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Stream Water Quality in the Coal Region of Alabama and Georgia

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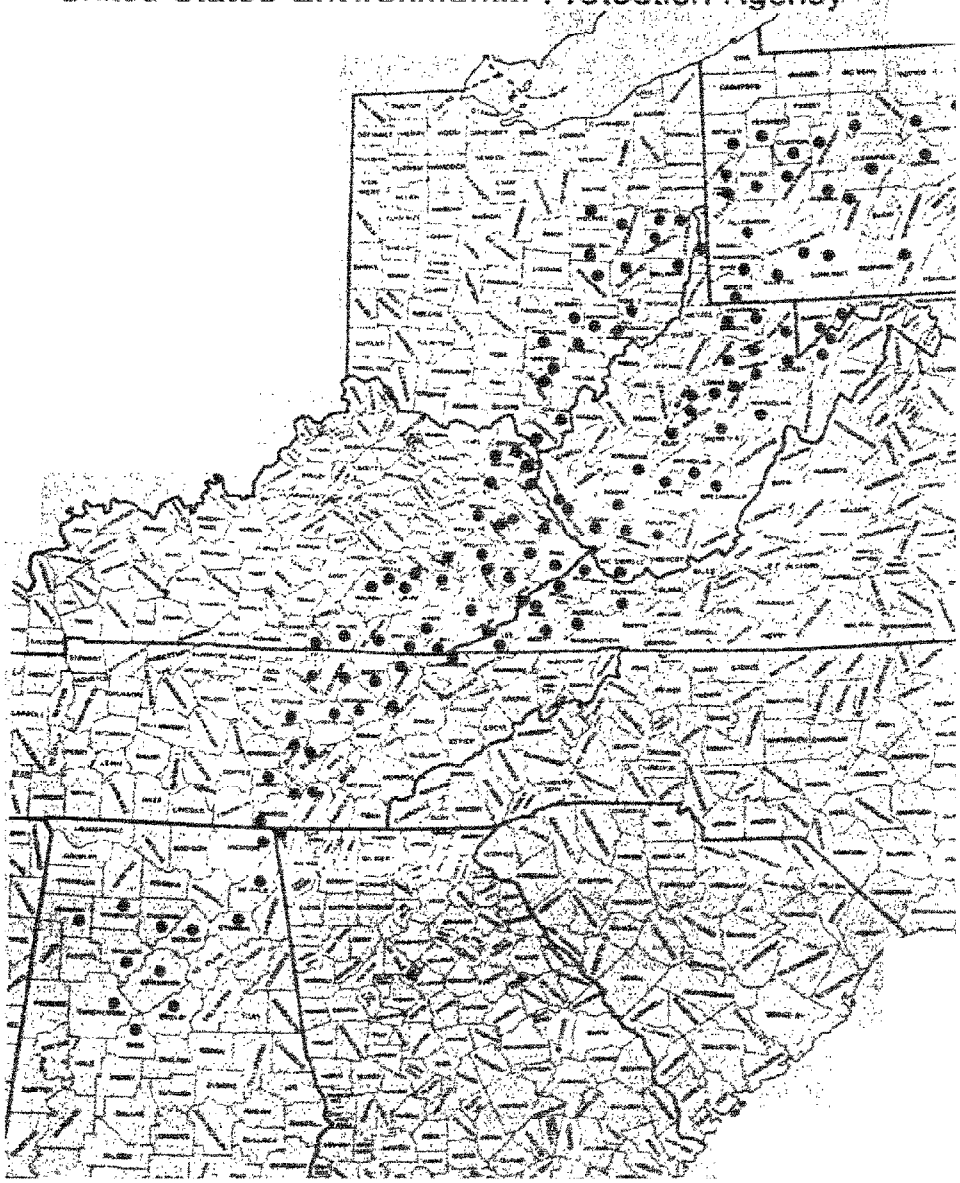

STREAM WATER QUALITY IN THE COAL REGION OF ALABAMA AND GEORGIA

by

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This study was conducted
in cooperation with
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ABSTRACT

This report is a compilation of water quality data for 58 small streams sampled in 12 counties of Alabama and 3 streams sampled in Dade County, Gerogia. Twenty of these streams drain unmined watersheds; 38 drain areas where coal has been surface-mined. Most of these streams were sampled at approximate monthly intervals. The water quality data from these streams are presented in this report and should help fill the need for data from small watersheds in Alabama and Georgia. Data reported include the common ions, alkalinity, acidity, pH, 16 trace elements, 5 nitrogen and phosphorus species, specific conductance, suspended solids, turbidity, settleable matter, water temperature, and estimated discharge.

Data contained in this report should not only be useful in assessing the impacts on stream water quality of old and recent surface mining for coal, it should also provide a data base of small reference watersheds which can serve as a basis for future studies. The report covers the period July 19, 1977 to August 10, 1979.

THE AUTHOR

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FOREWORD

When energy and material resources are extracted, processed, converted, and used, these operations usually pollute our environment. The resultant air, land, solid waste, and other pollution may adversely affect our aesthetic and physical well-being. Protection of our environment requires that we recognize and understand the complex environmental impacts of these operations and apply corrective measures.

This study was undertaken with the primary objective of establishing a water quality data base for small first-order unmined and surface-mined watersheds throughout Appalachia. There is a need for data that explicitly show changes in water quality attributable to past and recent surface mining. Most previous water quality data in the study area came from watersheds so large that it was impossible to isolate the effects of surface mining from the confounding effects of other human activities.

This report includes a compilation of water quality data for 58 small watersheds in northern Alabama and 3 in northwestern Georgia. Most streams were sampled at approximate monthly intervals from about September 1977 through August 1979, as part of a study of the effects of surface mining on water quality in Appalachia. Twenty of these sampled watersheds were unmined; 38 contained areas that had been surface-mined for coal. These data are being released ahead of the interpretative report because of the immediate needs of many potential users.

Regulatory agencies, environmentalists, and writers of environmental impact statements will be particularly interested in these data. The water quality data base provided in this report for small reference watersheds should provide a basis for future studies and should be especially helpful in determining the probable hydrologic consequences of future mining operations.

This study was made possible by funding from the U.S. Environmental Protection Agency, Office of Research and Development, Cincinnati, Ohio, and was completed under Contract No. EPA-IAG-DE-E764 by the U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station, Broomall, Pennsylvania. The Surface-Mined Area Reclamation Research Unit of the Northeastern Forest Experiment Station in Berea, Kentucky, may be contacted for further information.

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LIST OF ABBREVIATIONS AND SYMBOLS

AL = Aluminum
B = Boron
BA = Barium
BE = Beryllium
C = Celsius
CA = Calcium
CFS = Cubic feet per second
CL = Chloride
CO = Cobalt
CO3 = Carbonate
CU = Copper
DA = Day
DEG C = Degrees Celsius
DIS SOLID = Calculated total dissolved solids
EST DISCH = Estimated Discharge
F = Filtered water sample (see Table 3)
FA = Filtered water sample preserved with nitric acid (see Table 3)
FE = Iron
FN = Filtered water sample preserved with sulfuric acid (see Table 3)
FP = Filtered water sample preserved with mercuric chloride (see Table 3)
HCO3 = Bicarbonate
JTU = Jackson turbidity units (assumed to be equivalent to both nephelometric and formazin turbidity units)
K = Potassium
KJ = Unfiltered sample preserved with sulfuric acid (see Table 3)
L (or l) = Liter
LI = Lithium
MG = Magnesium
MG/L (or mg/l) = Milligrams per liter. Essentially the same value as parts per million for concentrations given in this report.
ML/L (or ml/l) = Milliliters per liter
MO = Molybdenum (when found under the date heading MO = Month)
MN = Manganese
N = Nitrogen
NA = Sodium
NEUT RATIO = Neutralization ratio
NH3 = Ammonia
NI = Nickel
NO3 = Nitrate plus nitrite as N, determined on an unpreserved sample (sample F)
*NO3 = Nitrate plus nitrite as N, determined on a sample preserved with H_2SO_4 (sample FN)
ORTHO PO4 = Orthophosphate
P = Phosphorus
PB = Lead

PH = pH
SA = Unfiltered water sample preserved with nitric acid (see Table 3)
SETT MATTER = Settleable matter
SI - Silicon
SO4 - Sulfate
SPEC COND = Specific conductance at 25° Celsius
SR = Strontium
SUSP SOL = Suspended solids
SV = Unfiltered, untreated water sample for settleable matter analyses (see Table 3)
TEMP = Temperature
TI = Titanium
TKN = Total Kjeldahl nitrogen
TOT = Total
TURB = Turbidity
U = Unfiltered, untreated water sample (see Table 3)
UM/CM = Micromhos/centimeter
YR = Year
ZN = Zinc

ACKNOWLEDGMENTS

The cooperation of the Tennessee Valley Authority, U.S. Bureau of Land Management, and the Alabama Department of Industrial Relations is gratefully acknowledged. Personnel from these agencies designated those areas in which sites suitable for this study might be found. Numerous individuals, including landowners and mining company representatives, cooperated in this study by helping select watersheds which met the criteria for this study, or by allowing access onto or over their land so that the samples might be taken, or both.

SECTION 1

INTRODUCTION

Surface mining throughout Appalachia is known to cause changes in the quality of water downstream from the mined areas (U.S. Army Corps of Engineers and others 1969). Numerous water quality sampling sites have been established on Appalachian streams since 1950, but most of these are on streams that drain large watersheds with multiple land uses so that it is not possible to correlate surface mining with downstream water quality.

A network of sampling sites on small first-order surface-mined and unmined watersheds throughout Appalachia was needed so that water quality data could be correlated with the type and date of surface mining, the type and date of reclamation, and the type of coal mined. These small reference watersheds should provide a good data base for future studies to aid in determining differences in stream water quality from mined and unmined watersheds, differences in the effects of various mining and reclamation techniques on water quality, and water quality recovery rates in streams that have been affected by mining.

Such a network of sampling sites was established in 1977 in the 135 Appalachian counties in nine states where coal was surface mined. The three sites initially selected in each county were to represent three watershed conditions: (1) unmined, (2) surface mined before January 1972, and (3) surface mined after January 1972. The 135 Appalachian counties which comprise the study area are mapped in Figure 1.

Starting in July 1977, 58 water sampling sites were established in 12 counties of Alabama and 3 sampling sites were established in Dade County, Georgia. Surface mining for coal had been practiced in all these counties for many years. Most of these sites were sampled at approximately monthly intervals until August 1979.

Time was not available for a detailed examination of each watershed, so some may not now be correctly classified by mining status, dates of mining, or hydrologic boundaries. The user of this report should not make crucial decisions based on these data unless the classification of the site can be verified. Verification of mining activity is of special concern as there may be old, unreported underground mine discharge in some watersheds.

Ultimately the data from throughout Appalachia should help determine which methods of surface mining are most effective in reducing the quantity of pollution reaching streams. An interpretive report covering the entire Appalachian study area is to be published later.

SECTION 2

STUDY METHODS

SITE SELECTION

A critical element in collecting valid water-quality data is site selection. Procedures and criteria used for site selection follow:

General Criteria for all Watersheds

1. A first order stream was to be selected if at all practical. A first-order stream is defined as a stream with perennial flow but without perennial tributaries. Information provided by local residents was often used to identify perennial streams. When possible, sampling sites were selected at points where flow was over bedrock to lessen the chance of contamination of samples with streambed materials, to increase likelihood of perennial flow, and to improve the discharge estimates.

2. Springs flowing from hillsides were not to be sampled.

3. When possible watersheds from 50 to 250 acres were selected.

Criteria for Unmined Watersheds

1. These watersheds were to be strictly unmined.

2. These watersheds were to have no roads or cuts which exposed bare ground. Old revegetated logging roads and skid trails were allowed.

3. These watersheds were not to be farmed, disturbed, or developed in any way.

4. Watersheds that were completely forested were to be selected if at all possible; when no completely forested watersheds were available, one that was part forest and part grassland or pasture was substituted.

5. Unmined watersheds were to be as close as possible to the mined watersheds, and as similar in aspect as possible.

6. There were to be no plans to mine or develop the watershed within the 2-year study period.

Criteria for Newly Mined Watersheds

1. No mining should have occurred before January 1972.

2. From 10 to 100 percent of the watershed should have been disturbed by surface mining after January 1972. Active surface mines were permitted on watersheds in this category. Old mines that were worked before January 1972, were permitted provided that all surfaces exposed to the atmosphere before then were completely reworked after January 1972.

3. When possible, watersheds were to be selected where only one seam of coal had been or was being mined. This was to make it possible to better evaluate the effects of mining each coal seam on water quality. Watersheds with two or more seams of coal mined were selected when these were the best available.

Criteria for Old Mined Watersheds

1. No mining or reclamation should have occurred since January 1972.

2. From 10 to 100 percent of the watershed should have been disturbed by surface mining before January 1972.

3. When possible, watersheds were to be selected where only one seam of coal had been mined. Watersheds with two or more seams of coal mined were selected when these were the best available.

