 1.4 mg/L
Average DO = 0.42 mg/L
25th Percentile = 0.2 mg/L
50th Percentile = 0.3 mg/L
% Failing Criteria = 100 %
Std. Deviation = 0.36 mg/L
Variance = 0.13 mg/L
Dissolved Oxygen (mg/L)
pH
Date/Time
6/28/2005 00:00
6/28/2005 12:00
6/29/2005 00:00
6/29/2005 12:00
6/30/2005 00:00
6/30/2005 12:00
7/1/2005 00:00



West Anacoco Creek 110501 Site Number: WAC 2 Site Name: West Anacoco Creek at Hwy 392					
	Temp deg C	pH	SpCond uS/cm	DO %	DO mg/L
Minimum	23.30	6.00	39.00	1.00	0.10
Maximum	24.20	6.00	43.00	17.00	1.40
Average	23.79	6.00	39.97	4.98	0.42
Geometric Mean	23.79	6.00	39.96	3.55	0.30
25th Percentile	23.60	6.00	39.00	2.00	0.20
30th Percentile	23.60	6.00	39.00	2.00	0.20
40th Percentile	23.70	6.00	40.00	2.00	0.20
50th Percentile	23.80	6.00	40.00	3.00	0.30
Standard Deviation	0.23	0.00	0.91	4.27	0.36
Variance	0.05	0.00	0.83	18.26	0.13

Data Row Count	192
Total Values Failing DO Criteria	192
Percent failing DO Criteria	100.00 %

West Anacoco 110501 Site WAC 2 Continuous Monitoring Data

Date_	Time	Date+Time	Temp	pH	SpCond	DO PERCENT	DO	SALINITY	Is DO < Criteria	DO Criteria
MMDDYY	HHMM	MMDDYYYY HHMM	øC	Units	uS/cm	Sat	mg/L	ppt	5	mg/L
6/28/2005	13:15	6/28/2005 13:15	23.3	6	39	8	0.7	0	1	5
6/28/2005	13:30	6/28/2005 13:30	23.3	6	40	7	0.6	0	1	5
6/28/2005	13:45	6/28/2005 13:45	23.3	6	40	6	0.5	0	1	5
6/28/2005	14:00	6/28/2005 14:00	23.3	6	39	5	0.4	0	1	5
6/28/2005	14:15	6/28/2005 14:15	23.3	6	40	4	0.3	0	1	5
6/28/2005	14:30	6/28/2005 14:30	23.4	6	39	8	0.7	0	1	5
6/28/2005	14:45	6/28/2005 14:45	23.4	6	39	9	0.7	0	1	5
6/28/2005	15:00	6/28/2005 15:00	23.4	6	39	7	0.6	0	1	5
6/28/2005	15:15	6/28/2005 15:15	23.4	6	39	5	0.4	0	1	5
6/28/2005	15:30	6/28/2005 15:30	23.4	6	39	6	0.5	0	1	5
6/28/2005	15:45	6/28/2005 15:45	23.4	6	39	5	0.4	0	1	5
6/28/2005	16:00	6/28/2005 16:00	23.4	6	39	5	0.4	0	1	5
6/28/2005	16:15	6/28/2005 16:15	23.4	6	39	4	0.4	0	1	5
6/28/2005	16:30	6/28/2005 16:30	23.5	6	39	4	0.4	0	1	5
6/28/2005	16:45	6/28/2005 16:45	23.5	6	39	4	0.4	0	1	5
6/28/2005	17:00	6/28/2005 17:00	23.5	6	39	3	0.3	0	1	5
6/28/2005	17:15	6/28/2005 17:15	23.5	6	39	5	0.4	0	1	5
6/28/2005	17:30	6/28/2005 17:30	23.5	6	39	4	0.4	0	1	5
6/28/2005	17:45	6/28/2005 17:45	23.5	6	39	4	0.3	0	1	5
6/28/2005	18:00	6/28/2005 18:00	23.5	6	39	3	0.3	0	1	5
6/28/2005	18:15	6/28/2005 18:15	23.6	6	39	3	0.3	0	1	5
6/28/2005	18:30	6/28/2005 18:30	23.5	6	39	3	0.3	0	1	5
6/28/2005	18:45	6/28/2005 18:45	23.6	6	39	3	0.3	0	1	5
6/28/2005	19:00	6/28/2005 19:00	23.6	6	39	3	0.3	0	1	5
6/28/2005	19:15	6/28/2005 19:15	23.6	6	39	3	0.2	0	1	5
6/28/2005	19:30	6/28/2005 19:30	23.6	6	39	2	0.2	0	1	5
6/28/2005	19:45	6/28/2005 19:45	23.6	6	39	3	0.2	0	1	5
6/28/2005	20:00	6/28/2005 20:00	23.6	6	39	3	0.3	0	1	5
6/28/2005	20:15	6/28/2005 20:15	23.6	6	39	3	0.3	0	1	5
6/28/2005	20:30	6/28/2005 20:30	23.6	6	39	2	0.2	0	1	5
6/28/2005	20:45	6/28/2005 20:45	23.6	6	39	2	0.2	0	1	5

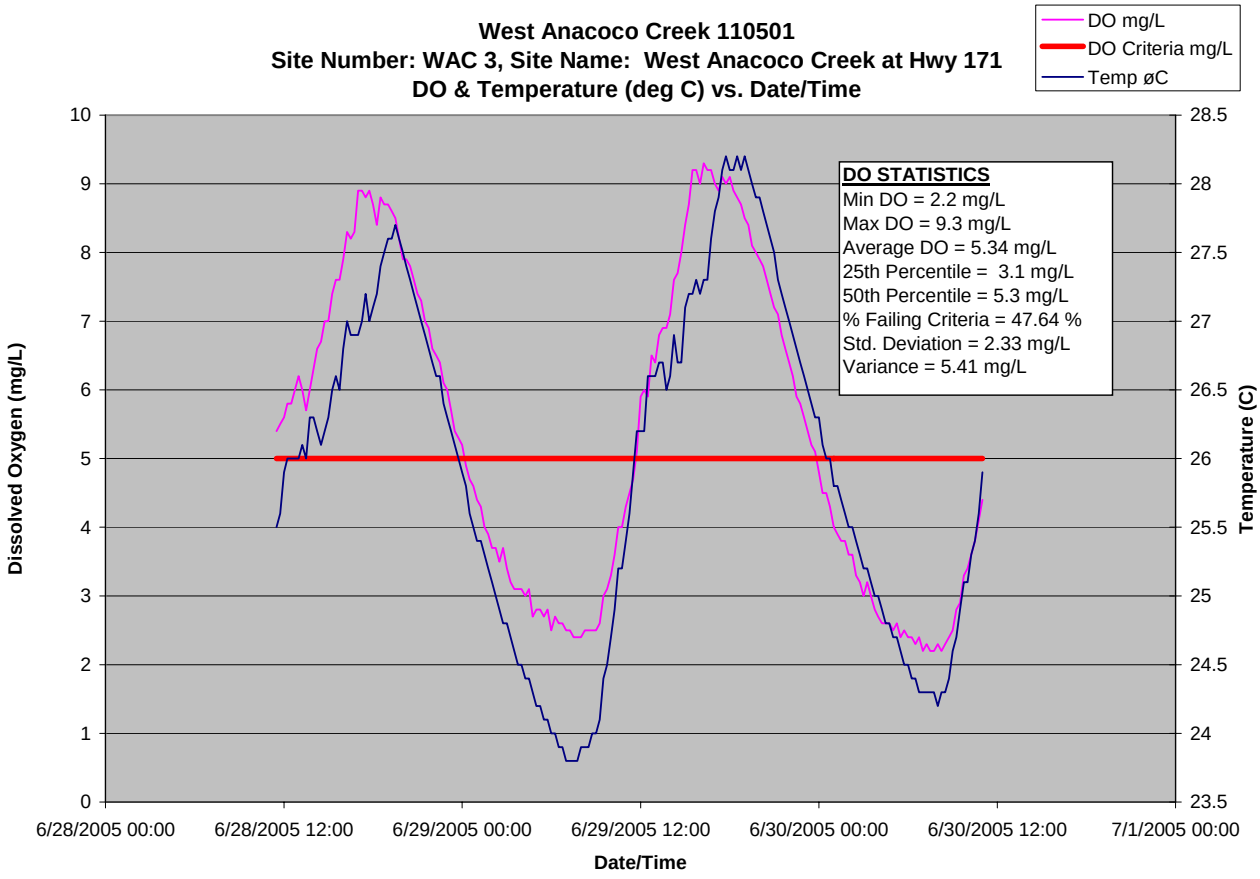
6/28/2005	21:00	6/28/2005 21:00	23.6	6	40	2	0.2	0	1	5
6/28/2005	21:15	6/28/2005 21:15	23.6	6	39	2	0.2	0	1	5
6/28/2005	21:30	6/28/2005 21:30	23.6	6	39	2	0.2	0	1	5
6/28/2005	21:45	6/28/2005 21:45	23.6	6	39	2	0.2	0	1	5
6/28/2005	22:00	6/28/2005 22:00	23.6	6	39	2	0.2	0	1	5
6/28/2005	22:15	6/28/2005 22:15	23.6	6	39	2	0.2	0	1	5
6/28/2005	22:30	6/28/2005 22:30	23.6	6	39	2	0.1	0	1	5
6/28/2005	22:45	6/28/2005 22:45	23.6	6	39	2	0.1	0	1	5
6/28/2005	23:00	6/28/2005 23:00	23.6	6	39	2	0.2	0	1	5
6/28/2005	23:15	6/28/2005 23:15	23.6	6	39	2	0.1	0	1	5
6/28/2005	23:30	6/28/2005 23:30	23.6	6	39	2	0.2	0	1	5
6/28/2005	23:45	6/28/2005 23:45	23.6	6	40	1	0.1	0	1	5
6/29/2005	0:00	6/29/2005 00:00	23.6	6	39	2	0.1	0	1	5
6/29/2005	0:15	6/29/2005 00:15	23.6	6	40	2	0.2	0	1	5
6/29/2005	0:30	6/29/2005 00:30	23.6	6	40	1	0.1	0	1	5
6/29/2005	0:45	6/29/2005 00:45	23.6	6	40	2	0.2	0	1	5
6/29/2005	1:00	6/29/2005 01:00	23.6	6	40	2	0.2	0	1	5
6/29/2005	1:15	6/29/2005 01:15	23.5	6	41	2	0.2	0	1	5
6/29/2005	1:30	6/29/2005 01:30	23.6	6	40	2	0.2	0	1	5
6/29/2005	1:45	6/29/2005 01:45	23.6	6	40	2	0.1	0	1	5
6/29/2005	2:00	6/29/2005 02:00	23.6	6	40	2	0.2	0	1	5
6/29/2005	2:15	6/29/2005 02:15	23.6	6	41	2	0.2	0	1	5
6/29/2005	2:30	6/29/2005 02:30	23.6	6	40	1	0.1	0	1	5
6/29/2005	2:45	6/29/2005 02:45	23.6	6	40	1	0.1	0	1	5
6/29/2005	3:00	6/29/2005 03:00	23.6	6	41	2	0.2	0	1	5
6/29/2005	3:15	6/29/2005 03:15	23.6	6	40	2	0.2	0	1	5
6/29/2005	3:30	6/29/2005 03:30	23.7	6	40	2	0.2	0	1	5
6/29/2005	3:45	6/29/2005 03:45	23.6	6	40	2	0.1	0	1	5
6/29/2005	4:00	6/29/2005 04:00	23.7	6	40	1	0.1	0	1	5
6/29/2005	4:15	6/29/2005 04:15	23.6	6	41	2	0.2	0	1	5
6/29/2005	4:30	6/29/2005 04:30	23.7	6	40	1	0.1	0	1	5
6/29/2005	4:45	6/29/2005 04:45	23.7	6	40	2	0.2	0	1	5
6/29/2005	5:00	6/29/2005 05:00	23.7	6	40	3	0.2	0	1	5
6/29/2005	5:15	6/29/2005 05:15	23.8	6	40	7	0.6	0	1	5
6/29/2005	5:30	6/29/2005 05:30	23.7	6	41	6	0.5	0	1	5
6/29/2005	5:45	6/29/2005 05:45	23.7	6	41	6	0.5	0	1	5

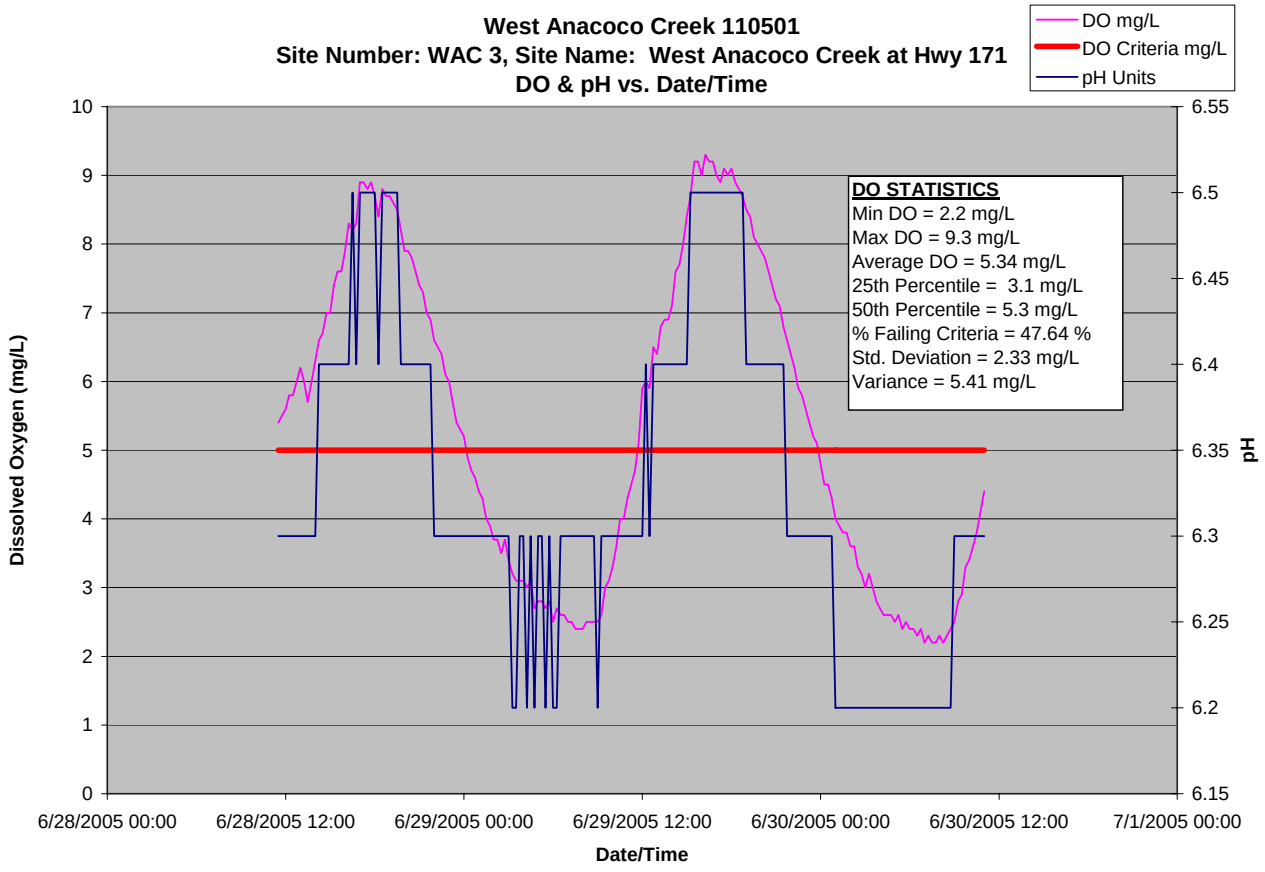
6/29/2005	6:00	6/29/2005 06:00	23.8	6	40	7	0.6	0	1	5
6/29/2005	6:15	6/29/2005 06:15	23.8	6	40	6	0.5	0	1	5
6/29/2005	6:30	6/29/2005 06:30	23.8	6	40	10	0.8	0	1	5
6/29/2005	6:45	6/29/2005 06:45	23.8	6	39	10	0.9	0	1	5
6/29/2005	7:00	6/29/2005 07:00	23.7	6	40	8	0.6	0	1	5
6/29/2005	7:15	6/29/2005 07:15	23.7	6	40	12	1	0	1	5
6/29/2005	7:30	6/29/2005 07:30	23.7	6	41	16	1.3	0	1	5
6/29/2005	7:45	6/29/2005 07:45	23.7	6	41	15	1.3	0	1	5
6/29/2005	8:00	6/29/2005 08:00	23.7	6	40	15	1.2	0	1	5
6/29/2005	8:15	6/29/2005 08:15	23.7	6	40	17	1.4	0	1	5
6/29/2005	8:30	6/29/2005 08:30	23.7	6	40	14	1.2	0	1	5
6/29/2005	8:45	6/29/2005 08:45	23.7	6	40	14	1.2	0	1	5
6/29/2005	9:00	6/29/2005 09:00	23.7	6	40	15	1.3	0	1	5
6/29/2005	9:15	6/29/2005 09:15	23.6	6	40	13	1.1	0	1	5
6/29/2005	9:30	6/29/2005 09:30	23.7	6	40	16	1.4	0	1	5
6/29/2005	9:45	6/29/2005 09:45	23.7	6	40	13	1.1	0	1	5
6/29/2005	10:00	6/29/2005 10:00	23.7	6	40	14	1.2	0	1	5
6/29/2005	10:15	6/29/2005 10:15	23.6	6	40	13	1.1	0	1	5
6/29/2005	10:30	6/29/2005 10:30	23.7	6	40	13	1.1	0	1	5
6/29/2005	10:45	6/29/2005 10:45	23.6	6	40	10	0.9	0	1	5
6/29/2005	11:00	6/29/2005 11:00	23.7	6	40	12	1	0	1	5
6/29/2005	11:15	6/29/2005 11:15	23.6	6	40	13	1.1	0	1	5
6/29/2005	11:30	6/29/2005 11:30	23.7	6	40	16	1.3	0	1	5
6/29/2005	11:45	6/29/2005 11:45	23.7	6	40	14	1.2	0	1	5
6/29/2005	12:00	6/29/2005 12:00	23.7	6	40	12	1	0	1	5
6/29/2005	12:15	6/29/2005 12:15	23.7	6	40	14	1.2	0	1	5
6/29/2005	12:30	6/29/2005 12:30	23.7	6	40	15	1.2	0	1	5
6/29/2005	12:45	6/29/2005 12:45	23.7	6	40	12	1	0	1	5
6/29/2005	13:00	6/29/2005 13:00	23.7	6	40	10	0.9	0	1	5
6/29/2005	13:15	6/29/2005 13:15	23.7	6	40	14	1.2	0	1	5
6/29/2005	13:30	6/29/2005 13:30	23.7	6	40	13	1.1	0	1	5
6/29/2005	13:45	6/29/2005 13:45	23.8	6	40	10	0.8	0	1	5
6/29/2005	14:00	6/29/2005 14:00	23.8	6	40	10	0.8	0	1	5
6/29/2005	14:15	6/29/2005 14:15	23.8	6	39	8	0.7	0	1	5
6/29/2005	14:30	6/29/2005 14:30	23.8	6	39	7	0.6	0	1	5
6/29/2005	14:45	6/29/2005 14:45	23.8	6	39	8	0.7	0	1	5

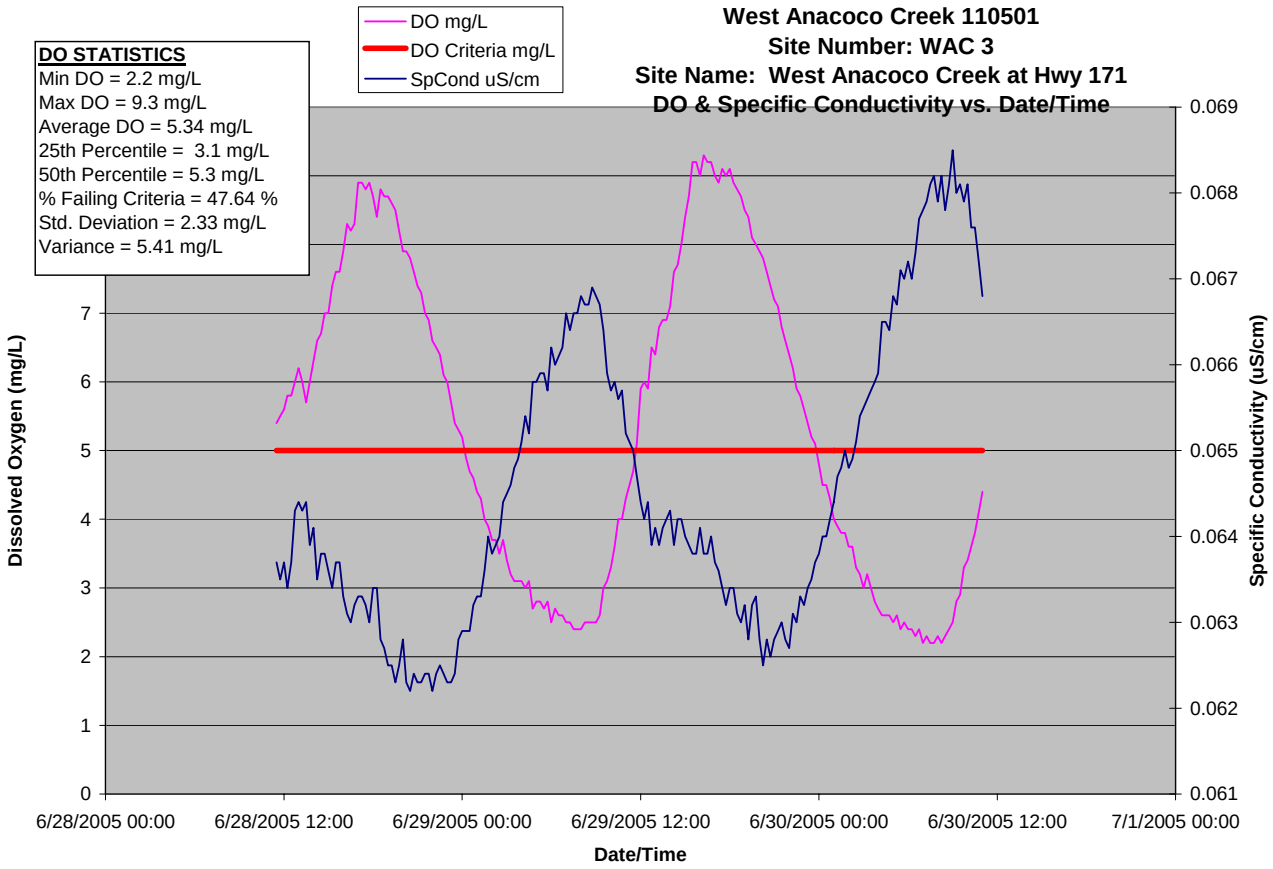
6/29/2005	15:00	6/29/2005 15:00	23.8	6	39	4	0.3	0	1	5
6/29/2005	15:15	6/29/2005 15:15	23.8	6	39	4	0.4	0	1	5
6/29/2005	15:30	6/29/2005 15:30	23.8	6	39	5	0.4	0	1	5
6/29/2005	15:45	6/29/2005 15:45	23.8	6	39	3	0.3	0	1	5
6/29/2005	16:00	6/29/2005 16:00	23.8	6	39	3	0.3	0	1	5
6/29/2005	16:15	6/29/2005 16:15	23.9	6	39	4	0.3	0	1	5
6/29/2005	16:30	6/29/2005 16:30	23.9	6	39	4	0.3	0	1	5
6/29/2005	16:45	6/29/2005 16:45	23.9	6	39	3	0.3	0	1	5
6/29/2005	17:00	6/29/2005 17:00	23.9	6	39	3	0.3	0	1	5
6/29/2005	17:15	6/29/2005 17:15	23.9	6	39	3	0.2	0	1	5
6/29/2005	17:30	6/29/2005 17:30	23.9	6	39	2	0.2	0	1	5
6/29/2005	17:45	6/29/2005 17:45	23.9	6	39	2	0.1	0	1	5
6/29/2005	18:00	6/29/2005 18:00	23.9	6	39	2	0.2	0	1	5
6/29/2005	18:15	6/29/2005 18:15	23.9	6	39	2	0.2	0	1	5
6/29/2005	18:30	6/29/2005 18:30	23.9	6	39	2	0.2	0	1	5
6/29/2005	18:45	6/29/2005 18:45	23.9	6	39	2	0.2	0	1	5
6/29/2005	19:00	6/29/2005 19:00	23.9	6	39	2	0.2	0	1	5
6/29/2005	19:15	6/29/2005 19:15	24	6	39	2	0.1	0	1	5
6/29/2005	19:30	6/29/2005 19:30	23.9	6	40	1	0.1	0	1	5
6/29/2005	19:45	6/29/2005 19:45	23.9	6	40	2	0.1	0	1	5
6/29/2005	20:00	6/29/2005 20:00	23.9	6	39	2	0.2	0	1	5
6/29/2005	20:15	6/29/2005 20:15	24	6	39	1	0.1	0	1	5
6/29/2005	20:30	6/29/2005 20:30	23.9	6	40	2	0.2	0	1	5
6/29/2005	20:45	6/29/2005 20:45	23.9	6	40	2	0.2	0	1	5
6/29/2005	21:00	6/29/2005 21:00	24	6	40	1	0.1	0	1	5
6/29/2005	21:15	6/29/2005 21:15	24	6	40	1	0.1	0	1	5
6/29/2005	21:30	6/29/2005 21:30	23.9	6	40	2	0.2	0	1	5
6/29/2005	21:45	6/29/2005 21:45	23.9	6	40	1	0.1	0	1	5
6/29/2005	22:00	6/29/2005 22:00	24	6	40	1	0.1	0	1	5
6/29/2005	22:15	6/29/2005 22:15	24	6	41	2	0.2	0	1	5
6/29/2005	22:30	6/29/2005 22:30	24	6	40	1	0.1	0	1	5
6/29/2005	22:45	6/29/2005 22:45	23.9	6	40	2	0.1	0	1	5
6/29/2005	23:00	6/29/2005 23:00	23.9	6	41	2	0.1	0	1	5
6/29/2005	23:15	6/29/2005 23:15	23.9	6	40	2	0.2	0	1	5
6/29/2005	23:30	6/29/2005 23:30	24	6	40	2	0.2	0	1	5
6/29/2005	23:45	6/29/2005 23:45	23.9	6	40	2	0.2	0	1	5

6/30/2005	0:00	6/30/2005 00:00	23.9	6	40	1	0.1	0	1	5
6/30/2005	0:15	6/30/2005 00:15	23.9	6	40	1	0.1	0	1	5
6/30/2005	0:30	6/30/2005 00:30	23.9	6	40	2	0.2	0	1	5
6/30/2005	0:45	6/30/2005 00:45	23.9	6	41	2	0.1	0	1	5
6/30/2005	1:00	6/30/2005 01:00	24	6	41	1	0.1	0	1	5
6/30/2005	1:15	6/30/2005 01:15	24	6	41	2	0.1	0	1	5
6/30/2005	1:30	6/30/2005 01:30	23.9	6	41	2	0.2	0	1	5
6/30/2005	1:45	6/30/2005 01:45	23.9	6	41	1	0.1	0	1	5
6/30/2005	2:00	6/30/2005 02:00	23.9	6	41	2	0.1	0	1	5
6/30/2005	2:15	6/30/2005 02:15	24	6	41	2	0.2	0	1	5
6/30/2005	2:30	6/30/2005 02:30	23.9	6	42	2	0.1	0	1	5
6/30/2005	2:45	6/30/2005 02:45	23.9	6	42	2	0.2	0	1	5
6/30/2005	3:00	6/30/2005 03:00	23.9	6	42	1	0.1	0	1	5
6/30/2005	3:15	6/30/2005 03:15	23.9	6	41	1	0.1	0	1	5
6/30/2005	3:30	6/30/2005 03:30	24	6	41	2	0.1	0	1	5
6/30/2005	3:45	6/30/2005 03:45	23.9	6	42	2	0.2	0	1	5
6/30/2005	4:00	6/30/2005 04:00	24	6	41	2	0.2	0	1	5
6/30/2005	4:15	6/30/2005 04:15	24	6	41	2	0.2	0	1	5
6/30/2005	4:30	6/30/2005 04:30	24	6	42	1	0.1	0	1	5
6/30/2005	4:45	6/30/2005 04:45	24	6	42	1	0.1	0	1	5
6/30/2005	5:00	6/30/2005 05:00	24	6	42	2	0.2	0	1	5
6/30/2005	5:15	6/30/2005 05:15	24	6	42	1	0.1	0	1	5
6/30/2005	5:30	6/30/2005 05:30	24	6	42	2	0.1	0	1	5
6/30/2005	5:45	6/30/2005 05:45	24	6	43	2	0.1	0	1	5
6/30/2005	6:00	6/30/2005 06:00	24	6	43	2	0.2	0	1	5
6/30/2005	6:15	6/30/2005 06:15	24	6	42	2	0.2	0	1	5
6/30/2005	6:30	6/30/2005 06:30	24.1	6	42	3	0.2	0	1	5
6/30/2005	6:45	6/30/2005 06:45	24.1	6	41	3	0.3	0	1	5
6/30/2005	7:00	6/30/2005 07:00	24.1	6	41	4	0.3	0	1	5
6/30/2005	7:15	6/30/2005 07:15	24.1	6	41	5	0.4	0	1	5
6/30/2005	7:30	6/30/2005 07:30	24.1	6	41	4	0.4	0	1	5
6/30/2005	7:45	6/30/2005 07:45	24.1	6	41	5	0.5	0	1	5
6/30/2005	8:00	6/30/2005 08:00	24.1	6	41	6	0.5	0	1	5
6/30/2005	8:15	6/30/2005 08:15	24.1	6	42	10	0.8	0	1	5
6/30/2005	8:30	6/30/2005 08:30	24.1	6	41	12	1	0	1	5
6/30/2005	8:45	6/30/2005 08:45	24.1	6	40	11	0.9	0	1	5

6/30/2005	9:00	6/30/2005 09:00	24.1	6	40	10	0.8	0	1	5
6/30/2005	9:15	6/30/2005 09:15	24.1	6	40	11	0.9	0	1	5
6/30/2005	9:30	6/30/2005 09:30	24.2	6	40	8	0.7	0	1	5
6/30/2005	9:45	6/30/2005 09:45	24.1	6	40	10	0.8	0	1	5
6/30/2005	10:00	6/30/2005 10:00	24.2	6	40	10	0.8	0	1	5
6/30/2005	10:15	6/30/2005 10:15	24.2	6	40	8	0.7	0	1	5
6/30/2005	10:30	6/30/2005 10:30	24.1	6	40	7	0.6	0	1	5
6/30/2005	10:45	6/30/2005 10:45	24.2	6	40	7	0.6	0	1	5
6/30/2005	11:00	6/30/2005 11:00	24.2	6	40	6	0.5	0	1	5
6/30/2005	11:15	6/30/2005 11:15	24.2	6	40	7	0.6	0	1	5
6/30/2005	11:30	6/30/2005 11:30	24.2	6	40	5	0.4	0	1	5
6/30/2005	11:45	6/30/2005 11:45	24.2	6	40	5	0.4	0	1	5
6/30/2005	12:00	6/30/2005 12:00	24.2	6	40	4	0.3	0	1	5
6/30/2005	12:15	6/30/2005 12:15	24.2	6	40	5	0.4	0	1	5
6/30/2005	12:30	6/30/2005 12:30	24.2	6	40	4	0.3	0	1	5
6/30/2005	12:45	6/30/2005 12:45	24.2	6	40	4	0.3	0	1	5
6/30/2005	13:00	6/30/2005 13:00	24.2	6	39	4	0.3	0	1	5


West Anacoco Creek 110501
Site Number: WAC 3, Site Name: West Anacoco Creek at Hwy 171
DO & Temperature (deg C) vs. Date/Time
DO mg/L
DO Criteria mg/L
Temp øC
DO STATISTICS
Min DO = 2.2 mg/L
Max DO = 9.3 mg/L
Average DO = 5.34 mg/L
25th Percentile = 3.1 mg/L
50th Percentile = 5.3 mg/L
% Failing Criteria = 47.64 %
Std. Deviation = 2.33 mg/L
Variance = 5.41 mg/L
Dissolved Oxygen (mg/L)
Temperature (C)
Date/Time
0
1
2
3
4
5
6
7
8
9
10
23.5
24
24.5
25
25.5
26
26.5
27
27.5
28
28.5
6/28/2005 00:00
6/28/2005 12:00
6/29/2005 00:00
6/29/2005 12:00
6/30/2005 00:00
6/30/2005 12:00
7/1/2005 00:00


West Anacoco Creek 110501
Site Number: WAC 3, Site Name: West Anacoco Creek at Hwy 171
DO & pH vs. Date/Time
DO mg/L
DO Criteria mg/L
pH Units
DO STATISTICS
Min DO = 2.2 mg/L
Max DO = 9.3 mg/L
Average DO = 5.34 mg/L
25th Percentile = 3.1 mg/L
50th Percentile = 5.3 mg/L
% Failing Criteria = 47.64 %
Std. Deviation = 2.33 mg/L
Variance = 5.41 mg/L
Dissolved Oxygen (mg/L)
pH
Date/Time
6/28/2005 00:00
6/28/2005 12:00
6/29/2005 00:00
6/29/2005 12:00
6/30/2005 00:00
6/30/2005 12:00
7/1/2005 00:00



West Anacoco Creek 110501 Site Number: WAC 3 Site Name: West Anacoco Creek at Hwy 171					
	Temp deg	pH	SpCond uS	DO %	DO mg/L
Minimum	23.80	6.20	0.06	26.00	2.20
Maximum	28.20	6.50	0.07	117.00	9.30
Average	25.92	6.33	0.06	66.36	5.34
Geometric Mean	25.89	6.33	0.06		4.81
25th Percentile	24.80	6.30	0.06	37.00	3.10
30th Percentile	25.10	6.30	0.06	40.00	3.30
40th Percentile	25.50	6.30	0.06	50.00	4.00
50th Percentile	26.00	6.30	0.06	65.00	5.30
Standard Deviation	1.25	0.09	0.00	30.15	2.33
Variance	1.56	0.01	0.00	909.09	5.41

Data Row Count	191
Total Values Failing DO Criteria	91
Percent failing DO Criteria	47.64 %

West Anacoco Creek 110501 Site WAC 3 Continuous Monitoring Data

Date_	Time	Date+Time	Temp	pH	SpCond	DO PERCENT	DO	SALINITY	Is DO < Criteria	DO Criteria
MMDDYY	HHMM	MMDDYYYY HHMM	øC	Units	uS/cm	Sat	mg/L	ppt	5	mg/L
6/28/2005	11:30	6/28/2005 11:30	25.5	6.3	0.0637	66	5.4	0	0	5
6/28/2005	11:45	6/28/2005 11:45	25.6	6.3	0.0635	67	5.5	0	0	5
6/28/2005	12:00	6/28/2005 12:00	25.9	6.3	0.0637	69	5.6	0	0	5
6/28/2005	12:15	6/28/2005 12:15	26	6.3	0.0634	71	5.8	0	0	5
6/28/2005	12:30	6/28/2005 12:30	26	6.3	0.0637	72	5.8	0	0	5
6/28/2005	12:45	6/28/2005 12:45	26	6.3	0.0643	74	6	0	0	5
6/28/2005	13:00	6/28/2005 13:00	26	6.3	0.0644	76	6.2	0	0	5
6/28/2005	13:15	6/28/2005 13:15	26.1	6.3	0.0643	74	6	0	0	5
6/28/2005	13:30	6/28/2005 13:30	26	6.3	0.0644	70	5.7	0	0	5
6/28/2005	13:45	6/28/2005 13:45	26.3	6.3	0.0639	75	6	0	0	5
6/28/2005	14:00	6/28/2005 14:00	26.3	6.3	0.0641	79	6.3	0	0	5
6/28/2005	14:15	6/28/2005 14:15	26.2	6.4	0.0635	81	6.6	0	0	5
6/28/2005	14:30	6/28/2005 14:30	26.1	6.4	0.0638	83	6.7	0	0	5
6/28/2005	14:45	6/28/2005 14:45	26.2	6.4	0.0638	86	7	0	0	5
6/28/2005	15:00	6/28/2005 15:00	26.3	6.4	0.0636	87	7	0	0	5
6/28/2005	15:15	6/28/2005 15:15	26.5	6.4	0.0634	91	7.4	0	0	5
6/28/2005	15:30	6/28/2005 15:30	26.6	6.4	0.0637	94	7.6	0	0	5
6/28/2005	15:45	6/28/2005 15:45	26.5	6.4	0.0637	94	7.6	0	0	5
6/28/2005	16:00	6/28/2005 16:00	26.8	6.4	0.0633	99	7.9	0	0	5
6/28/2005	16:15	6/28/2005 16:15	27	6.4	0.0631	104	8.3	0	0	5
6/28/2005	16:30	6/28/2005 16:30	26.9	6.5	0.063	103	8.2	0	0	5
6/28/2005	16:45	6/28/2005 16:45	26.9	6.4	0.0632	104	8.3	0	0	5
6/28/2005	17:00	6/28/2005 17:00	26.9	6.5	0.0633	111	8.9	0	0	5
6/28/2005	17:15	6/28/2005 17:15	27	6.5	0.0633	111	8.9	0	0	5
6/28/2005	17:30	6/28/2005 17:30	27.2	6.5	0.0632	111	8.8	0	0	5
6/28/2005	17:45	6/28/2005 17:45	27	6.5	0.063	112	8.9	0	0	5
6/28/2005	18:00	6/28/2005 18:00	27.1	6.5	0.0634	109	8.7	0	0	5
6/28/2005	18:15	6/28/2005 18:15	27.2	6.4	0.0634	106	8.4	0	0	5
6/28/2005	18:30	6/28/2005 18:30	27.4	6.5	0.0628	111	8.8	0	0	5
6/28/2005	18:45	6/28/2005 18:45	27.5	6.5	0.0627	111	8.7	0	0	5
6/28/2005	19:00	6/28/2005 19:00	27.6	6.5	0.0625	110	8.7	0	0	5
6/28/2005	19:15	6/28/2005 19:15	27.6	6.5	0.0625	109	8.6	0	0	5
6/28/2005	19:30	6/28/2005 19:30	27.7	6.5	0.0623	108	8.5	0	0	5