4. There should be no plans for further mining or development in the watershed within the 2-year study period.

Problems in Site Selection

Site selection was carried out under severe time restraints; therefore, few of the watersheds selected met the specified criteria fully. Many of the watersheds initially classified as either old mined or newly mined have been found to be a mixture of the two. These have been arbitrarily given site classification numbers indicative of newly mined watersheds--even though in some cases the old mining may have had a greater impact on water quality.

Underground mines were prevalent over much of the area in Alabama, making it difficult to find watersheds suitable for study there. Time was not available for close examination of the watersheds, thus some may not be what they appeared to be from the limited information then available on mining status, dates of mining, or hydrologic boundaries.

SITE NOMENCLATURE

Site Numbers

Four-digit site numbers were assigned thus:

First digit designates state:

1. Alabama	4. Maryland	7. Tennessee
2. Georgia	5. Ohio	8. Virginia
3. Kentucky	6. Pennsylvania	9. West Virginia

Second and third digits designate county:

(See Tables 1 and 2 for county numbers)

Fourth digit:

0 used as needed for any watershed condition

1, 4, or 7 indicates an unmined watershed

2, 5, or 8 indicates a watershed that has been surface mined since January 1972 (surface mining may still be in progress on some of these)

3, 6, or 9 indicates a watershed that was surface mined before January 1972

Example: In site number 1042 the 1 indicates Alabama, the 04 indicates De Kalb County, and the 2 designates this as a watershed on which surface mining for coal has occurred after January 1972.

Site Names

Names are taken from U.S. Geological Survey topographic maps of the 7-1/2 minute series (scale 1:24,000). The site is designated as being at a community when it is within a mile of the center of the community or within the urbanized area of the community. The site is designated as being near a community when it is more than a mile from the center of the community and outside an urbanized area.

STREAM SAMPLING PROCEDURES

Samples collected as part of this study are listed in Table 3 with treatment, time interval over which collected, and approximate volume of sample.

In addition to the samples described in Table 3 two samples of bottom material (generally rocks, sand, gravel, and/or mud) were collected from the bottoms of most streams sampled, one early in 1978 and one early in 1979. These samples were analyzed by X-ray diffraction for mineralogy and by X-ray fluorescence for major and minor elements including aluminum, calcium, iron, manganese, magnesium, potassium, silicon, and titanium. Data from the analyses of these samples are not given in this report but will be released later.

All samples were collected in plastic bottles, rinsed twice with at least 25 ml of the water being collected. Attempts were made to collect representative stream samples free of bottom material, floating debris, or material put in suspension through disturbance of the stream bottom. Unfiltered samples (KJ, SA, SV, and U) were generally dipped from flowing water or pools, but in extremely shallow streams these samples were collected with a 50-ml prerinsed syringe. When necessary, a clean thin rock was placed on the stream bottom at the collection site to avoid inadvertent collection of bottom material with the syringe.

All filtered samples were collected in a 50 ml plastic syringe and forced through a 0.45-micron type HAWG millipore filter 47 millimeters in diameter. The syringe was prerinsed with two 50 ml slugs of sample water and each filter was prerinsed with 50 ml of sample water. Filters for samples FN and FP (see Table 3 for description) were prerinsed with 200 ml of distilled water or sample water. Collection of samples F and FA generally sufficed for the prerinsing of the filters for samples FN and FP. A few samples were so muddy they could not be filtered at the site; so, liter samples of these were collected, allowed to settle a few hours, and then filtered.

Samples were refrigerated from the time they were received in Berea until they could be analyzed. As much as 2 weeks could pass between collection and refrigeration. Samples were usually stored in the refrigerator a month or two before they were analyzed in the lab. Samples were protected from freezing during the winter.

FIELD MEASUREMENTS

Field measurements were performed concurrently with stream sampling. The reported stream discharges are all listed as estimates, though in a very few cases the discharge was computed when the entire flow was allowed to fill a cup or bucket of known volume during a measured time. Discharge in cubic feet per second was generally estimated by multiplying the mean estimated cross-sectional area of flow in square feet by the mean surface velocity (estimated by movement of a floating leaf or stick) in feet per second times a roughness factor. The assigned roughness factors ranged from 0.5 to 0.9 and were designed to compensate for differences in stream channel shape and roughness.

Field pH measurements were obtained at streamside for most samples collected during the first half of the study. These were generally measured in the flowing stream unless velocities exceeded about 0.5 ft/sec, in which case they were measured at streamside in a cup of water collected for the purpose. Field pH readings were made with a Markson digi-sense pH meter, Model 5985-40, which was standardized with two buffers at each sampling site. The collection of field pH values was discontinued after we discovered that even under carefully controlled laboratory conditions the field meters were giving pH values for natural waters which, though stable, sometimes differed by as much as two whole pH units from readings taken only a few minutes before. Time was not available either to ascertain why field pH readings were inconsistent or to develop a better system for measuring. Because of the unreliability of many of these values, no field pH data are included in this report.

Water temperatures were measured with a thermometer placed in a flowing portion of the stream and are reported in degrees Celsius.

LABORATORY ANALYSES

Most analyses given in this report were determined at the laboratory of the Surface-Mined Area Reclamation Research Unit of the Northeastern Forest Experiment Station in Berea, Kentucky. Most samples of suspended solids were analyzed at Eastern Kentucky University in Richmond, Kentucky under the direction of Dr. Samuel S. Leung, Department of Geology. Special Nutrient samples collected between July 11 and August 9, 1979, were analyzed at the Argonne National Laboratory at Argonne, Illinois, under the direction of Dr. Richard D. Olsen.

An attempt was made to maintain the same analytical techniques throughout the study; however, this was not always possible. Changes and the dates they were instituted have been specified in the following discussions of individual parameters.

Elemental Analyses by Emission Spectrometer

A total of 31 elements was analyzed on the "FA" samples using a Spectraspan III emission spectrometer with DC argon plasma source. Data for 20 of these elements are included in this report. These 20 elements are tabulated in Table 4 along with approximate detection limits and approximate levels of reproducibility.

Concentrations of 11 additional elements were obtained but are not published in this report because their concentrations in natural waters were generally far below the detection limits of the emission spectrometer. These elements and their approximate detection limits in mg/l are: Arsenic (3), bismuth (5), cadmium (0.5), chromium (0.1), germanium (0.1), mercury (0.05), phosphorus (0.7), selenium (0.3), silver (0.05), tin (0.2), and vanadium (0.2).

Other Analyses

Descriptions of the remaining laboratory analyses (anions, nutrients, physical parameters, and calculated values) follow in alphabetical sequence.

Acidity--

Reported as mg/l calcium carbonate equivalent and analyzed in accordance with a modification of the procedure published in Methods for Chemical Analysis of Water and Wastes (EPA 1974). A 25-ml portion of the filtered "F" sample was first acidified to pH 4.0 with 0.02 N H_2SO_4 with a Mettler autotitrator consisting of modules DK 10, DK 11, DK 12, DK 13, and DV 210. Three drops of 30 percent H_2O_2 were then added and the sample boiled for 2 to 4 minutes. Upon cooling, samples were titrated by autotitrator with either 0.02 N NaOH; or 0.1 N NaOH. Paired aliquots titrated with 0.1 N NaOH and containing less than 20 mg/l acidity as $CaCO_3$ differed from their respective means by an average of $\pm$ 2.4 mg/l while those containing more than 20 mg/l acidity as $CaCO_3$ differed from their respective means by an average of $\pm$ 6.9 percent. Paired samples titrated with 0.02 N NaOH should be in much better agreement in the lower range and in slightly better agreement in the upper range.

Negative acidity values represent excess alkalinity contributed by constituents such as bicarbonates. Negative acidities are frequently reported as zero but the negative values are needed if the final acidity of a mixed water system is to be computed from the acidities of each of its component waters. In general, the negative acidities should be fairly close in absolute value to the alkalinity concentrations, though there can be exceptions.

Acidity is normally determined on unfiltered and untreated raw water samples but such samples were not available at the end of the study when the decision was made to analyze the available samples for acidity. Only filtered samples were available then, so the acidity data reported may differ appreciably from what would have been obtained from unfiltered, untreated samples. If the sediment contained pyritic materials, as was sometimes the case in the study area, then the unfiltered samples would have been higher in acidity than the filtered samples used in this study. If the sediment contained carbonate minerals (rarely the case in the study area) then the unfiltered samples would have been lower in acidity than the values given in this report.

Alkalinity--

Reported as mg/l calcium carbonate equivalent. A 25 ml portion of the "F" sample was titrated with 0.02 N H_2SO_4 to a calculated end point using a Mettler autotitrator (described above). During the first few months of the study alkalinity was determined on 50 ml portions of the unfiltered, untreated "U" sample. After it was observed that the pH of a few of the "U" samples dropped appreciably during storage before analysis, the remaining alkalinities were determined on 25 ml portions of the "F" samples. It had been observed that the "F" samples were not only more stable than the "U" samples, but maintained pH

values that agreed more closely with field pH values. The titration was done in two steps, first to a preliminary end point at pH 5.64, then to a final computed end point based on the number of milliliters of titrant required to reach the preliminary end point. Samples with pH values less than 5.64 were assumed to have no measurable alkalinity. The end points used were essentially the same as those given by Barnes (1964, p. H15, Table 4) but minor corrections were added to account for dilution of the samples by titrant.

Alkalinities of the filtered samples used in this study may be either higher or lower than alkalinities that would have been measured in unfiltered samples, as explained in the preceding section on acidity.

During storage calcium carbonate tended to precipitate from many of those samples in which alkalinity exceeded about 100 mg/l. The reported alkalinity, carbonate, and bicarbonate values from these samples may be lower than the concentrations that would have been found had the samples been analyzed before storage.

Ammonia--

Reported as mg/l N. Ammonia was analyzed on the "FN" sample with a Technicon autoanalyzer II using industrial method number 154-71W tentative, dated February 1973. Technicon gives the detection limit for this method as 0.024 mg N/l and the coefficient of variation at 0.14 mg N/l as 0.31 percent.

Bicarbonate--

Computed from alkalinity, pH, and ionic strength using the formula:

$$HCO_3 = \frac{(1.219)(A2)(HYD)(ALK)}{(9.6 \times 10^{-11}) + (HYD)(A2)}$$

Wherein HCO_3 is bicarbonate in mg/l, ALK is the alkalinity in mg/l calcium carbonate equivalent, HYD is the hydrogen ion concentration in moles/l computed by: HYD = antilog (-pH), and A2 is the activity coefficient for divalent ions computed from the equation:

$$A2 = \text{antilog} \frac{-2.034 \sqrt{I}}{1 + 1.64 \sqrt{I}}$$

where I is the ionic strength (Garrels and Christ 1965, p. 61-62). The value 1.64 is the product of 0.3281 (Garrels and Christ 1965, Table 2.6) and 5 [an approximate value for major ions in the streams sampled (Garrels and Christ

1965, Table 2.7)]. This equation is valid when the total ionic concentration is less than or equal to 0.1 mole per liter and the sample temperature is near 25°C. The ionic strength, I, is defined by:

$$I = 0.5 \sum_{i=1}^{n} C_i Z_i^2$$

wherein n is the number of ion species, i, in the solution; C_i is the concentration in moles/l of ion species, i, in the solution; and Z_i is the charge (or valence) of the ion (Garrels and Christ 1965, p. 56).

Carbonate--

Computed from alkalinity and bicarbonate using the equation:

$$CO_3 = 0.4917\ (1.219\ ALK - HCO_3)$$

wherein CO_3 is carbonate as mg/l, HCO_3 is bicarbonate in mg/l, and ALK is alkalinity in mg/l calcium carbonate equivalent.

Chloride--

Except for the last few samples chloride was determined on the "F" sample with a Technicon autoanalyzer II using industrial method number 99-70 W/B released September 1974, revised February 1976. This procedure depends on the liberation of thiocyanate ion from mercuric thiocyanate by the formation of soluble, un-ionized mercuric chloride. In the presence of ferric ion, the liberated thiocyanate forms a highly colored ferric thiocyanate proportional to the original chloride concentration. Technicon gives the coefficient of variation of this method at 5.0 mg/l as $\pm$ 0.42 percent, and the detection limit as 0.2 mg/l.

Chloride samples collected during the last 2 months of the study were analyzed on a Coulter Industrial Kem-O-Lab, model IKL, using procedures supplied with the instrument dated February 1979. This procedure uses ferric thiocyanate as the colorimetric indicator and is similar to the automated method described in Methods for Chemical Analysis of Water and Wastes (EPA 1974, p. 31-34). The detection limit is about 0.1 mg/l.