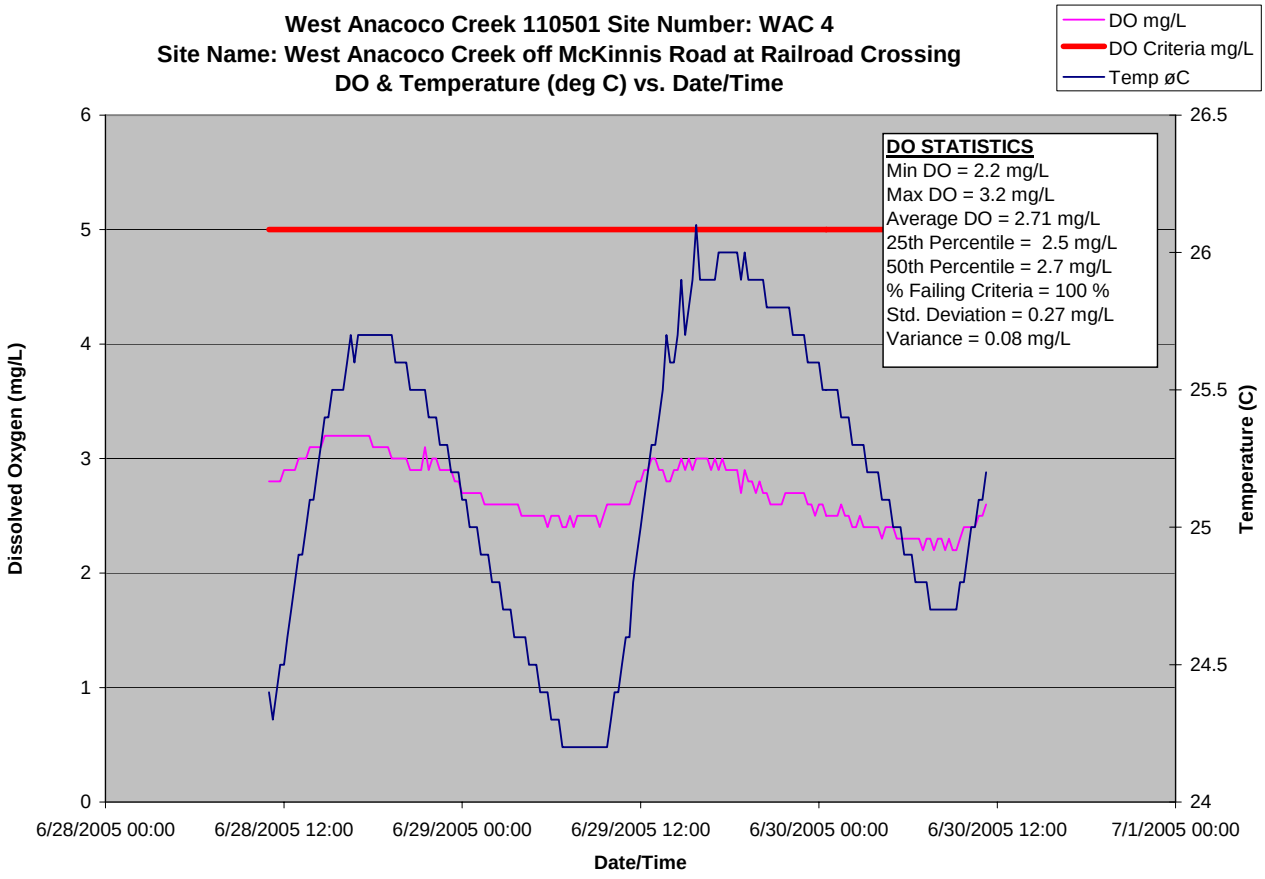
6/28/2005	19:45	6/28/2005 19:45	27.6	6.4	0.0625	104	8.2	0	0	5
6/28/2005	20:00	6/28/2005 20:00	27.5	6.4	0.0628	100	7.9	0	0	5
6/28/2005	20:15	6/28/2005 20:15	27.4	6.4	0.0623	100	7.9	0	0	5
6/28/2005	20:30	6/28/2005 20:30	27.3	6.4	0.0622	99	7.8	0	0	5
6/28/2005	20:45	6/28/2005 20:45	27.2	6.4	0.0624	95	7.6	0	0	5
6/28/2005	21:00	6/28/2005 21:00	27.1	6.4	0.0623	93	7.4	0	0	5
6/28/2005	21:15	6/28/2005 21:15	27	6.4	0.0623	92	7.3	0	0	5
6/28/2005	21:30	6/28/2005 21:30	26.9	6.4	0.0624	88	7	0	0	5
6/28/2005	21:45	6/28/2005 21:45	26.8	6.4	0.0624	87	6.9	0	0	5
6/28/2005	22:00	6/28/2005 22:00	26.7	6.3	0.0622	83	6.6	0	0	5
6/28/2005	22:15	6/28/2005 22:15	26.6	6.3	0.0624	80	6.5	0	0	5
6/28/2005	22:30	6/28/2005 22:30	26.6	6.3	0.0625	79	6.4	0	0	5
6/28/2005	22:45	6/28/2005 22:45	26.4	6.3	0.0624	76	6.1	0	0	5
6/28/2005	23:00	6/28/2005 23:00	26.3	6.3	0.0623	74	6	0	0	5
6/28/2005	23:15	6/28/2005 23:15	26.2	6.3	0.0623	71	5.7	0	0	5
6/28/2005	23:30	6/28/2005 23:30	26.1	6.3	0.0624	67	5.4	0	0	5
6/28/2005	23:45	6/28/2005 23:45	26	6.3	0.0628	65	5.3	0	0	5
6/29/2005	0:00	6/29/2005 00:00	25.9	6.3	0.0629	63	5.2	0	0	5
6/29/2005	0:15	6/29/2005 00:15	25.8	6.3	0.0629	60	4.9	0	1	5
6/29/2005	0:30	6/29/2005 00:30	25.6	6.3	0.0629	57	4.7	0	1	5
6/29/2005	0:45	6/29/2005 00:45	25.5	6.3	0.0632	56	4.6	0	1	5
6/29/2005	1:00	6/29/2005 01:00	25.4	6.3	0.0633	54	4.4	0	1	5
6/29/2005	1:15	6/29/2005 01:15	25.4	6.3	0.0633	53	4.3	0	1	5
6/29/2005	1:30	6/29/2005 01:30	25.3	6.3	0.0636	49	4	0	1	5
6/29/2005	1:45	6/29/2005 01:45	25.2	6.3	0.064	48	3.9	0	1	5
6/29/2005	2:00	6/29/2005 02:00	25.1	6.3	0.0638	45	3.7	0	1	5
6/29/2005	2:15	6/29/2005 02:15	25	6.3	0.0639	45	3.7	0	1	5
6/29/2005	2:30	6/29/2005 02:30	24.9	6.3	0.064	43	3.5	0	1	5
6/29/2005	2:45	6/29/2005 02:45	24.8	6.3	0.0644	44	3.7	0	1	5
6/29/2005	3:00	6/29/2005 03:00	24.8	6.3	0.0645	41	3.4	0	1	5
6/29/2005	3:15	6/29/2005 03:15	24.7	6.2	0.0646	38	3.2	0	1	5
6/29/2005	3:30	6/29/2005 03:30	24.6	6.2	0.0648	37	3.1	0	1	5
6/29/2005	3:45	6/29/2005 03:45	24.5	6.3	0.0649	38	3.1	0	1	5
6/29/2005	4:00	6/29/2005 04:00	24.5	6.3	0.0651	38	3.1	0	1	5
6/29/2005	4:15	6/29/2005 04:15	24.4	6.2	0.0654	36	3	0	1	5
6/29/2005	4:30	6/29/2005 04:30	24.4	6.3	0.0652	37	3.1	0	1	5
6/29/2005	4:45	6/29/2005 04:45	24.3	6.2	0.0658	33	2.7	0	1	5
6/29/2005	5:00	6/29/2005 05:00	24.2	6.3	0.0658	34	2.8	0	1	5

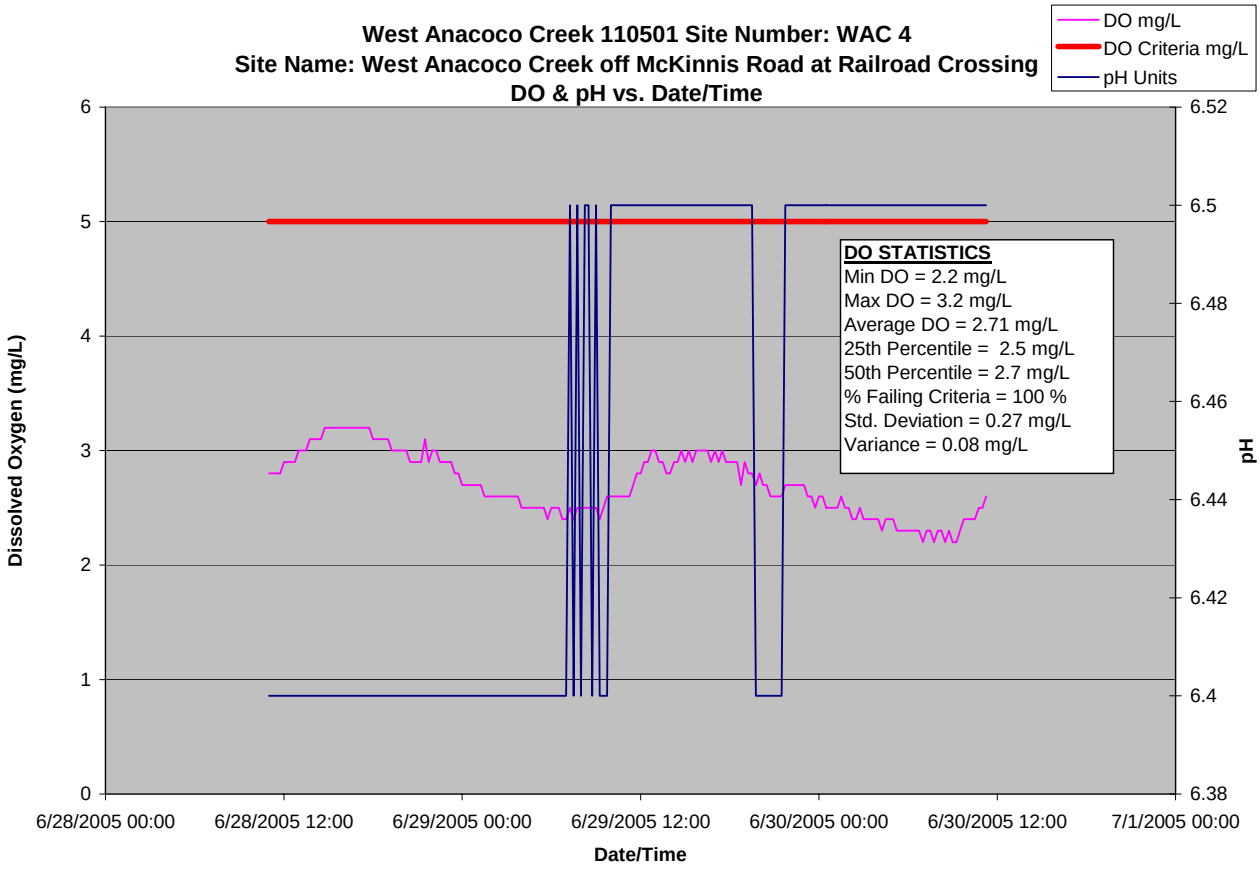
6/29/2005	5:15	6/29/2005 05:15	24.2	6.3	0.0659	34	2.8	0	1	5
6/29/2005	5:30	6/29/2005 05:30	24.1	6.2	0.0659	32	2.7	0	1	5
6/29/2005	5:45	6/29/2005 05:45	24.1	6.3	0.0657	33	2.8	0	1	5
6/29/2005	6:00	6/29/2005 06:00	24	6.2	0.0662	30	2.5	0	1	5
6/29/2005	6:15	6/29/2005 06:15	24	6.2	0.066	32	2.7	0	1	5
6/29/2005	6:30	6/29/2005 06:30	23.9	6.3	0.0661	31	2.6	0	1	5
6/29/2005	6:45	6/29/2005 06:45	23.9	6.3	0.0662	30	2.6	0	1	5
6/29/2005	7:00	6/29/2005 07:00	23.8	6.3	0.0666	29	2.5	0	1	5
6/29/2005	7:15	6/29/2005 07:15	23.8	6.3	0.0664	29	2.5	0	1	5
6/29/2005	7:30	6/29/2005 07:30	23.8	6.3	0.0666	28	2.4	0	1	5
6/29/2005	7:45	6/29/2005 07:45	23.8	6.3	0.0666	28	2.4	0	1	5
6/29/2005	8:00	6/29/2005 08:00	23.9	6.3	0.0668	29	2.4	0	1	5
6/29/2005	8:15	6/29/2005 08:15	23.9	6.3	0.0667	29	2.5	0	1	5
6/29/2005	8:30	6/29/2005 08:30	23.9	6.3	0.0667	30	2.5	0	1	5
6/29/2005	8:45	6/29/2005 08:45	24	6.3	0.0669	30	2.5	0	1	5
6/29/2005	9:00	6/29/2005 09:00	24	6.2	0.0668	30	2.5	0	1	5
6/29/2005	9:15	6/29/2005 09:15	24.1	6.3	0.0667	31	2.6	0	1	5
6/29/2005	9:30	6/29/2005 09:30	24.4	6.3	0.0664	35	3	0	1	5
6/29/2005	9:45	6/29/2005 09:45	24.5	6.3	0.0659	37	3.1	0	1	5
6/29/2005	10:00	6/29/2005 10:00	24.7	6.3	0.0657	40	3.3	0	1	5
6/29/2005	10:15	6/29/2005 10:15	24.9	6.3	0.0658	43	3.6	0	1	5
6/29/2005	10:30	6/29/2005 10:30	25.2	6.3	0.0656	49	4	0	1	5
6/29/2005	10:45	6/29/2005 10:45	25.2	6.3	0.0657	49	4	0	1	5
6/29/2005	11:00	6/29/2005 11:00	25.4	6.3	0.0652	53	4.3	0	1	5
6/29/2005	11:15	6/29/2005 11:15	25.6	6.3	0.0651	55	4.5	0	1	5
6/29/2005	11:30	6/29/2005 11:30	25.9	6.3	0.065	58	4.7	0	1	5
6/29/2005	11:45	6/29/2005 11:45	26.2	6.3	0.0647	64	5.1	0	0	5
6/29/2005	12:00	6/29/2005 12:00	26.2	6.3	0.0644	73	5.9	0	0	5
6/29/2005	12:15	6/29/2005 12:15	26.2	6.4	0.0642	75	6	0	0	5
6/29/2005	12:30	6/29/2005 12:30	26.6	6.3	0.0644	74	5.9	0	0	5
6/29/2005	12:45	6/29/2005 12:45	26.6	6.4	0.0639	80	6.5	0	0	5
6/29/2005	13:00	6/29/2005 13:00	26.6	6.4	0.0641	80	6.4	0	0	5
6/29/2005	13:15	6/29/2005 13:15	26.7	6.4	0.0639	85	6.8	0	0	5
6/29/2005	13:30	6/29/2005 13:30	26.7	6.4	0.0641	86	6.9	0	0	5
6/29/2005	13:45	6/29/2005 13:45	26.5	6.4	0.0642	85	6.9	0	0	5
6/29/2005	14:00	6/29/2005 14:00	26.6	6.4	0.0643	89	7.1	0	0	5
6/29/2005	14:15	6/29/2005 14:15	26.9	6.4	0.0639	95	7.6	0	0	5
6/29/2005	14:30	6/29/2005 14:30	26.7	6.4	0.0642	96	7.7	0	0	5

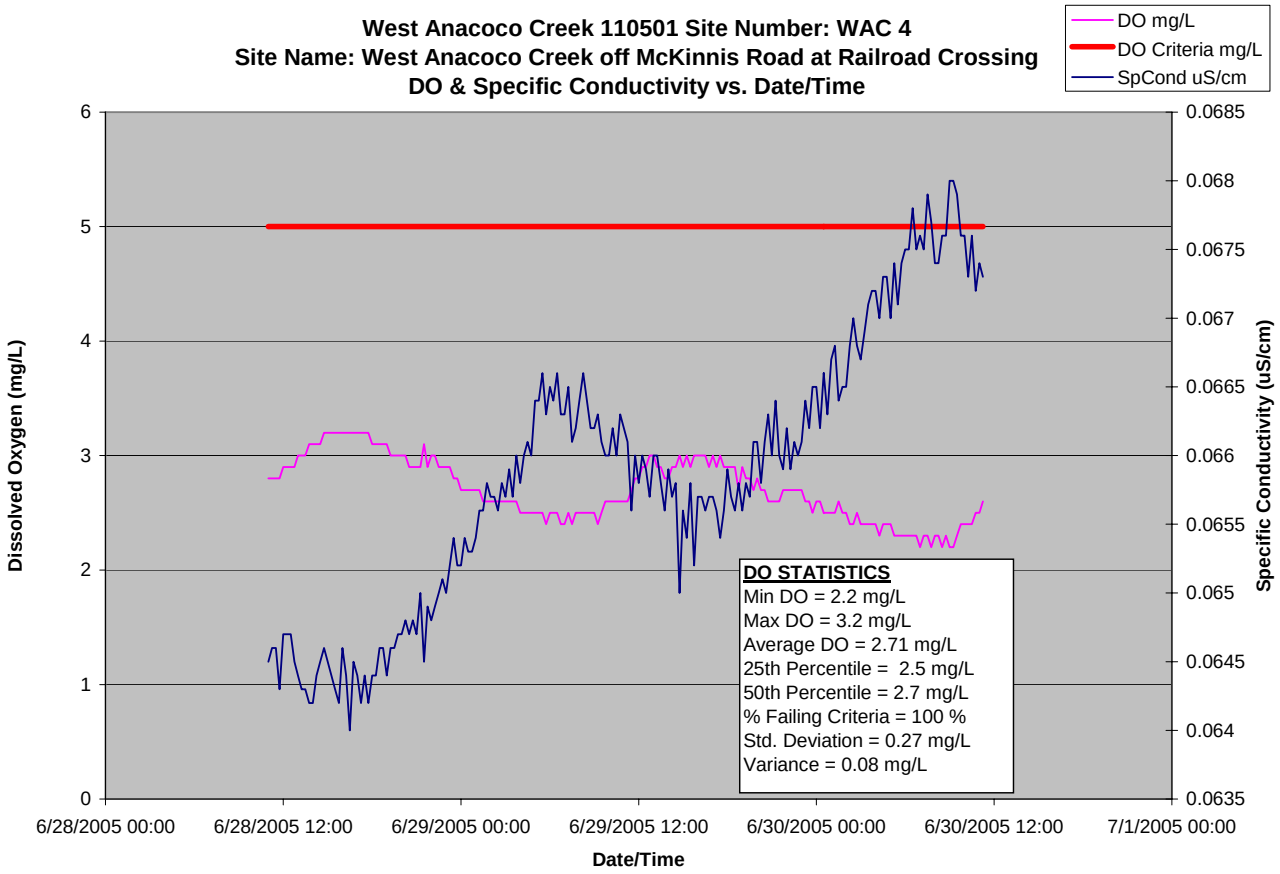
6/29/2005	14:45	6/29/2005 14:45	26.7	6.4	0.0642	100	8	0	0	5
6/29/2005	15:00	6/29/2005 15:00	27.1	6.4	0.064	106	8.4	0	0	5
6/29/2005	15:15	6/29/2005 15:15	27.2	6.5	0.0639	110	8.7	0	0	5
6/29/2005	15:30	6/29/2005 15:30	27.2	6.5	0.0638	116	9.2	0	0	5
6/29/2005	15:45	6/29/2005 15:45	27.3	6.5	0.0638	117	9.2	0	0	5
6/29/2005	16:00	6/29/2005 16:00	27.2	6.5	0.0641	113	9	0	0	5
6/29/2005	16:15	6/29/2005 16:15	27.3	6.5	0.0638	117	9.3	0	0	5
6/29/2005	16:30	6/29/2005 16:30	27.3	6.5	0.0638	116	9.2	0	0	5
6/29/2005	16:45	6/29/2005 16:45	27.6	6.5	0.064	116	9.2	0	0	5
6/29/2005	17:00	6/29/2005 17:00	27.8	6.5	0.0637	115	9	0	0	5
6/29/2005	17:15	6/29/2005 17:15	27.9	6.5	0.0636	113	8.9	0	0	5
6/29/2005	17:30	6/29/2005 17:30	28.1	6.5	0.0634	116	9.1	0	0	5
6/29/2005	17:45	6/29/2005 17:45	28.2	6.5	0.0632	116	9	0	0	5
6/29/2005	18:00	6/29/2005 18:00	28.1	6.5	0.0634	117	9.1	0	0	5
6/29/2005	18:15	6/29/2005 18:15	28.1	6.5	0.0634	114	8.9	0	0	5
6/29/2005	18:30	6/29/2005 18:30	28.2	6.5	0.0631	113	8.8	0	0	5
6/29/2005	18:45	6/29/2005 18:45	28.1	6.5	0.063	111	8.7	0	0	5
6/29/2005	19:00	6/29/2005 19:00	28.2	6.4	0.0632	109	8.5	0	0	5
6/29/2005	19:15	6/29/2005 19:15	28.1	6.4	0.0628	107	8.4	0	0	5
6/29/2005	19:30	6/29/2005 19:30	28	6.4	0.0632	104	8.1	0	0	5
6/29/2005	19:45	6/29/2005 19:45	27.9	6.4	0.0633	103	8	0	0	5
6/29/2005	20:00	6/29/2005 20:00	27.9	6.4	0.0628	101	7.9	0	0	5
6/29/2005	20:15	6/29/2005 20:15	27.8	6.4	0.0625	100	7.8	0	0	5
6/29/2005	20:30	6/29/2005 20:30	27.7	6.4	0.0628	96	7.6	0	0	5
6/29/2005	20:45	6/29/2005 20:45	27.6	6.4	0.0626	94	7.4	0	0	5
6/29/2005	21:00	6/29/2005 21:00	27.5	6.4	0.0628	92	7.2	0	0	5
6/29/2005	21:15	6/29/2005 21:15	27.3	6.4	0.0629	89	7.1	0	0	5
6/29/2005	21:30	6/29/2005 21:30	27.2	6.4	0.063	86	6.8	0	0	5
6/29/2005	21:45	6/29/2005 21:45	27.1	6.3	0.0628	83	6.6	0	0	5
6/29/2005	22:00	6/29/2005 22:00	27	6.3	0.0627	80	6.4	0	0	5
6/29/2005	22:15	6/29/2005 22:15	26.9	6.3	0.0631	77	6.2	0	0	5
6/29/2005	22:30	6/29/2005 22:30	26.8	6.3	0.063	74	5.9	0	0	5
6/29/2005	22:45	6/29/2005 22:45	26.7	6.3	0.0633	72	5.8	0	0	5
6/29/2005	23:00	6/29/2005 23:00	26.6	6.3	0.0632	70	5.6	0	0	5
6/29/2005	23:15	6/29/2005 23:15	26.5	6.3	0.0634	67	5.4	0	0	5
6/29/2005	23:30	6/29/2005 23:30	26.4	6.3	0.0635	65	5.2	0	0	5
6/29/2005	23:45	6/29/2005 23:45	26.3	6.3	0.0637	63	5.1	0	0	5
6/30/2005	0:00	6/30/2005 00:00	26.3	6.3	0.0638	60	4.8	0	1	5

6/30/2005	0:15	6/30/2005 00:15	26.1	6.3	0.064	56	4.5	0	1	5
6/30/2005	0:30	6/30/2005 00:30	26	6.3	0.064	55	4.5	0	1	5
6/30/2005	0:45	6/30/2005 00:45	26	6.3	0.0642	52	4.3	0	1	5
6/30/2005	1:00	6/30/2005 01:00	25.8	6.2	0.0644	50	4	0	1	5
6/30/2005	1:15	6/30/2005 01:15	25.8	6.2	0.0647	47	3.9	0	1	5
6/30/2005	1:30	6/30/2005 01:30	25.7	6.2	0.0648	46	3.8	0	1	5
6/30/2005	1:45	6/30/2005 01:45	25.6	6.2	0.065	47	3.8	0	1	5
6/30/2005	2:00	6/30/2005 02:00	25.5	6.2	0.0648	44	3.6	0	1	5
6/30/2005	2:15	6/30/2005 02:15	25.5	6.2	0.0649	43	3.6	0	1	5
6/30/2005	2:30	6/30/2005 02:30	25.4	6.2	0.0651	40	3.3	0	1	5
6/30/2005	2:45	6/30/2005 02:45	25.3	6.2	0.0654	39	3.2	0	1	5
6/30/2005	3:00	6/30/2005 03:00	25.2	6.2	0.0655	37	3	0	1	5
6/30/2005	3:15	6/30/2005 03:15	25.2	6.2	0.0656	39	3.2	0	1	5
6/30/2005	3:30	6/30/2005 03:30	25.1	6.2	0.0657	36	3	0	1	5
6/30/2005	3:45	6/30/2005 03:45	25	6.2	0.0658	34	2.8	0	1	5
6/30/2005	4:00	6/30/2005 04:00	25	6.2	0.0659	33	2.7	0	1	5
6/30/2005	4:15	6/30/2005 04:15	24.9	6.2	0.0665	32	2.6	0	1	5
6/30/2005	4:30	6/30/2005 04:30	24.8	6.2	0.0665	31	2.6	0	1	5
6/30/2005	4:45	6/30/2005 04:45	24.8	6.2	0.0664	31	2.6	0	1	5
6/30/2005	5:00	6/30/2005 05:00	24.7	6.2	0.0668	30	2.5	0	1	5
6/30/2005	5:15	6/30/2005 05:15	24.7	6.2	0.0667	31	2.6	0	1	5
6/30/2005	5:30	6/30/2005 05:30	24.6	6.2	0.0671	28	2.4	0	1	5
6/30/2005	5:45	6/30/2005 05:45	24.5	6.2	0.067	29	2.5	0	1	5
6/30/2005	6:00	6/30/2005 06:00	24.5	6.2	0.0672	28	2.4	0	1	5
6/30/2005	6:15	6/30/2005 06:15	24.4	6.2	0.067	29	2.4	0	1	5
6/30/2005	6:30	6/30/2005 06:30	24.4	6.2	0.0673	28	2.3	0	1	5
6/30/2005	6:45	6/30/2005 06:45	24.3	6.2	0.0677	28	2.4	0	1	5
6/30/2005	7:00	6/30/2005 07:00	24.3	6.2	0.0678	26	2.2	0	1	5
6/30/2005	7:15	6/30/2005 07:15	24.3	6.2	0.0679	27	2.3	0	1	5
6/30/2005	7:30	6/30/2005 07:30	24.3	6.2	0.0681	26	2.2	0	1	5
6/30/2005	7:45	6/30/2005 07:45	24.3	6.2	0.0682	26	2.2	0	1	5
6/30/2005	8:00	6/30/2005 08:00	24.2	6.2	0.0679	27	2.3	0	1	5
6/30/2005	8:15	6/30/2005 08:15	24.3	6.2	0.0682	26	2.2	0	1	5
6/30/2005	8:30	6/30/2005 08:30	24.3	6.2	0.0678	27	2.3	0	1	5
6/30/2005	8:45	6/30/2005 08:45	24.4	6.2	0.0681	29	2.4	0	1	5
6/30/2005	9:00	6/30/2005 09:00	24.6	6.3	0.0685	30	2.5	0	1	5
6/30/2005	9:15	6/30/2005 09:15	24.7	6.3	0.068	33	2.8	0	1	5
6/30/2005	9:30	6/30/2005 09:30	24.9	6.3	0.0681	35	2.9	0	1	5

6/30/2005	9:45	6/30/2005 09:45	25.1	6.3	0.0679	40	3.3	0	1	5
6/30/2005	10:00	6/30/2005 10:00	25.1	6.3	0.0681	41	3.4	0	1	5
6/30/2005	10:15	6/30/2005 10:15	25.3	6.3	0.0676	44	3.6	0	1	5
6/30/2005	10:30	6/30/2005 10:30	25.4	6.3	0.0676	46	3.8	0	1	5
6/30/2005	10:45	6/30/2005 10:45	25.6	6.3	0.0672	50	4.1	0	1	5
6/30/2005	11:00	6/30/2005 11:00	25.9	6.3	0.0668	54	4.4	0	1	5


West Anacoco Creek 110501 Site Number: WAC 4
Site Name: West Anacoco Creek off McKinnis Road at Railroad Crossing
DO & Temperature (deg C) vs. Date/Time
DO mg/L
DO Criteria mg/L
Temp øC
DO STATISTICS
Min DO = 2.2 mg/L
Max DO = 3.2 mg/L
Average DO = 2.71 mg/L
25th Percentile = 2.5 mg/L
50th Percentile = 2.7 mg/L
% Failing Criteria = 100 %
Std. Deviation = 0.27 mg/L
Variance = 0.08 mg/L
Dissolved Oxygen (mg/L)
Temperature (C)
Date/Time
0
1
2
3
4
5
6
24
24.5
25
25.5
26
26.5
6/28/2005 00:00
6/28/2005 12:00
6/29/2005 00:00
6/29/2005 12:00
6/30/2005 00:00
6/30/2005 12:00
7/1/2005 00:00


West Anacoco Creek 110501 Site Number: WAC 4
Site Name: West Anacoco Creek off McKinnis Road at Railroad Crossing
DO & pH vs. Date/Time
DO mg/L
DO Criteria mg/L
pH Units
DO STATISTICS
Min DO = 2.2 mg/L
Max DO = 3.2 mg/L
Average DO = 2.71 mg/L
25th Percentile = 2.5 mg/L
50th Percentile = 2.7 mg/L
% Failing Criteria = 100 %
Std. Deviation = 0.27 mg/L
Variance = 0.08 mg/L
Dissolved Oxygen (mg/L)
pH
Date/Time
0
1
2
3
4
5
6
6.38
6.4
6.42
6.44
6.46
6.48
6.5
6.52
6/28/2005 00:00
6/28/2005 12:00
6/29/2005 00:00
6/29/2005 12:00
6/30/2005 00:00
6/30/2005 12:00
7/1/2005 00:00



West Anacoco Creek 110501
Site Number: WAC 4
Site Name: West Anacoco Creek off McKinnis Road at Railroad Crossing

	Temp deg C	pH	SpCond uS/cm	DO %	DO mg/L
Minimum	24.20	6.40	0.06	27.00	2.20
Maximum	26.10	6.50	0.07	40.00	3.20
Average	25.17	6.45	0.07	32.87	2.71
Geometric Mean	25.16	6.45	0.07	32.68	2.69
25th Percentile	24.70	6.40	0.07	30.00	2.50
30th Percentile	24.80	6.40	0.07	31.00	2.50
40th Percentile	25.00	6.40	0.07	31.00	2.60
50th Percentile	25.20	6.50	0.07	33.00	2.70
Standard Deviation	0.54	0.05	0.00	3.54	0.27
Variance	0.29	0.00	0.00	12.50	0.08

Data Row Count	194
Total Values Failing DO Criteria	194
Percent failing DO Criteria	100.00 %

West Anacoco Creek 110501 WAC 4 Continuous Monitoring Data

Date_	Time	Date+Time	Temp	pH	SpCond	DO PERCENT	DO	SALINITY	Is DO < Criteria	DO Criteria
MMDDYY	HHMM	MMDDYYYY HHMM	øC	Units	uS/cm	Sat	mg/L	ppt	5	mg/L
6/28/2005	11:00	6/28/2005 11:00	24.4	6.4	0.0645	34	2.8	0	1	5
6/28/2005	11:15	6/28/2005 11:15	24.3	6.4	0.0646	33	2.8	0	1	5
6/28/2005	11:30	6/28/2005 11:30	24.4	6.4	0.0646	33	2.8	0	1	5
6/28/2005	11:45	6/28/2005 11:45	24.5	6.4	0.0643	34	2.8	0	1	5
6/28/2005	12:00	6/28/2005 12:00	24.5	6.4	0.0647	35	2.9	0	1	5
6/28/2005	12:15	6/28/2005 12:15	24.6	6.4	0.0647	35	2.9	0	1	5
6/28/2005	12:30	6/28/2005 12:30	24.7	6.4	0.0647	35	2.9	0	1	5
6/28/2005	12:45	6/28/2005 12:45	24.8	6.4	0.0645	35	2.9	0	1	5
6/28/2005	13:00	6/28/2005 13:00	24.9	6.4	0.0644	36	3	0	1	5
6/28/2005	13:15	6/28/2005 13:15	24.9	6.4	0.0643	37	3	0	1	5
6/28/2005	13:30	6/28/2005 13:30	25	6.4	0.0643	37	3	0	1	5
6/28/2005	13:45	6/28/2005 13:45	25.1	6.4	0.0642	37	3.1	0	1	5
6/28/2005	14:00	6/28/2005 14:00	25.1	6.4	0.0642	38	3.1	0	1	5
6/28/2005	14:15	6/28/2005 14:15	25.2	6.4	0.0644	38	3.1	0	1	5
6/28/2005	14:30	6/28/2005 14:30	25.3	6.4	0.0645	38	3.1	0	1	5
6/28/2005	14:45	6/28/2005 14:45	25.4	6.4	0.0646	39	3.2	0	1	5
6/28/2005	15:00	6/28/2005 15:00	25.4	6.4	0.0645	39	3.2	0	1	5
6/28/2005	15:15	6/28/2005 15:15	25.5	6.4	0.0644	39	3.2	0	1	5
6/28/2005	15:30	6/28/2005 15:30	25.5	6.4	0.0643	39	3.2	0	1	5
6/28/2005	15:45	6/28/2005 15:45	25.5	6.4	0.0642	39	3.2	0	1	5
6/28/2005	16:00	6/28/2005 16:00	25.5	6.4	0.0646	39	3.2	0	1	5
6/28/2005	16:15	6/28/2005 16:15	25.6	6.4	0.0644	39	3.2	0	1	5
6/28/2005	16:30	6/28/2005 16:30	25.7	6.4	0.064	40	3.2	0	1	5
6/28/2005	16:45	6/28/2005 16:45	25.6	6.4	0.0645	40	3.2	0	1	5
6/28/2005	17:00	6/28/2005 17:00	25.7	6.4	0.0644	39	3.2	0	1	5
6/28/2005	17:15	6/28/2005 17:15	25.7	6.4	0.0642	39	3.2	0	1	5
6/28/2005	17:30	6/28/2005 17:30	25.7	6.4	0.0644	39	3.2	0	1	5
6/28/2005	17:45	6/28/2005 17:45	25.7	6.4	0.0642	39	3.2	0	1	5
6/28/2005	18:00	6/28/2005 18:00	25.7	6.4	0.0644	38	3.1	0	1	5
6/28/2005	18:15	6/28/2005 18:15	25.7	6.4	0.0644	39	3.1	0	1	5
6/28/2005	18:30	6/28/2005 18:30	25.7	6.4	0.0646	38	3.1	0	1	5

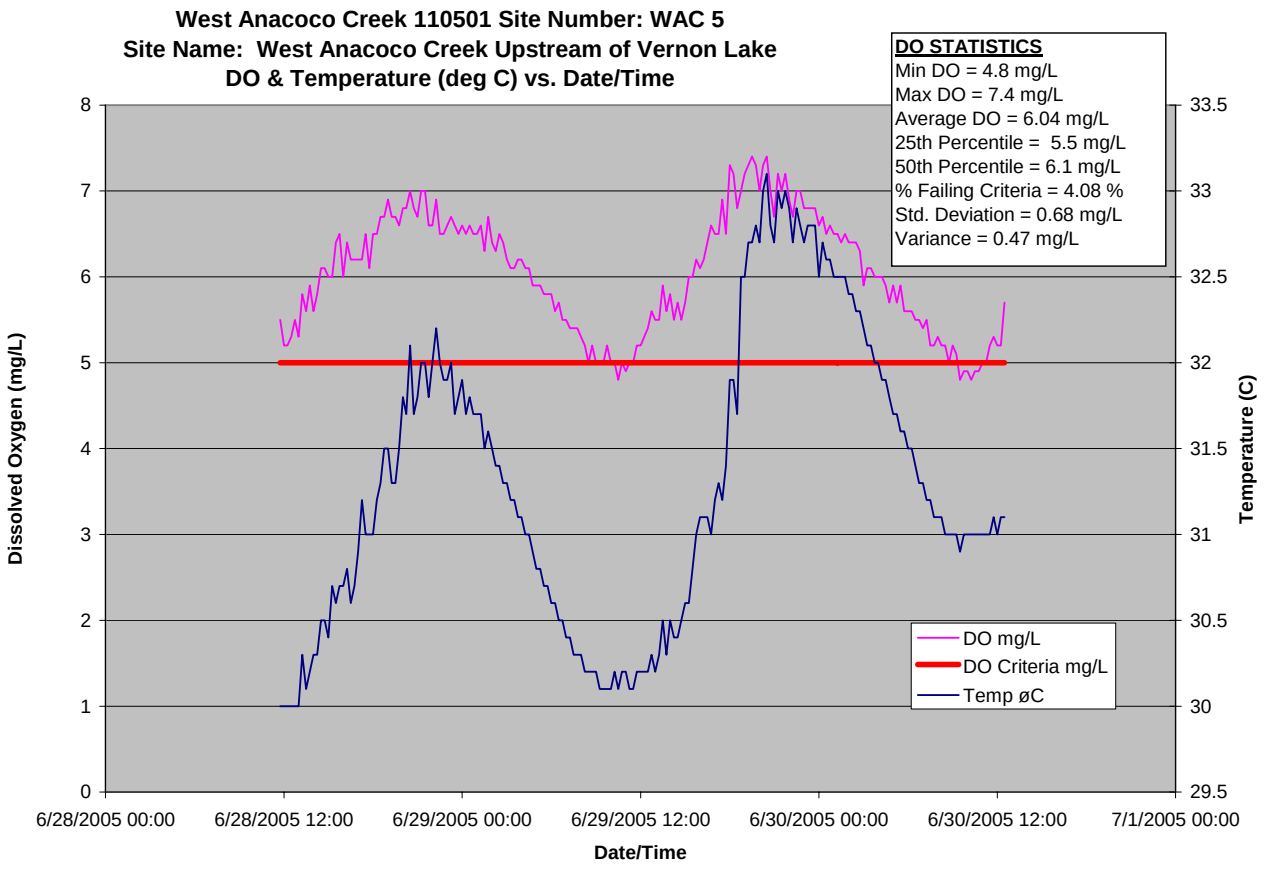
6/28/2005	18:45	6/28/2005 18:45	25.7	6.4	0.0646	38	3.1	0	1	5
6/28/2005	19:00	6/28/2005 19:00	25.7	6.4	0.0644	38	3.1	0	1	5
6/28/2005	19:15	6/28/2005 19:15	25.7	6.4	0.0646	37	3	0	1	5
6/28/2005	19:30	6/28/2005 19:30	25.6	6.4	0.0646	37	3	0	1	5
6/28/2005	19:45	6/28/2005 19:45	25.6	6.4	0.0647	36	3	0	1	5
6/28/2005	20:00	6/28/2005 20:00	25.6	6.4	0.0647	37	3	0	1	5
6/28/2005	20:15	6/28/2005 20:15	25.6	6.4	0.0648	36	3	0	1	5
6/28/2005	20:30	6/28/2005 20:30	25.5	6.4	0.0647	35	2.9	0	1	5
6/28/2005	20:45	6/28/2005 20:45	25.5	6.4	0.0648	36	2.9	0	1	5
6/28/2005	21:00	6/28/2005 21:00	25.5	6.4	0.0647	36	2.9	0	1	5
6/28/2005	21:15	6/28/2005 21:15	25.5	6.4	0.065	35	2.9	0	1	5
6/28/2005	21:30	6/28/2005 21:30	25.5	6.4	0.0645	38	3.1	0	1	5
6/28/2005	21:45	6/28/2005 21:45	25.4	6.4	0.0649	36	2.9	0	1	5
6/28/2005	22:00	6/28/2005 22:00	25.4	6.4	0.0648	36	3	0	1	5
6/28/2005	22:15	6/28/2005 22:15	25.4	6.4	0.0649	36	3	0	1	5
6/28/2005	22:30	6/28/2005 22:30	25.3	6.4	0.065	35	2.9	0	1	5
6/28/2005	22:45	6/28/2005 22:45	25.3	6.4	0.0651	35	2.9	0	1	5
6/28/2005	23:00	6/28/2005 23:00	25.3	6.4	0.065	35	2.9	0	1	5
6/28/2005	23:15	6/28/2005 23:15	25.2	6.4	0.0652	35	2.9	0	1	5
6/28/2005	23:30	6/28/2005 23:30	25.2	6.4	0.0654	34	2.8	0	1	5
6/28/2005	23:45	6/28/2005 23:45	25.2	6.4	0.0652	34	2.8	0	1	5
6/29/2005	0:00	6/29/2005 00:00	25.1	6.4	0.0652	33	2.7	0	1	5
6/29/2005	0:15	6/29/2005 00:15	25.1	6.4	0.0654	33	2.7	0	1	5
6/29/2005	0:30	6/29/2005 00:30	25	6.4	0.0653	33	2.7	0	1	5
6/29/2005	0:45	6/29/2005 00:45	25	6.4	0.0653	32	2.7	0	1	5
6/29/2005	1:00	6/29/2005 01:00	25	6.4	0.0654	32	2.7	0	1	5
6/29/2005	1:15	6/29/2005 01:15	24.9	6.4	0.0656	32	2.7	0	1	5
6/29/2005	1:30	6/29/2005 01:30	24.9	6.4	0.0656	32	2.6	0	1	5
6/29/2005	1:45	6/29/2005 01:45	24.9	6.4	0.0658	32	2.6	0	1	5
6/29/2005	2:00	6/29/2005 02:00	24.8	6.4	0.0657	32	2.6	0	1	5
6/29/2005	2:15	6/29/2005 02:15	24.8	6.4	0.0657	32	2.6	0	1	5
6/29/2005	2:30	6/29/2005 02:30	24.8	6.4	0.0656	32	2.6	0	1	5
6/29/2005	2:45	6/29/2005 02:45	24.7	6.4	0.0658	31	2.6	0	1	5
6/29/2005	3:00	6/29/2005 03:00	24.7	6.4	0.0657	31	2.6	0	1	5
6/29/2005	3:15	6/29/2005 03:15	24.7	6.4	0.0659	31	2.6	0	1	5
6/29/2005	3:30	6/29/2005 03:30	24.6	6.4	0.0657	32	2.6	0	1	5