Conductivity--

See Specific Conductance

Dissolved Solids--

See Total Dissolved Solids, calculated

Neutralization Ratio--

Computed from the equation:

$$\text{Neutralization ratio} = \frac{\text{gross alkalinity (in meq/l)}}{\text{gross acidity (in meq/l)}}$$

$$= \frac{(Ca^{++} + Mg^{++} + Na^{+} + K^{+}) - (Cl^{-} + F^{-} + NO_3^{-})}{SO_4^{=}}$$

wherein all ions in the water sample are reported in milliequivalents per liter (Hollyday and McKenzie 1973, p. 24-25). The neutralization ratio is unity when the gross alkalinity produced during formation and neutralization of mine drainage is equal to the gross acidity produced concurrently. A neutralization ratio greater than 1.00 indicates that the alkalinity formed was more than enough to neutralize the gross acidity from sulfuric acid released to the water by oxidation of iron sulfide.

Fluoride concentrations were not obtained as a part of this study and so were omitted from the computation of the neutralization ratios. Since fluoride rarely exceeds a few mg/l in natural waters and is low in comparison to the other ions summed in the computations, only negligible errors have been introduced by its omission.

Nitrate--

See Nitrate Plus Nitrite

Nitrate Plus Nitrite--

Nitrate and nitrite were analyzed together on the "F" sample with a Technicon autoanalyzer II using a modification of industrial method number 100-70W, released September 1973. Nitrate is reduced to nitrite by a copper-cadmium reductor column developed by Willis (1980). The nitrite ion reacts with sulfanilamide under acidic conditions to form a diazo compound, which couples with N-1-naphthylethylenediamine dihydrochloride to form a reddish purple azo dye. Technicon states that the coefficient of variation at 1.0 mg N/l is 0.31 percent and that the detection limit is 0.04 mg N/l.

The preserved "FN" samples collected late in the study were analyzed by the Argonne National Laboratory using a similar procedure (Technicon industrial method number 158-71W/A tentative, released December 1972, revised June 1977). The Argonne National Lab reported the detection limit using this method as 0.1 mg N/l.

Nitrite--

See Nitrate Plus Nitrite

Nitrogen, Total Kjeldahl--

Total Kjeldahl nitrogen was analyzed simultaneously with total phosphorus on the "KJ" sample using a Technicon autoanalyzer II and industrial methods number 376-75W/B, released November 1975, and number 334-74W/B released January 1976, both methods revised March 1977. The Argonne National Laboratory reported the detection limit using this method as 0.20 mg/l.

Orthophosphate--

Orthophosphate was analyzed colorimetrically on the "FP" sample with a Technicon autoanalyzer II using industrial method number 155-71W tentative, released January 1973. Ammonium molybdate reacts in an acid medium containing ascorbic acid and antimony to form a phosphomolybdenum-blue complex. The Argonne National Laboratory reported the detection limit using this method as about 0.01 mg/l.

pH--

Reported as pH units. The laboratory pH values were initially analyzed on the unfiltered "U" samples; but after a few months were analyzed only on the filtered "F" samples after it was observed that the latter were in closer agreement with field pH measurements than were the former. The pH value of many of the "U" samples tended to change appreciably (usually to lower pH values) during a few weeks in storage, while the pH value of almost all the "F" samples remained nearly constant for a year or more. Five different types of meters were used to measure pH values. Two of these were highly accurate while two used during the first half of the study were frequently in error, sometimes by as much as two full pH units. Questionable pH values were rerun using one of the more reliable meters when sufficient sample remained.

Phosphorus, Total--

Total phosphorus was analyzed simultaneously with total nitrogen on the "KJ" sample using a Technicon autoanalyzer II and the same methods given earlier for total Kjeldahl nitrogen. The Argonne National Laboratory reported the detection limit using this method as 0.05 mg/l.

Settleable Matter--

Settleable matter was determined as the volume of material settling in an Imhoff cone in 45 minutes, in accordance with the procedure given in Standard Methods for the Examination of Water and Waste Water (APHA 1975, p. 95-96). Precision data are not available but samples were usually read to hundredths of a milliliter. Settleable matter was determined on the approximately 1-liter "SV" sample.

Specific Conductance--

Reported as micromhos/cm at 25° Celsius. Specific conductance was determined on the "U" sample during the first few months of the study, then on the "F" sample for the remainder of the study. This change was made because some samples containing sediment increased in conductivity after a few months storage. The use of the "F" sample gave more reliable results, since most samples were stored prior to analysis. Samples collected during the first third of the study were analyzed on a Yellow Springs Instrument Company model 31 conductivity bridge which gave values reproducible to within ± 30 percent. Many of these samples were rerun on the equipment used for the later samples.

The last two-thirds of the samples were analyzed using improved techniques and a temperature-compensated Markson Electromark analyzer. Precision data are not available but sample reproducibility is about ± 2 percent.

Sulfate--

Sulfate was analyzed on the "F" sample during the first few months of the study, and on the "FA" sample during the remainder of the study. The change was made to avoid interference from the precipitate which formed in some of the unacidified samples. Sulfates were analyzed by a turbidimetric technique using Sulfaver IV powder pillows (Hach Chemical Company 1970, p. 91). Absorbance by the barium sulfate suspension was measured using a Bausch and Lomb Spectronic 20 spectrophotometer. Sulfate standards deviated as much as ± 30 percent from the known concentration when measured from this standard curve. In the latter months of the study the standard curve was calibrated daily, and data obtained during this period probably did not deviate more than about ± 15 percent from the true values.

Suspended Solids--

Suspended solids were determined gravimetrically on either the "U" or "SA" sample using Millipore 47-mm fiberglass filter paper (equivalent to about 0.45 micron pore size), and an analytical balance sensitive to 0.1 mg. Samples and filter paper were dried at 105° C for a minimum of 4 hours and cooled 1.5 hours in a desiccator before being weighed. Acidified "SA" samples were used in the beginning of the study to prevent precipitation of salts which might add to the suspended solids concentration. Unacidified samples were used after a preliminary investigation indicated that error due to precipitation of salts was negligible, and that dissolution of some of the sediment by the acid might introduce a larger error. A further inspection and analysis of "U" and "SA" samples late in the study indicated that during storage there had been appreciable precipitation of iron compounds from the more acid samples, and of calcium carbonate from the more alkaline samples. In either case this would cause the measured suspended solids concentrations to be higher than they would have been at the time the samples were collected. Unreasonably high suspended solids values were systematically deleted when field notes indicated that the streams had been

clear when sampled and when orange or yellow precipitates of iron compounds had formed before analysis. Suspended solids concentrations were less seriously affected by precipitation of calcium carbonate (most adhered to the walls of the container), so little effort was made to delete data that might have been affected by this precipitate. Samples collected during the first half of the study were stored for a year or more before analysis for suspended solids and so are more likely to have been affected by precipitates than the remaining samples, which received more prompt analysis.

The "U" and "SA" samples were collected solely for turbidity and suspended solids analyses; nevertheless, by the time the suspended solids analyses were performed an appreciable part of many of these samples had been lost--either through use in other analyses or through slow leakage from overturned containers. In both cases supernatant liquid was lost, leaving essentially all the now-settled suspended solids. All samples weighing less than 100 grams were corrected for this loss of liquid and were assumed to have weighed exactly 100 grams when collected. Suspended solids concentrations in these 100-ml samples are not highly reproducible, so errors introduced by this type of sample reconstruction should be minor by comparison. Most of these samples were collected from shallow streams and there is some evidence that the recommended collection techniques were not always carefully followed. Traces of bottom material, algae, and/or floating debris probably account for many of the higher values observed in the unmined watershed samples. Suspended solids data were deleted where there was evidence that bottom materials (generally sand and gravel) had been scooped up from the streambed during seasons of low flow. The true suspended solids concentrations should almost always be equal to or less than the reported values.

A big percentage of the samples were clear and without visible turbidity. Careful work by the author indicated that most of these should contain no more than 4 or 5 mg/l suspended solids. After a certain date, the suspended solids data generated by two of the eight analysts stand apart in that most of them run 20 to 100 mg/l higher than data by the other analysts, or data analyzed earlier by these two analysts. The data in question, 2,300 values out of a total of 6,400 analyzed can readily be identified as work of these two analysts from the data alone. Suspended solids data that ran about 40 to 100 mg/l or more above the norm for one group of 300 of these samples were deemed so defective that all of them were deleted. Most of the remaining 2,000 questionable values have been left in the various state reports but they have been marked with asterisks to indicate that they are 5 to 80 mg/l (generally 20 to 40 mg/l) higher than the true values.

Total Dissolved Solids, Calculated--

The calculated total dissolved solids value is the sum of all the dissolved constituents and approximates the quantity of dry residue that would be left after evaporation. It is assumed that all the bicarbonate is converted to carbonate and carbon dioxide when evaporated to dryness at 180° C, so the bicarbonate is multiplied by 0.4917 to give an estimate of residual carbonate. The silicon value is multiplied by 2.142, on the assumption that silicon dioxide residue is left upon evaporation.

Turbidity--

Reported as Jackson turbidity units (JTU)--equivalent to formazin or nephelometric turbidity units. Turbidity was measured on the "U" samples except for a few measured on "SA" samples. Transmittance of light through the sample contained in a 1-inch test tube was measured at a wavelength of 450 nanometers with a Bausch and Lomb Spectronic 20 spectrophotometer. Turbidity was determined from transmittance using a table prepared by the Hach Chemical Company (1970, p. 97). This table was prepared from standard formazin solutions calibrated with a Jackson candle turbidimeter. Recent checking indicates that this table is not very suitable for analysis of natural water samples in that values obtained in the more turbid samples were highly dependent upon the dilution chosen. Turbidities computed from a transmittance of 80 would be about double those computed from a transmittance of 20.

The turbidity values reported have not been corrected for the small positive bias which may have been introduced by the presence of true color in some of the water samples. Numerous analysts produced the turbidity data contained in this report and it is obvious that some of them deviated from the prescribed methods, perhaps by not adequately dispersing the settled materials or by using 1/2-inch test tubes instead of 1-inch test tubes. In general, most of the questionable data appear to be too low. The most obviously defective turbidity data were deleted. Unreasonably high turbidity values were systematically deleted when field notes indicated that the water had been clear when sampled but the orange and yellow precipitates of iron compounds had formed before analysis.

SECTION 3

RESULTS

A tabulation of sites by site number, county, date of surface mining, latitude, longitude, surface drainage area, percentage of land disturbed by surface mining, and site name is given in Tables 1 and 2. Site locations and watershed boundaries were drawn on U. S. Geological Survey 7 1/2 minute topographic maps which are reproduced in Figures 2 through 34. Field observations and analytical data are tabulated in Tables 5 through 65. An interpretive report, to be released later, will cover all nine states in the Appalachian study area.

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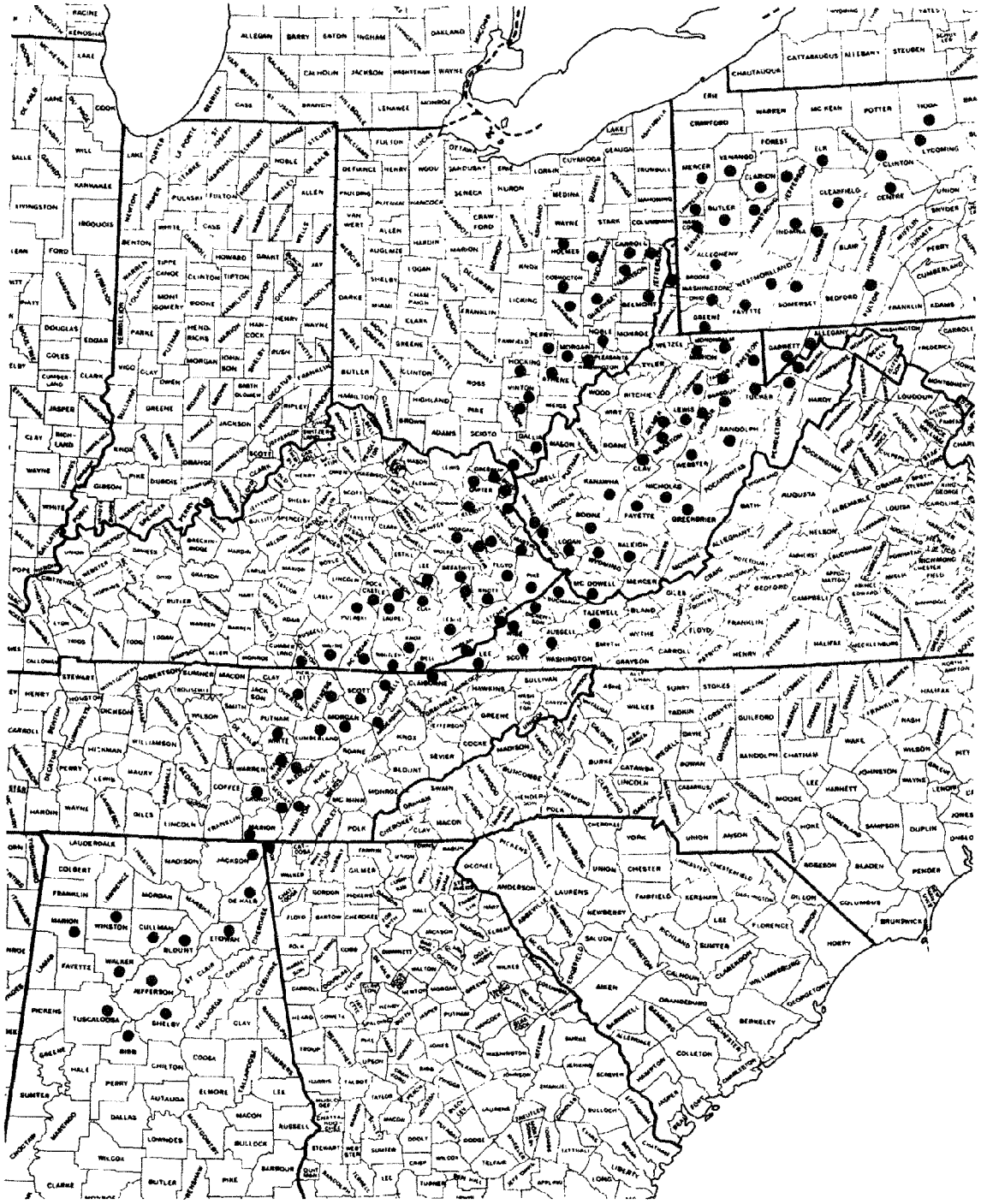

Figure 1. The study area. (Each dot marks one of the 136 Appalachian counties included in this study)

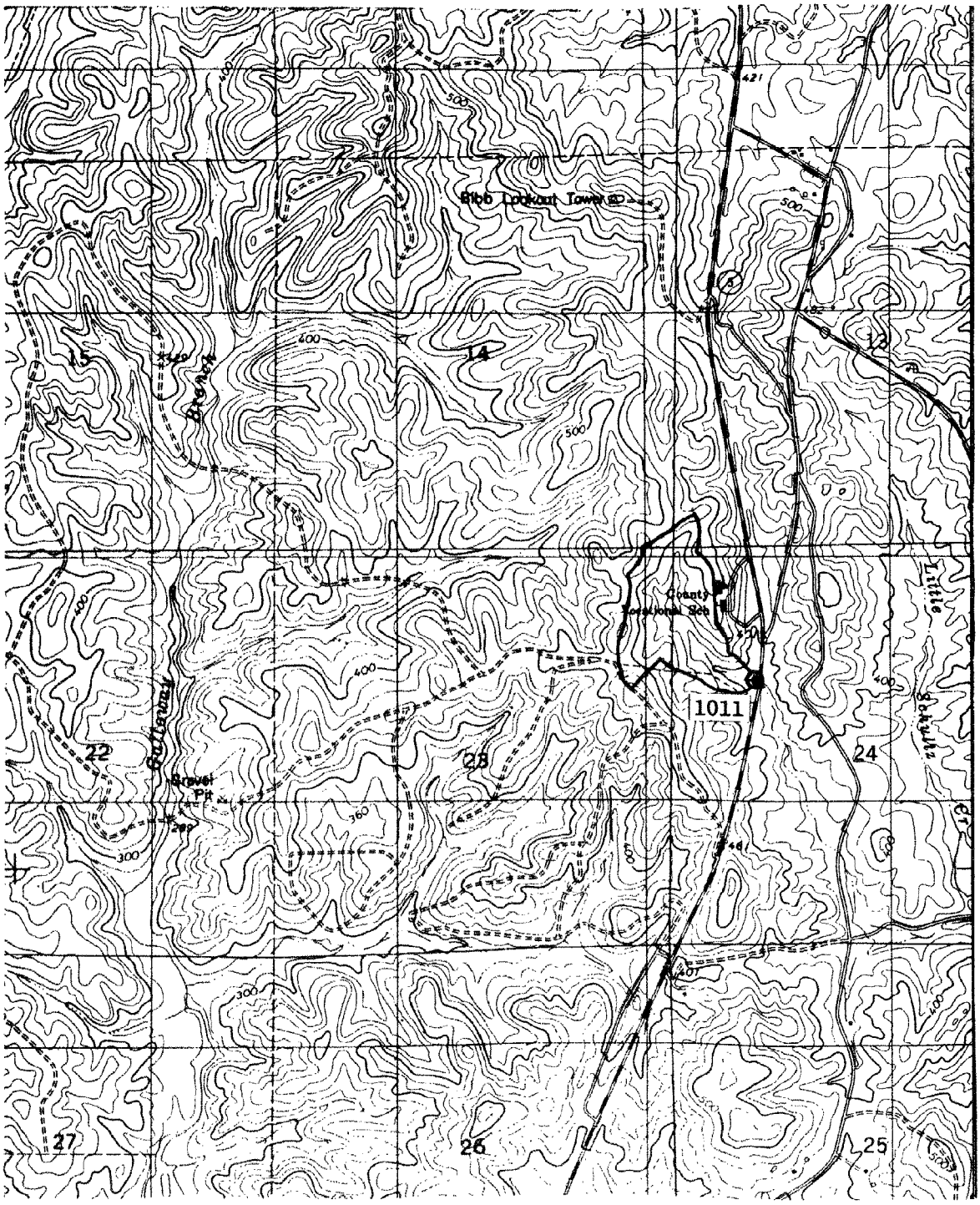

Figure 2. Location map for site 1011, Bibb Co., Alabama. West Blocton West Quadrangle.

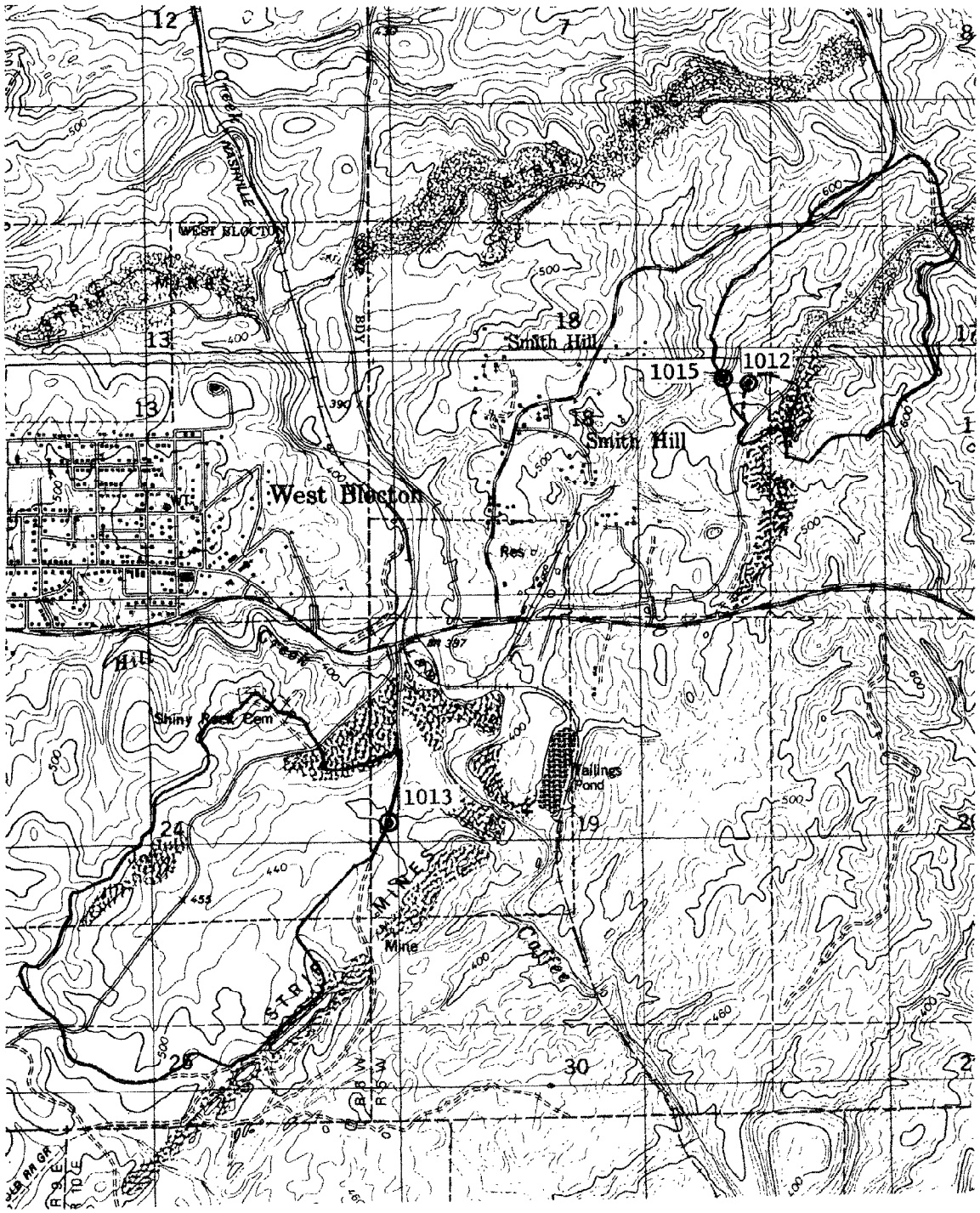

Figure 3. Location map for sites 1012, 1013, and 1015, Bibb Co., Alabama. West Blocton East Quadrangle.

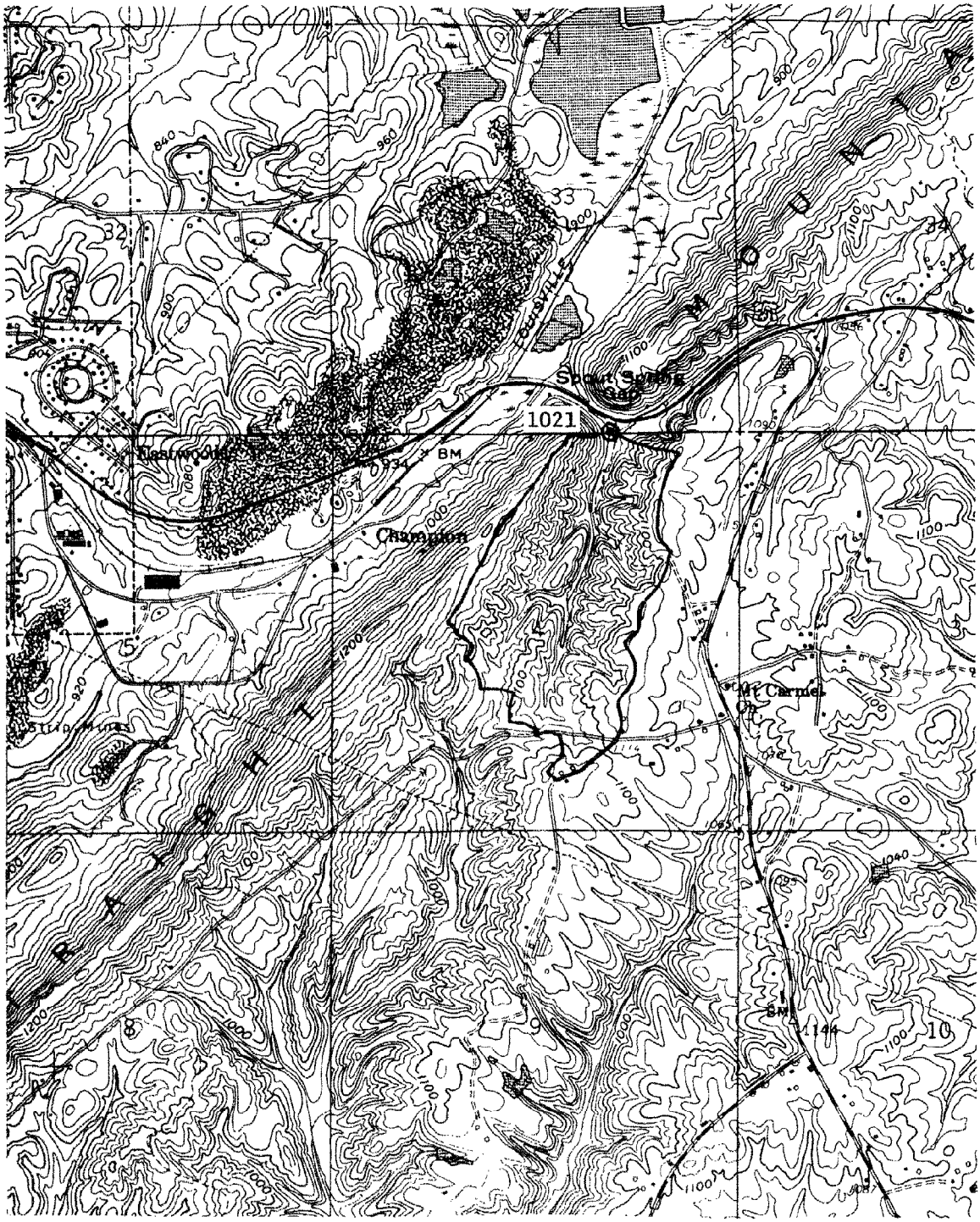

Figure 4. Location map for site 1021, Blount Co., Alabama. Oneonta Quadrangle.