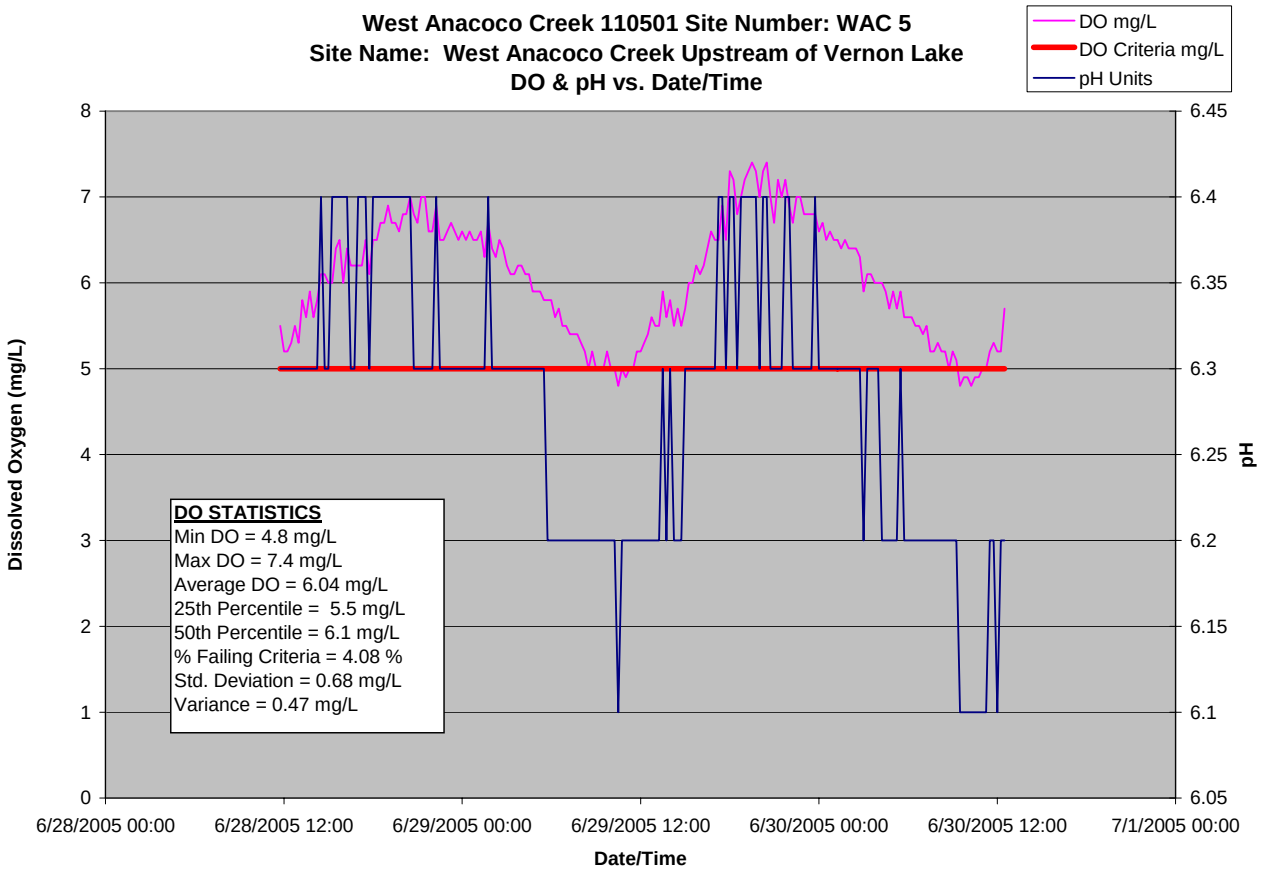
6/29/2005	3:45	6/29/2005 03:45	24.6	6.4	0.066	31	2.6	0	1	5
6/29/2005	4:00	6/29/2005 04:00	24.6	6.4	0.0658	31	2.5	0	1	5
6/29/2005	4:15	6/29/2005 04:15	24.6	6.4	0.066	30	2.5	0	1	5
6/29/2005	4:30	6/29/2005 04:30	24.5	6.4	0.0661	31	2.5	0	1	5
6/29/2005	4:45	6/29/2005 04:45	24.5	6.4	0.066	30	2.5	0	1	5
6/29/2005	5:00	6/29/2005 05:00	24.5	6.4	0.0664	30	2.5	0	1	5
6/29/2005	5:15	6/29/2005 05:15	24.4	6.4	0.0664	30	2.5	0	1	5
6/29/2005	5:30	6/29/2005 05:30	24.4	6.4	0.0666	30	2.5	0	1	5
6/29/2005	5:45	6/29/2005 05:45	24.4	6.4	0.0663	29	2.4	0	1	5
6/29/2005	6:00	6/29/2005 06:00	24.3	6.4	0.0665	29	2.5	0	1	5
6/29/2005	6:15	6/29/2005 06:15	24.3	6.4	0.0664	30	2.5	0	1	5
6/29/2005	6:30	6/29/2005 06:30	24.3	6.4	0.0666	30	2.5	0	1	5
6/29/2005	6:45	6/29/2005 06:45	24.2	6.4	0.0663	29	2.4	0	1	5
6/29/2005	7:00	6/29/2005 07:00	24.2	6.4	0.0663	29	2.4	0	1	5
6/29/2005	7:15	6/29/2005 07:15	24.2	6.5	0.0665	30	2.5	0	1	5
6/29/2005	7:30	6/29/2005 07:30	24.2	6.4	0.0661	29	2.4	0	1	5
6/29/2005	7:45	6/29/2005 07:45	24.2	6.5	0.0662	30	2.5	0	1	5
6/29/2005	8:00	6/29/2005 08:00	24.2	6.4	0.0664	29	2.5	0	1	5
6/29/2005	8:15	6/29/2005 08:15	24.2	6.5	0.0666	29	2.5	0	1	5
6/29/2005	8:30	6/29/2005 08:30	24.2	6.5	0.0664	30	2.5	0	1	5
6/29/2005	8:45	6/29/2005 08:45	24.2	6.4	0.0662	29	2.5	0	1	5
6/29/2005	9:00	6/29/2005 09:00	24.2	6.5	0.0662	30	2.5	0	1	5
6/29/2005	9:15	6/29/2005 09:15	24.2	6.4	0.0663	29	2.4	0	1	5
6/29/2005	9:30	6/29/2005 09:30	24.2	6.4	0.0661	30	2.5	0	1	5
6/29/2005	9:45	6/29/2005 09:45	24.2	6.4	0.066	31	2.6	0	1	5
6/29/2005	10:00	6/29/2005 10:00	24.3	6.5	0.066	30	2.6	0	1	5
6/29/2005	10:15	6/29/2005 10:15	24.4	6.5	0.0662	31	2.6	0	1	5
6/29/2005	10:30	6/29/2005 10:30	24.4	6.5	0.066	31	2.6	0	1	5
6/29/2005	10:45	6/29/2005 10:45	24.5	6.5	0.0663	31	2.6	0	1	5
6/29/2005	11:00	6/29/2005 11:00	24.6	6.5	0.0662	32	2.6	0	1	5
6/29/2005	11:15	6/29/2005 11:15	24.6	6.5	0.0661	31	2.6	0	1	5
6/29/2005	11:30	6/29/2005 11:30	24.8	6.5	0.0656	33	2.7	0	1	5
6/29/2005	11:45	6/29/2005 11:45	24.9	6.5	0.066	33	2.8	0	1	5
6/29/2005	12:00	6/29/2005 12:00	25	6.5	0.0658	34	2.8	0	1	5
6/29/2005	12:15	6/29/2005 12:15	25.1	6.5	0.066	35	2.9	0	1	5
6/29/2005	12:30	6/29/2005 12:30	25.2	6.5	0.0659	36	2.9	0	1	5

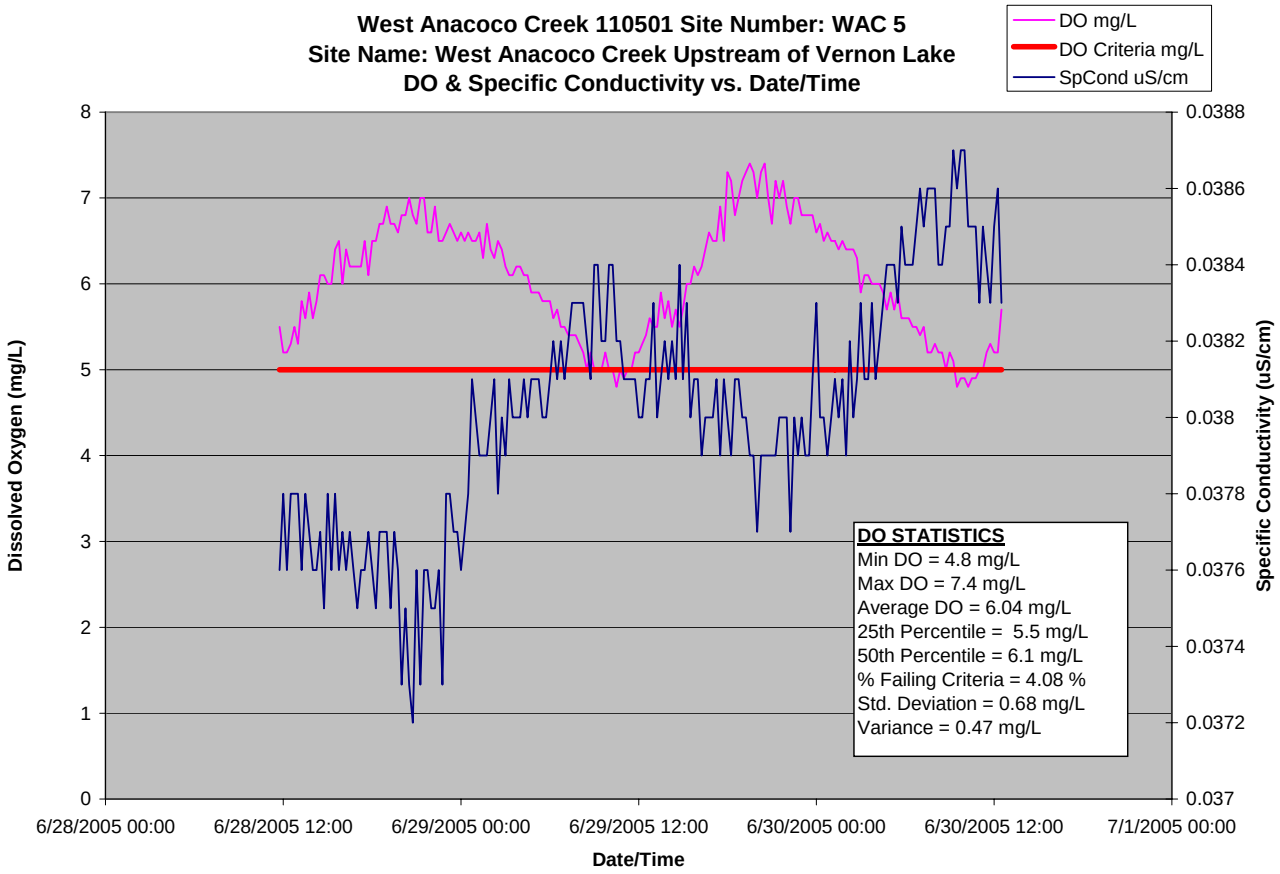
6/29/2005	12:45	6/29/2005 12:45	25.3	6.5	0.0657	36	3	0	1	5
6/29/2005	13:00	6/29/2005 13:00	25.3	6.5	0.066	36	3	0	1	5
6/29/2005	13:15	6/29/2005 13:15	25.4	6.5	0.066	36	2.9	0	1	5
6/29/2005	13:30	6/29/2005 13:30	25.5	6.5	0.0658	35	2.9	0	1	5
6/29/2005	13:45	6/29/2005 13:45	25.7	6.5	0.0656	35	2.8	0	1	5
6/29/2005	14:00	6/29/2005 14:00	25.6	6.5	0.0659	35	2.8	0	1	5
6/29/2005	14:15	6/29/2005 14:15	25.6	6.5	0.0657	36	2.9	0	1	5
6/29/2005	14:30	6/29/2005 14:30	25.7	6.5	0.0658	35	2.9	0	1	5
6/29/2005	14:45	6/29/2005 14:45	25.9	6.5	0.065	36	3	0	1	5
6/29/2005	15:00	6/29/2005 15:00	25.7	6.5	0.0656	36	2.9	0	1	5
6/29/2005	15:15	6/29/2005 15:15	25.8	6.5	0.0654	36	3	0	1	5
6/29/2005	15:30	6/29/2005 15:30	25.9	6.5	0.0658	36	2.9	0	1	5
6/29/2005	15:45	6/29/2005 15:45	26.1	6.5	0.0652	36	3	0	1	5
6/29/2005	16:00	6/29/2005 16:00	25.9	6.5	0.0657	36	3	0	1	5
6/29/2005	16:15	6/29/2005 16:15	25.9	6.5	0.0657	36	3	0	1	5
6/29/2005	16:30	6/29/2005 16:30	25.9	6.5	0.0656	36	3	0	1	5
6/29/2005	16:45	6/29/2005 16:45	25.9	6.5	0.0657	36	2.9	0	1	5
6/29/2005	17:00	6/29/2005 17:00	25.9	6.5	0.0657	37	3	0	1	5
6/29/2005	17:15	6/29/2005 17:15	26	6.5	0.0656	36	2.9	0	1	5
6/29/2005	17:30	6/29/2005 17:30	26	6.5	0.0654	37	3	0	1	5
6/29/2005	17:45	6/29/2005 17:45	26	6.5	0.0656	36	2.9	0	1	5
6/29/2005	18:00	6/29/2005 18:00	26	6.5	0.0659	36	2.9	0	1	5
6/29/2005	18:15	6/29/2005 18:15	26	6.5	0.0657	36	2.9	0	1	5
6/29/2005	18:30	6/29/2005 18:30	26	6.5	0.0656	36	2.9	0	1	5
6/29/2005	18:45	6/29/2005 18:45	25.9	6.5	0.0658	34	2.7	0	1	5
6/29/2005	19:00	6/29/2005 19:00	26	6.5	0.0656	35	2.9	0	1	5
6/29/2005	19:15	6/29/2005 19:15	25.9	6.5	0.0658	35	2.8	0	1	5
6/29/2005	19:30	6/29/2005 19:30	25.9	6.5	0.0657	35	2.8	0	1	5
6/29/2005	19:45	6/29/2005 19:45	25.9	6.4	0.0661	34	2.7	0	1	5
6/29/2005	20:00	6/29/2005 20:00	25.9	6.4	0.0661	34	2.8	0	1	5
6/29/2005	20:15	6/29/2005 20:15	25.9	6.4	0.0658	33	2.7	0	1	5
6/29/2005	20:30	6/29/2005 20:30	25.8	6.4	0.0661	33	2.7	0	1	5
6/29/2005	20:45	6/29/2005 20:45	25.8	6.4	0.0663	32	2.6	0	1	5
6/29/2005	21:00	6/29/2005 21:00	25.8	6.4	0.066	32	2.6	0	1	5
6/29/2005	21:15	6/29/2005 21:15	25.8	6.4	0.0664	31	2.6	0	1	5
6/29/2005	21:30	6/29/2005 21:30	25.8	6.4	0.066	32	2.6	0	1	5

6/29/2005	21:45	6/29/2005 21:45	25.8	6.5	0.0659	33	2.7	0	1	5
6/29/2005	22:00	6/29/2005 22:00	25.8	6.5	0.0662	33	2.7	0	1	5
6/29/2005	22:15	6/29/2005 22:15	25.7	6.5	0.0659	33	2.7	0	1	5
6/29/2005	22:30	6/29/2005 22:30	25.7	6.5	0.0661	33	2.7	0	1	5
6/29/2005	22:45	6/29/2005 22:45	25.7	6.5	0.066	33	2.7	0	1	5
6/29/2005	23:00	6/29/2005 23:00	25.7	6.5	0.0661	33	2.7	0	1	5
6/29/2005	23:15	6/29/2005 23:15	25.6	6.5	0.0664	32	2.6	0	1	5
6/29/2005	23:30	6/29/2005 23:30	25.6	6.5	0.0662	31	2.6	0	1	5
6/29/2005	23:45	6/29/2005 23:45	25.6	6.5	0.0665	31	2.5	0	1	5
6/30/2005	0:00	6/30/2005 00:00	25.6	6.5	0.0665	31	2.6	0	1	5
6/30/2005	0:15	6/30/2005 00:15	25.5	6.5	0.0662	31	2.6	0	1	5
6/30/2005	0:30	6/30/2005 00:30	25.5	6.5	0.0666	31	2.5	0	1	5
6/30/2005	0:45	6/30/2005 00:45	25.5	6.5	0.0663	31	2.5	0	1	5
6/30/2005	1:00	6/30/2005 01:00	25.5	6.5	0.0667	31	2.5	0	1	5
6/30/2005	1:15	6/30/2005 01:15	25.5	6.5	0.0668	31	2.5	0	1	5
6/30/2005	1:30	6/30/2005 01:30	25.4	6.5	0.0664	31	2.6	0	1	5
6/30/2005	1:45	6/30/2005 01:45	25.4	6.5	0.0665	31	2.5	0	1	5
6/30/2005	2:00	6/30/2005 02:00	25.4	6.5	0.0665	31	2.5	0	1	5
6/30/2005	2:15	6/30/2005 02:15	25.3	6.5	0.0668	30	2.4	0	1	5
6/30/2005	2:30	6/30/2005 02:30	25.3	6.5	0.067	30	2.4	0	1	5
6/30/2005	2:45	6/30/2005 02:45	25.3	6.5	0.0668	30	2.5	0	1	5
6/30/2005	3:00	6/30/2005 03:00	25.3	6.5	0.0667	29	2.4	0	1	5
6/30/2005	3:15	6/30/2005 03:15	25.2	6.5	0.0669	30	2.4	0	1	5
6/30/2005	3:30	6/30/2005 03:30	25.2	6.5	0.0671	29	2.4	0	1	5
6/30/2005	3:45	6/30/2005 03:45	25.2	6.5	0.0672	29	2.4	0	1	5
6/30/2005	4:00	6/30/2005 04:00	25.2	6.5	0.0672	29	2.4	0	1	5
6/30/2005	4:15	6/30/2005 04:15	25.1	6.5	0.067	28	2.3	0	1	5
6/30/2005	4:30	6/30/2005 04:30	25.1	6.5	0.0673	29	2.4	0	1	5
6/30/2005	4:45	6/30/2005 04:45	25.1	6.5	0.0673	29	2.4	0	1	5
6/30/2005	5:00	6/30/2005 05:00	25	6.5	0.067	29	2.4	0	1	5
6/30/2005	5:15	6/30/2005 05:15	25	6.5	0.0674	28	2.3	0	1	5
6/30/2005	5:30	6/30/2005 05:30	25	6.5	0.0671	28	2.3	0	1	5
6/30/2005	5:45	6/30/2005 05:45	24.9	6.5	0.0674	28	2.3	0	1	5
6/30/2005	6:00	6/30/2005 06:00	24.9	6.5	0.0675	27	2.3	0	1	5
6/30/2005	6:15	6/30/2005 06:15	24.9	6.5	0.0675	27	2.3	0	1	5
6/30/2005	6:30	6/30/2005 06:30	24.8	6.5	0.0678	27	2.3	0	1	5

6/30/2005	6:45	6/30/2005 06:45	24.8	6.5	0.0675	27	2.3	0	1	5
6/30/2005	7:00	6/30/2005 07:00	24.8	6.5	0.0676	27	2.2	0	1	5
6/30/2005	7:15	6/30/2005 07:15	24.8	6.5	0.0675	27	2.3	0	1	5
6/30/2005	7:30	6/30/2005 07:30	24.7	6.5	0.0679	27	2.3	0	1	5
6/30/2005	7:45	6/30/2005 07:45	24.7	6.5	0.0677	27	2.2	0	1	5
6/30/2005	8:00	6/30/2005 08:00	24.7	6.5	0.0674	27	2.3	0	1	5
6/30/2005	8:15	6/30/2005 08:15	24.7	6.5	0.0674	27	2.3	0	1	5
6/30/2005	8:30	6/30/2005 08:30	24.7	6.5	0.0676	27	2.2	0	1	5
6/30/2005	8:45	6/30/2005 08:45	24.7	6.5	0.0676	27	2.3	0	1	5
6/30/2005	9:00	6/30/2005 09:00	24.7	6.5	0.068	27	2.2	0	1	5
6/30/2005	9:15	6/30/2005 09:15	24.7	6.5	0.068	27	2.2	0	1	5
6/30/2005	9:30	6/30/2005 09:30	24.8	6.5	0.0679	28	2.3	0	1	5
6/30/2005	9:45	6/30/2005 09:45	24.8	6.5	0.0676	28	2.4	0	1	5
6/30/2005	10:00	6/30/2005 10:00	24.9	6.5	0.0676	29	2.4	0	1	5
6/30/2005	10:15	6/30/2005 10:15	25	6.5	0.0673	29	2.4	0	1	5
6/30/2005	10:30	6/30/2005 10:30	25	6.5	0.0676	29	2.4	0	1	5
6/30/2005	10:45	6/30/2005 10:45	25.1	6.5	0.0672	31	2.5	0	1	5
6/30/2005	11:00	6/30/2005 11:00	25.1	6.5	0.0674	30	2.5	0	1	5
6/30/2005	11:15	6/30/2005 11:15	25.2	6.5	0.0673	31	2.6	0	1	5


West Anacoco Creek 110501 Site Number: WAC 5
Site Name: West Anacoco Creek Upstream of Vernon Lake
DO & Temperature (deg C) vs. Date/Time
DO STATISTICS
Min DO = 4.8 mg/L
Max DO = 7.4 mg/L
Average DO = 6.04 mg/L
25th Percentile = 5.5 mg/L
50th Percentile = 6.1 mg/L
% Failing Criteria = 4.08 %
Std. Deviation = 0.68 mg/L
Variance = 0.47 mg/L
Dissolved Oxygen (mg/L)
Temperature (C)
Date/Time
DO mg/L
DO Criteria mg/L
Temp øC
0
1
2
3
4
5
6
7
8
29.5
30
30.5
31
31.5
32
32.5
33
33.5
6/28/2005 00:00
6/28/2005 12:00
6/29/2005 00:00
6/29/2005 12:00
6/30/2005 00:00
6/30/2005 12:00
7/1/2005 00:00


West Anacoco Creek 110501 Site Number: WAC 5
Site Name: West Anacoco Creek Upstream of Vernon Lake
DO & pH vs. Date/Time
DO mg/L
DO Criteria mg/L
pH Units
Dissolved Oxygen (mg/L)
pH
Date/Time
8
7
6
5
4
3
2
1
0
6.45
6.4
6.35
6.3
6.25
6.2
6.15
6.1
6.05
6/28/2005 00:00
6/28/2005 12:00
6/29/2005 00:00
6/29/2005 12:00
6/30/2005 00:00
6/30/2005 12:00
7/1/2005 00:00
DO STATISTICS
Min DO = 4.8 mg/L
Max DO = 7.4 mg/L
Average DO = 6.04 mg/L
25th Percentile = 5.5 mg/L
50th Percentile = 6.1 mg/L
% Failing Criteria = 4.08 %
Std. Deviation = 0.68 mg/L
Variance = 0.47 mg/L



West Anacoco Creek 110501
Site Number: WAC 5
Site Name: West Anacoco Creek Upstream of Vernon Lake

	Temp deg C	pH	SpCond uS/cm	DO %	DO mg/L
Minimum	30.00	6.10	0.04	64.00	4.80
Maximum	33.10	6.40	0.04	103.00	7.40
Average	31.29	6.28	0.04	81.78	6.04
Geometric Mean	31.28	6.28	0.04		6.00
25th Percentile	30.60	6.20	0.04	73.00	5.50
30th Percentile	30.70	6.20	0.04	74.50	5.60
40th Percentile	31.00	6.30	0.04	79.00	5.90
50th Percentile	31.15	6.30	0.04	82.00	6.10
Standard Deviation	0.85	0.08	0.00	10.27	0.68
Variance	0.73	0.01	0.00	105.45	0.47

Data Row Count	196
Total Values Failing DO Criteria	8
Percent failing DO Criteria	4.08 %

West Anacoco Creek 110501 Site WAC 5 Continuous Monitoring Data

Date_	Time	Date+Time	Temp	pH	SpCond	DO PERCENT	DO	SALINITY	Is DO < Criteria	DO Criteria
MMDDYY	HHMM	MMDDYYYY HHMM	øC	Units	uS/cm	Sat	mg/L	ppt	5	mg/L
6/28/2005	11:45	6/28/2005 11:45	30	6.3	0.0376	72	5.5	0	0	5
6/28/2005	12:00	6/28/2005 12:00	30	6.3	0.0378	69	5.2	0	0	5
6/28/2005	12:15	6/28/2005 12:15	30	6.3	0.0376	69	5.2	0	0	5
6/28/2005	12:30	6/28/2005 12:30	30	6.3	0.0378	70	5.3	0	0	5
6/28/2005	12:45	6/28/2005 12:45	30	6.3	0.0378	72	5.5	0	0	5
6/28/2005	13:00	6/28/2005 13:00	30	6.3	0.0378	70	5.3	0	0	5
6/28/2005	13:15	6/28/2005 13:15	30.3	6.3	0.0376	77	5.8	0	0	5
6/28/2005	13:30	6/28/2005 13:30	30.1	6.3	0.0378	74	5.6	0	0	5
6/28/2005	13:45	6/28/2005 13:45	30.2	6.3	0.0377	79	5.9	0	0	5
6/28/2005	14:00	6/28/2005 14:00	30.3	6.3	0.0376	75	5.6	0	0	5
6/28/2005	14:15	6/28/2005 14:15	30.3	6.3	0.0376	77	5.8	0	0	5
6/28/2005	14:30	6/28/2005 14:30	30.5	6.4	0.0377	82	6.1	0	0	5
6/28/2005	14:45	6/28/2005 14:45	30.5	6.3	0.0375	82	6.1	0	0	5
6/28/2005	15:00	6/28/2005 15:00	30.4	6.3	0.0378	80	6	0	0	5
6/28/2005	15:15	6/28/2005 15:15	30.7	6.4	0.0376	81	6	0	0	5
6/28/2005	15:30	6/28/2005 15:30	30.6	6.4	0.0378	86	6.4	0	0	5
6/28/2005	15:45	6/28/2005 15:45	30.7	6.4	0.0376	87	6.5	0	0	5
6/28/2005	16:00	6/28/2005 16:00	30.7	6.4	0.0377	80	6	0	0	5
6/28/2005	16:15	6/28/2005 16:15	30.8	6.4	0.0376	86	6.4	0	0	5
6/28/2005	16:30	6/28/2005 16:30	30.6	6.3	0.0377	83	6.2	0	0	5
6/28/2005	16:45	6/28/2005 16:45	30.7	6.3	0.0376	82	6.2	0	0	5
6/28/2005	17:00	6/28/2005 17:00	30.9	6.4	0.0375	84	6.2	0	0	5
6/28/2005	17:15	6/28/2005 17:15	31.2	6.4	0.0376	84	6.2	0	0	5
6/28/2005	17:30	6/28/2005 17:30	31	6.4	0.0376	87	6.5	0	0	5
6/28/2005	17:45	6/28/2005 17:45	31	6.3	0.0377	82	6.1	0	0	5
6/28/2005	18:00	6/28/2005 18:00	31	6.4	0.0376	87	6.5	0	0	5
6/28/2005	18:15	6/28/2005 18:15	31.2	6.4	0.0375	88	6.5	0	0	5
6/28/2005	18:30	6/28/2005 18:30	31.3	6.4	0.0377	90	6.7	0	0	5
6/28/2005	18:45	6/28/2005 18:45	31.5	6.4	0.0377	91	6.7	0	0	5
6/28/2005	19:00	6/28/2005 19:00	31.5	6.4	0.0377	93	6.9	0	0	5
6/28/2005	19:15	6/28/2005 19:15	31.3	6.4	0.0375	91	6.7	0	0	5
6/28/2005	19:30	6/28/2005 19:30	31.3	6.4	0.0377	91	6.7	0	0	5
6/28/2005	19:45	6/28/2005 19:45	31.5	6.4	0.0376	90	6.6	0	0	5

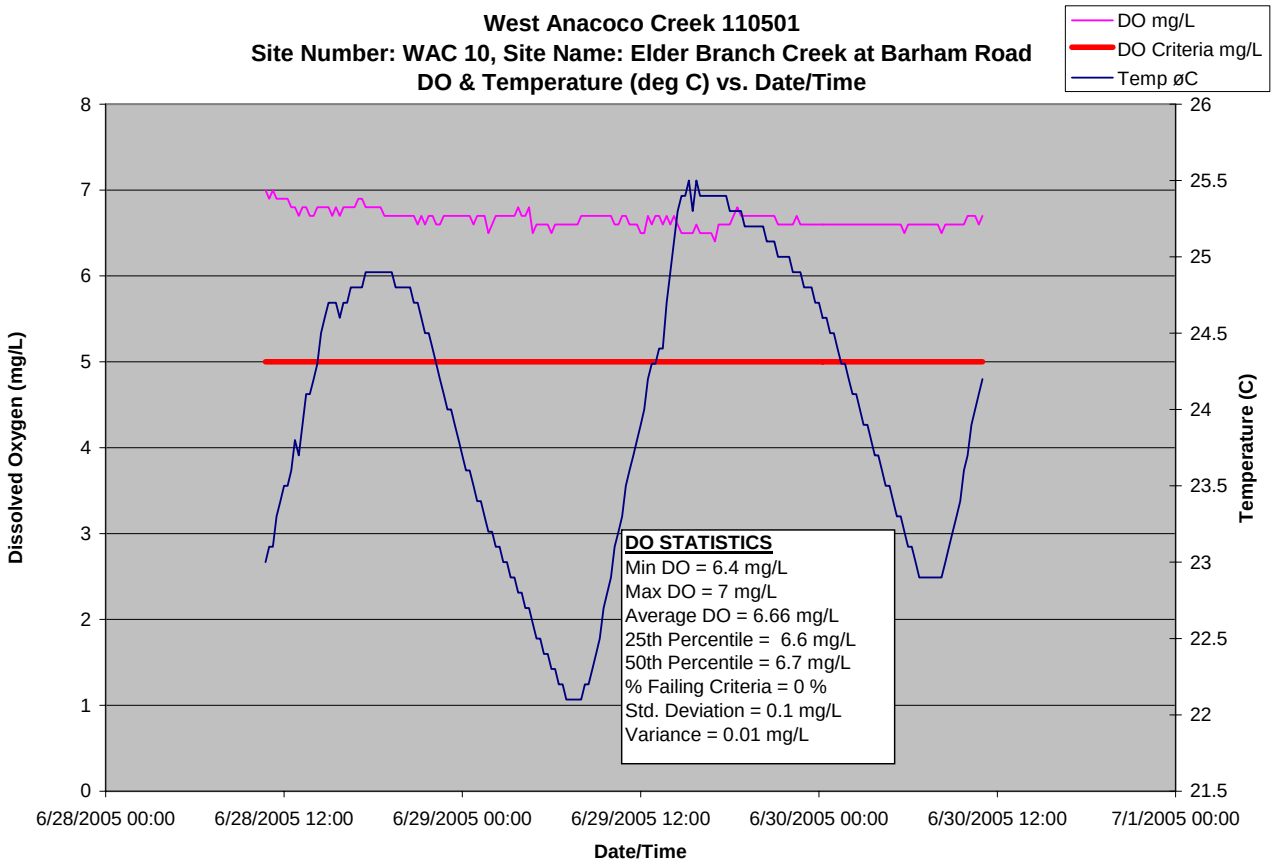
6/28/2005	20:00	6/28/2005 20:00	31.8	6.4	0.0373	93	6.8	0	0	5
6/28/2005	20:15	6/28/2005 20:15	31.7	6.4	0.0375	92	6.8	0	0	5
6/28/2005	20:30	6/28/2005 20:30	32.1	6.4	0.0373	96	7	0	0	5
6/28/2005	20:45	6/28/2005 20:45	31.7	6.3	0.0372	93	6.8	0	0	5
6/28/2005	21:00	6/28/2005 21:00	31.8	6.3	0.0376	92	6.7	0	0	5
6/28/2005	21:15	6/28/2005 21:15	32	6.3	0.0373	95	7	0	0	5
6/28/2005	21:30	6/28/2005 21:30	32	6.3	0.0376	96	7	0	0	5
6/28/2005	21:45	6/28/2005 21:45	31.8	6.3	0.0376	90	6.6	0	0	5
6/28/2005	22:00	6/28/2005 22:00	32	6.3	0.0375	90	6.6	0	0	5
6/28/2005	22:15	6/28/2005 22:15	32.2	6.4	0.0375	95	6.9	0	0	5
6/28/2005	22:30	6/28/2005 22:30	32	6.3	0.0376	90	6.5	0	0	5
6/28/2005	22:45	6/28/2005 22:45	31.9	6.3	0.0373	90	6.5	0	0	5
6/28/2005	23:00	6/28/2005 23:00	31.9	6.3	0.0378	91	6.6	0	0	5
6/28/2005	23:15	6/28/2005 23:15	32	6.3	0.0378	91	6.7	0	0	5
6/28/2005	23:30	6/28/2005 23:30	31.7	6.3	0.0377	89	6.6	0	0	5
6/28/2005	23:45	6/28/2005 23:45	31.8	6.3	0.0377	89	6.5	0	0	5
6/29/2005	0:00	6/29/2005 00:00	31.9	6.3	0.0376	91	6.6	0	0	5
6/29/2005	0:15	6/29/2005 00:15	31.7	6.3	0.0377	89	6.5	0	0	5
6/29/2005	0:30	6/29/2005 00:30	31.8	6.3	0.0378	90	6.6	0	0	5
6/29/2005	0:45	6/29/2005 00:45	31.7	6.3	0.0381	89	6.5	0	0	5
6/29/2005	1:00	6/29/2005 01:00	31.7	6.3	0.038	88	6.5	0	0	5
6/29/2005	1:15	6/29/2005 01:15	31.7	6.3	0.0379	90	6.6	0	0	5
6/29/2005	1:30	6/29/2005 01:30	31.5	6.3	0.0379	86	6.3	0	0	5
6/29/2005	1:45	6/29/2005 01:45	31.6	6.4	0.0379	91	6.7	0	0	5
6/29/2005	2:00	6/29/2005 02:00	31.5	6.3	0.038	87	6.4	0	0	5
6/29/2005	2:15	6/29/2005 02:15	31.4	6.3	0.0381	85	6.3	0	0	5
6/29/2005	2:30	6/29/2005 02:30	31.4	6.3	0.0378	88	6.5	0	0	5
6/29/2005	2:45	6/29/2005 02:45	31.3	6.3	0.038	87	6.4	0	0	5
6/29/2005	3:00	6/29/2005 03:00	31.3	6.3	0.0379	84	6.2	0	0	5
6/29/2005	3:15	6/29/2005 03:15	31.2	6.3	0.0381	83	6.1	0	0	5
6/29/2005	3:30	6/29/2005 03:30	31.2	6.3	0.038	83	6.1	0	0	5
6/29/2005	3:45	6/29/2005 03:45	31.1	6.3	0.038	84	6.2	0	0	5
6/29/2005	4:00	6/29/2005 04:00	31.1	6.3	0.038	84	6.2	0	0	5
6/29/2005	4:15	6/29/2005 04:15	31	6.3	0.0381	82	6.1	0	0	5
6/29/2005	4:30	6/29/2005 04:30	31	6.3	0.038	82	6.1	0	0	5
6/29/2005	4:45	6/29/2005 04:45	30.9	6.3	0.0381	80	5.9	0	0	5
6/29/2005	5:00	6/29/2005 05:00	30.8	6.3	0.0381	80	5.9	0	0	5
6/29/2005	5:15	6/29/2005 05:15	30.8	6.3	0.0381	79	5.9	0	0	5

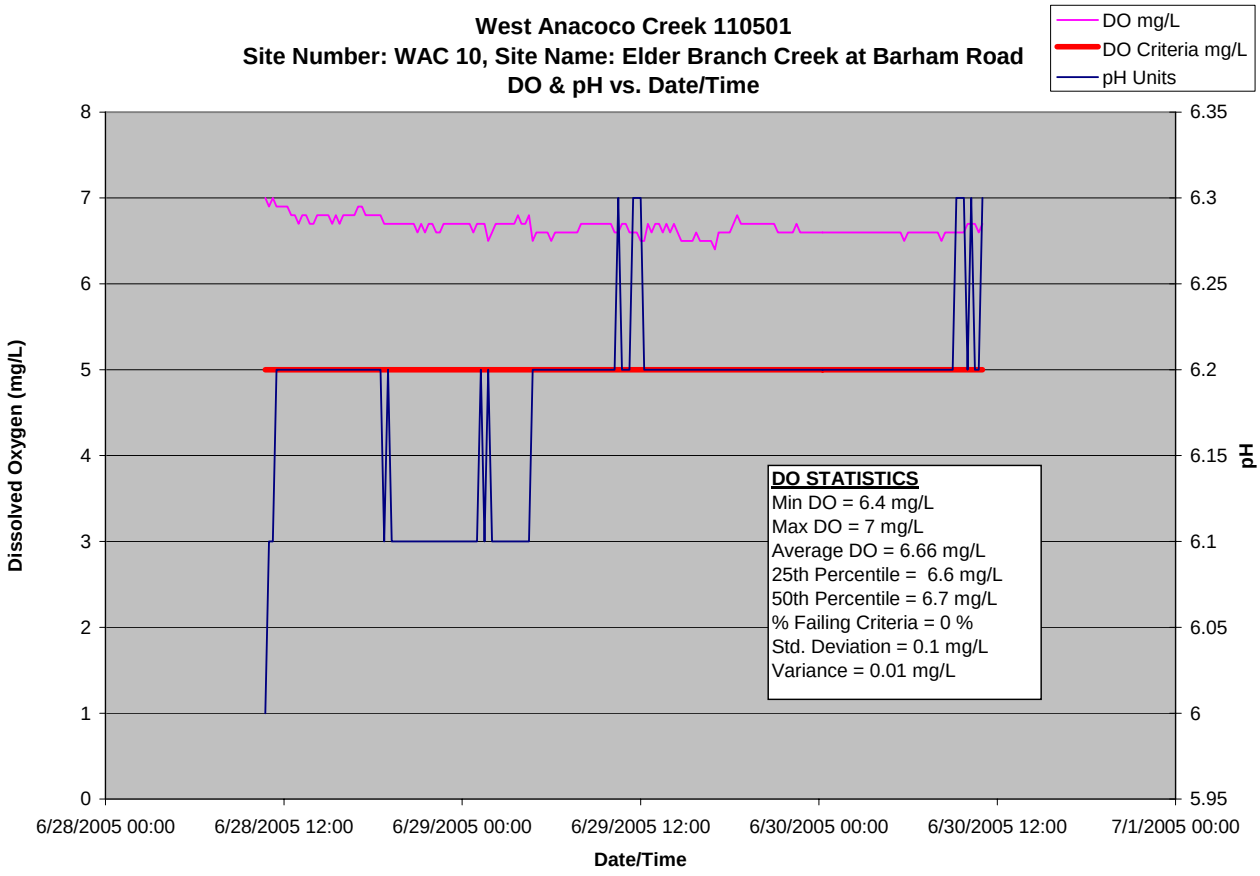
6/29/2005	5:30	6/29/2005 05:30	30.7	6.3	0.038	78	5.8	0	0	5
6/29/2005	5:45	6/29/2005 05:45	30.7	6.2	0.038	77	5.8	0	0	5
6/29/2005	6:00	6/29/2005 06:00	30.6	6.2	0.0381	77	5.8	0	0	5
6/29/2005	6:15	6/29/2005 06:15	30.6	6.2	0.0382	75	5.6	0	0	5
6/29/2005	6:30	6/29/2005 06:30	30.5	6.2	0.0381	76	5.7	0	0	5
6/29/2005	6:45	6/29/2005 06:45	30.5	6.2	0.0382	74	5.5	0	0	5
6/29/2005	7:00	6/29/2005 07:00	30.4	6.2	0.0381	73	5.5	0	0	5
6/29/2005	7:15	6/29/2005 07:15	30.4	6.2	0.0382	72	5.4	0	0	5
6/29/2005	7:30	6/29/2005 07:30	30.3	6.2	0.0383	71	5.4	0	0	5
6/29/2005	7:45	6/29/2005 07:45	30.3	6.2	0.0383	71	5.4	0	0	5
6/29/2005	8:00	6/29/2005 08:00	30.3	6.2	0.0383	70	5.3	0	0	5
6/29/2005	8:15	6/29/2005 08:15	30.2	6.2	0.0383	69	5.2	0	0	5
6/29/2005	8:30	6/29/2005 08:30	30.2	6.2	0.0382	66	5	0	0	5
6/29/2005	8:45	6/29/2005 08:45	30.2	6.2	0.0381	69	5.2	0	0	5
6/29/2005	9:00	6/29/2005 09:00	30.2	6.2	0.0384	66	5	0	0	5
6/29/2005	9:15	6/29/2005 09:15	30.1	6.2	0.0384	66	5	0	0	5
6/29/2005	9:30	6/29/2005 09:30	30.1	6.2	0.0382	66	5	0	0	5
6/29/2005	9:45	6/29/2005 09:45	30.1	6.2	0.0382	68	5.2	0	0	5
6/29/2005	10:00	6/29/2005 10:00	30.1	6.2	0.0384	66	5	0	0	5
6/29/2005	10:15	6/29/2005 10:15	30.2	6.2	0.0384	66	5	0	0	5
6/29/2005	10:30	6/29/2005 10:30	30.1	6.1	0.0382	64	4.8	0	1	5
6/29/2005	10:45	6/29/2005 10:45	30.2	6.2	0.0382	67	5	0	0	5
6/29/2005	11:00	6/29/2005 11:00	30.2	6.2	0.0381	65	4.9	0	1	5
6/29/2005	11:15	6/29/2005 11:15	30.1	6.2	0.0381	66	5	0	0	5
6/29/2005	11:30	6/29/2005 11:30	30.1	6.2	0.0381	66	5	0	0	5
6/29/2005	11:45	6/29/2005 11:45	30.2	6.2	0.0381	68	5.2	0	0	5
6/29/2005	12:00	6/29/2005 12:00	30.2	6.2	0.038	68	5.2	0	0	5
6/29/2005	12:15	6/29/2005 12:15	30.2	6.2	0.038	71	5.3	0	0	5
6/29/2005	12:30	6/29/2005 12:30	30.2	6.2	0.0381	71	5.4	0	0	5
6/29/2005	12:45	6/29/2005 12:45	30.3	6.2	0.0381	74	5.6	0	0	5
6/29/2005	13:00	6/29/2005 13:00	30.2	6.2	0.0383	73	5.5	0	0	5
6/29/2005	13:15	6/29/2005 13:15	30.3	6.2	0.038	74	5.5	0	0	5
6/29/2005	13:30	6/29/2005 13:30	30.5	6.3	0.0381	79	5.9	0	0	5
6/29/2005	13:45	6/29/2005 13:45	30.3	6.2	0.0382	75	5.6	0	0	5
6/29/2005	14:00	6/29/2005 14:00	30.5	6.3	0.0381	77	5.8	0	0	5
6/29/2005	14:15	6/29/2005 14:15	30.4	6.2	0.0382	73	5.5	0	0	5
6/29/2005	14:30	6/29/2005 14:30	30.4	6.2	0.0381	76	5.7	0	0	5
6/29/2005	14:45	6/29/2005 14:45	30.5	6.2	0.0384	73	5.5	0	0	5

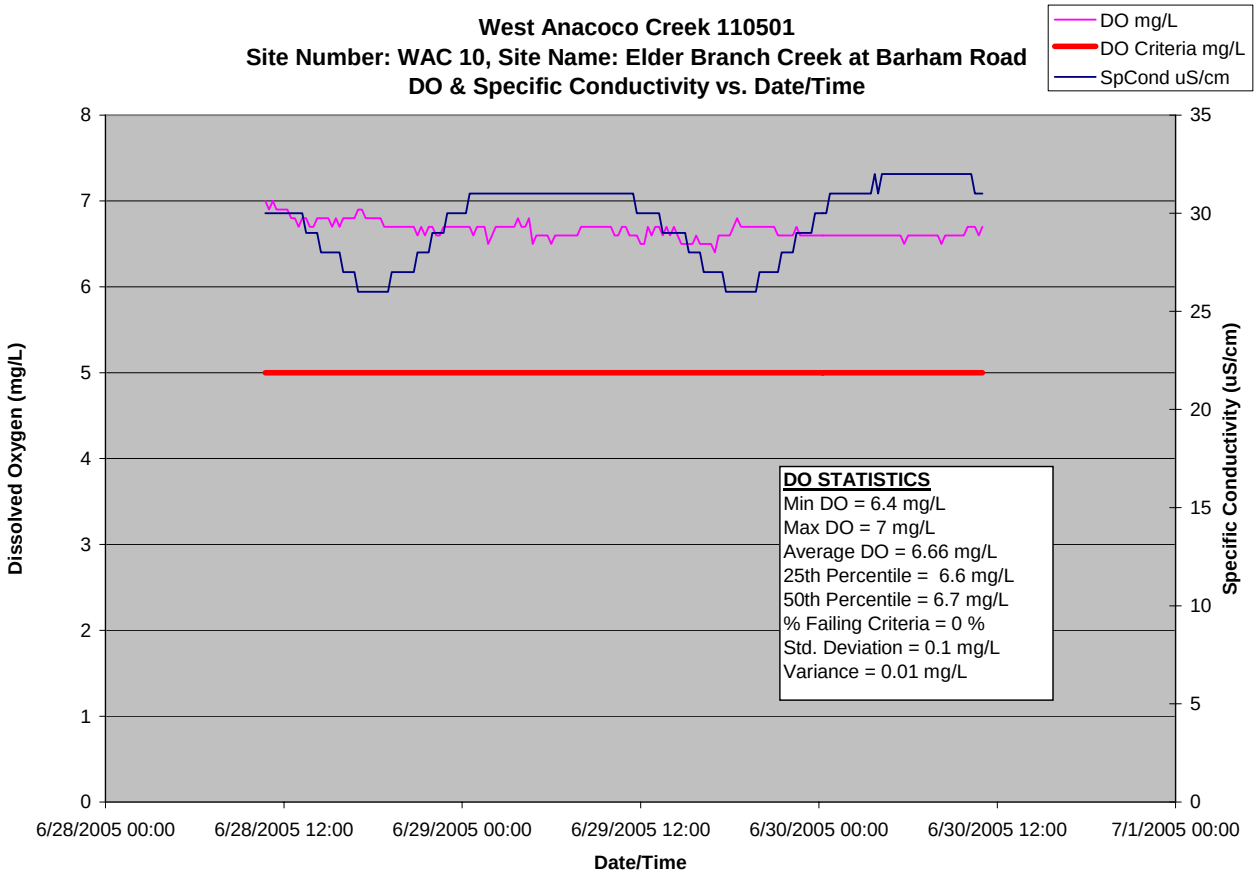
6/29/2005	15:00	6/29/2005 15:00	30.6	6.3	0.0381	76	5.7	0	0	5
6/29/2005	15:15	6/29/2005 15:15	30.6	6.3	0.0383	81	6	0	0	5
6/29/2005	15:30	6/29/2005 15:30	30.8	6.3	0.038	80	6	0	0	5
6/29/2005	15:45	6/29/2005 15:45	31	6.3	0.0381	84	6.2	0	0	5
6/29/2005	16:00	6/29/2005 16:00	31.1	6.3	0.0381	82	6.1	0	0	5
6/29/2005	16:15	6/29/2005 16:15	31.1	6.3	0.0379	83	6.2	0	0	5
6/29/2005	16:30	6/29/2005 16:30	31.1	6.3	0.038	86	6.4	0	0	5
6/29/2005	16:45	6/29/2005 16:45	31	6.3	0.038	89	6.6	0	0	5
6/29/2005	17:00	6/29/2005 17:00	31.2	6.3	0.038	88	6.5	0	0	5
6/29/2005	17:15	6/29/2005 17:15	31.3	6.4	0.0381	88	6.5	0	0	5
6/29/2005	17:30	6/29/2005 17:30	31.2	6.4	0.0379	93	6.9	0	0	5
6/29/2005	17:45	6/29/2005 17:45	31.4	6.3	0.0381	88	6.5	0	0	5
6/29/2005	18:00	6/29/2005 18:00	31.9	6.4	0.038	100	7.3	0	0	5
6/29/2005	18:15	6/29/2005 18:15	31.9	6.4	0.0379	98	7.2	0	0	5
6/29/2005	18:30	6/29/2005 18:30	31.7	6.3	0.0381	93	6.8	0	0	5
6/29/2005	18:45	6/29/2005 18:45	32.5	6.4	0.0381	97	7	0	0	5
6/29/2005	19:00	6/29/2005 19:00	32.5	6.4	0.038	99	7.2	0	0	5
6/29/2005	19:15	6/29/2005 19:15	32.7	6.4	0.038	102	7.3	0	0	5
6/29/2005	19:30	6/29/2005 19:30	32.7	6.4	0.0379	102	7.4	0	0	5
6/29/2005	19:45	6/29/2005 19:45	32.8	6.4	0.0379	101	7.3	0	0	5
6/29/2005	20:00	6/29/2005 20:00	32.7	6.3	0.0377	97	7	0	0	5
6/29/2005	20:15	6/29/2005 20:15	33	6.4	0.0379	102	7.3	0	0	5
6/29/2005	20:30	6/29/2005 20:30	33.1	6.4	0.0379	103	7.4	0	0	5
6/29/2005	20:45	6/29/2005 20:45	32.8	6.3	0.0379	97	7	0	0	5
6/29/2005	21:00	6/29/2005 21:00	32.7	6.3	0.0379	93	6.7	0	0	5
6/29/2005	21:15	6/29/2005 21:15	33	6.3	0.0379	100	7.2	0	0	5
6/29/2005	21:30	6/29/2005 21:30	32.9	6.3	0.038	97	7	0	0	5
6/29/2005	21:45	6/29/2005 21:45	33	6.4	0.038	100	7.2	0	0	5
6/29/2005	22:00	6/29/2005 22:00	32.9	6.4	0.038	97	6.9	0	0	5
6/29/2005	22:15	6/29/2005 22:15	32.7	6.3	0.0377	93	6.7	0	0	5
6/29/2005	22:30	6/29/2005 22:30	32.9	6.3	0.038	97	7	0	0	5
6/29/2005	22:45	6/29/2005 22:45	32.8	6.3	0.0379	97	7	0	0	5
6/29/2005	23:00	6/29/2005 23:00	32.7	6.3	0.038	94	6.8	0	0	5
6/29/2005	23:15	6/29/2005 23:15	32.8	6.3	0.0379	94	6.8	0	0	5
6/29/2005	23:30	6/29/2005 23:30	32.8	6.3	0.0379	95	6.8	0	0	5
6/29/2005	23:45	6/29/2005 23:45	32.8	6.4	0.0381	94	6.8	0	0	5
6/30/2005	0:00	6/30/2005 00:00	32.5	6.3	0.0383	91	6.6	0	0	5
6/30/2005	0:15	6/30/2005 00:15	32.7	6.3	0.038	92	6.7	0	0	5

6/30/2005	0:30	6/30/2005 00:30	32.6	6.3	0.038	89	6.5	0	0	5
6/30/2005	0:45	6/30/2005 00:45	32.6	6.3	0.0379	92	6.6	0	0	5
6/30/2005	1:00	6/30/2005 01:00	32.5	6.3	0.038	90	6.5	0	0	5
6/30/2005	1:15	6/30/2005 01:15	32.5	6.3	0.0381	89	6.5	0	0	5
6/30/2005	1:30	6/30/2005 01:30	32.5	6.3	0.038	88	6.4	0	0	5
6/30/2005	1:45	6/30/2005 01:45	32.5	6.3	0.0381	90	6.5	0	0	5
6/30/2005	2:00	6/30/2005 02:00	32.4	6.3	0.0379	88	6.4	0	0	5
6/30/2005	2:15	6/30/2005 02:15	32.4	6.3	0.0382	88	6.4	0	0	5
6/30/2005	2:30	6/30/2005 02:30	32.3	6.3	0.038	87	6.4	0	0	5
6/30/2005	2:45	6/30/2005 02:45	32.3	6.3	0.0381	86	6.3	0	0	5
6/30/2005	3:00	6/30/2005 03:00	32.2	6.2	0.0383	82	5.9	0	0	5
6/30/2005	3:15	6/30/2005 03:15	32.1	6.3	0.0381	84	6.1	0	0	5
6/30/2005	3:30	6/30/2005 03:30	32.1	6.3	0.0381	84	6.1	0	0	5
6/30/2005	3:45	6/30/2005 03:45	32	6.3	0.0383	82	6	0	0	5
6/30/2005	4:00	6/30/2005 04:00	32	6.3	0.0381	82	6	0	0	5
6/30/2005	4:15	6/30/2005 04:15	31.9	6.2	0.0382	82	6	0	0	5
6/30/2005	4:30	6/30/2005 04:30	31.9	6.2	0.0383	80	5.9	0	0	5
6/30/2005	4:45	6/30/2005 04:45	31.8	6.2	0.0384	78	5.7	0	0	5
6/30/2005	5:00	6/30/2005 05:00	31.7	6.2	0.0384	80	5.9	0	0	5
6/30/2005	5:15	6/30/2005 05:15	31.7	6.2	0.0384	78	5.7	0	0	5
6/30/2005	5:30	6/30/2005 05:30	31.6	6.3	0.0383	80	5.9	0	0	5
6/30/2005	5:45	6/30/2005 05:45	31.6	6.2	0.0385	76	5.6	0	0	5
6/30/2005	6:00	6/30/2005 06:00	31.5	6.2	0.0384	76	5.6	0	0	5
6/30/2005	6:15	6/30/2005 06:15	31.5	6.2	0.0384	76	5.6	0	0	5
6/30/2005	6:30	6/30/2005 06:30	31.4	6.2	0.0384	75	5.5	0	0	5
6/30/2005	6:45	6/30/2005 06:45	31.3	6.2	0.0385	74	5.5	0	0	5
6/30/2005	7:00	6/30/2005 07:00	31.3	6.2	0.0386	73	5.4	0	0	5
6/30/2005	7:15	6/30/2005 07:15	31.2	6.2	0.0385	74	5.5	0	0	5
6/30/2005	7:30	6/30/2005 07:30	31.2	6.2	0.0386	70	5.2	0	0	5
6/30/2005	7:45	6/30/2005 07:45	31.1	6.2	0.0386	70	5.2	0	0	5
6/30/2005	8:00	6/30/2005 08:00	31.1	6.2	0.0386	71	5.3	0	0	5
6/30/2005	8:15	6/30/2005 08:15	31.1	6.2	0.0384	70	5.2	0	0	5
6/30/2005	8:30	6/30/2005 08:30	31	6.2	0.0384	69	5.2	0	0	5
6/30/2005	8:45	6/30/2005 08:45	31	6.2	0.0385	68	5	0	0	5
6/30/2005	9:00	6/30/2005 09:00	31	6.2	0.0385	70	5.2	0	0	5
6/30/2005	9:15	6/30/2005 09:15	31	6.2	0.0387	68	5.1	0	0	5
6/30/2005	9:30	6/30/2005 09:30	30.9	6.1	0.0386	65	4.8	0	1	5
6/30/2005	9:45	6/30/2005 09:45	31	6.1	0.0387	66	4.9	0	1	5

6/30/2005	10:00	6/30/2005	10:00	31	6.1	0.0387	66	4.9	0	1	5
6/30/2005	10:15	6/30/2005	10:15	31	6.1	0.0385	65	4.8	0	1	5
6/30/2005	10:30	6/30/2005	10:30	31	6.1	0.0385	66	4.9	0	1	5
6/30/2005	10:45	6/30/2005	10:45	31	6.1	0.0385	66	4.9	0	1	5
6/30/2005	11:00	6/30/2005	11:00	31	6.1	0.0383	68	5	0	0	5
6/30/2005	11:15	6/30/2005	11:15	31	6.1	0.0385	67	5	0	0	5
6/30/2005	11:30	6/30/2005	11:30	31	6.2	0.0384	70	5.2	0	0	5
6/30/2005	11:45	6/30/2005	11:45	31.1	6.2	0.0383	71	5.3	0	0	5
6/30/2005	12:00	6/30/2005	12:00	31	6.1	0.0385	70	5.2	0	0	5
6/30/2005	12:15	6/30/2005	12:15	31.1	6.2	0.0386	70	5.2	0	0	5
6/30/2005	12:30	6/30/2005	12:30	31.1	6.2	0.0383	76	5.7	0	0	5


West Anacoco Creek 110501
Site Number: WAC 10, Site Name: Elder Branch Creek at Barham Road
DO & Temperature (deg C) vs. Date/Time
DO mg/L
DO Criteria mg/L
Temp øC
Dissolved Oxygen (mg/L)
Temperature (C)
Date/Time
6/28/2005 00:00
6/28/2005 12:00
6/29/2005 00:00
6/29/2005 12:00
6/30/2005 00:00
6/30/2005 12:00
7/1/2005 00:00
DO STATISTICS
Min DO = 6.4 mg/L
Max DO = 7 mg/L
Average DO = 6.66 mg/L
25th Percentile = 6.6 mg/L
50th Percentile = 6.7 mg/L
% Failing Criteria = 0 %
Std. Deviation = 0.1 mg/L
Variance = 0.01 mg/L


West Anacoco Creek 110501
Site Number: WAC 10, Site Name: Elder Branch Creek at Barham Road
DO & pH vs. Date/Time
DO mg/L
DO Criteria mg/L
pH Units
Dissolved Oxygen (mg/L)
pH
Date/Time
6/28/2005 00:00
6/28/2005 12:00
6/29/2005 00:00
6/29/2005 12:00
6/30/2005 00:00
6/30/2005 12:00
7/1/2005 00:00
DO STATISTICS
Min DO = 6.4 mg/L
Max DO = 7 mg/L
Average DO = 6.66 mg/L
25th Percentile = 6.6 mg/L
50th Percentile = 6.7 mg/L
% Failing Criteria = 0 %
Std. Deviation = 0.1 mg/L
Variance = 0.01 mg/L



West Anacoco Creek 110501
Site Number: WAC 10
Site Name: Elder Branch Creek at Barham Road

	Temp deg C	pH	SpCond uS/cm	DO %	DO mg/L
Minimum	22.10	6.00	26.00	75.00	6.40
Maximum	25.50	6.30	32.00	83.00	7.00
Average	23.98	6.18	29.57	79.09	6.66
Geometric Mean	23.96	6.18	29.50		6.66
25th Percentile	23.20	6.20	28.00	78.00	6.60
30th Percentile	23.30	6.20	28.00	78.00	6.60
40th Percentile	23.70	6.20	29.00	79.00	6.60
50th Percentile	24.05	6.20	30.00	79.00	6.70
Standard Deviation	0.96	0.05	1.93	1.78	0.10
Variance	0.93	0.00	3.71	3.18	0.01

Data Row Count	194
Total Values Failing DO Criteria	0
Percent failing DO Criteria	0.00 %

West Anacoco Creek 110501 Site WAC 10 Continuous Monitoring Data

Date_ MMDDYY	Time HHMM	Date+Time MMDDYYYY HHMM	Temp øC	pH Units	SpCond uS/cm	DO PERCENT Sat	DO mg/L	SALINITY ppt	Is DO < Criteria 5	DO Criteria mg/L
6/28/2005	10:45	6/28/2005 10:45	23	6	30	82	7	0	0	5
6/28/2005	11:00	6/28/2005 11:00	23.1	6.1	30	81	6.9	0	0	5
6/28/2005	11:15	6/28/2005 11:15	23.1	6.1	30	82	7	0	0	5
6/28/2005	11:30	6/28/2005 11:30	23.3	6.2	30	81	6.9	0	0	5
6/28/2005	11:45	6/28/2005 11:45	23.4	6.2	30	81	6.9	0	0	5
6/28/2005	12:00	6/28/2005 12:00	23.5	6.2	30	81	6.9	0	0	5
6/28/2005	12:15	6/28/2005 12:15	23.5	6.2	30	81	6.9	0	0	5
6/28/2005	12:30	6/28/2005 12:30	23.6	6.2	30	80	6.8	0	0	5
6/28/2005	12:45	6/28/2005 12:45	23.8	6.2	30	81	6.8	0	0	5
6/28/2005	13:00	6/28/2005 13:00	23.7	6.2	30	80	6.7	0	0	5
6/28/2005	13:15	6/28/2005 13:15	23.9	6.2	30	80	6.8	0	0	5
6/28/2005	13:30	6/28/2005 13:30	24.1	6.2	29	81	6.8	0	0	5
6/28/2005	13:45	6/28/2005 13:45	24.1	6.2	29	80	6.7	0	0	5
6/28/2005	14:00	6/28/2005 14:00	24.2	6.2	29	80	6.7	0	0	5
6/28/2005	14:15	6/28/2005 14:15	24.3	6.2	29	81	6.8	0	0	5
6/28/2005	14:30	6/28/2005 14:30	24.5	6.2	28	81	6.8	0	0	5
6/28/2005	14:45	6/28/2005 14:45	24.6	6.2	28	82	6.8	0	0	5
6/28/2005	15:00	6/28/2005 15:00	24.7	6.2	28	82	6.8	0	0	5
6/28/2005	15:15	6/28/2005 15:15	24.7	6.2	28	81	6.7	0	0	5
6/28/2005	15:30	6/28/2005 15:30	24.7	6.2	28	82	6.8	0	0	5
6/28/2005	15:45	6/28/2005 15:45	24.6	6.2	28	81	6.7	0	0	5
6/28/2005	16:00	6/28/2005 16:00	24.7	6.2	27	81	6.8	0	0	5
6/28/2005	16:15	6/28/2005 16:15	24.7	6.2	27	82	6.8	0	0	5
6/28/2005	16:30	6/28/2005 16:30	24.8	6.2	27	82	6.8	0	0	5
6/28/2005	16:45	6/28/2005 16:45	24.8	6.2	27	82	6.8	0	0	5
6/28/2005	17:00	6/28/2005 17:00	24.8	6.2	26	83	6.9	0	0	5
6/28/2005	17:15	6/28/2005 17:15	24.8	6.2	26	83	6.9	0	0	5
6/28/2005	17:30	6/28/2005 17:30	24.9	6.2	26	83	6.8	0	0	5
6/28/2005	17:45	6/28/2005 17:45	24.9	6.2	26	82	6.8	0	0	5
6/28/2005	18:00	6/28/2005 18:00	24.9	6.2	26	82	6.8	0	0	5
6/28/2005	18:15	6/28/2005 18:15	24.9	6.2	26	82	6.8	0	0	5

6/28/2005	18:30	6/28/2005 18:30	24.9	6.2	26	82	6.8	0	0	5
6/28/2005	18:45	6/28/2005 18:45	24.9	6.1	26	81	6.7	0	0	5
6/28/2005	19:00	6/28/2005 19:00	24.9	6.2	26	81	6.7	0	0	5
6/28/2005	19:15	6/28/2005 19:15	24.9	6.1	27	81	6.7	0	0	5
6/28/2005	19:30	6/28/2005 19:30	24.8	6.1	27	81	6.7	0	0	5
6/28/2005	19:45	6/28/2005 19:45	24.8	6.1	27	81	6.7	0	0	5
6/28/2005	20:00	6/28/2005 20:00	24.8	6.1	27	81	6.7	0	0	5
6/28/2005	20:15	6/28/2005 20:15	24.8	6.1	27	81	6.7	0	0	5
6/28/2005	20:30	6/28/2005 20:30	24.8	6.1	27	81	6.7	0	0	5
6/28/2005	20:45	6/28/2005 20:45	24.7	6.1	27	80	6.7	0	0	5
6/28/2005	21:00	6/28/2005 21:00	24.7	6.1	28	80	6.6	0	0	5
6/28/2005	21:15	6/28/2005 21:15	24.6	6.1	28	80	6.7	0	0	5
6/28/2005	21:30	6/28/2005 21:30	24.5	6.1	28	80	6.6	0	0	5
6/28/2005	21:45	6/28/2005 21:45	24.5	6.1	28	80	6.7	0	0	5
6/28/2005	22:00	6/28/2005 22:00	24.4	6.1	29	80	6.7	0	0	5
6/28/2005	22:15	6/28/2005 22:15	24.3	6.1	29	79	6.6	0	0	5
6/28/2005	22:30	6/28/2005 22:30	24.2	6.1	29	79	6.6	0	0	5
6/28/2005	22:45	6/28/2005 22:45	24.1	6.1	29	80	6.7	0	0	5
6/28/2005	23:00	6/28/2005 23:00	24	6.1	30	79	6.7	0	0	5
6/28/2005	23:15	6/28/2005 23:15	24	6.1	30	79	6.7	0	0	5
6/28/2005	23:30	6/28/2005 23:30	23.9	6.1	30	79	6.7	0	0	5
6/28/2005	23:45	6/28/2005 23:45	23.8	6.1	30	79	6.7	0	0	5
6/29/2005	0:00	6/29/2005 00:00	23.7	6.1	30	79	6.7	0	0	5
6/29/2005	0:15	6/29/2005 00:15	23.6	6.1	30	78	6.7	0	0	5
6/29/2005	0:30	6/29/2005 00:30	23.6	6.1	31	79	6.7	0	0	5
6/29/2005	0:45	6/29/2005 00:45	23.5	6.1	31	78	6.6	0	0	5
6/29/2005	1:00	6/29/2005 01:00	23.4	6.1	31	79	6.7	0	0	5
6/29/2005	1:15	6/29/2005 01:15	23.4	6.2	31	79	6.7	0	0	5
6/29/2005	1:30	6/29/2005 01:30	23.3	6.1	31	78	6.7	0	0	5
6/29/2005	1:45	6/29/2005 01:45	23.2	6.2	31	77	6.5	0	0	5
6/29/2005	2:00	6/29/2005 02:00	23.2	6.1	31	77	6.6	0	0	5
6/29/2005	2:15	6/29/2005 02:15	23.1	6.1	31	78	6.7	0	0	5
6/29/2005	2:30	6/29/2005 02:30	23.1	6.1	31	78	6.7	0	0	5
6/29/2005	2:45	6/29/2005 02:45	23	6.1	31	78	6.7	0	0	5
6/29/2005	3:00	6/29/2005 03:00	23	6.1	31	78	6.7	0	0	5
6/29/2005	3:15	6/29/2005 03:15	22.9	6.1	31	78	6.7	0	0	5
6/29/2005	3:30	6/29/2005 03:30	22.9	6.1	31	78	6.7	0	0	5
6/29/2005	3:45	6/29/2005 03:45	22.8	6.1	31	78	6.8	0	0	5

6/29/2005	4:00	6/29/2005 04:00	22.8	6.1	31	78	6.7	0	0	5
6/29/2005	4:15	6/29/2005 04:15	22.7	6.1	31	78	6.7	0	0	5
6/29/2005	4:30	6/29/2005 04:30	22.7	6.1	31	78	6.8	0	0	5
6/29/2005	4:45	6/29/2005 04:45	22.6	6.2	31	76	6.5	0	0	5
6/29/2005	5:00	6/29/2005 05:00	22.5	6.2	31	76	6.6	0	0	5
6/29/2005	5:15	6/29/2005 05:15	22.5	6.2	31	76	6.6	0	0	5
6/29/2005	5:30	6/29/2005 05:30	22.4	6.2	31	76	6.6	0	0	5
6/29/2005	5:45	6/29/2005 05:45	22.4	6.2	31	76	6.6	0	0	5
6/29/2005	6:00	6/29/2005 06:00	22.3	6.2	31	75	6.5	0	0	5
6/29/2005	6:15	6/29/2005 06:15	22.3	6.2	31	76	6.6	0	0	5
6/29/2005	6:30	6/29/2005 06:30	22.2	6.2	31	76	6.6	0	0	5
6/29/2005	6:45	6/29/2005 06:45	22.2	6.2	31	76	6.6	0	0	5
6/29/2005	7:00	6/29/2005 07:00	22.1	6.2	31	76	6.6	0	0	5
6/29/2005	7:15	6/29/2005 07:15	22.1	6.2	31	76	6.6	0	0	5
6/29/2005	7:30	6/29/2005 07:30	22.1	6.2	31	76	6.6	0	0	5
6/29/2005	7:45	6/29/2005 07:45	22.1	6.2	31	76	6.6	0	0	5
6/29/2005	8:00	6/29/2005 08:00	22.1	6.2	31	77	6.7	0	0	5
6/29/2005	8:15	6/29/2005 08:15	22.2	6.2	31	77	6.7	0	0	5
6/29/2005	8:30	6/29/2005 08:30	22.2	6.2	31	77	6.7	0	0	5
6/29/2005	8:45	6/29/2005 08:45	22.3	6.2	31	77	6.7	0	0	5
6/29/2005	9:00	6/29/2005 09:00	22.4	6.2	31	77	6.7	0	0	5
6/29/2005	9:15	6/29/2005 09:15	22.5	6.2	31	78	6.7	0	0	5
6/29/2005	9:30	6/29/2005 09:30	22.7	6.2	31	78	6.7	0	0	5
6/29/2005	9:45	6/29/2005 09:45	22.8	6.2	31	77	6.7	0	0	5
6/29/2005	10:00	6/29/2005 10:00	22.9	6.2	31	77	6.7	0	0	5
6/29/2005	10:15	6/29/2005 10:15	23.1	6.2	31	77	6.6	0	0	5
6/29/2005	10:30	6/29/2005 10:30	23.2	6.3	31	78	6.6	0	0	5
6/29/2005	10:45	6/29/2005 10:45	23.3	6.2	31	78	6.7	0	0	5
6/29/2005	11:00	6/29/2005 11:00	23.5	6.2	31	79	6.7	0	0	5
6/29/2005	11:15	6/29/2005 11:15	23.6	6.2	31	78	6.6	0	0	5
6/29/2005	11:30	6/29/2005 11:30	23.7	6.3	31	78	6.6	0	0	5
6/29/2005	11:45	6/29/2005 11:45	23.8	6.3	30	78	6.6	0	0	5
6/29/2005	12:00	6/29/2005 12:00	23.9	6.3	30	78	6.5	0	0	5
6/29/2005	12:15	6/29/2005 12:15	24	6.2	30	77	6.5	0	0	5
6/29/2005	12:30	6/29/2005 12:30	24.2	6.2	30	80	6.7	0	0	5
6/29/2005	12:45	6/29/2005 12:45	24.3	6.2	30	79	6.6	0	0	5
6/29/2005	13:00	6/29/2005 13:00	24.3	6.2	30	80	6.7	0	0	5
6/29/2005	13:15	6/29/2005 13:15	24.4	6.2	30	80	6.7	0	0	5

6/29/2005	13:30	6/29/2005	13:30	24.4	6.2	29	79	6.6	0	0	5
6/29/2005	13:45	6/29/2005	13:45	24.7	6.2	29	80	6.7	0	0	5
6/29/2005	14:00	6/29/2005	14:00	24.9	6.2	29	80	6.6	0	0	5
6/29/2005	14:15	6/29/2005	14:15	25.1	6.2	29	81	6.7	0	0	5
6/29/2005	14:30	6/29/2005	14:30	25.3	6.2	29	80	6.6	0	0	5
6/29/2005	14:45	6/29/2005	14:45	25.4	6.2	29	80	6.5	0	0	5
6/29/2005	15:00	6/29/2005	15:00	25.4	6.2	29	80	6.5	0	0	5
6/29/2005	15:15	6/29/2005	15:15	25.5	6.2	28	80	6.5	0	0	5
6/29/2005	15:30	6/29/2005	15:30	25.3	6.2	28	79	6.5	0	0	5
6/29/2005	15:45	6/29/2005	15:45	25.5	6.2	28	80	6.6	0	0	5
6/29/2005	16:00	6/29/2005	16:00	25.4	6.2	28	79	6.5	0	0	5
6/29/2005	16:15	6/29/2005	16:15	25.4	6.2	27	79	6.5	0	0	5
6/29/2005	16:30	6/29/2005	16:30	25.4	6.2	27	79	6.5	0	0	5
6/29/2005	16:45	6/29/2005	16:45	25.4	6.2	27	79	6.5	0	0	5
6/29/2005	17:00	6/29/2005	17:00	25.4	6.2	27	79	6.4	0	0	5
6/29/2005	17:15	6/29/2005	17:15	25.4	6.2	27	80	6.6	0	0	5
6/29/2005	17:30	6/29/2005	17:30	25.4	6.2	27	80	6.6	0	0	5
6/29/2005	17:45	6/29/2005	17:45	25.4	6.2	26	80	6.6	0	0	5
6/29/2005	18:00	6/29/2005	18:00	25.3	6.2	26	80	6.6	0	0	5
6/29/2005	18:15	6/29/2005	18:15	25.3	6.2	26	82	6.7	0	0	5
6/29/2005	18:30	6/29/2005	18:30	25.3	6.2	26	82	6.8	0	0	5
6/29/2005	18:45	6/29/2005	18:45	25.3	6.2	26	81	6.7	0	0	5
6/29/2005	19:00	6/29/2005	19:00	25.2	6.2	26	81	6.7	0	0	5
6/29/2005	19:15	6/29/2005	19:15	25.2	6.2	26	81	6.7	0	0	5
6/29/2005	19:30	6/29/2005	19:30	25.2	6.2	26	81	6.7	0	0	5
6/29/2005	19:45	6/29/2005	19:45	25.2	6.2	26	81	6.7	0	0	5
6/29/2005	20:00	6/29/2005	20:00	25.2	6.2	27	81	6.7	0	0	5
6/29/2005	20:15	6/29/2005	20:15	25.2	6.2	27	81	6.7	0	0	5
6/29/2005	20:30	6/29/2005	20:30	25.1	6.2	27	81	6.7	0	0	5
6/29/2005	20:45	6/29/2005	20:45	25.1	6.2	27	81	6.7	0	0	5
6/29/2005	21:00	6/29/2005	21:00	25.1	6.2	27	81	6.7	0	0	5
6/29/2005	21:15	6/29/2005	21:15	25	6.2	27	80	6.6	0	0	5
6/29/2005	21:30	6/29/2005	21:30	25	6.2	28	80	6.6	0	0	5
6/29/2005	21:45	6/29/2005	21:45	25	6.2	28	80	6.6	0	0	5
6/29/2005	22:00	6/29/2005	22:00	25	6.2	28	80	6.6	0	0	5
6/29/2005	22:15	6/29/2005	22:15	24.9	6.2	28	80	6.6	0	0	5
6/29/2005	22:30	6/29/2005	22:30	24.9	6.2	29	80	6.7	0	0	5
6/29/2005	22:45	6/29/2005	22:45	24.9	6.2	29	80	6.6	0	0	5