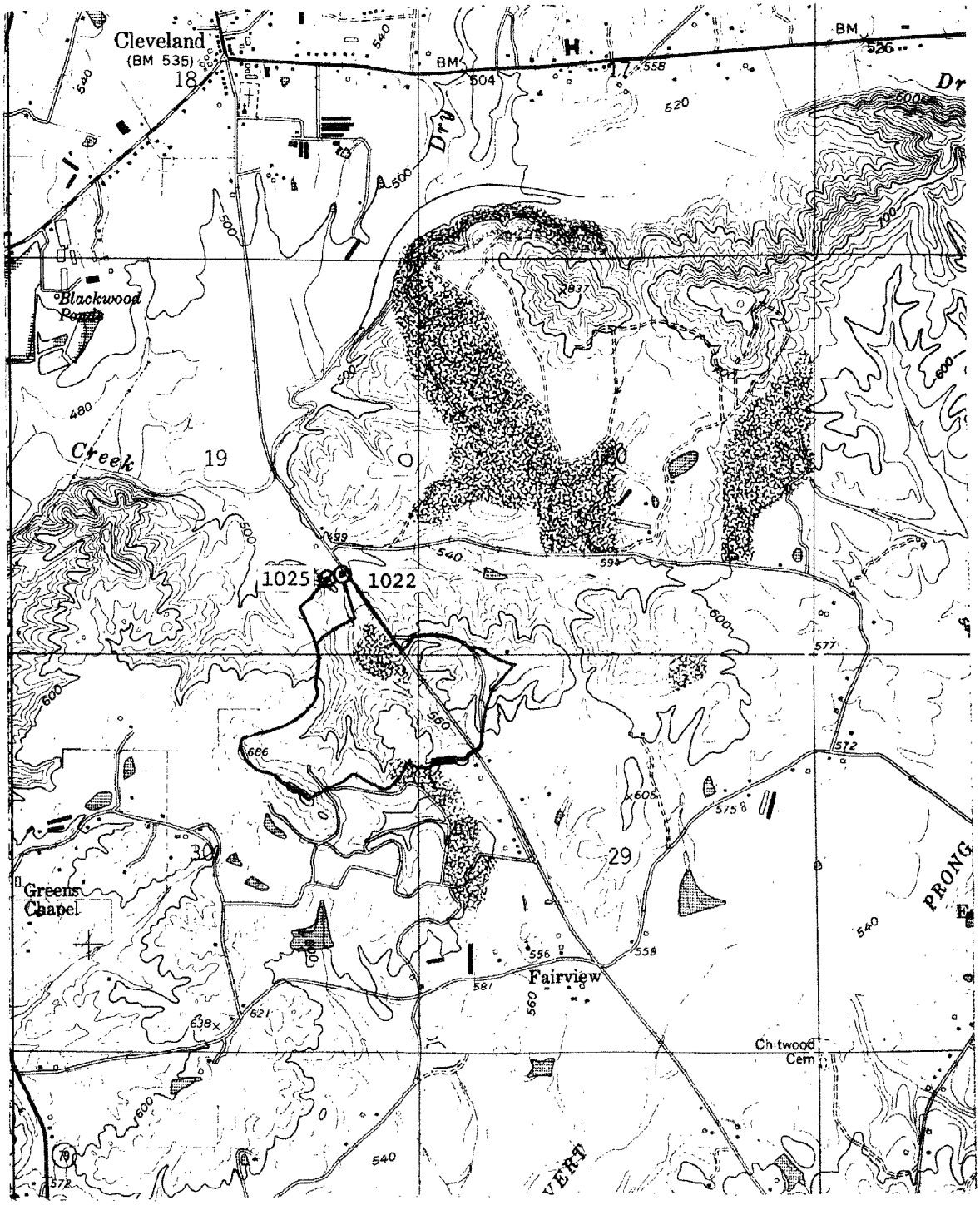

Figure 5. Location map for sites 1022 and 1025, Blount Co., Alabama. Cleveland Quadrangle.

Figure 6. Location map for site 1023, Blount Co., Alabama. Oneonta Quadrangle.

Figure 7. Location map for site 1031, Cullman Co., Alabama. Cold Springs Quadrangle.

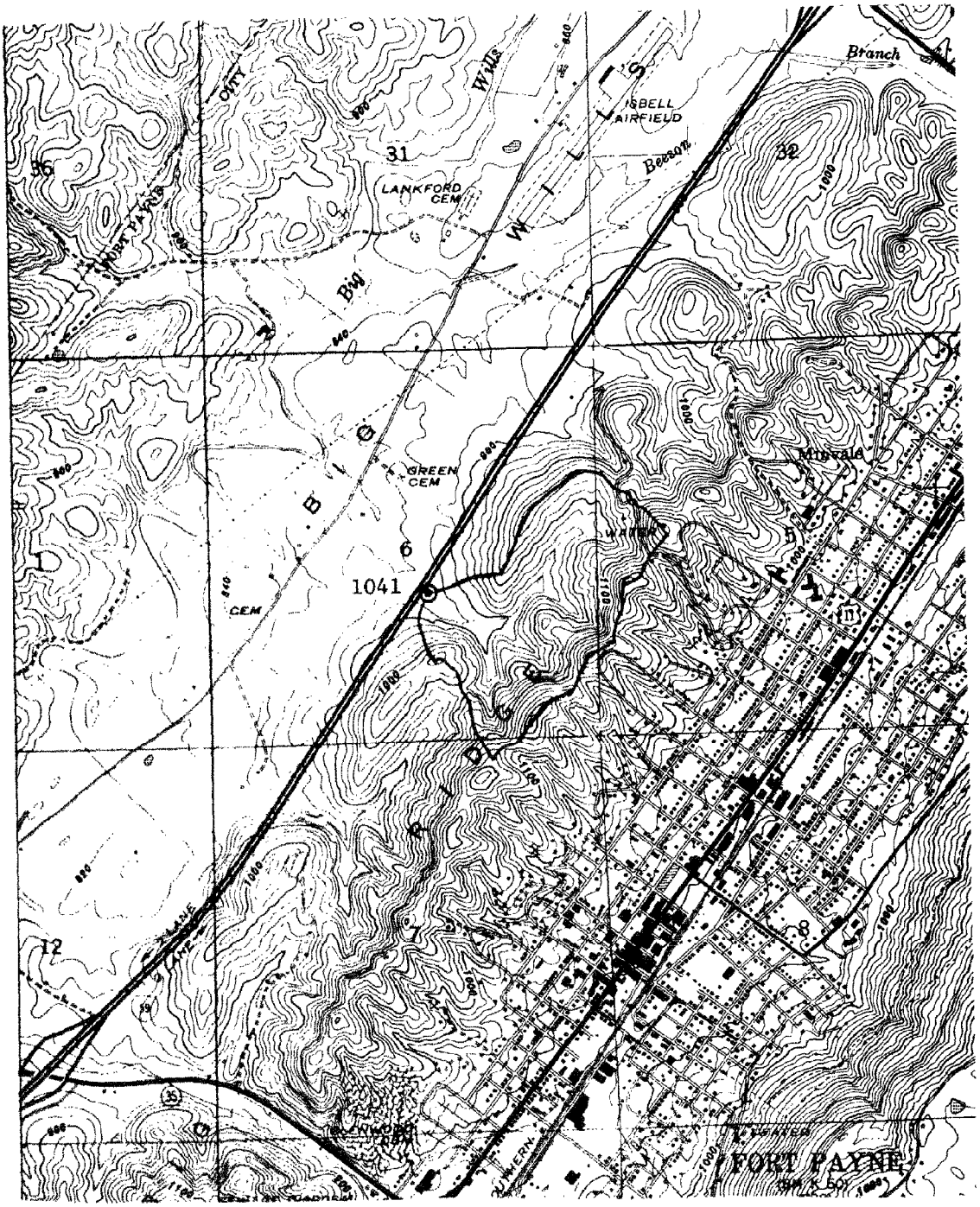

Figure 10. Location map for site 1041, De Kalb Co., Alabama. Fort Payne Quadrangle.

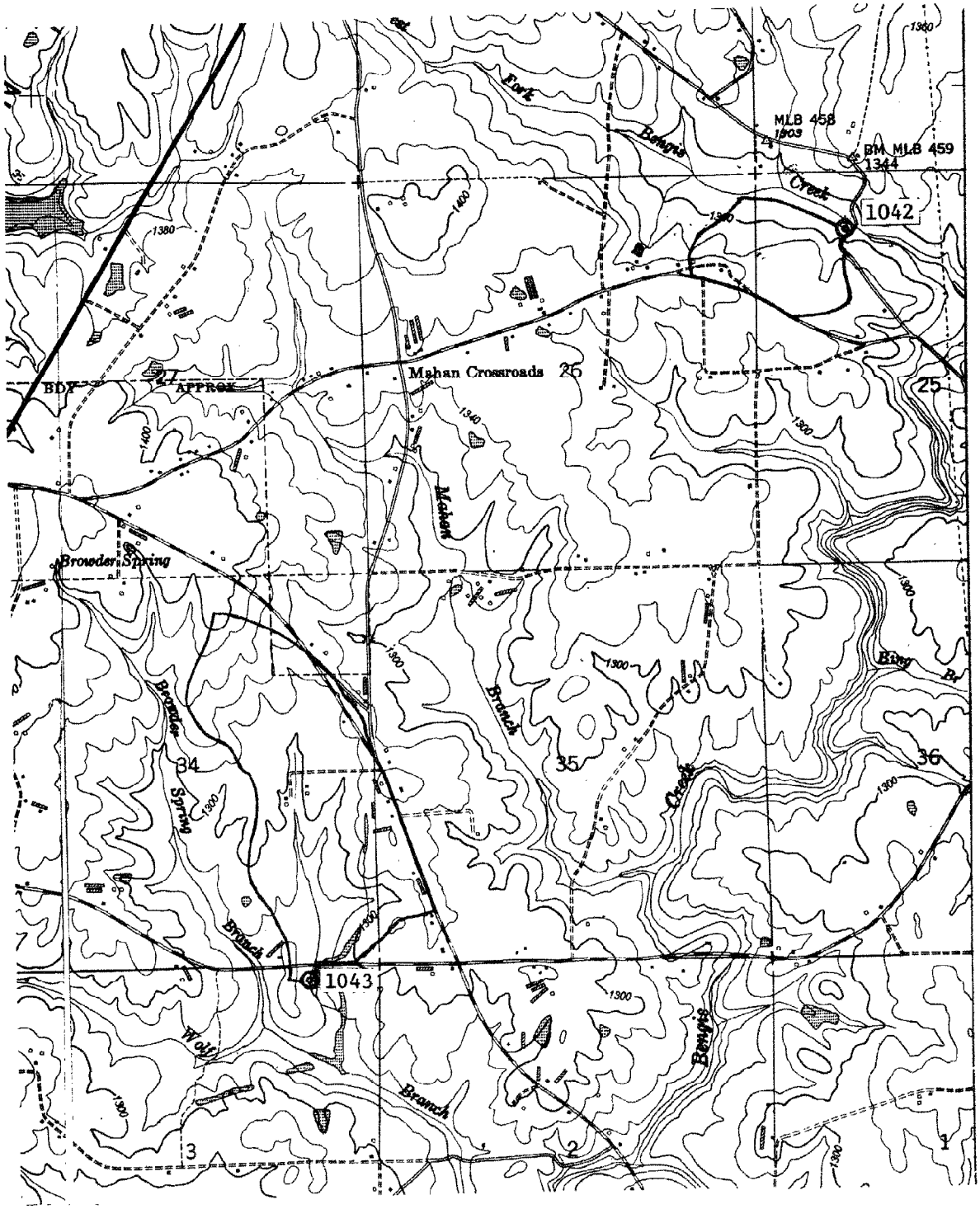

Figure 11. Location map for sites 1042 and 1043, De Kalb Co., Alabama. Sylvania Quadrangle.