6/29/2005	23:00	6/29/2005 23:00	24.8	6.2	29	80	6.6	0	0	5
6/29/2005	23:15	6/29/2005 23:15	24.8	6.2	29	79	6.6	0	0	5
6/29/2005	23:30	6/29/2005 23:30	24.8	6.2	29	79	6.6	0	0	5
6/29/2005	23:45	6/29/2005 23:45	24.7	6.2	30	79	6.6	0	0	5
6/30/2005	0:00	6/30/2005 00:00	24.7	6.2	30	79	6.6	0	0	5
6/30/2005	0:15	6/30/2005 00:15	24.6	6.2	30	79	6.6	0	0	5
6/30/2005	0:30	6/30/2005 00:30	24.6	6.2	30	79	6.6	0	0	5
6/30/2005	0:45	6/30/2005 00:45	24.5	6.2	31	79	6.6	0	0	5
6/30/2005	1:00	6/30/2005 01:00	24.5	6.2	31	79	6.6	0	0	5
6/30/2005	1:15	6/30/2005 01:15	24.4	6.2	31	79	6.6	0	0	5
6/30/2005	1:30	6/30/2005 01:30	24.3	6.2	31	79	6.6	0	0	5
6/30/2005	1:45	6/30/2005 01:45	24.3	6.2	31	78	6.6	0	0	5
6/30/2005	2:00	6/30/2005 02:00	24.2	6.2	31	78	6.6	0	0	5
6/30/2005	2:15	6/30/2005 02:15	24.1	6.2	31	78	6.6	0	0	5
6/30/2005	2:30	6/30/2005 02:30	24.1	6.2	31	78	6.6	0	0	5
6/30/2005	2:45	6/30/2005 02:45	24	6.2	31	78	6.6	0	0	5
6/30/2005	3:00	6/30/2005 03:00	23.9	6.2	31	79	6.6	0	0	5
6/30/2005	3:15	6/30/2005 03:15	23.9	6.2	31	78	6.6	0	0	5
6/30/2005	3:30	6/30/2005 03:30	23.8	6.2	31	78	6.6	0	0	5
6/30/2005	3:45	6/30/2005 03:45	23.7	6.2	32	78	6.6	0	0	5
6/30/2005	4:00	6/30/2005 04:00	23.7	6.2	31	78	6.6	0	0	5
6/30/2005	4:15	6/30/2005 04:15	23.6	6.2	32	78	6.6	0	0	5
6/30/2005	4:30	6/30/2005 04:30	23.5	6.2	32	78	6.6	0	0	5
6/30/2005	4:45	6/30/2005 04:45	23.5	6.2	32	78	6.6	0	0	5
6/30/2005	5:00	6/30/2005 05:00	23.4	6.2	32	78	6.6	0	0	5
6/30/2005	5:15	6/30/2005 05:15	23.3	6.2	32	77	6.6	0	0	5
6/30/2005	5:30	6/30/2005 05:30	23.3	6.2	32	77	6.6	0	0	5
6/30/2005	5:45	6/30/2005 05:45	23.2	6.2	32	77	6.5	0	0	5
6/30/2005	6:00	6/30/2005 06:00	23.1	6.2	32	77	6.6	0	0	5
6/30/2005	6:15	6/30/2005 06:15	23.1	6.2	32	77	6.6	0	0	5
6/30/2005	6:30	6/30/2005 06:30	23	6.2	32	77	6.6	0	0	5
6/30/2005	6:45	6/30/2005 06:45	22.9	6.2	32	77	6.6	0	0	5
6/30/2005	7:00	6/30/2005 07:00	22.9	6.2	32	77	6.6	0	0	5
6/30/2005	7:15	6/30/2005 07:15	22.9	6.2	32	77	6.6	0	0	5
6/30/2005	7:30	6/30/2005 07:30	22.9	6.2	32	77	6.6	0	0	5
6/30/2005	7:45	6/30/2005 07:45	22.9	6.2	32	77	6.6	0	0	5
6/30/2005	8:00	6/30/2005 08:00	22.9	6.2	32	77	6.6	0	0	5
6/30/2005	8:15	6/30/2005 08:15	22.9	6.2	32	76	6.5	0	0	5

6/30/2005	8:30	6/30/2005 08:30	23	6.2	32	76	6.6	0	0	5
6/30/2005	8:45	6/30/2005 08:45	23.1	6.2	32	77	6.6	0	0	5
6/30/2005	9:00	6/30/2005 09:00	23.2	6.2	32	77	6.6	0	0	5
6/30/2005	9:15	6/30/2005 09:15	23.3	6.3	32	77	6.6	0	0	5
6/30/2005	9:30	6/30/2005 09:30	23.4	6.3	32	78	6.6	0	0	5
6/30/2005	9:45	6/30/2005 09:45	23.6	6.3	32	78	6.6	0	0	5
6/30/2005	10:00	6/30/2005 10:00	23.7	6.2	32	79	6.7	0	0	5
6/30/2005	10:15	6/30/2005 10:15	23.9	6.3	32	79	6.7	0	0	5
6/30/2005	10:30	6/30/2005 10:30	24	6.2	31	80	6.7	0	0	5
6/30/2005	10:45	6/30/2005 10:45	24.1	6.2	31	79	6.6	0	0	5
6/30/2005	11:00	6/30/2005 11:00	24.2	6.3	31	80	6.7	0	0	5

Appendix F5 – BOD Calculations

West Anacoco Creek 110501
Lab BOD Calculations Summary

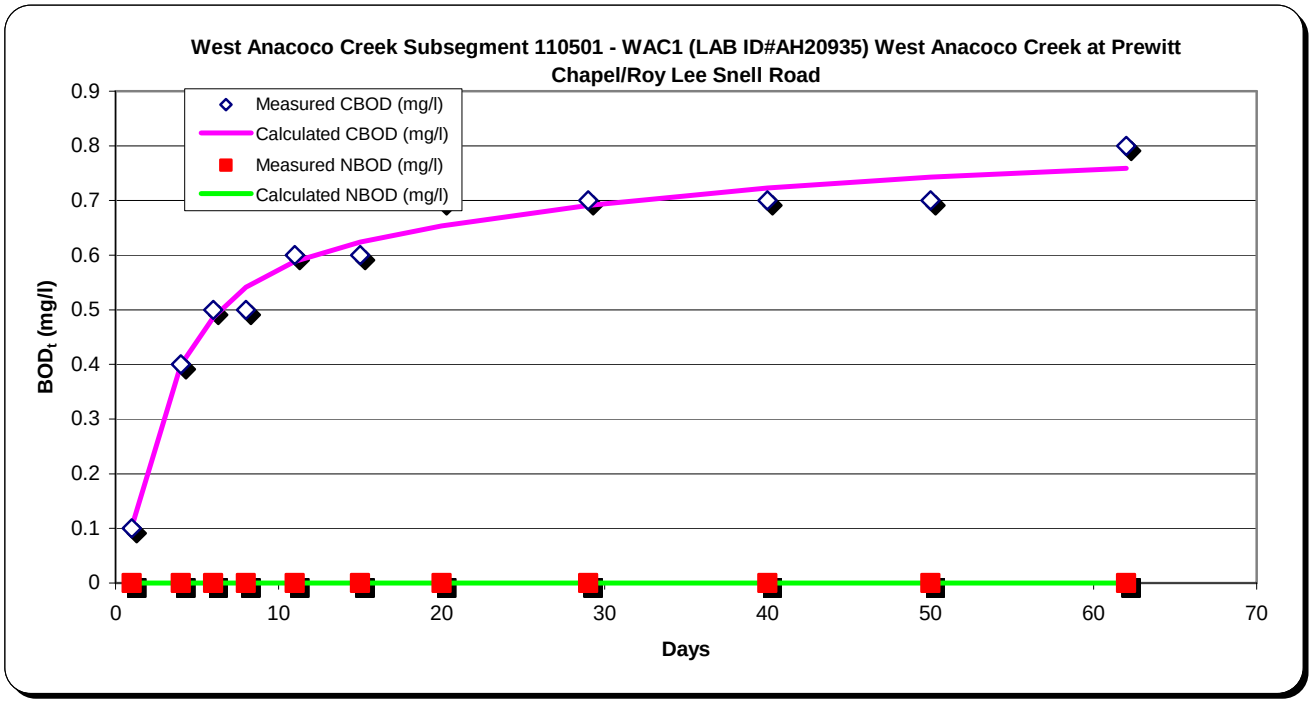
Site ID	CBOD1 (mg/l)	k rate (1/day)	Lag time (days)	CBOD2 (mg/l)	k rate (1/day)	Lag time (days)	NBOD (mg/l)	k rate (1/day)	Lag time (days)
WAC1	0.5601	0.3482	0.4213	0.2282	0.0359	5.2500	0.0000	0.0050	0.0000
WAC2	3.9889	0.2032	0.0486	3.0715	0.0302	10.2259	1.5403	0.1883	12.8819
WAC3	2.8733	0.2473	0.2431	3.1277	0.0325	14.0000	1.2766	0.0990	8.6528
WAC4	2.7738	0.2937	0.0122	4.3348	0.0294	7.3902	1.2992	0.1287	9.6736
WAC5	6.1261	0.1551	0.2674	3.6474	0.0317	24.5448	2.2746	0.3006	17.4028
WAC10	2.3583	0.1757	0.0000	4.0374	0.0310	12.2500	0.8814	0.0892	10.5000
WAC11	0.6762	0.4720	0.2296	0.5483	0.0474	9.4792	0.3862	0.0321	25.1672
WAC11a	0.4324	0.4307	0.2836	0.5641	0.0050	7.6724	0.0000	0.0050	0.0000

West Anacoco Creek 110501 Lab UBOD Calculations Summary by Reach

	CBOD1		CBOD2		NBOD	
Reach	**Decay Rate (1/day)**	**Source**	**Decay Rate (1/day)**	**Source**	**Decay Rate (1/day)**	**Source**
1	0.2757	AVG (WAC1,WAC2)	0.0331	AVG (WAC1,WAC2)	0.0967	AVG (WAC1,WAC2)
2	0.2253	AVG (WAC2,WAC3)	0.0314	AVG (WAC2,WAC3)	0.1436	AVG (WAC2,WAC3)
3	0.2705	AVG (WAC3,WAC4)	0.0310	AVG (WAC3,WAC4)	0.1139	AVG (WAC3,WAC4)
4	0.2244	AVG (WAC4,WAC5)	0.0306	AVG (WAC4,WAC5)	0.2147	AVG (WAC4,WAC5)
5	0.2244	AVG (WAC4,WAC5)	0.0306	AVG (WAC4,WAC5)	0.2147	AVG (WAC4,WAC5)
6	0.2244	AVG (WAC4,WAC5)	0.0306	AVG (WAC4,WAC5)	0.2147	AVG (WAC4,WAC5)

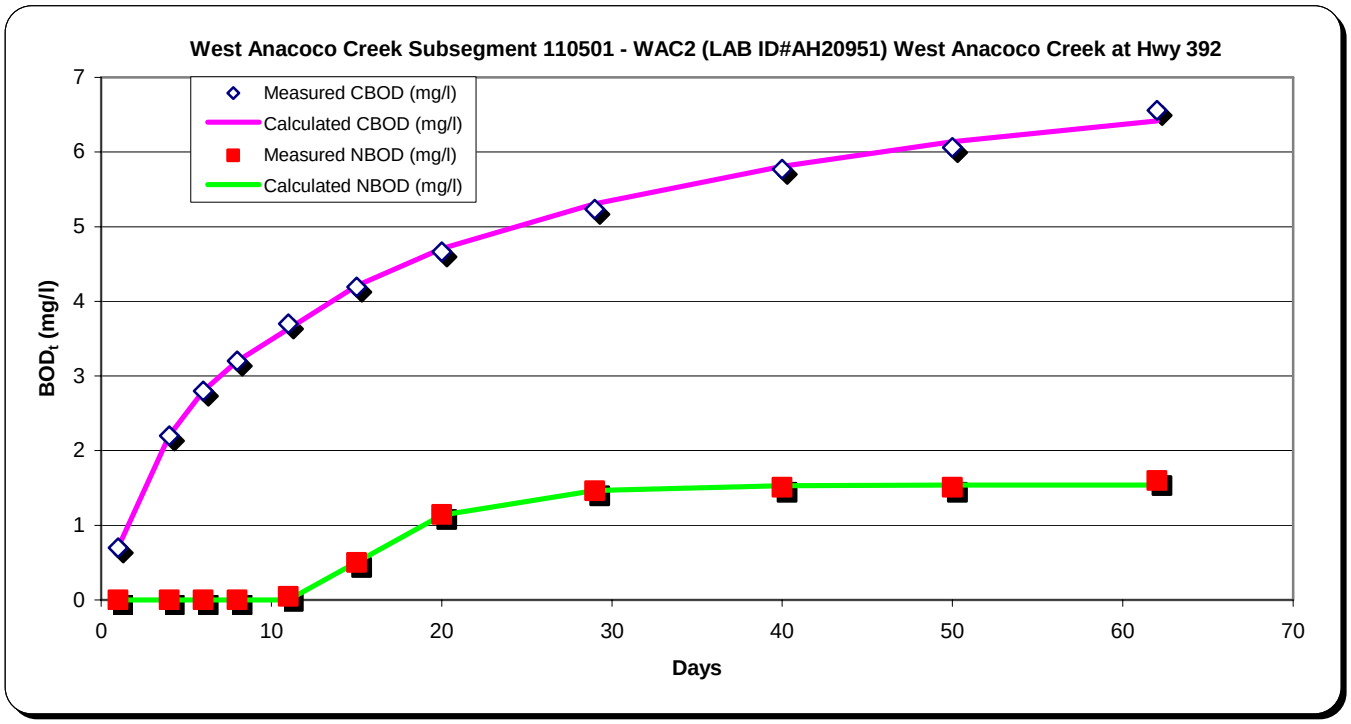
	NBOD	CBOD1	CBOD2
UBOD (mg/l)	0	0.5600888	0.22824889
k rate (1/day)	0.005	0.3482248	0.0359375
Lag time (days)	0	0.4212962	5.25

Breakpoint: 8th day



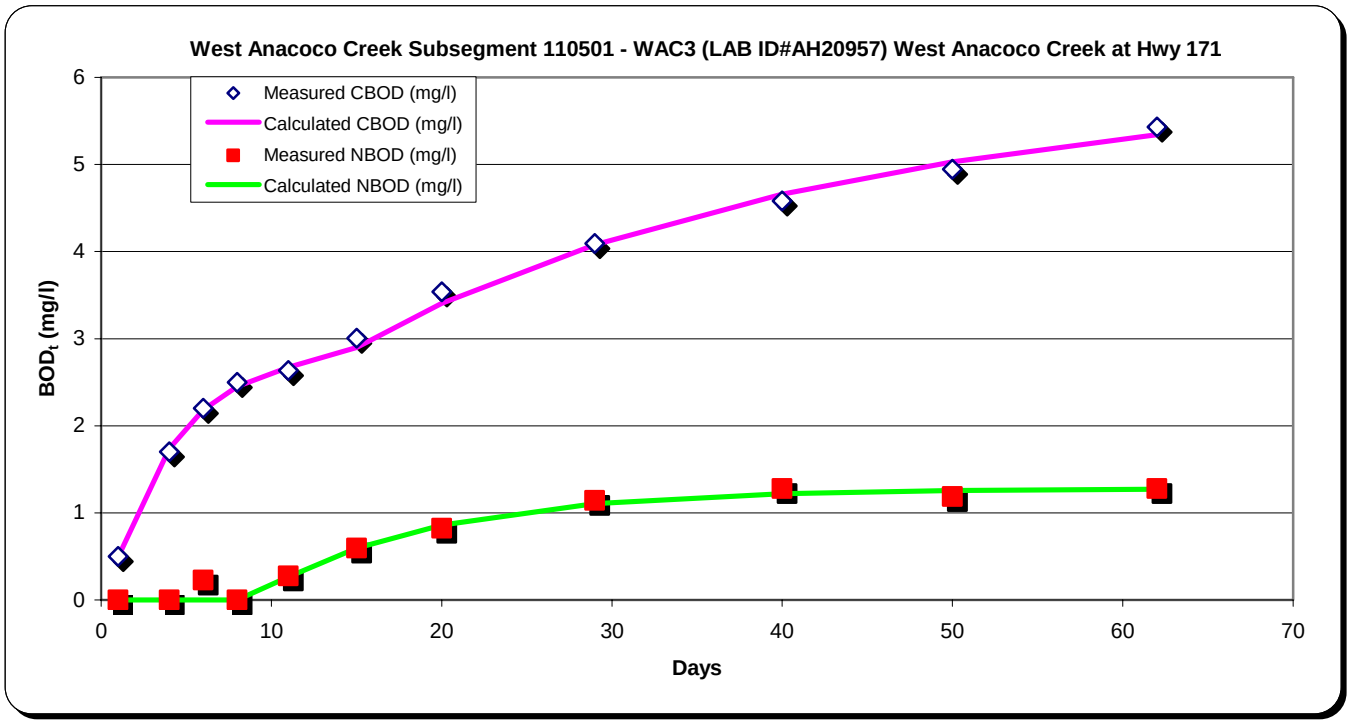
	NBOD	CBOD1	CBOD2
UBOD (mg/l)	1.5402592	3.988889	3.07149649
k rate (1/day)	0.1883333	0.2032292	0.03020833
Lag time (days)	12.881945	0.0486111	10.2258873

Breakpoint: 8th day



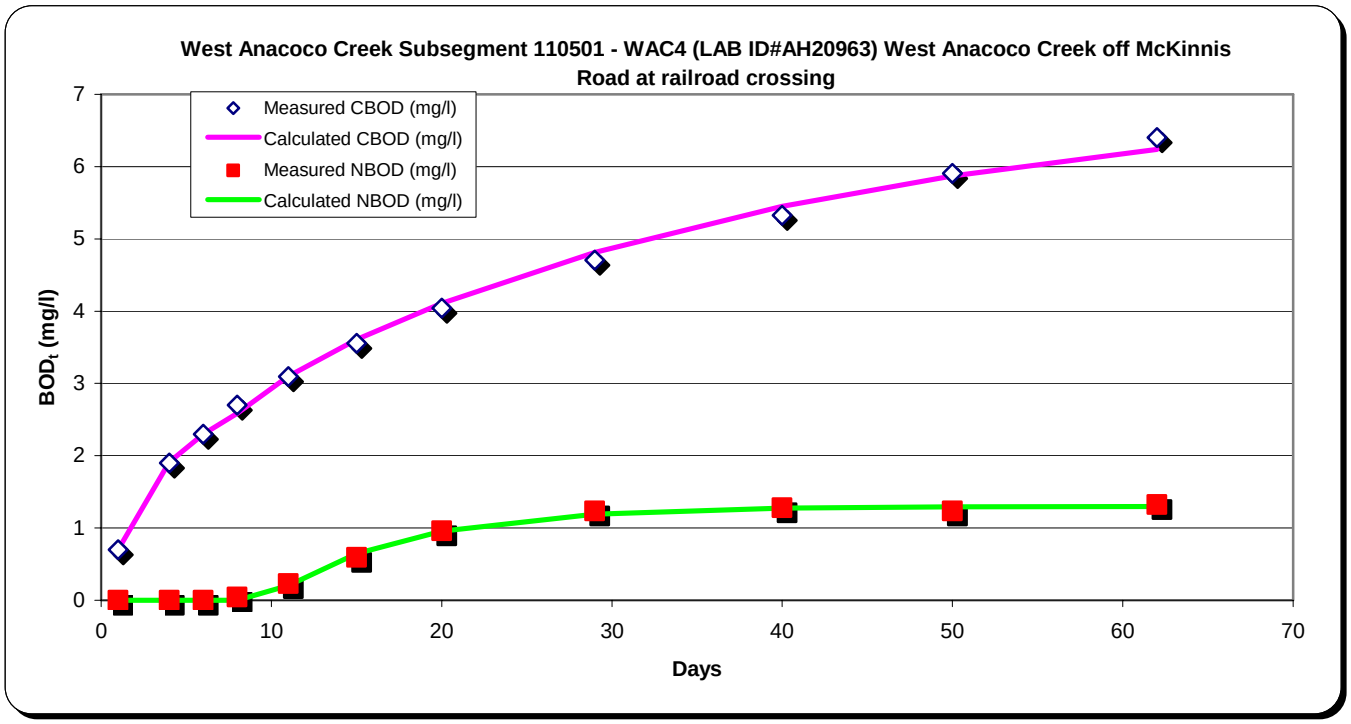
	NBOD	CBOD1	CBOD2
UBOD (mg/l)	1.276638	2.8733034	3.12765074
k rate (1/day)	0.0989583	0.2473437	0.0325
Lag time (days)	8.6527777	0.2430556	14

Breakpoint: 11th day



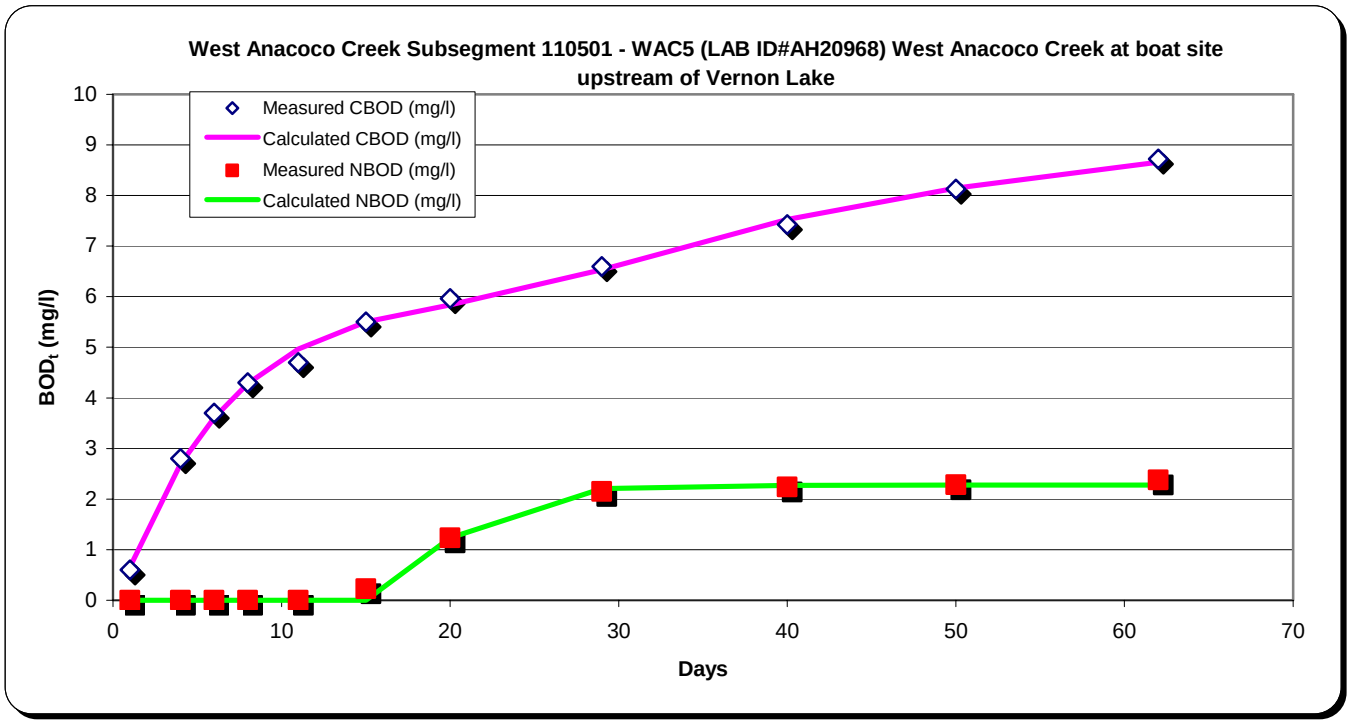
	NBOD	CBOD1	CBOD2
UBOD (mg/l)	1.2992235	2.7738426	4.3348074
k rate (1/day)	0.12875	0.29375	0.02944444
Lag time (days)	9.6736107	0.0121528	7.39023972

Breakpoint: 6th day



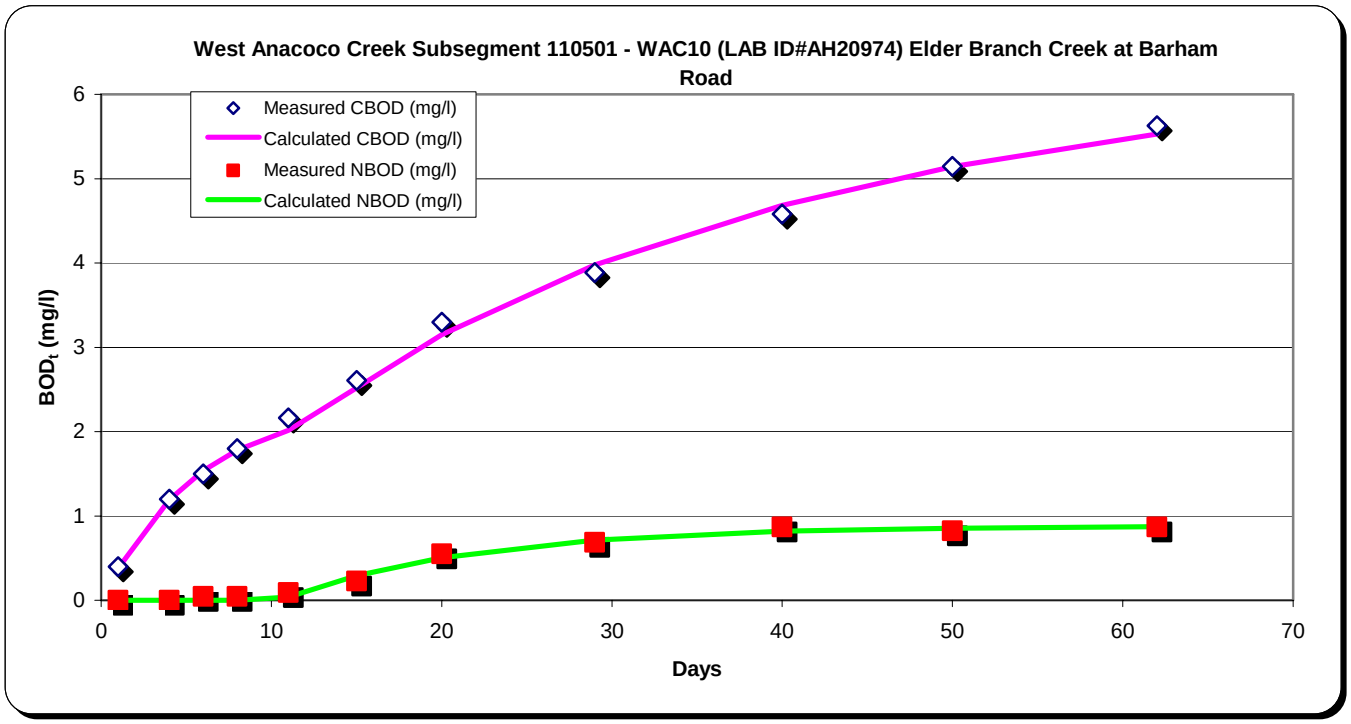
	NBOD	CBOD1	CBOD2
UBOD (mg/l)	2.2746327	6.1260996	3.64736676
k rate (1/day)	0.300625	0.1551042	0.03173611
Lag time (days)	17.402779	0.2673611	24.5448265

Breakpoint: 20th day



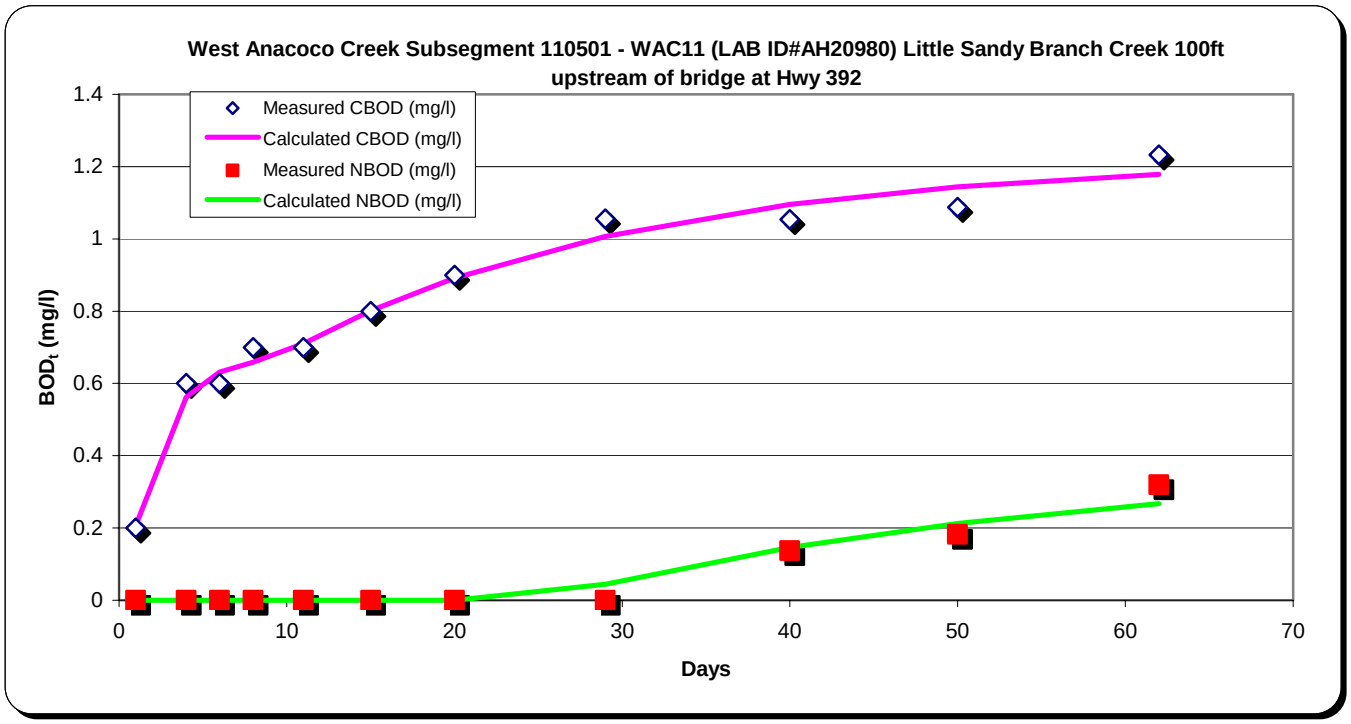
	NBOD	CBOD1	CBOD2
UBOD (mg/l)	0.8813647	2.3583333	4.0373745
k rate (1/day)	0.0892188	0.1757292	0.03097222
Lag time (days)	10.5	0	12.25

Breakpoint: 8th day



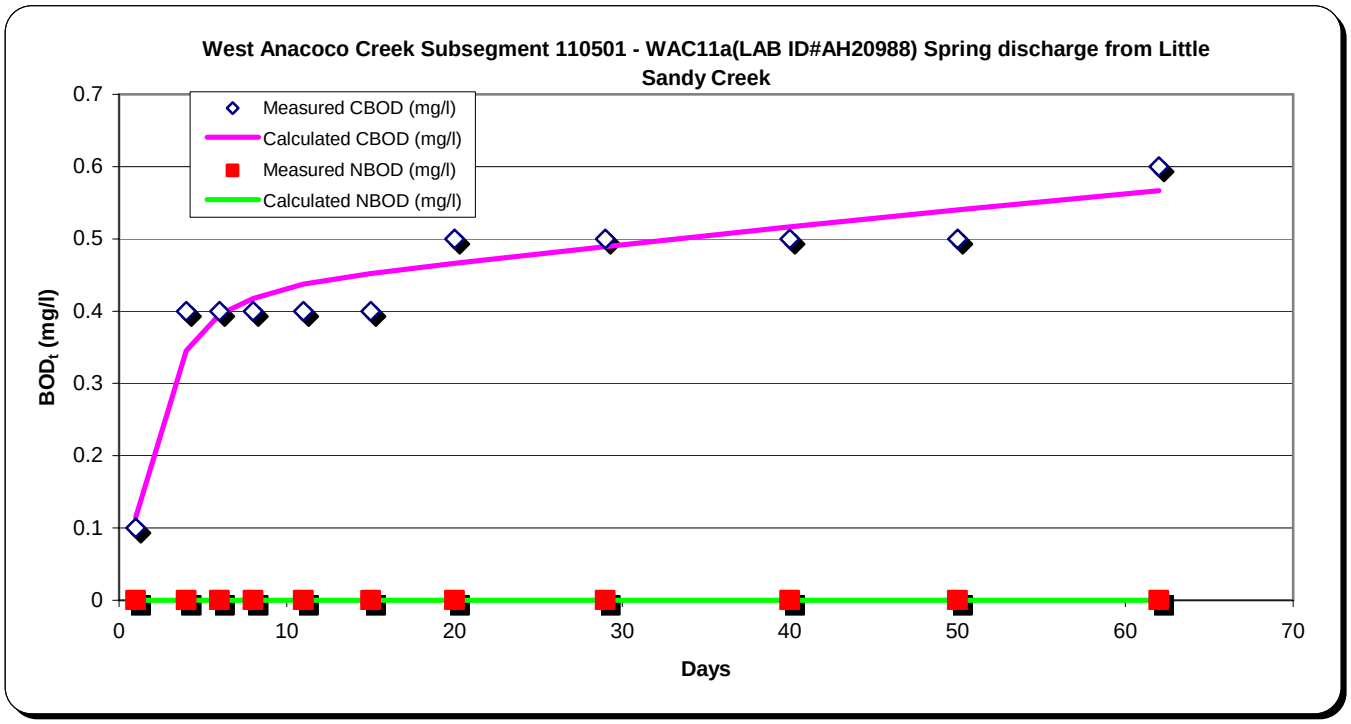
	NBOD	CBOD1	CBOD2
UBOD (mg/l)	0.3861884	0.6761574	0.54833293
k rate (1/day)	0.0320975	0.4719748	0.04739583
Lag time (days)	25.16715	0.2295524	9.47916603

Breakpoint: 6th day



	NBOD	CBOD1	CBOD2
UBOD (mg/l)	0	0.4323817	0.5640915
k rate (1/day)	0.005	0.4307248	0.005
Lag time (days)	0	0.2835648	7.67242002

Breakpoint: 11th day



Appendix G– Historical and Ambient Data

Appendix G1 – Ambient Data

Critical Temperature and DO Determinations:

SITE NUMBER: 1162

SITE DESCRIPTION: West Anacoco Creek at US Highway 171, Louisiana

	Summer Season	***Winter Season***
90th Percentile Temperature(°C):	25.23	17.20
90 % DO Sat (mg/L):	7.41	8.66
Months:	May To Oct	Nov To Apr

Date	***Water Temp. (°C)***	***DO (mg/L)***
12/16/2002	8.91	9.96
11/18/2002	10.26	9.11
10/15/2002	16.47	4.57
9/17/2002	23.97	0.72
8/19/2002	24.92	3.22
7/22/2002	25.53	1.68
6/17/2002	21.80	2.00
5/20/2002	15.97	5.53
4/15/2002	19.07	6.85
3/25/2002	15.33	7.83
2/19/2002	12.20	9.36
1/22/2002	9.90	9.69

Appendix G2 – Land Use

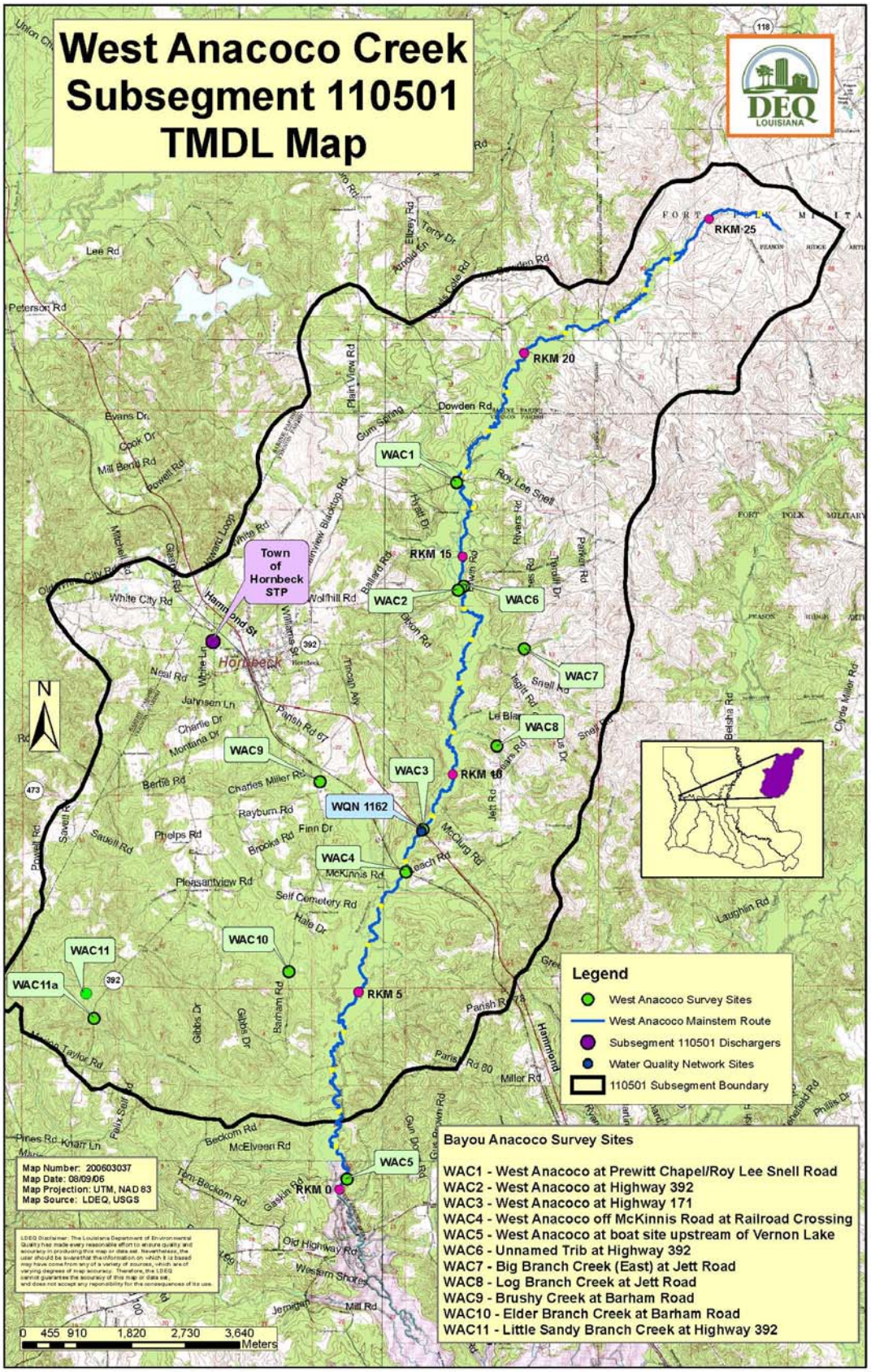
Land Use Summary

Subsegment: 110501
Data Source Name: LA-GAP June 2000

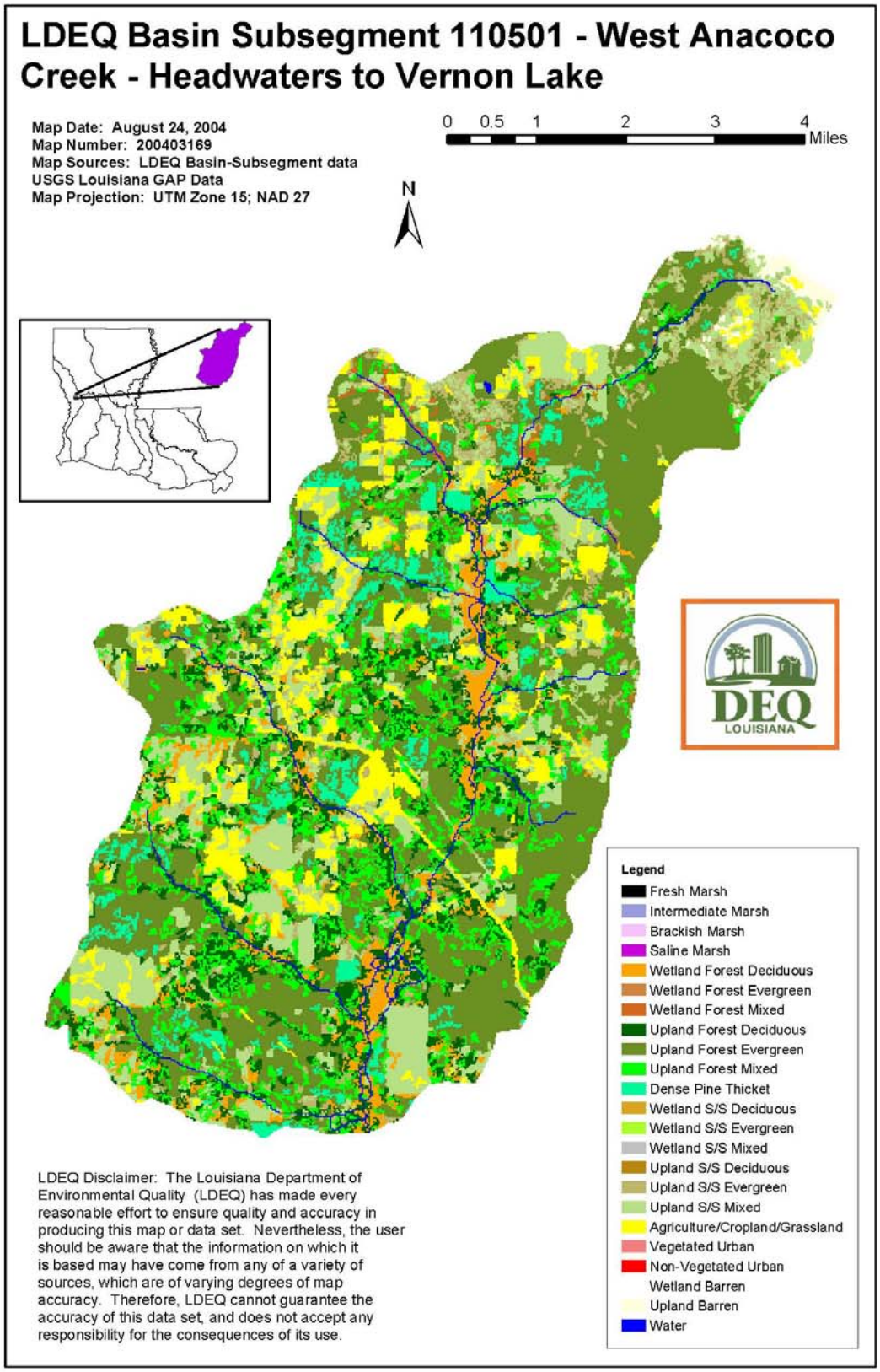
Grid Name	Area (Acres)	% Land Use
Wetland Forest Deciduous	70344.27	61.07
Agriculture/Cropland/Grassland	27935.42	24.25
Water	7838.96	6.81
Vegetated Urban	4705.87	4.09
Fresh Marsh	2068.94	1.80
Wetland S/S Deciduous	781.49	0.68
Upland Forest Mixed	596.02	0.52
Non-Vegetated Urban	408.32	0.35
Upland Barren	188.59	0.16
Upland S/S Mixed	167.24	0.15
Upland Forest Deciduous	112.09	0.10
Wetland Barren	33.36	0.03