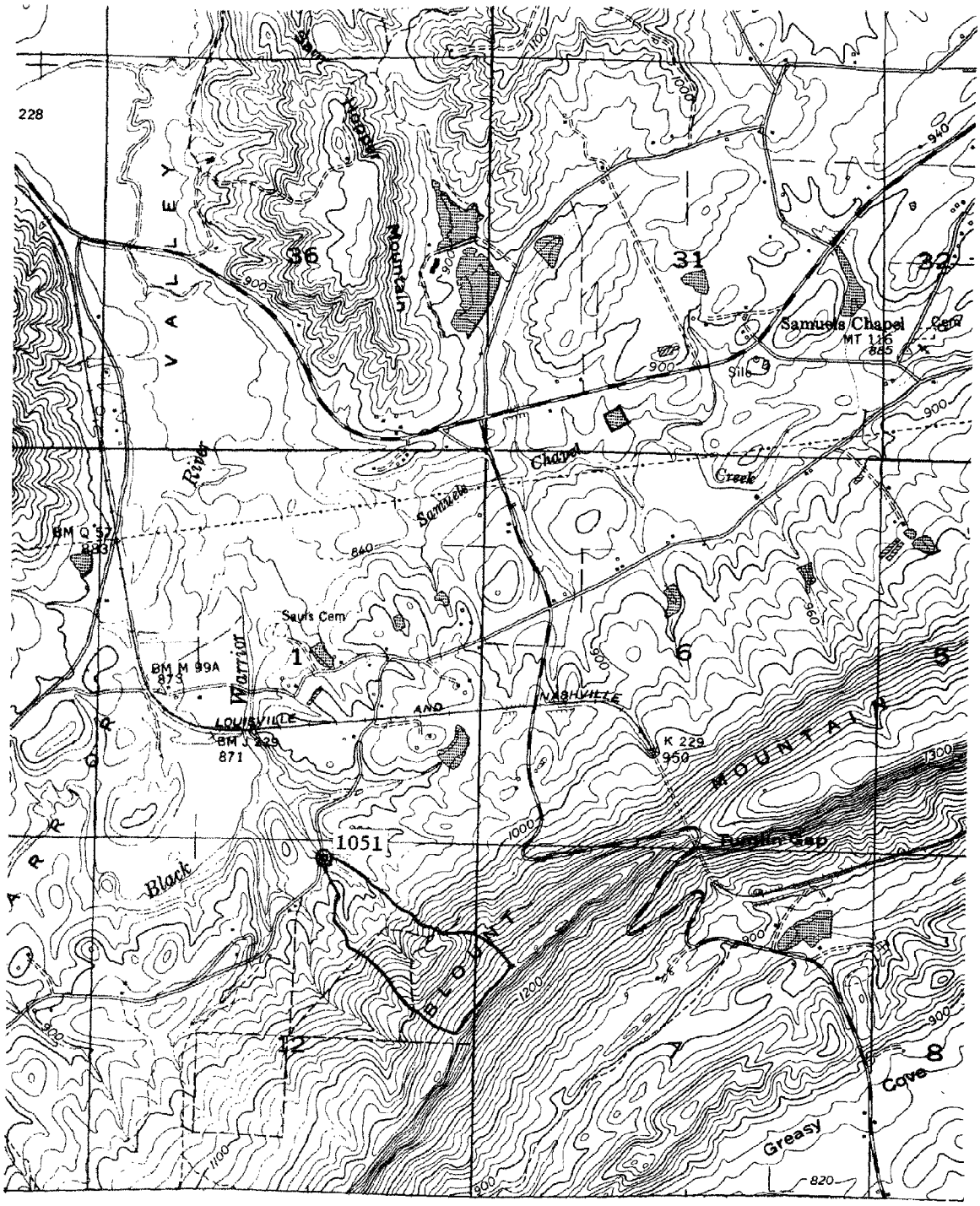

Figure 12. Location map for site 1051, Etowah Co., Alabama. Altoona Quadrangle.

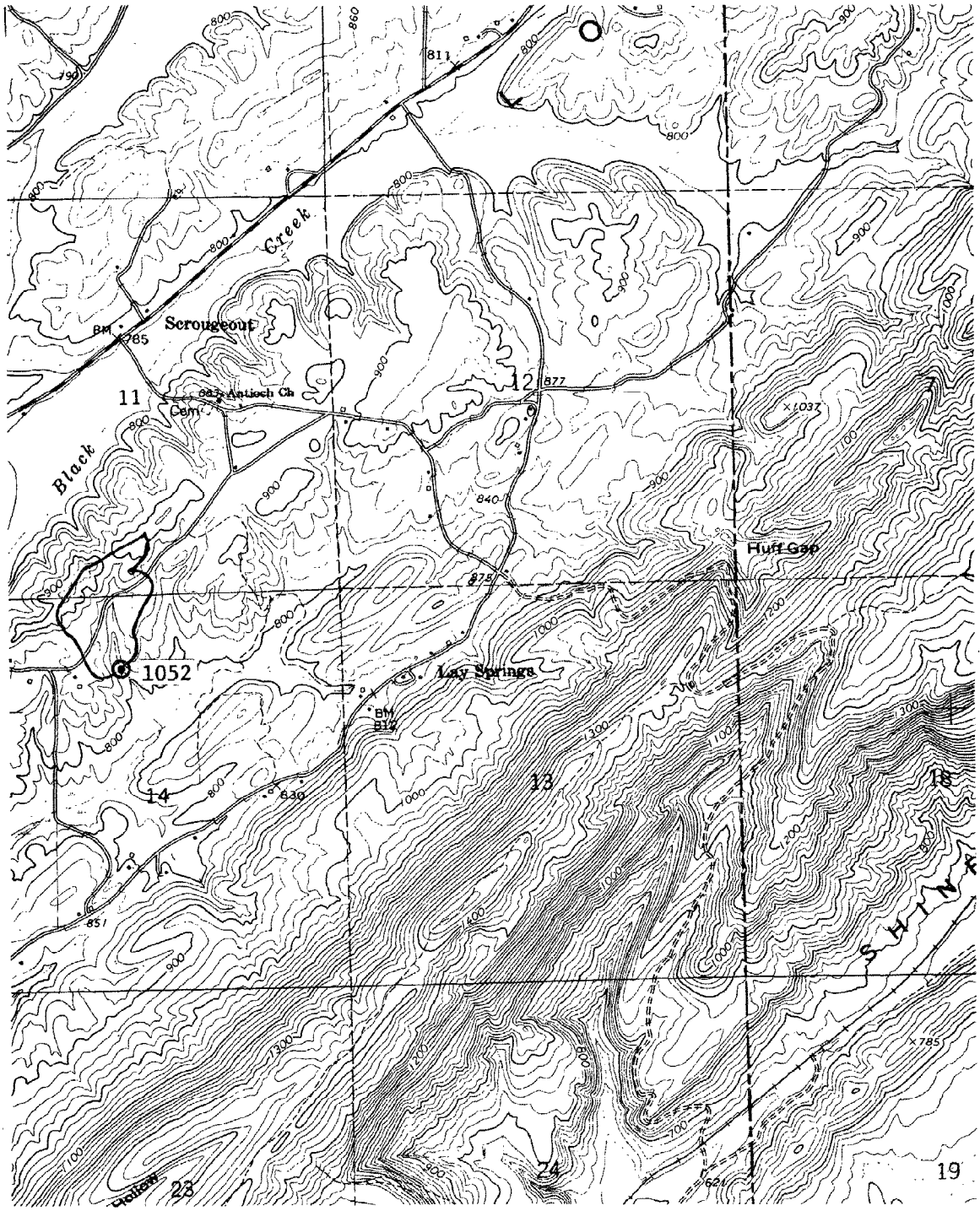

Figure 13. Location map for site 1052, Etowah Co., Alabama. Leesburg Quadrangle.

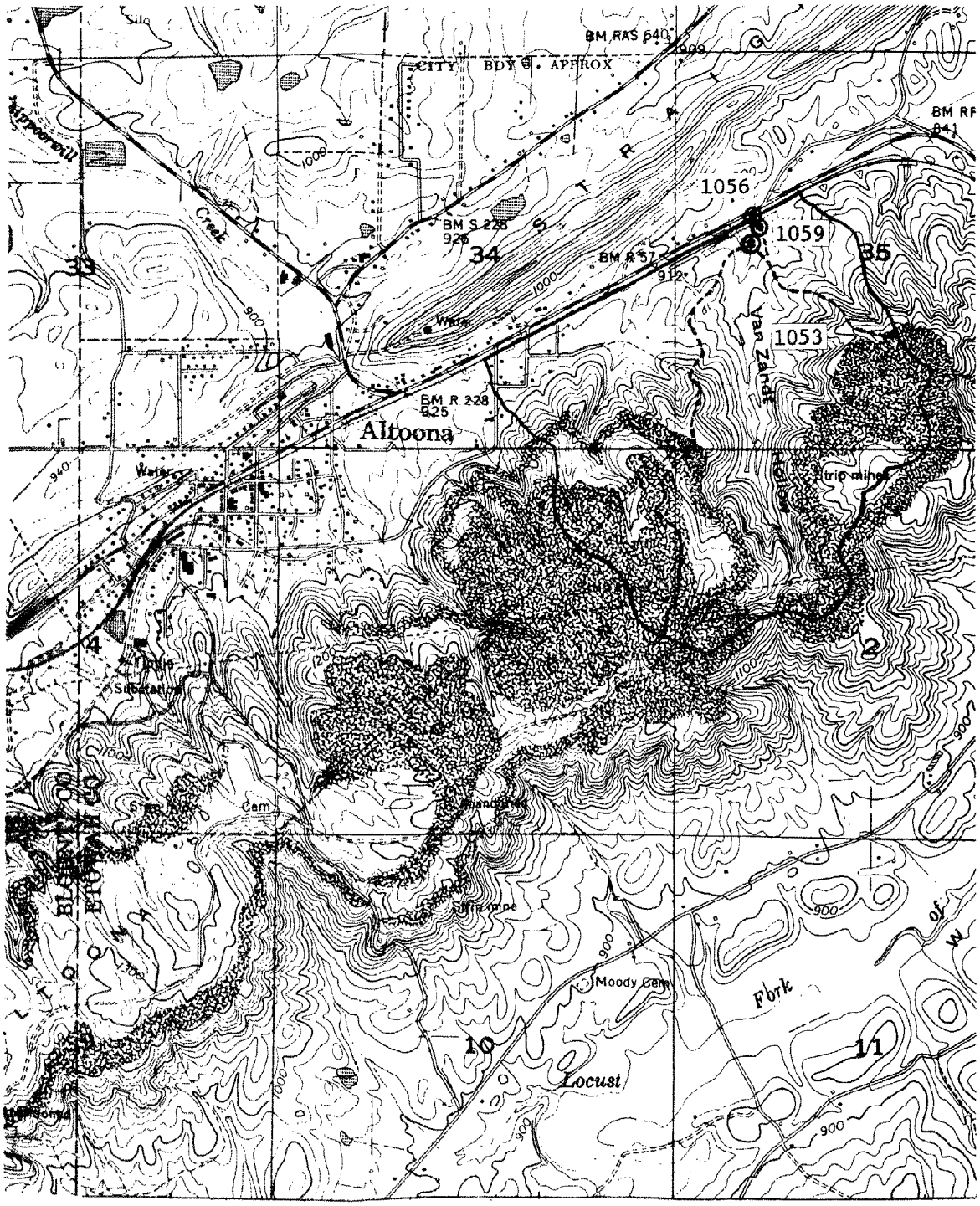

Figure 14. Location map for sites 1053, 1056, and 1059, Etowah Co., Alabama. Altoona Quadrangle.

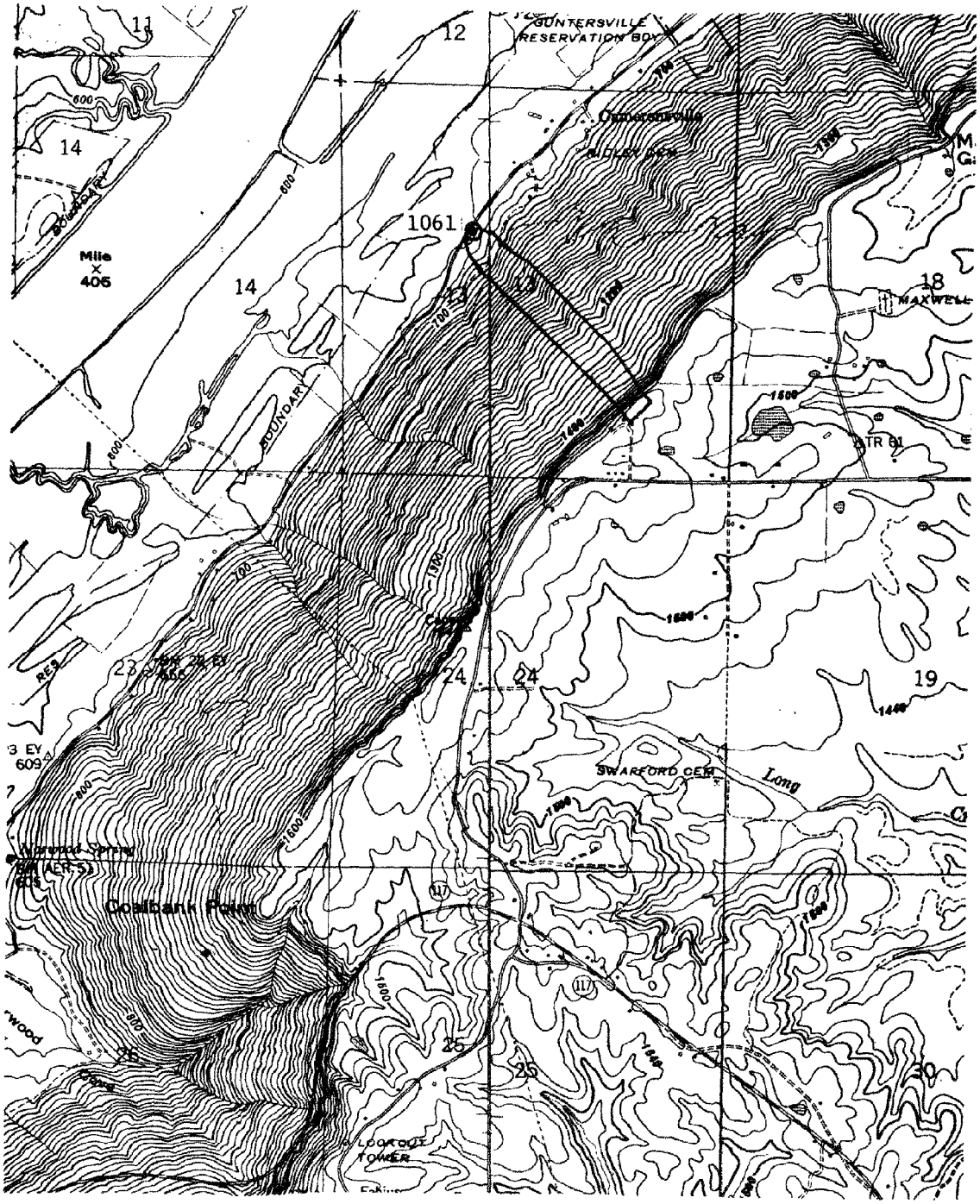

Figure 15. Location map for site 1061, Jackson Co., Alabama. Flat Rock and Stevenson Quadrangles.

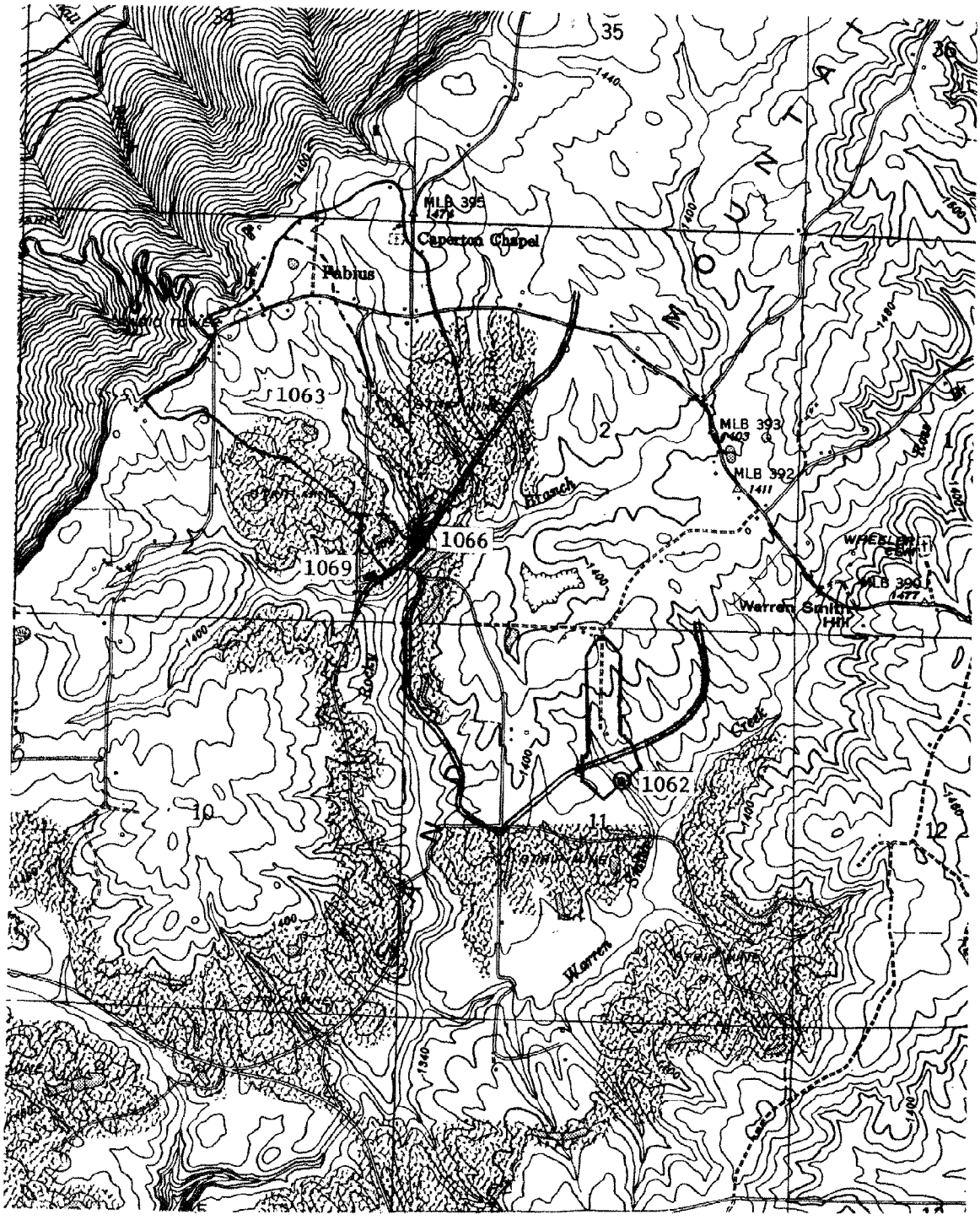

Figure 16. Location map for sites 1062, 1063, 1066, and 1069, Jackson Co., Alabama. Stevenson Quadrangle.

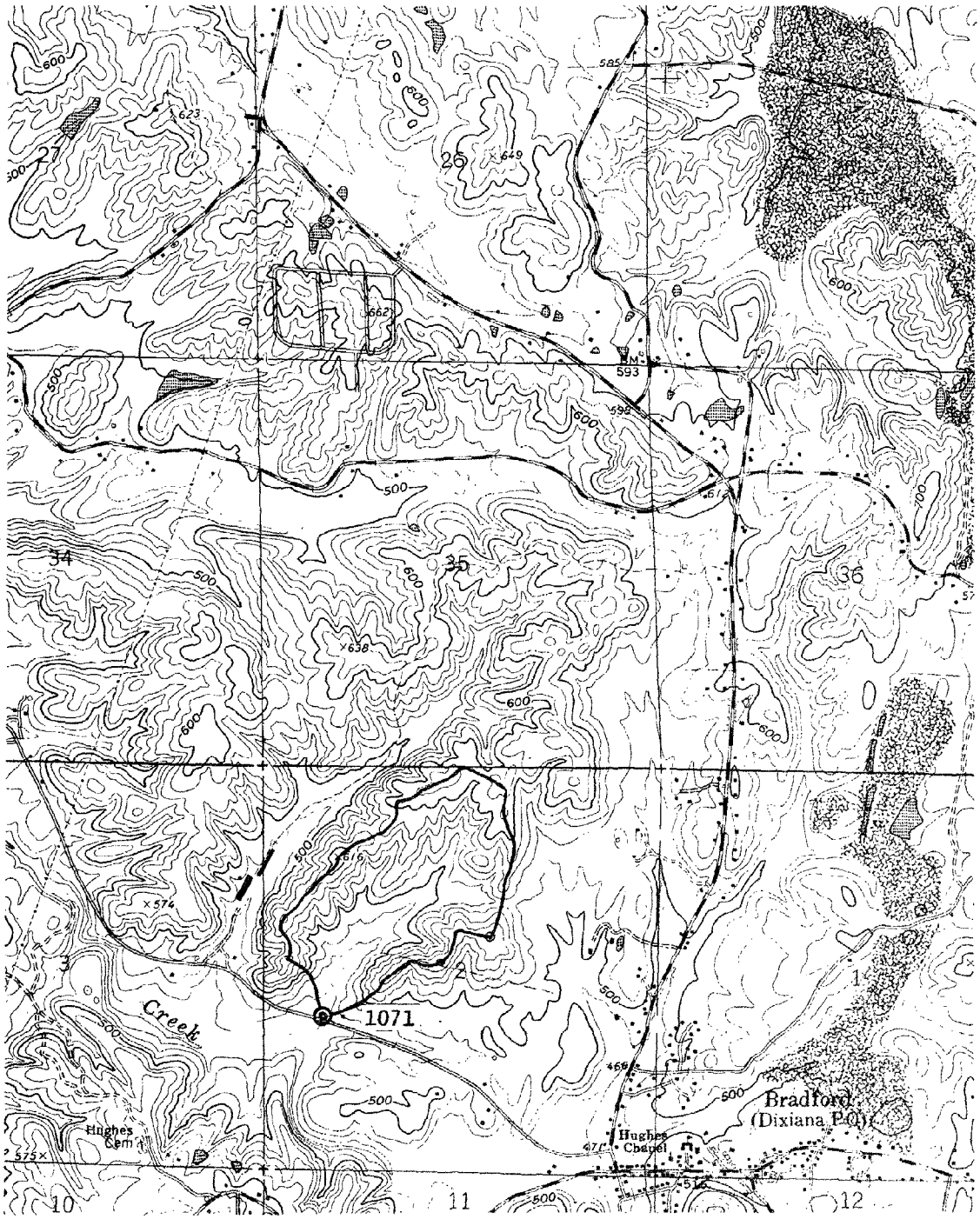

Figure 17. Location map for site 1071, Jefferson Co., Alabama. Trafford Quadrangle.

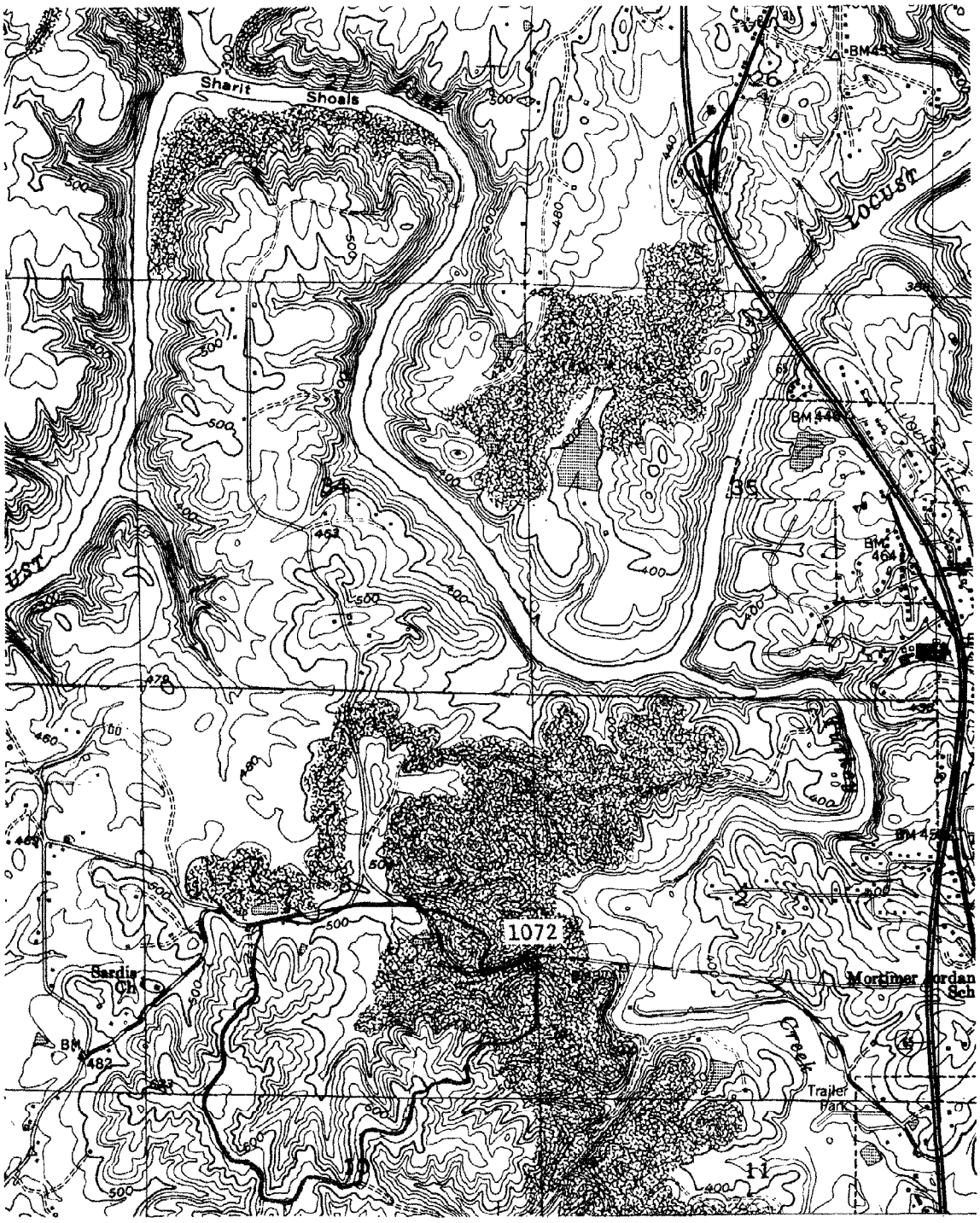

Figure 18. Location map for site 1072, Jefferson Co., Alabama. Warrior Quadrangle.