Appendix H – Maps and Diagrams

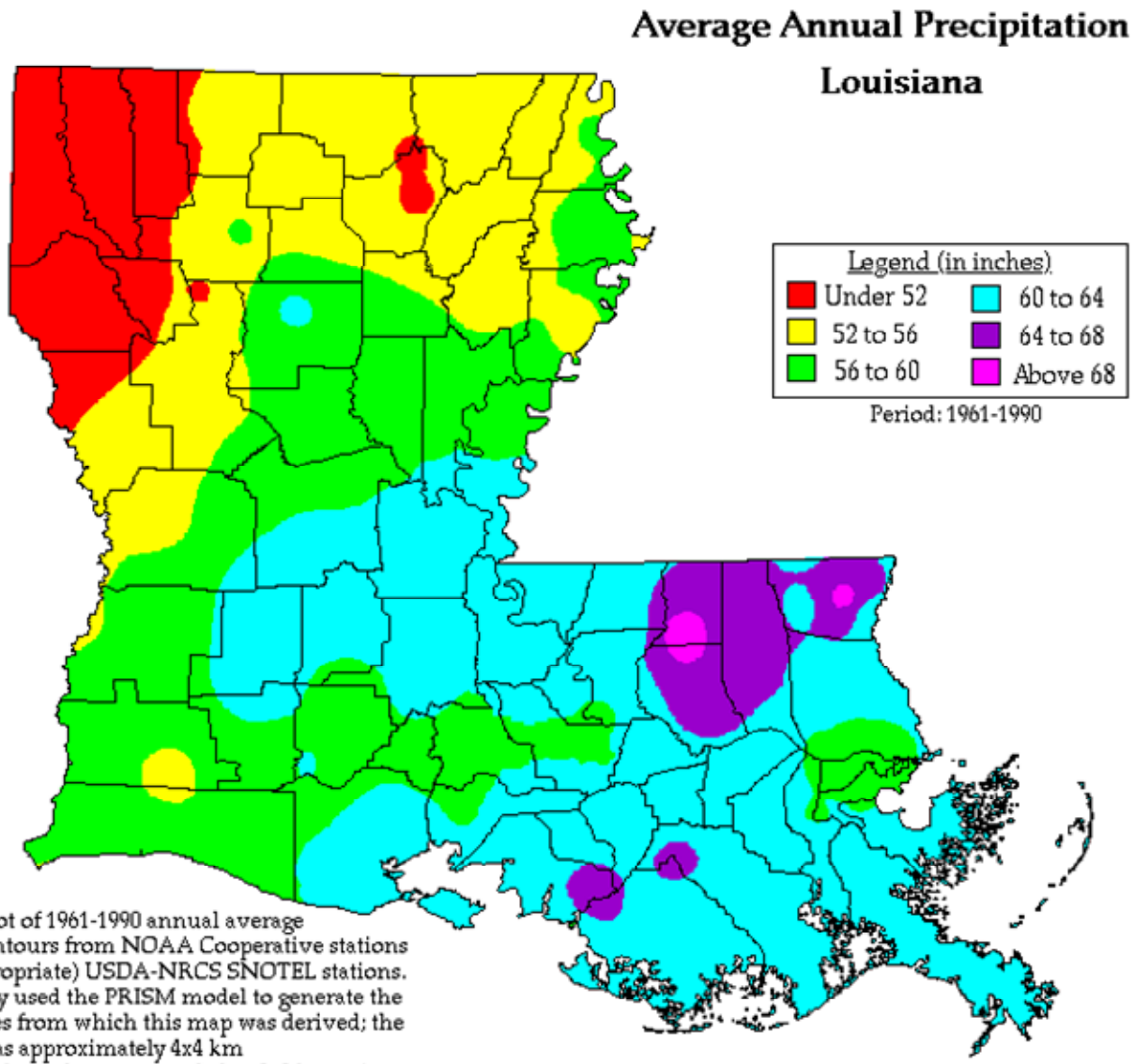
Appendix H1- Overview map


West Anacoco Creek
Subsegment 110501
TMDL Map
DEQ
LOUISIANA
RKM 25
RKM 20
RKM 15
RKM 10
RKM 5
RKM 0
WAC1
WAC2
WAC3
WAC4
WAC5
WAC6
WAC7
WAC8
WAC9
WAC10
WAC11
WAC11a
WQN 1162
Town of Hornbeck STP
Hornbeck
Legend
West Anacoco Survey Sites
West Anacoco Mainstem Route
Subsegment 110501 Dischargers
Water Quality Network Sites
110501 Subsegment Boundary
Bayou Anacoco Survey Sites
WAC1 - West Anacoco at Prewitt Chapel/Roy Lee Snell Road
WAC2 - West Anacoco at Highway 392
WAC3 - West Anacoco at Highway 171
WAC4 - West Anacoco off McKinnis Road at Railroad Crossing
WAC5 - West Anacoco at boat site upstream of Vernon Lake
WAC6 - Unnamed Trib at Highway 392
WAC7 - Big Branch Creek (East) at Jett Road
WAC8 - Log Branch Creek at Jett Road
WAC9 - Brushy Creek at Barham Road
WAC10 - Elder Branch Creek at Barham Road
WAC11 - Little Sandy Branch Creek at Highway 392
Map Number: 200603037
Map Date: 08/09/06
Map Projection: UTM, NAD 83
Map Source: LDEQ, USGS
0 455 910 1,820 2,730 3,640 Meters

Appendix H2 – Land Use Map


LDEQ Basin Subsegment 110501 - West Anacoco Creek - Headwaters to Vernon Lake
Map Date: August 24, 2004
Map Number: 200403169
Map Sources: LDEQ Basin-Subsegment data
USGS Louisiana GAP Data
Map Projection: UTM Zone 15; NAD 27
0 0.5 1 2 3 4 Miles
N
DEQ
LOUISIANA
Legend
Fresh Marsh
Intermediate Marsh
Brackish Marsh
Saline Marsh
Wetland Forest Deciduous
Wetland Forest Evergreen
Wetland Forest Mixed
Upland Forest Deciduous
Upland Forest Evergreen
Upland Forest Mixed
Dense Pine Thicket
Wetland S/S Deciduous
Wetland S/S Evergreen
Wetland S/S Mixed
Upland S/S Deciduous
Upland S/S Evergreen
Upland S/S Mixed
Agriculture/Cropland/Grassland
Vegetated Urban
Non-Vegetated Urban
Wetland Barren
Upland Barren
Water
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 data set, and does not accept any responsibility for the consequences of its use.

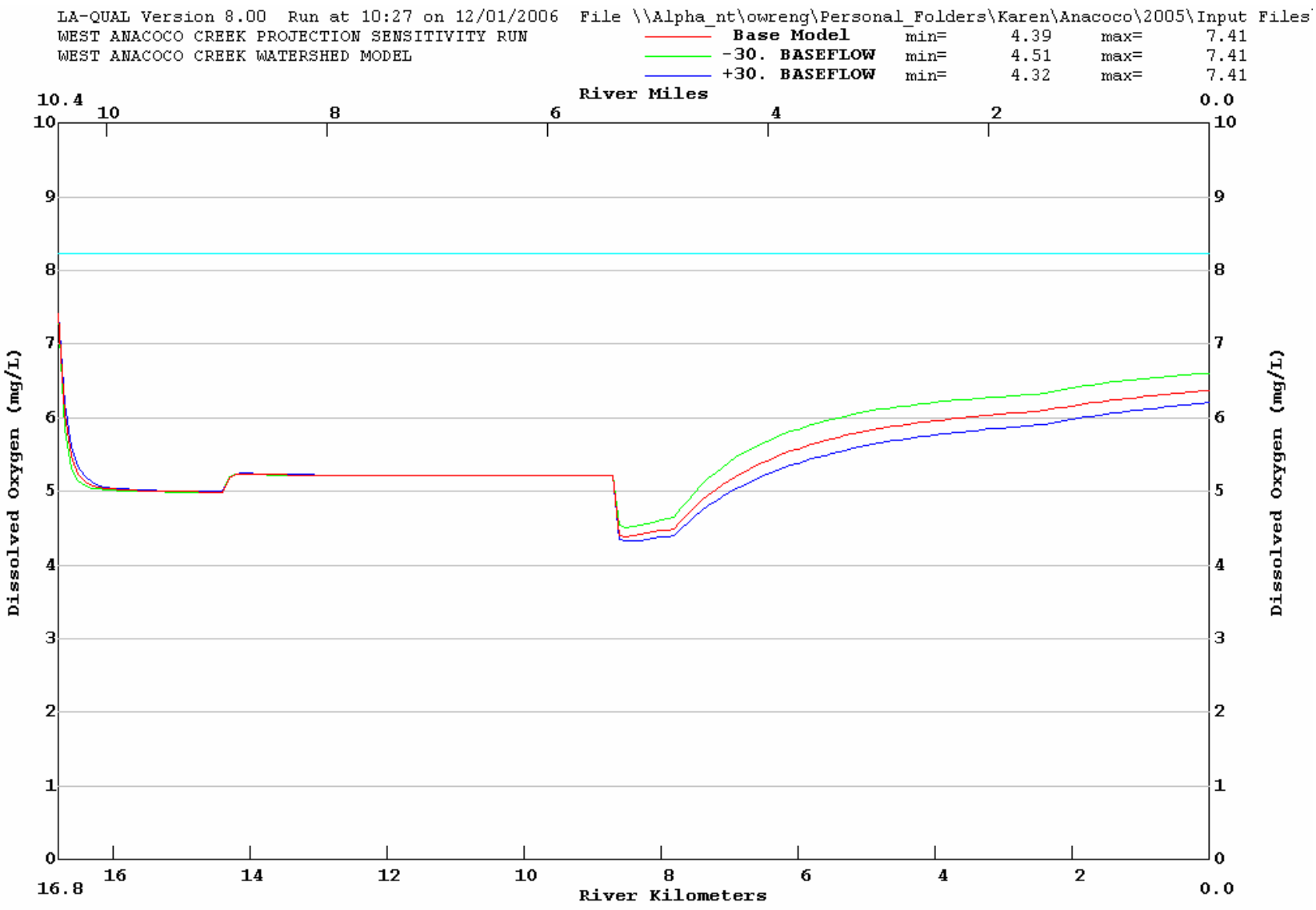
Appendix H3 – La Precipitation Map

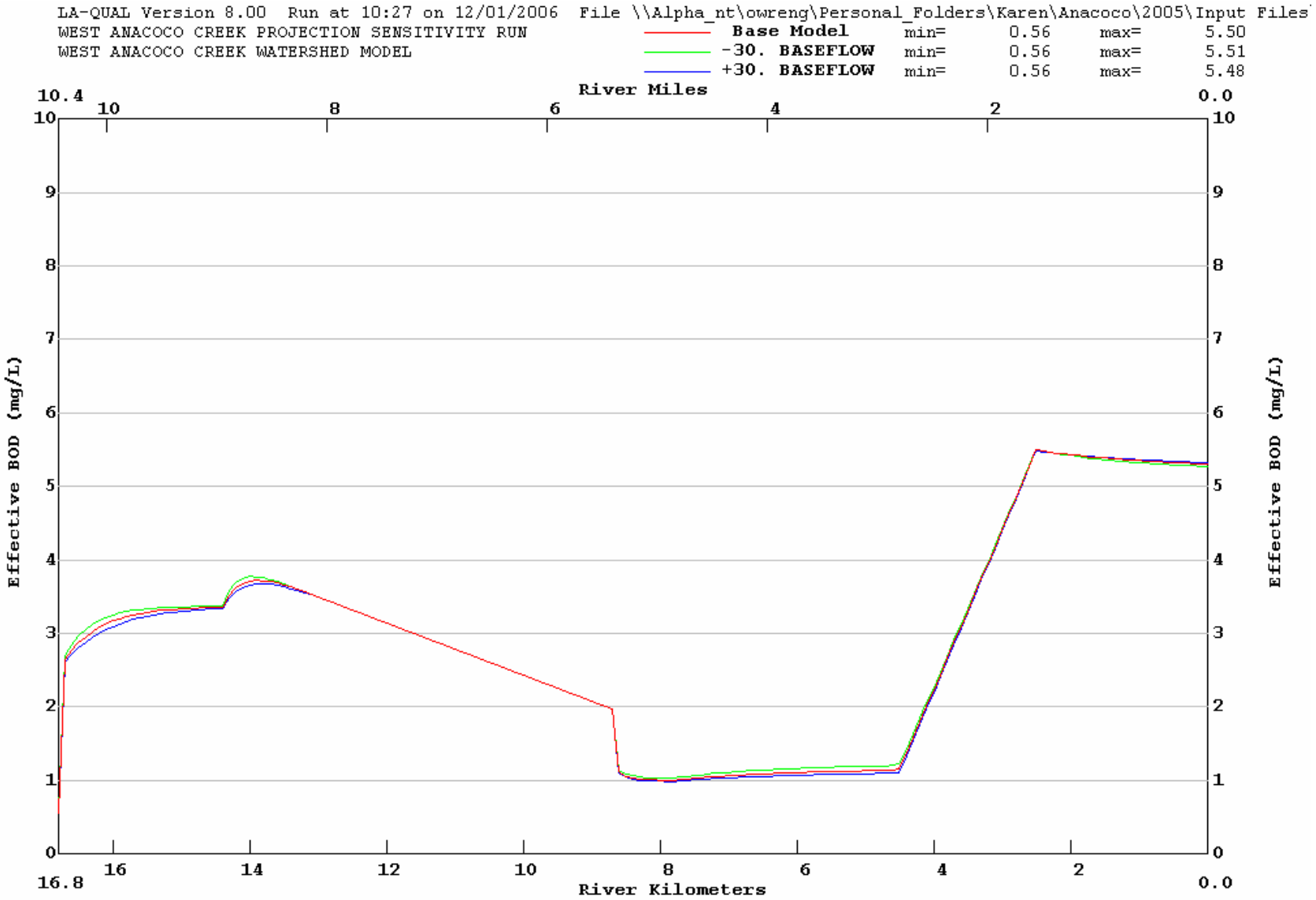


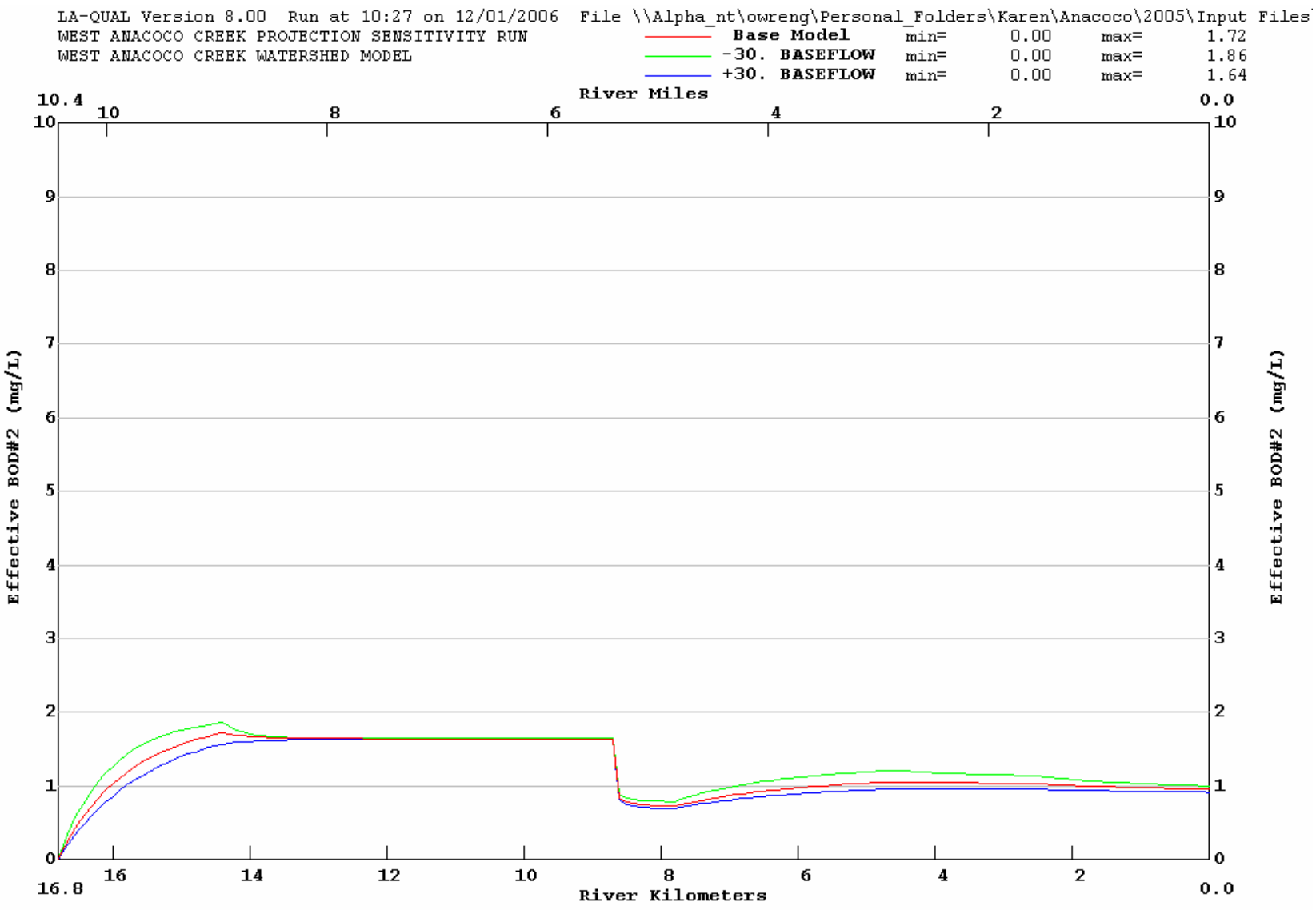
This map is a plot of 1961-1990 annual average precipitation contours from NOAA Cooperative stations and (where appropriate) USDA-NRCS SNOTEL stations. Christopher Daly used the PRISM model to generate the gridded estimates from which this map was derived; the modeled grid was approximately 4x4 km latitude/longitude, and was resampled to 2x2 km using a Gaussian filter. Mapping was performed by Jenny Weisburg. Funding was provided by USDA-NRCS National Water and Climate Center.

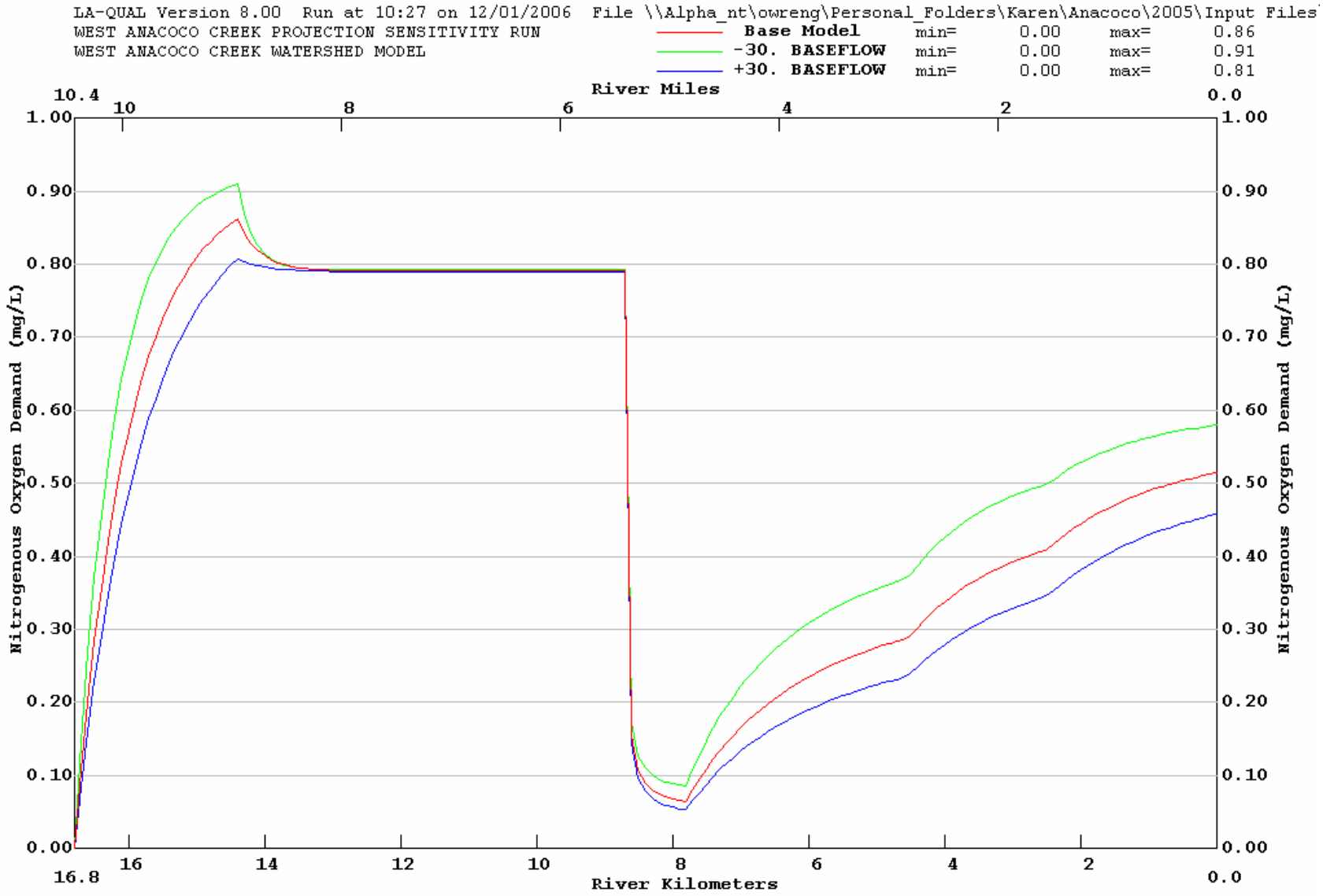
Appendix I – Sensitivity Analysis

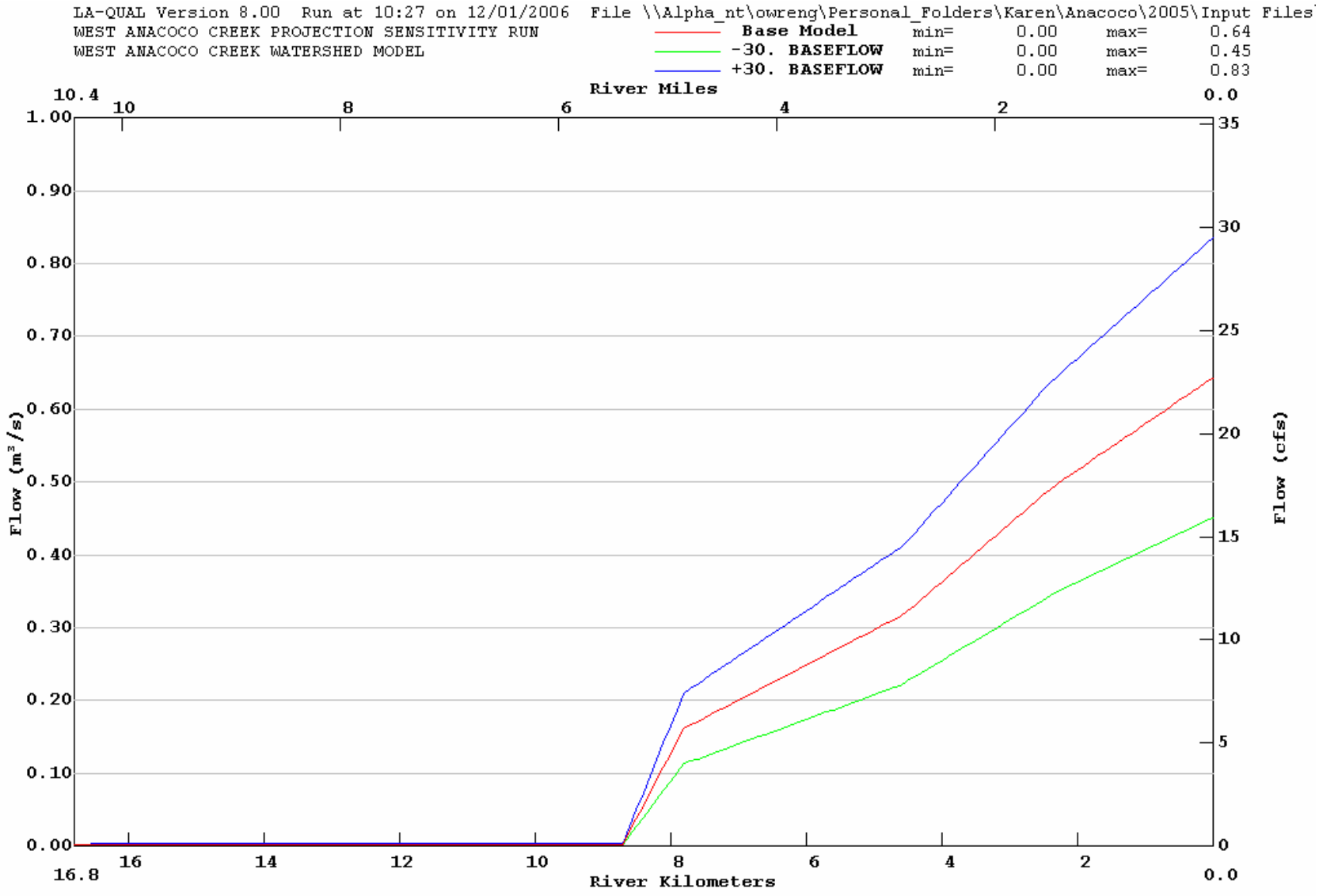
Appendix I1 – Sensitivity Output Graphs

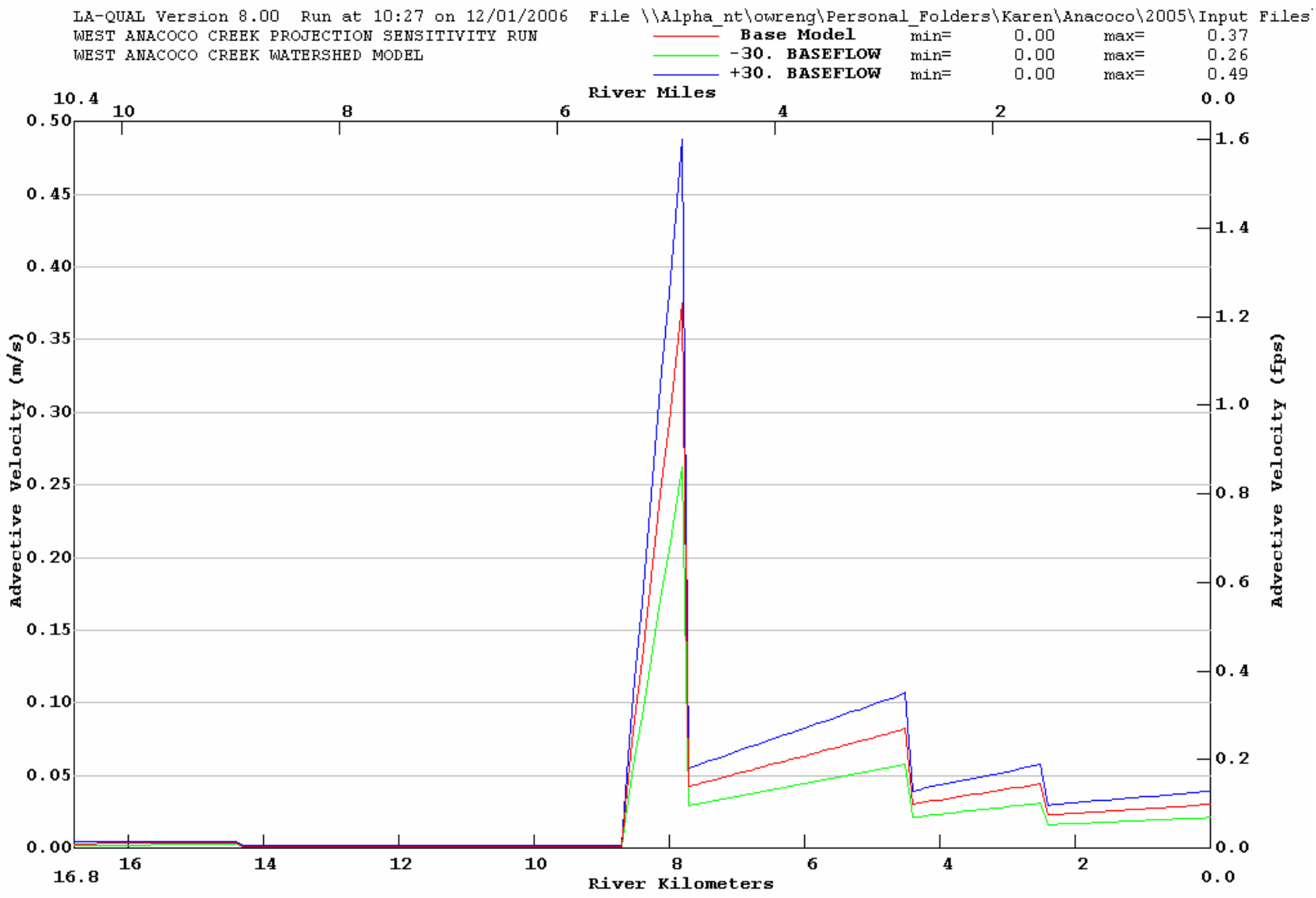

LA-QUAL Version 8.00 Run at 10:27 on 12/01/2006 File \\Alpha_nt\owreng\Personal_Folders\Karen\Anacoco\2005\Input Files
WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN
WEST ANACOCO CREEK WATERSHED MODEL
Base Model min= 4.39 max= 7.41
-30. BASEFLOW min= 4.51 max= 7.41
+30. BASEFLOW min= 4.32 max= 7.41
River Miles
10.4
10
8
6
4
2
0.0
Dissolved Oxygen (mg/L)
0
1
2
3
4
5
6
7
8
9
10
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers

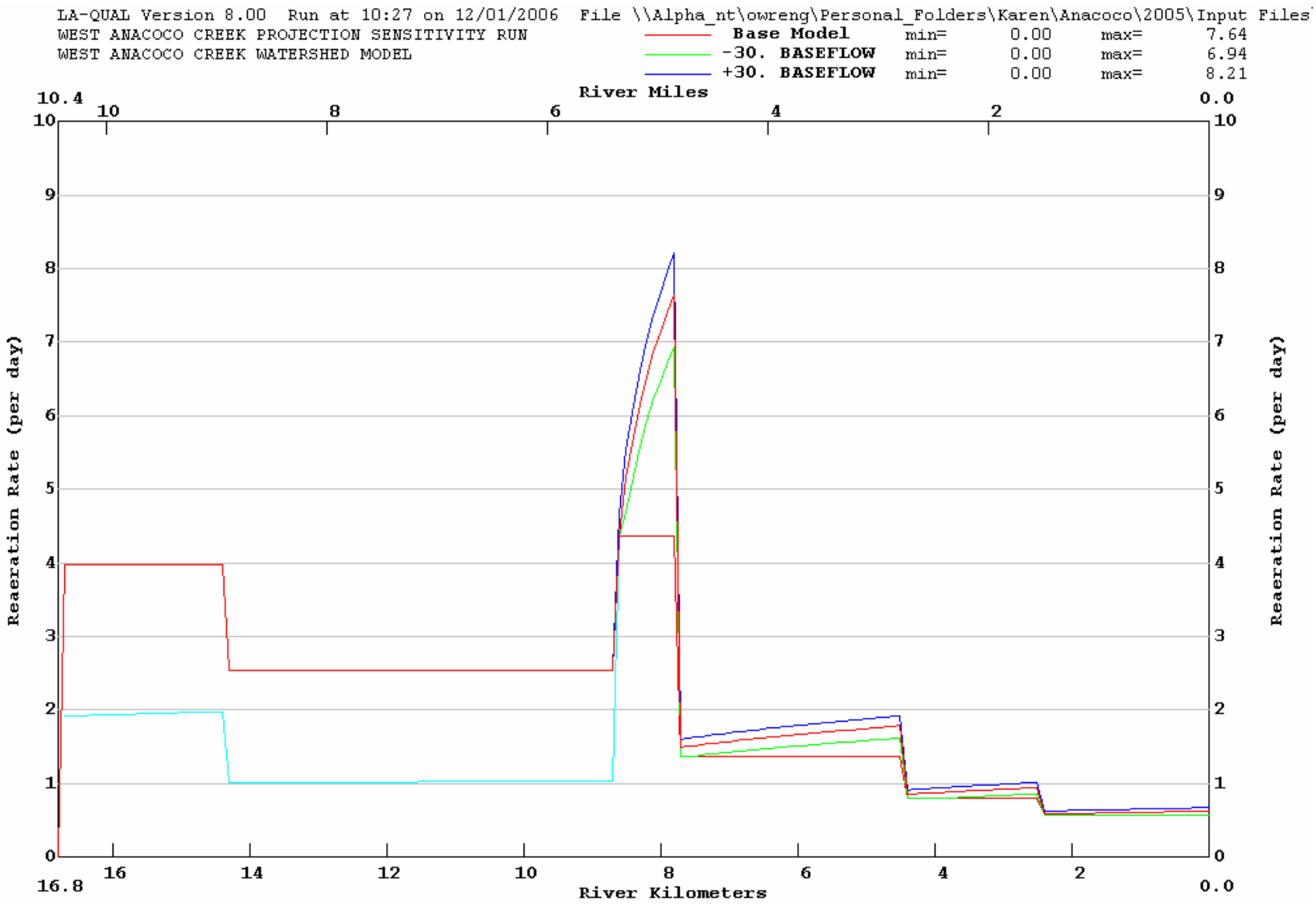

LA-QUAL Version 8.00 Run at 10:27 on 12/01/2006 File \\Alpha_nt\owreng\Personal_Folders\Karen\Anacoco\2005\Input Files
WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN
WEST ANACOCO CREEK WATERSHED MODEL
Base Model min= 0.56 max= 5.50
-30. BASEFLOW min= 0.56 max= 5.51
+30. BASEFLOW min= 0.56 max= 5.48
River Miles
10.4
10
8
6
4
2
0.0
Effective BOD (mg/L)
0
1
2
3
4
5
6
7
8
9
10
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers


LA-QUAL Version 8.00 Run at 10:27 on 12/01/2006 File \\Alpha_nt\owreng\Personal_Folders\Karen\Anacoco\2005\Input Files
WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN
WEST ANACOCO CREEK WATERSHED MODEL
Base Model min= 0.00 max= 1.72
-30. BASEFLOW min= 0.00 max= 1.86
+30. BASEFLOW min= 0.00 max= 1.64
River Miles
10.4
10
8
6
4
2
0.0
Effective BOD#2 (mg/L)
0
1
2
3
4
5
6
7
8
9
10
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers


LA-QUAL Version 8.00 Run at 10:27 on 12/01/2006 File \\Alpha_nt\owreng\Personal_Folders\Karen\Anacoco\2005\Input Files
WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN
WEST ANACOCO CREEK WATERSHED MODEL
Base Model min= 0.00 max= 0.86
-30. BASEFLOW min= 0.00 max= 0.91
+30. BASEFLOW min= 0.00 max= 0.81
River Miles
10.4
10
8
6
4
2
0.0
Nitrogenous Oxygen Demand (mg/L)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers


LA-QUAL Version 8.00 Run at 10:27 on 12/01/2006 File \\Alpha_nt\owreng\Personal_Folders\Karen\Anacoco\2005\Input Files
WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN
WEST ANACOCO CREEK WATERSHED MODEL
Base Model min= 0.00 max= 0.64
-30. BASEFLOW min= 0.00 max= 0.45
+30. BASEFLOW min= 0.00 max= 0.83
River Miles
10.4
10
8
6
4
2
0.0
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Flow (m³/s)
35
30
25
20
15
10
5
0
Flow (cfs)
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers


LA-QUAL Version 8.00 Run at 10:27 on 12/01/2006 File \\Alpha_nt\owreng\Personal_Folders\Karen\Anacoco\2005\Input Files
WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN
WEST ANACOCO CREEK WATERSHED MODEL
Base Model min= 0.00 max= 0.37
-30. BASEFLOW min= 0.00 max= 0.26
+30. BASEFLOW min= 0.00 max= 0.49
River Miles
10.4
10
8
6
4
2
0.0
Advective Velocity (m/s)
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
Advective Velocity (fps)
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers


LA-QUAL Version 8.00 Run at 10:27 on 12/01/2006 File \\Alpha_nt\owreng\Personal_Folders\Karen\Anacoco\2005\Input Files
WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN
WEST ANACOCO CREEK WATERSHED MODEL
Base Model min= 0.00 max= 7.64
-30. BASEFLOW min= 0.00 max= 6.94
+30. BASEFLOW min= 0.00 max= 8.21
River Miles
10.4
10
8
6
4
2
0.0
Reaeration Rate (per day)
0
1
2
3
4
5
6
7
8
9
10
16.8
16
14
12
10
8
6
4
2
0.0
River Kilometers

Appendix I2 – Sensitivity Output Data Set

WEST ANACOCO CREEK 110501 Sensitivity Analysis Input Data Set

```
CNTROL01     WEST ANACOCO CREEK WATERSHED MODEL
CNTROL02     WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN
CNTROL04 YES METRIC UNITS
ENDATA01
MODOPT01  NO TEMPERATURE
MODOPT02  NO SALINITY
MODOPT03 YES CONSERVATIVE MATERIAL  I = CHLORIDES                 IN MG/L
MODOPT04 YES CONSERVATIVE MATERIAL II = CONDUCTIVITY              IN MG/L
MODOPT05 YES DISSOLVED OXYGEN
MODOPT06 YES BOD1 BIOCHEMICAL OXYGEN DEMAND
MODOPT06 YES BOD2 BIOCHEMICAL OXYGEN DEMAND
MODOPT08 YES NBOD OXYGEN DEMAND
MODOPT10  NO PHOSPHORUS
MODOPT11  NO CHLOROPHYLL A
MODOPT12  NO MACROPHYTES
MODOPT13  NO COLIFORM
ENDATA02
PROGRAM  KL MINIMUM                        =     0.7
PROGRAM  INHIBITION CONTROL VALUE          =     3.
PROGRAM  K2 MAXIMUM                        =     25.0
PROGRAM  HYDRAULIC CALCULATION METHOD      =     2.
PROGRAM  SETTLING RATE UNITS               =     2.
PROGRAM  ALGAE OXYGEN PROD                 =     0.
PROGRAM  EFFECTIVE BOD DUE TO ALGAE        =     0.15
ENDATA03
!Temperature Correction Constants
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ******** ********
ENDATA04
ENDATA05
ENDATA06
ENDATA07
!Reach Identification Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!         ***  -- ********************************----------**********----------
!          R#  ID   SITE NAME                          RKM        RKM    LENGTH
REACH ID    1  WA WAC1 TO WAC2                         16.8       14.4     0.1
```

```
REACH ID    2  WA WAC2 TO WAC3                          14.4        8.7     0.1
REACH ID    3  WA WAC3 TO WAC4                           8.7        7.8     0.1
REACH ID    4  WA WAC4 TO Elder Branch Creek             7.8        4.5     0.1
REACH ID    5  WA Elder Branch TO Little Sandy           4.5        2.5     0.1
REACH ID    6  WA Little Sandy TO WAC5                   2.5        0.0     0.1
ENDATA08
!Advective Hydraulic Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  -------*******-------*******-------*******-------*******
!                a      b       c     d      e        f
!               WIDTH  WIDTH   WIDTH DEPTH  DEPTH   DEPTH
!          R#   COEFF   EXP    CONST COEFF   EXP    CONST SLOPE MANNING
HYDR-1      1   0.00   0.20    3.658 0.00   0.30    0.195
HYDR-1      2   0.00   0.20    6.401 0.00   0.30    0.305
HYDR-1      3   0.00   0.20    2.438 0.00   0.30    0.177
HYDR-1      4   0.00   0.20    6.909 0.00   0.30    0.566
HYDR-1      5   0.00   0.20   11.380 0.00   0.30    0.955
HYDR-1      6   0.00   0.20   15.850 0.00   0.30    1.344
ENDATA09
!Dispersive Hydraulic Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  -----**********----------**********----------
!              TIDAL
!          R#  RANGE    a          b         c         d
ENDATA10
!Initial Conditions
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ***  --------********--------********--------********--------********
!          R#    TEMP  SALINITY   DO     NH3 N  NIT NIT  PHOS   CHL A   MACROPHYTES
INITIAL     1    25.23    0.00   5.00                           16.6
INITIAL     2    25.23    0.00   5.00                           16.7
INITIAL     3    25.23    0.00   5.00                            3.2
INITIAL     4    25.23    0.00   5.00                            3.2
INITIAL     5    25.23    0.00   5.00                            3.2
INITIAL     6    25.23    0.00   5.00                           32.9
ENDATA11
!Reaeration, Sediment Oxygen Demand and BOD Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8---------9
```

```
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  -----******----- ******-------*******-------*******-------*******--------***
!                REA    KL                     BOD 1  BOD 1                BOD 2    BOD 2
!           R#   EQ    MIN                 SOD  DECAY  SETT                DECAY    SETT
COEF-1      1   11.0                     1.731 0.2757 0.20                0.0331   0.20
COEF-1      2   11.0                     1.530 0.2253 0.20                0.0314   0.20
COEF-1      3   11.0                     0.233 0.2705 0.20                0.0310   0.20
COEF-1      4   11.0                     0.237 0.2244 0.50                0.0306   0.50
COEF-1      5   11.0                     0.020 0.2244 0.50                0.0306   0.50
COEF-1      6   11.0                     0.020 0.2244 0.50                0.0306   0.50
ENDATA12
!Nitrogen and Phosphorus Coefficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  -------*******-------*******-------*******-------
!               NBOD     NBOD
!           R#  DECAY    SETT
COEF-2      1  0.0967   0.20
COEF-2      2  0.1436   0.20
COEF-2      3  0.1139   0.20
COEF-2      4  0.2147   0.50
COEF-2      5  0.2147   0.50
COEF-2      6  0.2147   0.50
ENDATA13
ENDATA14
!Coliform and Nonconservative Cofficients
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  -------*******-------*******
ENDATA15
!Incremental Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!          ***  ---------*********---------*********---------*********
!           R#   OUTFLOW   INFLOW  TEMP     SALINITY CHLORIDE  COND
INCR-1      1     0.0000  0.0003  19.620      0.00     0
INCR-1      2     0.0000  0.0003  19.620      0.00     4.0      60
INCR-1      3     0.0000  0.1589  19.620      0.00     4.7      65
INCR-1      4     0.0000  0.1589  19.620      0.00     3.8      33
INCR-1      5     0.0000  0.1589  19.620      0.00     3.8      33
INCR-1      6     0.0000  0.1589  19.620      0.00     2.5
```

```
ENDATA16
!Incremental Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!          ***  ---------********---------********---------********
!           R#      DO     BOD 1     NBOD    NH3 N   NIT NIT    BOD 2
INCR-2       1     3.86   0.4324    0.0000                     0.5641
INCR-2       2     3.86   0.4324    0.0000                     0.5641
INCR-2       3     3.86   0.4324    0.0000                     0.5641
INCR-2       4     3.86   0.4324    0.0000                     0.5641
INCR-2       5     3.86   0.4324    0.0000                     0.5641
INCR-2       6     3.86   0.4324    0.0000                     0.5641
ENDATA17
!Incremental Data for Phosphorus, Chlorophyll, Coliform and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!          ***  ---------********---------********
!           R#   PHOSPH    CHL A   COLIFORM NONCONSERVATIVE
INCR-3       1
INCR-3       2
INCR-3       3
INCR-3       4
INCR-3       5
INCR-3       6
ENDATA18
!Nonpoint Source Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!          ***  ---------********---------********---------********
!           R#     BOD 1    NBOD   COLIFORM NONCONS    DO      BOD 2
NONPOINT     1     0.865    0.577                              0.923
NONPOINT     2     8.569    3.673                              4.897
NONPOINT     3     1.068    0.712                              2.097
NONPOINT     4    11.826    9.460                             18.921
NONPOINT     5     9.799   15.678                             19.597
NONPOINT     6    11.064   33.192                             34.197
ENDATA19
!Headwater Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!234567890123456789012345678901234567890123456789012345678901234567890123456789 0
!         ****  -------------------- *** --------********--------********--------
```

```
!         E#    NAME                      FLOW    TEMP  SALIN   CHLORIDE   COND
HDWTR-1     1  HEADWATER                 0.0023   25.23  0.00     5.3      73.9
ENDATA20
!Headwater Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ****  ---------********---------********---------********
!          E#      DO      BOD 1    NBOD    NH3 N    NIT NIT  BOD 2
HDWTR-2     1      7.41    0.560    0.0                       0.000
ENDATA21
!Headwater Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ****  ---------********---------********
!          E#  PHOSPHOR   CHL A   COLIFORM  NONCONSERVATIVE
HDWTR-3     1              16.6
ENDATA22
ENDATA23
!Wasteload Data for Flow, Temperature, Salinity, and Conservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ****  --------------------********---------********---------********
!          E#     NAME               FLOW      TEMP   SALINITY CHLORIDE  COND
WSTLD-1   123  ELDER BRANCH CREEK    0.0023    25.23     0.00      3.4    32.3
WSTLD-1   144  LITTLE SANDY CREEK    0.0023    25.23     0.00      2.7    22.0
ENDATA24
!Wasteload Data for DO, BOD, and Nitrogen
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ****  ---------********-----********---------*****---------********
!          E#       DO    BOD 1         NBOD    NH3 N          NIT NIT  BOD 2
WSTLD-2   123      5.00   2.358         0.710                           0.000
WSTLD-2   144      5.00   0.676         0.386                           0.000
ENDATA25
!Wasteload Data for Phosphorus, Chlorophyll, Coliform, and Nonconservatives
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ****  ---------********---------********
!          E#  PHOSPHOR  CHL A    COLIFORM NONCONSERVATIVE
WSTLD-3   123             2.3
WSTLD-3   144
```

```
ENDATA26
LOWER BC TEMPERATURE                        =  25.23
LOWER BC SALINITY                           =   0.00
LOWER BC CONSERVATIVE MATERIAL I            =   3.70
LOWER BC CONSERVATIVE MATERIAL II           =  33.10
LOWER BC DISSOLVED OXYGEN                   =   5.00
LOWER BC BOD1 BIOCHEMICAL OXYGEN DEMAND     =   6.126
LOWER BC BOD2 BIOCHEMICAL OXYGEN DEMAND     =   3.647
LOWER BC CHLOROPHYLL A                      =   32.9
LOWER BC NBOD                               =   2.275
ENDATA27
!Dam Data
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ****  ******************** ** ******** ******** ********
ENDATA28
SENSITIV BASEFLOW   30    -30
SENSITIV CHLOR A    30    -30
SENSITIV VELOCITY   30    -30
SENSITIV TEMPERAT    2     -2
SENSITIV BOD DECA   30    -30
SENSITIV BOD2 DEC   30    -30
SENSITIV BOD SETT   30    -30
SENSITIV BOD2 SET   30    -30
SENSITIV NBOD DEC   30    -30
SENSITIV NBOD SET   30    -30
SENSITIV BENTHAL    30    -30
SENSITIV DISPERSI   30    -30
SENSITIV REAERATI   30    -30
SENSITIV HDW FLOW   30    -30
SENSITIV HDW DO     30    -30
SENSITIV HDW BOD    30    -30
SENSITIV HDW BOD2   30    -30
SENSITIV HDW NBOD   30    -30
SENSITIV DEPTH      30    -30
SENSITIV WSL FLOW   30    -30
SENSITIV WSL TEMP    2     -2
SENSITIV WSL DO     30    -30
SENSITIV WSL BOD    30    -30
SENSITIV WSL BOD2   30    -30
SENSITIV WSL NBOD   30    -30
```

```
SENSITIV LBC TEMP    2     -2
SENSITIV LBC DO     30    -30
SENSITIV LBC BOD    30    -30
SENSITIV LBC BOD2   30    -30
SENSITIV LBC NBOD   30    -30
ENDATA29
NUMBER OF PLOTS = 1
NUMBER OF REACHES IN PLOT 1 =   6                          INCREMENT =  0.1
!--------1---------2---------3---------4---------5---------6---------7---------8
!23456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
!        ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** **
PLOT RCH  1  2  3  4  5  6
ENDATA30
ENDATA31
```

WEST ANACOCO CREEK 110501 Sensitivity Analysis Output Dataset

```
LA-QUAL Version 8.00
Louisiana Department of Environmental Quality

Input file is O:\Personal_Folders\Karen\Anacoco\2005\Input Files\WACPROJSENSI.txt
Output produced at 13:37 on 08/28/2006

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

CARD TYPE       CONTROL TITLES

TITLE01         WEST ANACOCO CREEK WATERSHED MODEL
TITLE02         WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN
CNTROL04  YES   METRIC UNITS
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 = CONDUCTIVITY              IN MG/L
MODOPT05  YES   DISSOLVED OXYGEN
MODOPT06  YES   BOD1 BIOCHEMICAL OXYGEN DEMAND
MODOPT06  YES   BOD2 BIOCHEMICAL OXYGEN DEMAND
MODOPT08  YES   NBOD OXYGEN DEMAND
MODOPT10   NO   PHOSPHORUS
MODOPT11   NO   CHLOROPHYLL A
MODOPT12   NO   MACROPHYTES
MODOPT13   NO   COLIFORM
ENDATA02

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

```
CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

PROGRAM         KL MINIMUM                        =         0.70000 meters/day
PROGRAM         INHIBITION CONTROL VALUE          =         3.00000 (inhibit all rates but SOD)
PROGRAM         K2 MAXIMUM                        =        25.00000 per day
PROGRAM         HYDRAULIC CALCULATION METHOD      =         2.00000 (widths and depths)
PROGRAM         SETTLING RATE UNITS               =         2.00000 (values entered as per day)
PROGRAM         ALGAE OXYGEN PROD                 =         0.00000 mg O/ug chl a/day
PROGRAM         EFFECTIVE BOD DUE TO ALGAE        =         0.15000 mg/L BOD per ug/L chl a
ENDATA03

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

 CARD TYPE     RATE CODE     THETA VALUE

ENDATA04

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

CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

ENDATA05

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

CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

ENDATA06

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

CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

ENDATA07

$$$ DATA TYPE 8 (REACH IDENTIFICATION DATA) $$$
                                                      BEGIN        END     ELEM    REACH     ELEMS   BEGIN    END
CARD TYPE  REACH  ID  NAME                            REACH       REACH   LENGTH   LENGTH    PER RCH   ELEM   ELEM
                                                         km          km       km       km               NUM    NUM

REACH ID      1   WA  WAC1 TO WAC2                    16.80  TO   14.40   0.1000     2.40      24       1     24
REACH ID      2   WA  WAC2 TO WAC3                    14.40  TO    8.70   0.1000     5.70      57      25     81
REACH ID      3   WA  WAC3 TO WAC4                     8.70  TO    7.80   0.1000     0.90       9      82     90
REACH ID      4   WA  WAC4 TO Elder Branch Creek       7.80  TO    4.50   0.1000     3.30      33      91    123
REACH ID      5   WA  Elder Branch TO Little Sandy     4.50  TO    2.50   0.1000     2.00      20     124    143
REACH ID      6   WA  Little Sandy TO WAC5             2.50  TO    0.00   0.1000     2.50      25     144    168
ENDATA08

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

CARD TYPE  REACH  ID       WIDTH       WIDTH       WIDTH       DEPTH       DEPTH       DEPTH      SLOPE    MANNINGS
                            "A"         "B"         "C"         "D"         "E"         "F"                  "N"

HYDR-1        1   WA       0.000       0.200       3.658       0.000       0.300       0.195     0.00000   0.000
HYDR-1        2   WA       0.000       0.200       6.401       0.000       0.300       0.305     0.00000   0.000
HYDR-1        3   WA       0.000       0.200       2.438       0.000       0.300       0.177     0.00000   0.000
HYDR-1        4   WA       0.000       0.200       6.909       0.000       0.300       0.566     0.00000   0.000
HYDR-1        5   WA       0.000       0.200      11.380       0.000       0.300       0.955     0.00000   0.000
```

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HYDR-1        6   WA       0.000       0.200      15.850       0.000       0.300       1.344     0.00000   0.000
ENDATA09

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

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

ENDATA10

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

CARD TYPE      REACH  ID        TEMP     SALIN        DO       NH3     NO3+2      PHOS     CHL A     MACRO

INITIAL            1   WA       25.23      0.00      5.00      0.00      0.00      0.00     16.60      0.00
INITIAL            2   WA       25.23      0.00      5.00      0.00      0.00      0.00     16.70      0.00
INITIAL            3   WA       25.23      0.00      5.00      0.00      0.00      0.00      3.20      0.00
INITIAL            4   WA       25.23      0.00      5.00      0.00      0.00      0.00      3.20      0.00
INITIAL            5   WA       25.23      0.00      5.00      0.00      0.00      0.00      3.20      0.00
INITIAL            6   WA       25.23      0.00      5.00      0.00      0.00      0.00     32.90      0.00
ENDATA11

$$$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) $$$
                                                                                                   BOD     ANAER                          BOD2     ANAER
CARD     RCH  RCH  K2                    K2        K2        K2    BKGRND       BOD       BOD      CONV      BOD2      BOD2      BOD2      CONV      BOD2
TYPE     NUM   ID  OPT                   "A"       "B"       "C"       SOD     DECAY      SETT    TO SOD     DECAY     DECAY      SETT    TO SOD     DECAY
                                                                   g/m²/d   per day       m/d              per day   per day       m/d              per day

COEF-1     1   WA  11 TEXAS            0.000     0.000     0.000     1.731     0.276     0.200     0.000     0.000     0.033     0.200     0.000     0.000
COEF-1     2   WA  11 TEXAS            0.000     0.000     0.000     1.530     0.225     0.200     0.000     0.000     0.031     0.200     0.000     0.000
COEF-1     3   WA  11 TEXAS            0.000     0.000     0.000     0.233     0.271     0.200     0.000     0.000     0.031     0.200     0.000     0.000
COEF-1     4   WA  11 TEXAS            0.000     0.000     0.000     0.237     0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
COEF-1     5   WA  11 TEXAS            0.000     0.000     0.000     0.020     0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
COEF-1     6   WA  11 TEXAS            0.000     0.000     0.000     0.020     0.224     0.500     0.000     0.000     0.031     0.500     0.000     0.000
ENDATA12

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

CARD TYPE      REACH  ID        NBOD      NBOD   ORGN CONV       NH3       NH3      PHOS     DENIT
                                DECA      SETT  TO NH3 SRCE     DECA      SRCE      SRCE      RATE

COEF-2             1   WA       0.097     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2             2   WA       0.144     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2             3   WA       0.114     0.200     0.000       0.000     0.000     0.000     0.000
COEF-2             4   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
COEF-2             5   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
COEF-2             6   WA       0.215     0.500     0.000       0.000     0.000     0.000     0.000
ENDATA13

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

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

ENDATA14

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

CARD TYPE      REACH  ID    COLIFORM       NCM       NCM    NCM CONV
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```
                          DIE-OFF     DECAY      SETT     TO SOD

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   WA       0.00000     0.00030     19.62      0.00      0.00      0.00   0.00013   0.00000
INCR-1           2   WA       0.00000     0.00030     19.62      0.00      4.00     60.00   0.00005   0.00000
INCR-1           3   WA       0.00000     0.15890     19.62      0.00      4.70     65.00   0.17656   0.00000
INCR-1           4   WA       0.00000     0.15890     19.62      0.00      3.80     33.00   0.04815   0.00000
INCR-1           5   WA       0.00000     0.15890     19.62      0.00      3.80     33.00   0.07945   0.00000
INCR-1           6   WA       0.00000     0.15890     19.62      0.00      2.50      0.00   0.06356   0.00000
ENDATA16

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

CARD TYPE      REACH  ID          DO       BOD      NBOD                        BOD#2

INCR-2           1   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2           2   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2           3   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2           4   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2           5   WA        3.86      0.43      0.00      0.00      0.00      0.56
INCR-2           6   WA        3.86      0.43      0.00      0.00      0.00      0.56
ENDATA17

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

 CARD TYPE      REACH  ID        PHOS     CHL A      COLI       NCM

INCR-3           1   WA        0.00      0.00      0.00      0.00
INCR-3           2   WA        0.00      0.00      0.00      0.00
INCR-3           3   WA        0.00      0.00      0.00      0.00
INCR-3           4   WA        0.00      0.00      0.00      0.00
INCR-3           5   WA        0.00      0.00      0.00      0.00
INCR-3           6   WA        0.00      0.00      0.00      0.00
ENDATA18

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

CARD TYPE      REACH  ID       BOD#1     NBOD       COLI       NCM        DO     BOD#2

NONPOINT         1   WA        0.87      0.58      0.00      0.00      0.00      0.92
NONPOINT         2   WA        8.57      3.67      0.00      0.00      0.00      4.90
NONPOINT         3   WA        1.07      0.71      0.00      0.00      0.00      2.10
NONPOINT         4   WA       11.83      9.46      0.00      0.00      0.00     18.92
NONPOINT         5   WA        9.80     15.68      0.00      0.00      0.00     19.60
NONPOINT         6   WA       11.06     33.19      0.00      0.00      0.00     34.20
ENDATA19

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

CARD TYPE     ELEMENT   NAME                  UNIT     FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                        m³/s      cfs   deg C      ppt      MG/L      MG/L

HDWTR-1          1     HEADWATER               0   0.00230    0.081   25.23     0.00     5.300    73.900
ENDATA20
```

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

CARD TYPE     ELEMENT   NAME                        DO     BOD#1     NBOD                          BOD#2
                                                   mg/L     mg/L     mg/L      mg/L      mg/L      mg/L

HDWTR-2           1     HEADWATER                 7.41      0.56      0.00      0.00      0.00      0.00
ENDATA21

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

CARD TYPE     ELEMENT   NAME                       PHOS     CHL A      COLI       NCM
                                                   mg/L      mg/L      mg/L      mg/L

HDWTR-3           1     HEADWATER                 0.00     16.60      0.00      0.00
ENDATA22

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

CARD TYPE   JUNCTION   UPSTRM     RIVER     NAME
             ELEMENT  ELEMENT     KILOM

ENDATA23

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

CARD TYPE  ELEMENT    RKILO  NAME                    FLOW       FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                     m³/s        cfs      MGD   deg C      ppt      MG/L      MG/L

WSTLD-1      123       4.60  ELDER BRANCH CREEK  0.00230    0.08121    0.052   25.23     0.00     3.400    32.300
WSTLD-1      144       2.50  LITTLE SANDY CREEK  0.00230    0.08121    0.052   25.23     0.00     2.700    22.000
ENDATA24

$$$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) $$$
                                                                  % BOD                          %
CARD TYPE     ELEMENT   NAME                        DO       BOD      RMVL     NBOD              NITRIF              BOD#2
                                                   mg/L      mg/L               mg/L      mg/L               mg/L      mg/L

WSTLD-2         123     ELDER BRANCH CREEK        5.00      2.36      0.00      0.71      0.00      0.00      0.00      0.00
WSTLD-2         144     LITTLE SANDY CREEK        5.00      0.68      0.00      0.39      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
                                                   mg/L      mg/L      mg/L      mg/L

WSTLD-3         123     ELDER BRANCH CREEK        0.00      2.30      0.00      0.00
WSTLD-3         144     LITTLE SANDY CREEK        0.00      0.00      0.00      0.00
ENDATA26

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

CARD TYPE    CONSTITUENT                    CONCENTRATION

LOWER BC     TEMPERATURE                       =     25.230     deg C
LOWER BC     SALINITY                          =      0.000     ppt
LOWER BC     CONSERVATIVE MATERIAL I           =      3.700     MG/L
LOWER BC     CONSERVATIVE MATERIAL II          =     33.100     MG/L
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```
LOWER BC     DISSOLVED OXYGEN                  =      5.000     mg/L
LOWER BC     BOD1 BIOCHEMICAL OXYGEN DEMAND    =      6.126     mg/L
LOWER BC     BOD2 BIOCHEMICAL OXYGEN DEMAND    =      3.647     mg/L
LOWER BC     CHLOROPHYLL A                     =     32.900     µg/L
LOWER BC     NBOD                              =      2.275     mg/L
ENDATA27

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

CARD TYPE     ELEMENT   NAME                 EQN      "A"       "B"       "H"

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         BOD2 DEC      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         BOD2 SET      30.0     -30.0       0.0       0.0       0.0       0.0       0.0       0.0
SENSITIV         NBOD DEC      30.0     -30.0       0.0       0.0       0.0       0.0       0.0       0.0
SENSITIV         NBOD SET      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 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         HDW BOD2      30.0     -30.0       0.0       0.0       0.0       0.0       0.0       0.0
SENSITIV         HDW NBOD      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
SENSITIV         WSL FLOW      30.0     -30.0       0.0       0.0       0.0       0.0       0.0       0.0
SENSITIV         WSL TEMP       2.0      -2.0       0.0       0.0       0.0       0.0       0.0       0.0
SENSITIV         WSL DO        30.0     -30.0       0.0       0.0       0.0       0.0       0.0       0.0
SENSITIV         WSL BOD       30.0     -30.0       0.0       0.0       0.0       0.0       0.0       0.0
SENSITIV         WSL BOD2      30.0     -30.0       0.0       0.0       0.0       0.0       0.0       0.0
SENSITIV         WSL NBOD      30.0     -30.0       0.0       0.0       0.0       0.0       0.0       0.0
SENSITIV         LBC TEMP       2.0      -2.0       0.0       0.0       0.0       0.0       0.0       0.0
SENSITIV         LBC DO        30.0     -30.0       0.0       0.0       0.0       0.0       0.0       0.0
SENSITIV         LBC BOD       30.0     -30.0       0.0       0.0       0.0       0.0       0.0       0.0
SENSITIV         LBC BOD2      30.0     -30.0       0.0       0.0       0.0       0.0       0.0       0.0
SENSITIV         LBC NBOD      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 =   6
PLOT RCH  1  2  3  4  5  6
ENDATA30

$$$ DATA TYPE 31 (OVERLAY PLOT DATA) $$$
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ENDATA31


     .....NO ERRORS DETECTED IN INPUT DATA
     .....HYDRAULIC CALCULATIONS COMPLETED
     .....TRIDIAGONAL MATRIX TERMS INITIALIZED
     .....OXYGEN DEPENDENT RATES CONVERGENT IN   4 ITERATIONS
     .....CONSTITUENT CALCULATIONS COMPLETED
     .....GRAPHICS DATA FOR PLOT 1 WRITTEN TO UNIT 21


FINAL REPORT    HEADWATER                                       WEST ANACOCO CREEK WATERSHED MODEL
REACH NO.  1    WAC1 TO WAC2                                    WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN
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********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
1	HDWTR	0.00230	25.23	0.00	5.30	73.90	7.41	0.00	0.00	0.56	0.00	0.00	0.00	0.00	0.00	16.60	0.00	0.00
EACH	INCR	0.00001	19.62	0.00	0.00	0.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	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	MEAN VELO m/s
1	16.80	16.70	0.00231	0.0	0.00324	0.36	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
2	16.70	16.60	0.00233	0.0	0.00326	0.36	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
3	16.60	16.50	0.00234	0.0	0.00328	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
4	16.50	16.40	0.00235	0.0	0.00329	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
5	16.40	16.30	0.00236	0.0	0.00331	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
6	16.30	16.20	0.00237	0.0	0.00333	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
7	16.20	16.10	0.00239	0.0	0.00335	0.35	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
8	16.10	16.00	0.00240	0.0	0.00336	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
9	16.00	15.90	0.00241	0.0	0.00338	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
10	15.90	15.80	0.00242	0.0	0.00340	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
11	15.80	15.70	0.00244	0.0	0.00342	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
12	15.70	15.60	0.00245	0.0	0.00343	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
13	15.60	15.50	0.00246	0.0	0.00345	0.34	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
14	15.50	15.40	0.00247	0.0	0.00347	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
15	15.40	15.30	0.00249	0.0	0.00349	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.003
16	15.30	15.20	0.00250	0.0	0.00350	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
17	15.20	15.10	0.00251	0.0	0.00352	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
18	15.10	15.00	0.00252	0.0	0.00354	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
19	15.00	14.90	0.00254	0.0	0.00356	0.33	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
20	14.90	14.80	0.00255	0.0	0.00357	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
21	14.80	14.70	0.00256	0.0	0.00359	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
22	14.70	14.60	0.00257	0.0	0.00361	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
23	14.60	14.50	0.00259	0.0	0.00363	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
24	14.50	14.40	0.00260	0.0	0.00364	0.32	0.19	3.66	71.33	365.80	0.71	0.00	0.000	0.000	0.004
TOT						8.08			1711.94	8779.20					
AVG					0.0034		0.19	3.66			0.71				

CUM 8.08

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
1	16.700	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	16.600	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	16.500	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	16.400	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	16.300	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	16.200	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	16.100	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	16.000	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	15.900	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	15.800	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	15.700	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	15.600	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	15.500	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	15.400	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	15.300	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	15.200	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	15.100	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	15.000	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	14.900	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	14.800	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	14.700	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	14.600	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	14.500	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	14.400	8.23	3.97	0.35	0.23	0.00	0.04	0.23	0.00	2.41	2.41	2.41	0.13	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			3.59	0.28	0.20	0.00	0.03	0.20	0.00	1.73			0.10	0.20	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
1	16.700	25.23	0.00	5.27	73.50	6.05	0.15	0.18	2.64	0.18	0.11	0.00	0.00	0.00	0.00	16.60	0.00	0.	0.00
2	16.600	25.23	0.00	5.24	73.11	5.48	0.28	0.34	2.77	0.34	0.20	0.00	0.00	0.00	0.00	16.61	0.00	0.	0.00
3	16.500	25.23	0.00	5.21	72.71	5.24	0.38	0.49	2.87	0.49	0.28	0.00	0.00	0.00	0.00	16.61	0.00	0.	0.00
4	16.400	25.23	0.00	5.19	72.33	5.13	0.46	0.62	2.95	0.62	0.36	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
5	16.300	25.23	0.00	5.16	71.94	5.08	0.53	0.74	3.02	0.74	0.42	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
6	16.200	25.23	0.00	5.13	71.57	5.05	0.59	0.84	3.08	0.84	0.48	0.00	0.00	0.00	0.00	16.62	0.00	0.	0.00
7	16.100	25.23	0.00	5.11	71.19	5.04	0.64	0.94	3.13	0.94	0.53	0.00	0.00	0.00	0.00	16.63	0.00	0.	0.00
8	16.000	25.23	0.00	5.08	70.82	5.03	0.67	1.03	3.17	1.03	0.57	0.00	0.00	0.00	0.00	16.63	0.00	0.	0.00
9	15.900	25.23	0.00	5.05	70.45	5.02	0.71	1.11	3.20	1.11	0.61	0.00	0.00	0.00	0.00	16.64	0.00	0.	0.00
10	15.800	25.23	0.00	5.03	70.09	5.02	0.73	1.18	3.23	1.18	0.64	0.00	0.00	0.00	0.00	16.64	0.00	0.	0.00
11	15.700	25.23	0.00	5.00	69.73	5.01	0.76	1.25	3.25	1.25	0.67	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
12	15.600	25.23	0.00	4.98	69.38	5.01	0.77	1.31	3.27	1.31	0.70	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
13	15.500	25.23	0.00	4.95	69.02	5.01	0.79	1.36	3.29	1.36	0.72	0.00	0.00	0.00	0.00	16.65	0.00	0.	0.00
14	15.400	25.23	0.00	4.93	68.67	5.01	0.80	1.41	3.30	1.41	0.75	0.00	0.00	0.00	0.00	16.66	0.00	0.	0.00
15	15.300	25.23	0.00	4.90	68.33	5.00	0.81	1.46	3.31	1.46	0.76	0.00	0.00	0.00	0.00	16.66	0.00	0.	0.00

16	15.200	25.23	0.00	4.88	67.99	5.00	0.82	1.50	3.32	1.50	0.78	0.00	0.00	0.00	0.00	16.67	0.00	0.	0.00
17	15.100	25.23	0.00	4.85	67.65	5.00	0.83	1.53	3.33	1.53	0.80	0.00	0.00	0.00	0.00	16.67	0.00	0.	0.00
18	15.000	25.23	0.00	4.83	67.31	5.00	0.83	1.57	3.33	1.57	0.81	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
19	14.900	25.23	0.00	4.80	66.98	5.00	0.84	1.60	3.34	1.60	0.82	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
20	14.800	25.23	0.00	4.78	66.65	5.00	0.84	1.63	3.35	1.63	0.83	0.00	0.00	0.00	0.00	16.68	0.00	0.	0.00
21	14.700	25.23	0.00	4.76	66.33	4.99	0.85	1.65	3.35	1.65	0.84	0.00	0.00	0.00	0.00	16.69	0.00	0.	0.00
22	14.600	25.23	0.00	4.73	66.01	4.99	0.85	1.68	3.35	1.68	0.85	0.00	0.00	0.00	0.00	16.69	0.00	0.	0.00
23	14.500	25.23	0.00	4.71	65.69	4.99	0.85	1.70	3.36	1.70	0.86	0.00	0.00	0.00	0.00	16.70	0.00	0.	0.00
24	14.400	25.23	0.00	4.69	65.37	4.99	0.85	1.72	3.36	1.72	0.86	0.00	0.00	0.00	0.00	16.70	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 2 WAC2 TO WAC3 WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
25	UPR RCH	0.00260	25.23	0.00	4.69	65.37	4.99	0.85	1.72	3.36	1.72	0.86	0.00	0.00	0.00	16.70	0.00	0.00
EACH	INCR	0.00001	19.62	0.00	4.00	60.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	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	MEAN VELO m/s
25	14.40	14.30	0.00261	0.0	0.00133	0.87	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
26	14.30	14.20	0.00261	0.0	0.00134	0.87	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
27	14.20	14.10	0.00262	0.0	0.00134	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
28	14.10	14.00	0.00262	0.0	0.00134	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
29	14.00	13.90	0.00263	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
30	13.90	13.80	0.00263	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
31	13.80	13.70	0.00264	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
32	13.70	13.60	0.00264	0.0	0.00135	0.86	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
33	13.60	13.50	0.00265	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
34	13.50	13.40	0.00265	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
35	13.40	13.30	0.00266	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
36	13.30	13.20	0.00266	0.0	0.00136	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
37	13.20	13.10	0.00267	0.0	0.00137	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
38	13.10	13.00	0.00267	0.0	0.00137	0.85	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
39	13.00	12.90	0.00268	0.0	0.00137	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
40	12.90	12.80	0.00268	0.0	0.00137	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
41	12.80	12.70	0.00269	0.0	0.00138	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
42	12.70	12.60	0.00269	0.0	0.00138	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
43	12.60	12.50	0.00270	0.0	0.00138	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
44	12.50	12.40	0.00271	0.0	0.00139	0.84	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
45	12.40	12.30	0.00271	0.0	0.00139	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
46	12.30	12.20	0.00272	0.0	0.00139	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
47	12.20	12.10	0.00272	0.0	0.00139	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
48	12.10	12.00	0.00273	0.0	0.00140	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
49	12.00	11.90	0.00273	0.0	0.00140	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
50	11.90	11.80	0.00274	0.0	0.00140	0.83	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
51	11.80	11.70	0.00274	0.0	0.00140	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
52	11.70	11.60	0.00275	0.0	0.00141	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
53	11.60	11.50	0.00275	0.0	0.00141	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001

54	11.50	11.40	0.00276	0.0	0.00141	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
55	11.40	11.30	0.00276	0.0	0.00142	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
56	11.30	11.20	0.00277	0.0	0.00142	0.82	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
57	11.20	11.10	0.00277	0.0	0.00142	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
58	11.10	11.00	0.00278	0.0	0.00142	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
59	11.00	10.90	0.00278	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
60	10.90	10.80	0.00279	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
61	10.80	10.70	0.00279	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
62	10.70	10.60	0.00280	0.0	0.00143	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
63	10.60	10.50	0.00281	0.0	0.00144	0.81	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
64	10.50	10.40	0.00281	0.0	0.00144	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
65	10.40	10.30	0.00282	0.0	0.00144	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
66	10.30	10.20	0.00282	0.0	0.00144	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
67	10.20	10.10	0.00283	0.0	0.00145	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
68	10.10	10.00	0.00283	0.0	0.00145	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
69	10.00	9.90	0.00284	0.0	0.00145	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
70	9.90	9.80	0.00284	0.0	0.00146	0.80	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
71	9.80	9.70	0.00285	0.0	0.00146	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
72	9.70	9.60	0.00285	0.0	0.00146	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
73	9.60	9.50	0.00286	0.0	0.00146	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
74	9.50	9.40	0.00286	0.0	0.00147	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
75	9.40	9.30	0.00287	0.0	0.00147	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
76	9.30	9.20	0.00287	0.0	0.00147	0.79	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
77	9.20	9.10	0.00288	0.0	0.00147	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
78	9.10	9.00	0.00288	0.0	0.00148	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
79	9.00	8.90	0.00289	0.0	0.00148	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
80	8.90	8.80	0.00289	0.0	0.00148	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
81	8.80	8.70	0.00290	0.0	0.00149	0.78	0.31	6.40	195.23	640.10	1.95	0.00	0.000	0.000	0.001
TOT						46.84			11128.14	36485.70					
AVG					0.0014		0.31	6.40			1.95				
CUM						54.91									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
25	14.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	14.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	14.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	14.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	13.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	13.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	13.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	13.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	13.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	13.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	13.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	13.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	13.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	13.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	12.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	12.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	12.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	12.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	12.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

44	12.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	12.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	12.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	12.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	12.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	11.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	11.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	11.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	11.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	11.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	11.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	11.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	11.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	11.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	11.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	10.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	10.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	10.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	10.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	10.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	10.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	10.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	10.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	10.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	10.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	9.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	9.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	9.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	9.600	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	9.500	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	9.400	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	9.300	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	9.200	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	9.100	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	9.000	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	8.900	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	8.800	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81	8.700	8.23	2.54	0.29	0.23	0.00	0.04	0.23	0.00	2.13	2.13	2.13	0.19	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			2.30	0.23	0.20	0.00	0.03	0.20	0.00	1.53			0.14	0.20	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
25	14.300	25.23	0.00	4.69	65.36	5.18	1.05	1.70	3.52	1.70	0.84	0.00	0.00	0.00	0.00	16.46	0.00	0.	0.00
26	14.200	25.23	0.00	4.69	65.35	5.23	1.19	1.69	3.62	1.69	0.83	0.00	0.00	0.00	0.00	16.23	0.00	0.	0.00
27	14.100	25.23	0.00	4.68	65.34	5.24	1.28	1.68	3.68	1.68	0.82	0.00	0.00	0.00	0.00	15.99	0.00	0.	0.00
28	14.000	25.23	0.00	4.68	65.33	5.24	1.35	1.67	3.71	1.67	0.81	0.00	0.00	0.00	0.00	15.75	0.00	0.	0.00
29	13.900	25.23	0.00	4.68	65.32	5.24	1.39	1.67	3.72	1.67	0.81	0.00	0.00	0.00	0.00	15.52	0.00	0.	0.00
30	13.800	25.23	0.00	4.68	65.31	5.23	1.43	1.66	3.72	1.66	0.80	0.00	0.00	0.00	0.00	15.28	0.00	0.	0.00
31	13.700	25.23	0.00	4.68	65.30	5.23	1.45	1.66	3.70	1.66	0.80	0.00	0.00	0.00	0.00	15.04	0.00	0.	0.00
32	13.600	25.23	0.00	4.68	65.29	5.23	1.46	1.66	3.68	1.66	0.80	0.00	0.00	0.00	0.00	14.81	0.00	0.	0.00
33	13.500	25.23	0.00	4.68	65.28	5.23	1.47	1.65	3.66	1.65	0.80	0.00	0.00	0.00	0.00	14.57	0.00	0.	0.00
34	13.400	25.23	0.00	4.67	65.27	5.23	1.48	1.65	3.63	1.65	0.79	0.00	0.00	0.00	0.00	14.33	0.00	0.	0.00

35	13.300	25.23	0.00	4.67	65.26	5.22	1.49	1.65	3.60	1.65	0.79	0.00	0.00	0.00	0.00	14.09	0.00	0.	0.00
36	13.200	25.23	0.00	4.67	65.25	5.22	1.49	1.65	3.57	1.65	0.79	0.00	0.00	0.00	0.00	13.86	0.00	0.	0.00
37	13.100	25.23	0.00	4.67	65.24	5.22	1.49	1.65	3.53	1.65	0.79	0.00	0.00	0.00	0.00	13.62	0.00	0.	0.00
38	13.000	25.23	0.00	4.67	65.23	5.22	1.49	1.65	3.50	1.65	0.79	0.00	0.00	0.00	0.00	13.38	0.00	0.	0.00
39	12.900	25.23	0.00	4.67	65.21	5.22	1.49	1.65	3.47	1.65	0.79	0.00	0.00	0.00	0.00	13.15	0.00	0.	0.00
40	12.800	25.23	0.00	4.67	65.20	5.22	1.49	1.65	3.43	1.65	0.79	0.00	0.00	0.00	0.00	12.91	0.00	0.	0.00
41	12.700	25.23	0.00	4.67	65.19	5.22	1.50	1.65	3.40	1.65	0.79	0.00	0.00	0.00	0.00	12.67	0.00	0.	0.00
42	12.600	25.23	0.00	4.66	65.18	5.22	1.50	1.64	3.36	1.64	0.79	0.00	0.00	0.00	0.00	12.44	0.00	0.	0.00
43	12.500	25.23	0.00	4.66	65.17	5.22	1.50	1.64	3.33	1.64	0.79	0.00	0.00	0.00	0.00	12.20	0.00	0.	0.00
44	12.400	25.23	0.00	4.66	65.16	5.22	1.50	1.64	3.29	1.64	0.79	0.00	0.00	0.00	0.00	11.96	0.00	0.	0.00
45	12.300	25.23	0.00	4.66	65.15	5.22	1.50	1.64	3.26	1.64	0.79	0.00	0.00	0.00	0.00	11.73	0.00	0.	0.00
46	12.200	25.23	0.00	4.66	65.14	5.22	1.50	1.64	3.22	1.64	0.79	0.00	0.00	0.00	0.00	11.49	0.00	0.	0.00
47	12.100	25.23	0.00	4.66	65.13	5.22	1.50	1.64	3.18	1.64	0.79	0.00	0.00	0.00	0.00	11.25	0.00	0.	0.00
48	12.000	25.23	0.00	4.66	65.12	5.22	1.50	1.64	3.15	1.64	0.79	0.00	0.00	0.00	0.00	11.02	0.00	0.	0.00
49	11.900	25.23	0.00	4.66	65.11	5.22	1.50	1.64	3.11	1.64	0.79	0.00	0.00	0.00	0.00	10.78	0.00	0.	0.00
50	11.800	25.23	0.00	4.65	65.10	5.22	1.50	1.64	3.08	1.64	0.79	0.00	0.00	0.00	0.00	10.54	0.00	0.	0.00
51	11.700	25.23	0.00	4.65	65.09	5.22	1.50	1.64	3.04	1.64	0.79	0.00	0.00	0.00	0.00	10.31	0.00	0.	0.00
52	11.600	25.23	0.00	4.65	65.08	5.22	1.50	1.64	3.01	1.64	0.79	0.00	0.00	0.00	0.00	10.07	0.00	0.	0.00
53	11.500	25.23	0.00	4.65	65.08	5.22	1.50	1.64	2.97	1.64	0.79	0.00	0.00	0.00	0.00	9.83	0.00	0.	0.00
54	11.400	25.23	0.00	4.65	65.07	5.22	1.50	1.64	2.94	1.64	0.79	0.00	0.00	0.00	0.00	9.59	0.00	0.	0.00
55	11.300	25.23	0.00	4.65	65.06	5.22	1.50	1.64	2.90	1.64	0.79	0.00	0.00	0.00	0.00	9.36	0.00	0.	0.00
56	11.200	25.23	0.00	4.65	65.05	5.22	1.50	1.64	2.86	1.64	0.79	0.00	0.00	0.00	0.00	9.12	0.00	0.	0.00
57	11.100	25.23	0.00	4.65	65.04	5.22	1.50	1.64	2.83	1.64	0.79	0.00	0.00	0.00	0.00	8.88	0.00	0.	0.00
58	11.000	25.23	0.00	4.64	65.03	5.22	1.50	1.64	2.79	1.64	0.79	0.00	0.00	0.00	0.00	8.65	0.00	0.	0.00
59	10.900	25.23	0.00	4.64	65.02	5.22	1.50	1.64	2.76	1.64	0.79	0.00	0.00	0.00	0.00	8.41	0.00	0.	0.00
60	10.800	25.23	0.00	4.64	65.01	5.22	1.50	1.64	2.72	1.64	0.79	0.00	0.00	0.00	0.00	8.17	0.00	0.	0.00
61	10.700	25.23	0.00	4.64	65.00	5.22	1.50	1.64	2.69	1.64	0.79	0.00	0.00	0.00	0.00	7.94	0.00	0.	0.00
62	10.600	25.23	0.00	4.64	64.99	5.22	1.50	1.64	2.65	1.64	0.79	0.00	0.00	0.00	0.00	7.70	0.00	0.	0.00
63	10.500	25.23	0.00	4.64	64.98	5.22	1.50	1.64	2.62	1.64	0.79	0.00	0.00	0.00	0.00	7.46	0.00	0.	0.00
64	10.400	25.23	0.00	4.64	64.97	5.22	1.50	1.64	2.58	1.64	0.79	0.00	0.00	0.00	0.00	7.23	0.00	0.	0.00
65	10.300	25.23	0.00	4.64	64.96	5.22	1.50	1.64	2.54	1.64	0.79	0.00	0.00	0.00	0.00	6.99	0.00	0.	0.00
66	10.200	25.23	0.00	4.63	64.95	5.22	1.50	1.64	2.51	1.64	0.79	0.00	0.00	0.00	0.00	6.75	0.00	0.	0.00
67	10.100	25.23	0.00	4.63	64.94	5.22	1.50	1.64	2.47	1.64	0.79	0.00	0.00	0.00	0.00	6.52	0.00	0.	0.00
68	10.000	25.23	0.00	4.63	64.93	5.22	1.50	1.64	2.44	1.64	0.79	0.00	0.00	0.00	0.00	6.28	0.00	0.	0.00
69	9.900	25.23	0.00	4.63	64.92	5.22	1.50	1.64	2.40	1.64	0.79	0.00	0.00	0.00	0.00	6.04	0.00	0.	0.00
70	9.800	25.23	0.00	4.63	64.92	5.22	1.50	1.64	2.37	1.64	0.79	0.00	0.00	0.00	0.00	5.81	0.00	0.	0.00
71	9.700	25.23	0.00	4.63	64.91	5.22	1.50	1.64	2.33	1.64	0.79	0.00	0.00	0.00	0.00	5.57	0.00	0.	0.00
72	9.600	25.23	0.00	4.63	64.90	5.22	1.50	1.64	2.30	1.64	0.79	0.00	0.00	0.00	0.00	5.33	0.00	0.	0.00
73	9.500	25.23	0.00	4.63	64.89	5.22	1.50	1.64	2.26	1.64	0.79	0.00	0.00	0.00	0.00	5.09	0.00	0.	0.00
74	9.400	25.23	0.00	4.63	64.88	5.22	1.50	1.64	2.23	1.64	0.79	0.00	0.00	0.00	0.00	4.86	0.00	0.	0.00
75	9.300	25.23	0.00	4.62	64.87	5.22	1.50	1.64	2.19	1.64	0.79	0.00	0.00	0.00	0.00	4.62	0.00	0.	0.00
76	9.200	25.23	0.00	4.62	64.86	5.22	1.50	1.64	2.15	1.64	0.79	0.00	0.00	0.00	0.00	4.38	0.00	0.	0.00
77	9.100	25.23	0.00	4.62	64.85	5.22	1.50	1.64	2.12	1.64	0.79	0.00	0.00	0.00	0.00	4.15	0.00	0.	0.00
78	9.000	25.23	0.00	4.62	64.84	5.22	1.50	1.64	2.08	1.64	0.79	0.00	0.00	0.00	0.00	3.91	0.00	0.	0.00
79	8.900	25.23	0.00	4.62	64.83	5.22	1.50	1.64	2.05	1.64	0.79	0.00	0.00	0.00	0.00	3.67	0.00	0.	0.00
80	8.800	25.23	0.00	4.62	64.83	5.22	1.50	1.64	2.01	1.64	0.79	0.00	0.00	0.00	0.00	3.44	0.00	0.	0.00
81	8.700	25.23	0.00	4.62	64.82	5.22	1.50	1.64	1.98	1.64	0.79	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 3 WAC3 TO WAC4 WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
82	UPR RCH	0.00290	25.23	0.00	4.62	64.82	5.22	1.50	1.64	1.98	1.64	0.79	0.00	0.00	0.00	3.20	0.00	0.00

EACH	INCR	0.01766	19.62	0.00	4.70	65.00	3.86	0.43	0.56	0.00	0.00	0.00	0.00	0.00	0.00

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

ELEM NO.	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	MEAN VELO m/s
82	8.70	8.60	0.02056	0.0	0.04763	0.02	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.048
83	8.60	8.50	0.03821	0.0	0.08855	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.089
84	8.50	8.40	0.05587	0.0	0.12946	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.129
85	8.40	8.30	0.07352	0.0	0.17038	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.170
86	8.30	8.20	0.09118	0.0	0.21129	0.01	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.211
87	8.20	8.10	0.10883	0.0	0.25221	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.252
88	8.10	8.00	0.12649	0.0	0.29312	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.293
89	8.00	7.90	0.14414	0.0	0.33403	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.334
90	7.90	7.80	0.16180	0.0	0.37495	0.00	0.18	2.44	43.15	243.80	0.43	0.00	0.000	0.000	0.375
TOT						0.07			388.37	2194.20					
AVG					0.1414		0.18	2.44			0.43				
CUM						54.99									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
82	8.600	8.23	4.37	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83	8.500	8.23	5.16	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	8.400	8.23	5.72	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	8.300	8.23	6.16	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	8.200	8.23	6.54	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.14	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	8.100	8.23	6.86	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.15	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	8.000	8.23	7.15	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.15	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	7.900	8.23	7.41	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.15	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	7.800	8.23	7.64	0.34	0.23	0.00	0.04	0.23	0.00	0.32	0.32	0.32	0.15	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			5.73	0.27	0.20	0.00	0.03	0.20	0.00	0.23			0.11	0.20	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
82	8.600	25.23	0.00	4.69	64.97	4.41	0.64	0.84	1.12	0.84	0.15	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
83	8.500	25.23	0.00	4.69	64.99	4.39	0.58	0.78	1.06	0.78	0.11	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
84	8.400	25.23	0.00	4.70	64.99	4.40	0.55	0.76	1.03	0.76	0.09	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
85	8.300	25.23	0.00	4.70	64.99	4.41	0.54	0.75	1.02	0.75	0.08	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
86	8.200	25.23	0.00	4.70	64.99	4.43	0.53	0.74	1.01	0.74	0.07	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
87	8.100	25.23	0.00	4.70	65.00	4.45	0.53	0.74	1.01	0.74	0.07	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
88	8.000	25.23	0.00	4.70	65.00	4.46	0.52	0.73	1.00	0.73	0.07	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
89	7.900	25.23	0.00	4.70	65.00	4.48	0.52	0.73	1.00	0.73	0.07	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
90	7.800	25.23	0.00	4.70	65.00	4.49	0.52	0.73	1.00	0.73	0.06	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

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FINAL REPORT    HEADWATER                                    WEST ANACOCO CREEK WATERSHED MODEL
REACH NO.  4    WAC4 TO Elder Branch Creek                   WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN
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********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
91	UPR RCH	0.16180	25.23	0.00	4.70	65.00	4.49	0.52	0.73	1.00	0.73	0.06	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.00482	19.62	0.00	3.80	33.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	
123	WSTLD	0.00230	25.23	0.00	3.40	32.30	5.00	2.36	0.00	2.36	0.00	0.71	0.00	0.00	0.00	2.30	0.00	0.00

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

ELEM NO.	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	MEAN VELO m/s
91	7.80	7.70	0.16662	0.0	0.04261	0.03	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.043
92	7.70	7.60	0.17143	0.0	0.04384	0.03	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.044
93	7.60	7.50	0.17625	0.0	0.04507	0.03	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.045
94	7.50	7.40	0.18106	0.0	0.04630	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.046
95	7.40	7.30	0.18588	0.0	0.04753	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.048
96	7.30	7.20	0.19069	0.0	0.04876	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.049
97	7.20	7.10	0.19551	0.0	0.05000	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.050
98	7.10	7.00	0.20032	0.0	0.05123	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.051
99	7.00	6.90	0.20514	0.0	0.05246	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.052
100	6.90	6.80	0.20995	0.0	0.05369	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.054
101	6.80	6.70	0.21477	0.0	0.05492	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.055
102	6.70	6.60	0.21958	0.0	0.05615	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.056
103	6.60	6.50	0.22440	0.0	0.05738	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.057
104	6.50	6.40	0.22921	0.0	0.05861	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.059
105	6.40	6.30	0.23403	0.0	0.05985	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.060
106	6.30	6.20	0.23884	0.0	0.06108	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.061
107	6.20	6.10	0.24366	0.0	0.06231	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.062
108	6.10	6.00	0.24847	0.0	0.06354	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.064
109	6.00	5.90	0.25329	0.0	0.06477	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.065
110	5.90	5.80	0.25810	0.0	0.06600	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.066
111	5.80	5.70	0.26292	0.0	0.06723	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.067
112	5.70	5.60	0.26773	0.0	0.06847	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.068
113	5.60	5.50	0.27255	0.0	0.06970	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.070
114	5.50	5.40	0.27736	0.0	0.07093	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.071
115	5.40	5.30	0.28218	0.0	0.07216	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.072
116	5.30	5.20	0.28699	0.0	0.07339	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.073
117	5.20	5.10	0.29181	0.0	0.07462	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.075
118	5.10	5.00	0.29662	0.0	0.07585	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.076
119	5.00	4.90	0.30144	0.0	0.07708	0.02	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.077
120	4.90	4.80	0.30625	0.0	0.07832	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.078
121	4.80	4.70	0.31107	0.0	0.07955	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.080
122	4.70	4.60	0.31588	0.0	0.08078	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.081
123	4.60	4.50	0.32300	0.7	0.08260	0.01	0.57	6.91	391.05	690.90	3.91	0.00	0.000	0.000	0.083
TOT						0.64			12904.63	22799.71					
AVG					0.0600		0.57	6.91			3.91				
CUM						55.62									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
91	7.700	8.23	1.49	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	7.600	8.23	1.51	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	7.500	8.23	1.52	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	7.400	8.23	1.53	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	7.300	8.23	1.54	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	7.200	8.23	1.55	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	7.100	8.23	1.56	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	7.000	8.23	1.57	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
99	6.900	8.23	1.58	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	6.800	8.23	1.59	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101	6.700	8.23	1.60	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102	6.600	8.23	1.61	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
103	6.500	8.23	1.62	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
104	6.400	8.23	1.63	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	6.300	8.23	1.64	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
106	6.200	8.23	1.65	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.28	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107	6.100	8.23	1.66	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
108	6.000	8.23	1.67	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
109	5.900	8.23	1.67	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	5.800	8.23	1.68	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
111	5.700	8.23	1.69	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112	5.600	8.23	1.70	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113	5.500	8.23	1.71	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114	5.400	8.23	1.72	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	5.300	8.23	1.72	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116	5.200	8.23	1.73	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117	5.100	8.23	1.74	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
118	5.000	8.23	1.75	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
119	4.900	8.23	1.76	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	4.800	8.23	1.76	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
121	4.700	8.23	1.77	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
122	4.600	8.23	1.78	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	4.500	8.23	1.79	0.29	0.57	0.00	0.04	0.57	0.00	0.33	0.33	0.33	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			1.49	0.22	0.50	0.00	0.03	0.50	0.00	0.24			0.21	0.50	0.00	0.00	0.00	0.00			0.00	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 MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
91	7.700	25.23	0.00	4.67	64.07	4.60	0.53	0.75	1.01	0.75	0.08	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
92	7.600	25.23	0.00	4.65	63.20	4.70	0.54	0.77	1.02	0.77	0.10	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
93	7.500	25.23	0.00	4.62	62.37	4.79	0.55	0.79	1.03	0.79	0.11	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
94	7.400	25.23	0.00	4.60	61.59	4.87	0.56	0.81	1.04	0.81	0.12	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
95	7.300	25.23	0.00	4.58	60.85	4.95	0.56	0.83	1.04	0.83	0.13	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
96	7.200	25.23	0.00	4.56	60.15	5.02	0.57	0.84	1.05	0.84	0.15	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
97	7.100	25.23	0.00	4.54	59.48	5.09	0.58	0.86	1.06	0.86	0.16	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

98	7.000	25.23	0.00	4.53	58.84	5.15	0.58	0.87	1.06	0.87	0.17	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
99	6.900	25.23	0.00	4.51	58.24	5.20	0.59	0.89	1.07	0.89	0.17	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
100	6.800	25.23	0.00	4.49	57.66	5.26	0.59	0.90	1.07	0.90	0.18	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
101	6.700	25.23	0.00	4.48	57.11	5.31	0.60	0.91	1.08	0.91	0.19	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
102	6.600	25.23	0.00	4.46	56.58	5.35	0.60	0.92	1.08	0.92	0.20	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
103	6.500	25.23	0.00	4.45	56.07	5.40	0.61	0.93	1.09	0.93	0.21	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
104	6.400	25.23	0.00	4.43	55.59	5.44	0.61	0.94	1.09	0.94	0.21	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
105	6.300	25.23	0.00	4.42	55.12	5.48	0.62	0.95	1.10	0.95	0.22	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
106	6.200	25.23	0.00	4.41	54.68	5.51	0.62	0.96	1.10	0.96	0.22	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
107	6.100	25.23	0.00	4.40	54.25	5.55	0.62	0.97	1.10	0.97	0.23	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
108	6.000	25.23	0.00	4.39	53.84	5.58	0.63	0.98	1.11	0.98	0.23	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
109	5.900	25.23	0.00	4.37	53.44	5.61	0.63	0.98	1.11	0.98	0.24	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
110	5.800	25.23	0.00	4.36	53.06	5.64	0.63	0.99	1.11	0.99	0.24	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
111	5.700	25.23	0.00	4.35	52.69	5.66	0.63	1.00	1.11	1.00	0.25	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
112	5.600	25.23	0.00	4.34	52.34	5.69	0.64	1.01	1.12	1.01	0.25	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
113	5.500	25.23	0.00	4.33	52.00	5.71	0.64	1.01	1.12	1.01	0.26	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
114	5.400	25.23	0.00	4.32	51.67	5.74	0.64	1.02	1.12	1.02	0.26	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
115	5.300	25.23	0.00	4.32	51.35	5.76	0.64	1.02	1.12	1.02	0.26	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
116	5.200	25.23	0.00	4.31	51.04	5.78	0.65	1.03	1.13	1.03	0.27	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
117	5.100	25.23	0.00	4.30	50.74	5.80	0.65	1.03	1.13	1.03	0.27	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
118	5.000	25.23	0.00	4.29	50.45	5.82	0.65	1.04	1.13	1.04	0.27	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
119	4.900	25.23	0.00	4.28	50.17	5.84	0.65	1.04	1.13	1.04	0.28	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
120	4.800	25.23	0.00	4.27	49.90	5.86	0.65	1.05	1.13	1.05	0.28	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
121	4.700	25.23	0.00	4.27	49.64	5.87	0.66	1.05	1.14	1.05	0.28	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
122	4.600	25.23	0.00	4.26	49.39	5.89	0.66	1.06	1.14	1.06	0.29	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00
123	4.500	25.23	0.00	4.25	49.02	5.90	0.67	1.06	1.15	1.06	0.29	0.00	0.00	0.00	0.00	3.20	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 5 Elder Branch TO Little Sandy WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
124	UPR RCH	0.32300	25.23	0.00	4.25	49.02	5.90	0.67	1.06	1.15	1.06	0.29	0.00	0.00	0.00	3.20	0.00	0.00
EACH	INCR	0.00794	19.62	0.00	3.80	33.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	

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

ELEM NO.	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	MEAN VELO m/s
124	4.50	4.40	0.33095	0.7	0.03045	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.030
125	4.40	4.30	0.33889	0.7	0.03118	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.031
126	4.30	4.20	0.34684	0.7	0.03191	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.032
127	4.20	4.10	0.35478	0.6	0.03264	0.04	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.033
128	4.10	4.00	0.36273	0.6	0.03338	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.033
129	4.00	3.90	0.37067	0.6	0.03411	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.034
130	3.90	3.80	0.37862	0.6	0.03484	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.035
131	3.80	3.70	0.38656	0.6	0.03557	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.036
132	3.70	3.60	0.39451	0.6	0.03630	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.036
133	3.60	3.50	0.40245	0.6	0.03703	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.037
134	3.50	3.40	0.41040	0.6	0.03776	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.038
135	3.40	3.30	0.41834	0.5	0.03849	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.038

136	3.30	3.20	0.42629	0.5	0.03922	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.039
137	3.20	3.10	0.43423	0.5	0.03996	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.040
138	3.10	3.00	0.44218	0.5	0.04069	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.041
139	3.00	2.90	0.45012	0.5	0.04142	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.041
140	2.90	2.80	0.45807	0.5	0.04215	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.042
141	2.80	2.70	0.46601	0.5	0.04288	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.043
142	2.70	2.60	0.47396	0.5	0.04361	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.044
143	2.60	2.50	0.48190	0.5	0.04434	0.03	0.95	11.38	1086.79	1138.00	10.87	0.00	0.000	0.000	0.044
TOT						0.63			21735.80	22760.00					
AVG					0.0369		0.96	11.38			10.87				
CUM						56.25									

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
124	4.400	8.23	0.85	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	4.300	8.23	0.86	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126	4.200	8.23	0.86	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127	4.100	8.23	0.87	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128	4.000	8.23	0.88	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
129	3.900	8.23	0.88	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	3.800	8.23	0.89	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
131	3.700	8.23	0.89	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132	3.600	8.23	0.90	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
133	3.500	8.23	0.90	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
134	3.400	8.23	0.91	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	3.300	8.23	0.91	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
136	3.200	8.23	0.91	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
137	3.100	8.23	0.92	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
138	3.000	8.23	0.92	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
139	2.900	8.23	0.93	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	2.800	8.23	0.93	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
141	2.700	8.23	0.94	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142	2.600	8.23	0.94	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
143	2.500	8.23	0.95	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			0.82	0.22	0.50	0.00	0.03	0.50	0.00	0.02			0.21	0.50	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
124	4.400	25.23	0.00	4.24	48.64	5.91	0.66	1.05	1.36	1.05	0.30	0.00	0.00	0.00	0.00	4.69	0.00	0.	0.00
125	4.300	25.23	0.00	4.23	48.27	5.92	0.65	1.05	1.58	1.05	0.31	0.00	0.00	0.00	0.00	6.17	0.00	0.	0.00
126	4.200	25.23	0.00	4.22	47.92	5.94	0.64	1.05	1.79	1.05	0.32	0.00	0.00	0.00	0.00	7.66	0.00	0.	0.00
127	4.100	25.23	0.00	4.21	47.59	5.95	0.64	1.05	2.01	1.05	0.33	0.00	0.00	0.00	0.00	9.14	0.00	0.	0.00
128	4.000	25.23	0.00	4.20	47.27	5.96	0.63	1.05	2.22	1.05	0.34	0.00	0.00	0.00	0.00	10.63	0.00	0.	0.00
129	3.900	25.23	0.00	4.19	46.96	5.97	0.62	1.05	2.44	1.05	0.34	0.00	0.00	0.00	0.00	12.11	0.00	0.	0.00
130	3.800	25.23	0.00	4.18	46.67	5.98	0.62	1.05	2.65	1.05	0.35	0.00	0.00	0.00	0.00	13.60	0.00	0.	0.00
131	3.700	25.23	0.00	4.17	46.39	5.99	0.61	1.04	2.87	1.04	0.36	0.00	0.00	0.00	0.00	15.08	0.00	0.	0.00

132	3.600	25.23	0.00	4.17	46.12	6.00	0.60	1.04	3.09	1.04	0.36	0.00	0.00	0.00	0.00	16.57	0.00	0.	0.00
133	3.500	25.23	0.00	4.16	45.86	6.01	0.60	1.04	3.31	1.04	0.37	0.00	0.00	0.00	0.00	18.05	0.00	0.	0.00
134	3.400	25.23	0.00	4.15	45.61	6.02	0.59	1.04	3.52	1.04	0.37	0.00	0.00	0.00	0.00	19.54	0.00	0.	0.00
135	3.300	25.23	0.00	4.15	45.37	6.03	0.59	1.04	3.74	1.04	0.38	0.00	0.00	0.00	0.00	21.02	0.00	0.	0.00
136	3.200	25.23	0.00	4.14	45.14	6.03	0.58	1.04	3.96	1.04	0.38	0.00	0.00	0.00	0.00	22.51	0.00	0.	0.00
137	3.100	25.23	0.00	4.13	44.92	6.04	0.58	1.04	4.18	1.04	0.39	0.00	0.00	0.00	0.00	23.99	0.00	0.	0.00
138	3.000	25.23	0.00	4.13	44.70	6.05	0.58	1.04	4.40	1.04	0.39	0.00	0.00	0.00	0.00	25.48	0.00	0.	0.00
139	2.900	25.23	0.00	4.12	44.50	6.06	0.57	1.04	4.62	1.04	0.40	0.00	0.00	0.00	0.00	26.96	0.00	0.	0.00
140	2.800	25.23	0.00	4.12	44.30	6.07	0.57	1.04	4.84	1.04	0.40	0.00	0.00	0.00	0.00	28.45	0.00	0.	0.00
141	2.700	25.23	0.00	4.11	44.11	6.07	0.57	1.04	5.06	1.04	0.40	0.00	0.00	0.00	0.00	29.93	0.00	0.	0.00
142	2.600	25.23	0.00	4.10	43.92	6.08	0.56	1.04	5.28	1.04	0.41	0.00	0.00	0.00	0.00	31.42	0.00	0.	0.00
143	2.500	25.23	0.00	4.10	43.74	6.09	0.56	1.03	5.50	1.03	0.41	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

FINAL REPORT HEADWATER WEST ANACOCO CREEK WATERSHED MODEL
REACH NO. 6 Little Sandy TO WAC5 WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN

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

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
144	UPR RCH	0.48190	25.23	0.00	4.10	43.74	6.09	0.56	1.03	5.50	1.03	0.41	0.00	0.00	0.00	32.90	0.00	0.00
EACH	INCR	0.00636	19.62	0.00	2.50	0.00	3.86	0.43	0.56			0.00	0.00	0.00	0.00	0.00	0.00	
144	WSTLD	0.00230	25.23	0.00	2.70	22.00	5.00	0.68	0.00	0.68	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00

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

ELEM NO.	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	MEAN VELO m/s
144	2.50	2.40	0.49056	0.9	0.02303	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.023
145	2.40	2.30	0.49691	0.9	0.02333	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.023
146	2.30	2.20	0.50327	0.9	0.02362	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.024
147	2.20	2.10	0.50962	0.9	0.02392	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.024
148	2.10	2.00	0.51598	0.9	0.02422	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.024
149	2.00	1.90	0.52234	0.9	0.02452	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
150	1.90	1.80	0.52869	0.9	0.02482	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
151	1.80	1.70	0.53505	0.9	0.02512	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
152	1.70	1.60	0.54140	0.8	0.02542	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.025
153	1.60	1.50	0.54776	0.8	0.02571	0.05	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
154	1.50	1.40	0.55412	0.8	0.02601	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
155	1.40	1.30	0.56047	0.8	0.02631	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.026
156	1.30	1.20	0.56683	0.8	0.02661	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
157	1.20	1.10	0.57318	0.8	0.02691	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
158	1.10	1.00	0.57954	0.8	0.02721	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.027
159	1.00	0.90	0.58590	0.8	0.02750	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
160	0.90	0.80	0.59225	0.8	0.02780	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
161	0.80	0.70	0.59861	0.8	0.02810	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
162	0.70	0.60	0.60496	0.8	0.02840	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.028
163	0.60	0.50	0.61132	0.8	0.02870	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
164	0.50	0.40	0.61768	0.7	0.02900	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
165	0.40	0.30	0.62403	0.7	0.02929	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.029
166	0.30	0.20	0.63039	0.7	0.02959	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
167	0.20	0.10	0.63674	0.7	0.02989	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030
168	0.10	0.00	0.64310	0.7	0.03019	0.04	1.34	15.85	2130.24	1585.00	21.30	0.00	0.000	0.000	0.030

TOT							1.09					53255.98	39625.00										
AVG						0.0264			1.34	15.85							21.30						
CUM							57.35																

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

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 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	NCM SETT 1/da
144	2.400	8.23	0.58	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	2.300	8.23	0.58	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146	2.200	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147	2.100	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
148	2.000	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
149	1.900	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	1.800	8.23	0.59	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
151	1.700	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152	1.600	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153	1.500	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
154	1.400	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	1.300	8.23	0.60	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
156	1.200	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157	1.100	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
158	1.000	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
159	0.900	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.800	8.23	0.61	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
161	0.700	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162	0.600	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
163	0.500	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
164	0.400	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.300	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166	0.200	8.23	0.62	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167	0.100	8.23	0.63	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	0.000	8.23	0.63	0.29	0.57	0.00	0.04	0.57	0.00	0.03	0.03	0.03	0.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			0.55	0.22	0.50	0.00	0.03	0.50	0.00	0.02			0.21	0.50	0.00	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

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

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I MG/L	CM-II MG/L	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
144	2.400	25.23	0.00	4.07	43.07	6.10	0.55	1.02	5.48	1.02	0.42	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
145	2.300	25.23	0.00	4.05	42.52	6.12	0.53	1.02	5.47	1.02	0.42	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
146	2.200	25.23	0.00	4.03	41.98	6.13	0.52	1.02	5.46	1.02	0.43	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
147	2.100	25.23	0.00	4.01	41.46	6.15	0.51	1.01	5.44	1.01	0.44	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
148	2.000	25.23	0.00	4.00	40.95	6.16	0.50	1.01	5.43	1.01	0.44	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
149	1.900	25.23	0.00	3.98	40.45	6.17	0.49	1.00	5.42	1.00	0.45	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
150	1.800	25.23	0.00	3.96	39.96	6.19	0.48	1.00	5.41	1.00	0.46	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
151	1.700	25.23	0.00	3.94	39.49	6.20	0.47	1.00	5.40	1.00	0.46	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
152	1.600	25.23	0.00	3.92	39.03	6.21	0.46	0.99	5.39	0.99	0.47	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
153	1.500	25.23	0.00	3.91	38.57	6.23	0.45	0.99	5.39	0.99	0.47	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
154	1.400	25.23	0.00	3.89	38.13	6.24	0.44	0.99	5.38	0.99	0.47	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

155	1.300	25.23	0.00	3.88	37.70	6.25	0.44	0.98	5.37	0.98	0.48	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
156	1.200	25.23	0.00	3.86	37.28	6.26	0.43	0.98	5.36	0.98	0.48	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
157	1.100	25.23	0.00	3.85	36.86	6.27	0.42	0.98	5.36	0.98	0.49	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
158	1.000	25.23	0.00	3.83	36.46	6.28	0.42	0.98	5.35	0.98	0.49	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
159	0.900	25.23	0.00	3.82	36.06	6.29	0.41	0.98	5.35	0.98	0.49	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
160	0.800	25.23	0.00	3.80	35.68	6.30	0.40	0.97	5.34	0.97	0.50	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
161	0.700	25.23	0.00	3.79	35.30	6.31	0.40	0.97	5.33	0.97	0.50	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
162	0.600	25.23	0.00	3.78	34.93	6.32	0.39	0.97	5.33	0.97	0.50	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
163	0.500	25.23	0.00	3.76	34.56	6.33	0.39	0.97	5.33	0.97	0.50	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
164	0.400	25.23	0.00	3.75	34.21	6.34	0.39	0.97	5.32	0.97	0.51	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
165	0.300	25.23	0.00	3.74	33.86	6.35	0.38	0.96	5.32	0.96	0.51	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
166	0.200	25.23	0.00	3.72	33.52	6.36	0.38	0.96	5.31	0.96	0.51	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
167	0.100	25.23	0.00	3.71	33.18	6.36	0.37	0.96	5.31	0.96	0.51	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00
168	0.000	25.23	0.00	3.70	32.85	6.37	0.37	0.96	5.31	0.96	0.51	0.00	0.00	0.00	0.00	32.90	0.00	0.	0.00

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STREAM SUMMARY                                          WEST ANACOCO CREEK WATERSHED MODEL
HEADWATER                                               WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN

 TRAVEL TIME       =          57.35 DAYS

 MAXIMUM EFFLUENT  =           0.94 PERCENT

 FLOW              =   0.00231 TO    0.64310   m³/s
 DISPERSION        =   0.0000  TO    0.0000    m²/s
 VELOCITY          =   0.00133 TO    0.37495   m/s
 DEPTH             =   0.18    TO    1.34      m
 WIDTH             =   2.44    TO   15.85      m

 BOD DECAY         =    0.29   TO    0.35      per day
 NH3 DECAY         =    0.00   TO    0.00      per day
 SOD               =    0.03   TO    2.41      g/m²/d
 NH3 SOURCE        =    0.00   TO    0.00      g/m²/d
 REAERATION        =    0.58   TO    7.64      per day
 BOD SETTLING      =    0.23   TO    0.57      per day
 NBOD DECAY        =    0.13   TO    0.29      per day
 NBOD SETTLING     =    0.23   TO    0.57      per day

 TEMPERATURE       =   25.23   TO   25.23      deg C
 DISSOLVED OXYGEN  =    4.39   TO    6.37      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   4 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   4 ITERATIONS
     .....CONSTITUENT CALCULATIONS COMPLETED
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.....BEGIN SENSITIVITY RUN  3 ON PARAMETER SET  2 AND COLUMN  1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN   4 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED


.....BEGIN SENSITIVITY RUN  4 ON PARAMETER SET  2 AND COLUMN  2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN   4 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   3 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   5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED


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


.....BEGIN SENSITIVITY RUN  9 ON PARAMETER SET  5 AND COLUMN  1
.....HYDRAULIC CALCULATIONS COMPLETED
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.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN   4 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   4 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   4 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   4 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   4 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   4 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED
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.....BEGIN SENSITIVITY RUN 16 ON PARAMETER SET  8 AND COLUMN  2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN   4 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   5 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED



.....BEGIN SENSITIVITY RUN 18 ON PARAMETER SET  9 AND COLUMN  2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN   3 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   4 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   4 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   4 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED



.....BEGIN SENSITIVITY RUN 22 ON PARAMETER SET 11 AND COLUMN  2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
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.....OXYGEN DEPENDENT RATES CONVERGENT IN   4 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED



.....BEGIN SENSITIVITY RUN 23 ON PARAMETER SET 12 AND COLUMN  1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN   4 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   4 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED



.....BEGIN SENSITIVITY RUN 25 ON PARAMETER SET 13 AND COLUMN  1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN   5 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   3 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   4 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   4 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED
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.....BEGIN SENSITIVITY RUN 29 ON PARAMETER SET 15 AND COLUMN  1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN   4 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   4 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   4 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED



.....BEGIN SENSITIVITY RUN 32 ON PARAMETER SET 16 AND COLUMN  2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN   4 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   4 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   4 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   4 ITERATIONS
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.....CONSTITUENT CALCULATIONS COMPLETED



.....BEGIN SENSITIVITY RUN 36 ON PARAMETER SET 18 AND COLUMN  2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN   4 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   4 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   4 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   4 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   4 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   4 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED
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.....BEGIN SENSITIVITY RUN 42 ON PARAMETER SET 21 AND COLUMN  2
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN   4 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   4 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   4 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   4 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   4 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   4 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   4 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED
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.....BEGIN SENSITIVITY RUN 49 ON PARAMETER SET 25 AND COLUMN  1
.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN   4 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   4 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   4 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   4 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   4 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   4 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED



.....BEGIN SENSITIVITY RUN 55 ON PARAMETER SET 28 AND COLUMN  1
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.....HYDRAULIC CALCULATIONS COMPLETED
.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN   4 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   4 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   4 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   4 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   4 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   4 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED


.....EXECUTION COMPLETED
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SENSITIVITY ANALYSIS SUMMARY

WEST ANACOCO CREEK WATERSHED MODEL

WEST ANACOCO CREEK PROJECTION SENSITIVITY RUN

Plot 1 Base Model Minimum DO = 4.39

Parameter	%Param Chg	Min D.O.	%D.O. Chg	%Param Chg	Min D.O.	%D.O. Chg
Stream Baseflow	30.	4.32	-1.5	-30.	4.51	2.8
Initial Chorophyll a	30.	4.39	0.0	-30.	4.39	0.0
Stream Velocity	30.	4.32	-1.6	-30.	4.52	3.0
Initial Temperature	2.	4.32	-1.6	-2.	4.44	1.3
CBOD Aerobic Decay Rate	30.	4.38	-0.1	-30.	4.39	0.1
CBOD2 Aerobic Decay Rate	30.	4.39	0.0	-30.	4.39	0.0
CBOD Settling Rate	30.	4.39	0.0	-30.	4.38	0.0
CBOD2 Settling Rate	30.	4.39	0.0	-30.	4.39	0.0
NBOD Decay Rate	30.	4.39	0.0	-30.	4.39	0.0
NBOD Settling Rate	30.	4.39	0.0	-30.	4.39	0.0
Benthal Demand	30.	4.06	-7.4	-30.	4.44	1.3
Stream Dispersion	30.	4.39	0.0	-30.	4.39	0.0
Stream Reaeration	30.	4.55	3.8	-30.	3.62	-17.6
Headwater Flow	30.	4.40	0.3	-30.	4.37	-0.3
Headwater DO	30.	4.39	0.0	-30.	4.39	0.0
Headwater CBOD	30.	4.39	0.0	-30.	4.39	0.0
Headwater CBOD2	30.	4.39	0.0	-30.	4.39	0.0
Headwater NBOD	30.	4.39	0.0	-30.	4.39	0.0
Stream Depth	30.	4.37	-0.3	-30.	4.41	0.6
Wasteload Flow	30.	4.39	0.0	-30.	4.39	0.0
Wasteload Temperature	2.	4.39	0.0	-2.	4.39	0.0
Wasteload DO	30.	4.39	0.0	-30.	4.39	0.0
Wasteload CBOD	30.	4.39	0.0	-30.	4.39	0.0
Wasteload CBOD2	30.	4.39	0.0	-30.	4.39	0.0
Wasteload NBOD	30.	4.39	0.0	-30.	4.39	0.0
Lower Boundary Temperature	2.	4.39	0.0	-2.	4.39	0.0
Lower Boundary DO	30.	4.39	0.0	-30.	4.39	0.0
Lower Boundary CBOD	30.	4.39	0.0	-30.	4.39	0.0
Lower Boundary CBOD2	30.	4.39	0.0	-30.	4.39	0.0
Lower Boundary NBOD	30.	4.39	0.0	-30.	4.39	0.0