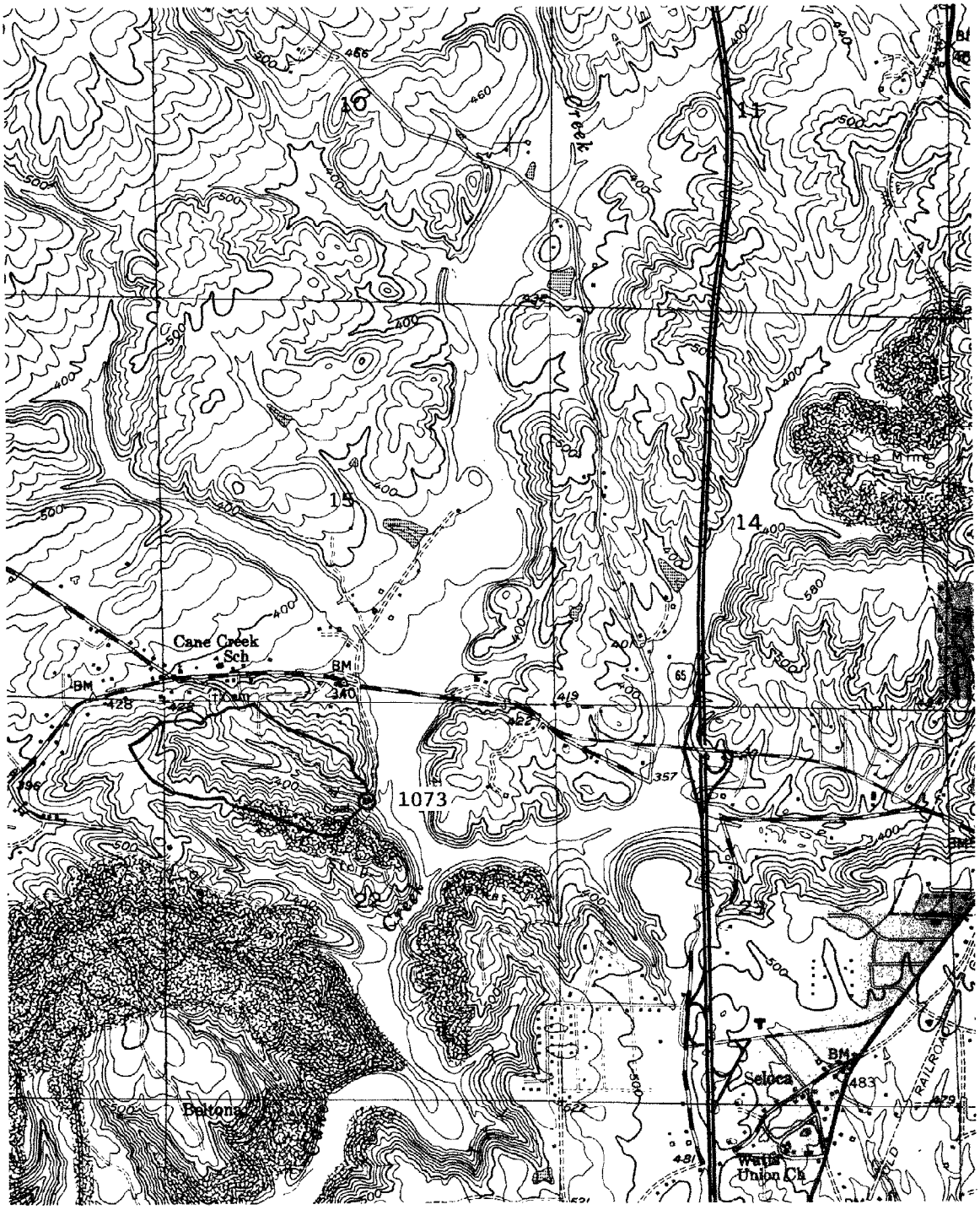

Figure 19. Location map for site 1073, Jefferson Co., Alabama. Warrior Quadrangle.

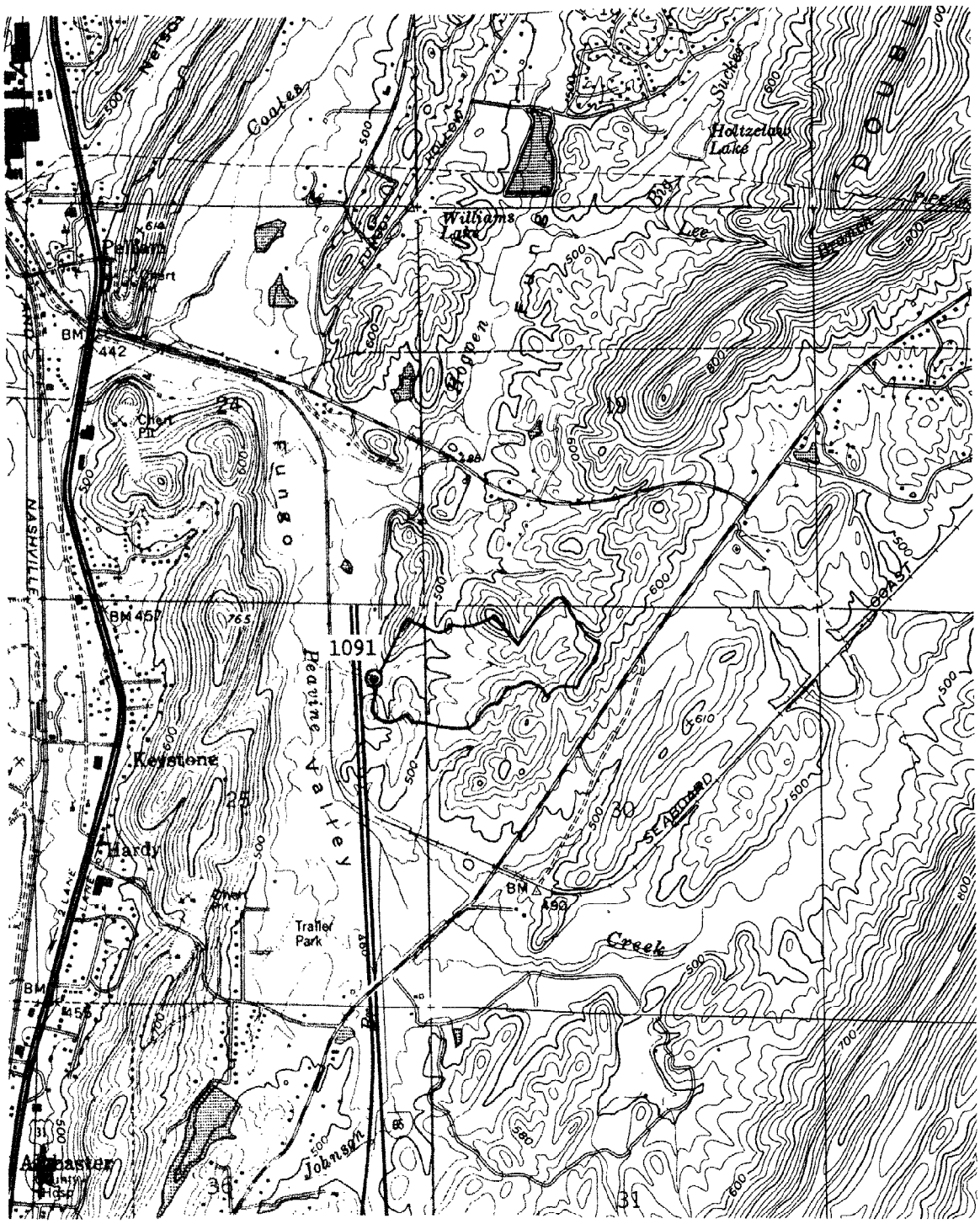

Figure 22. Location map for site 1091, Shelby Co., Alabama. Helena Quadrangle.

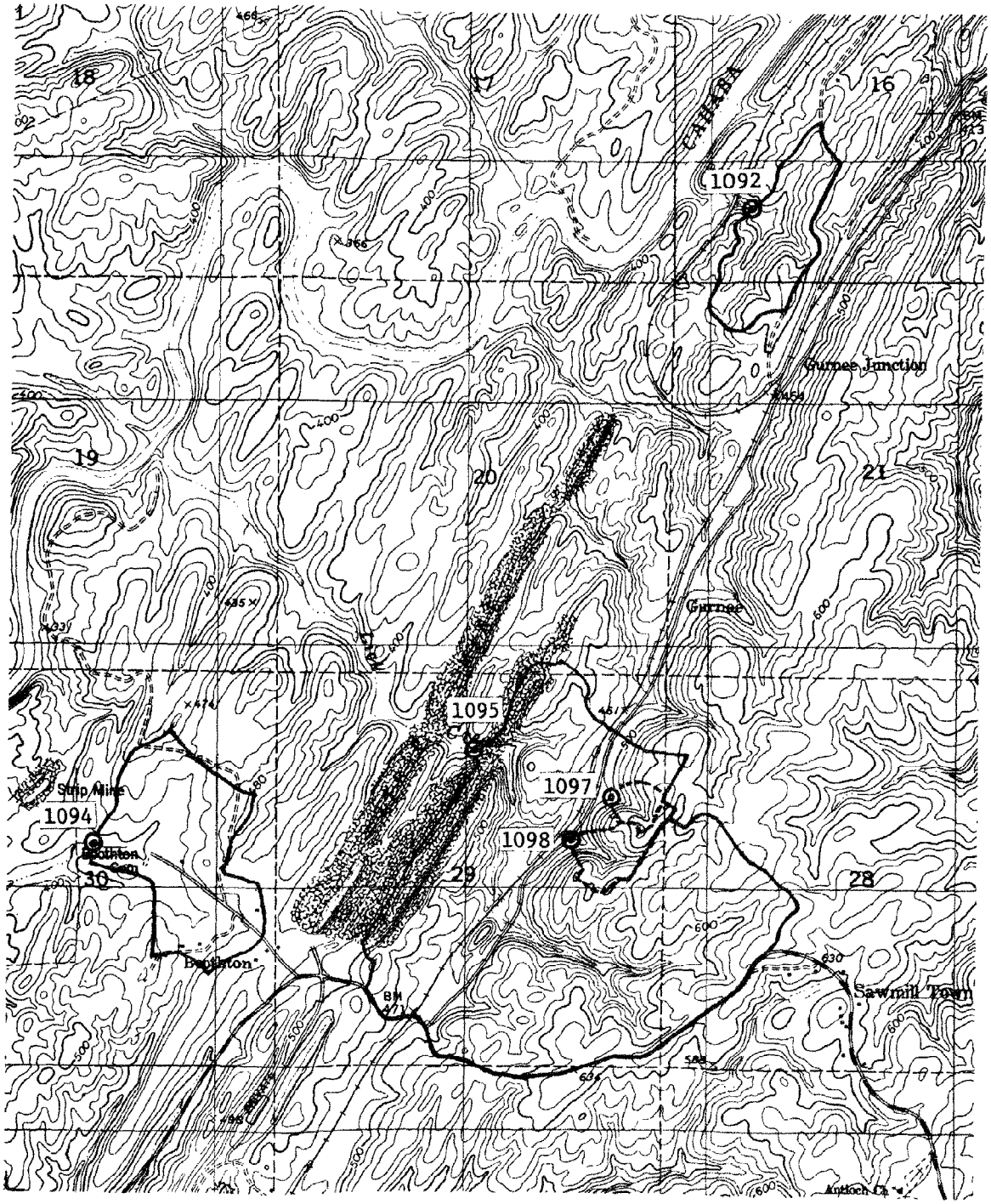

Figure 23. Location map for sites 1092, 1094, 1095, 1097, and 1098, Shelby Co., Alabama. Pea Ridge Quadrangle.

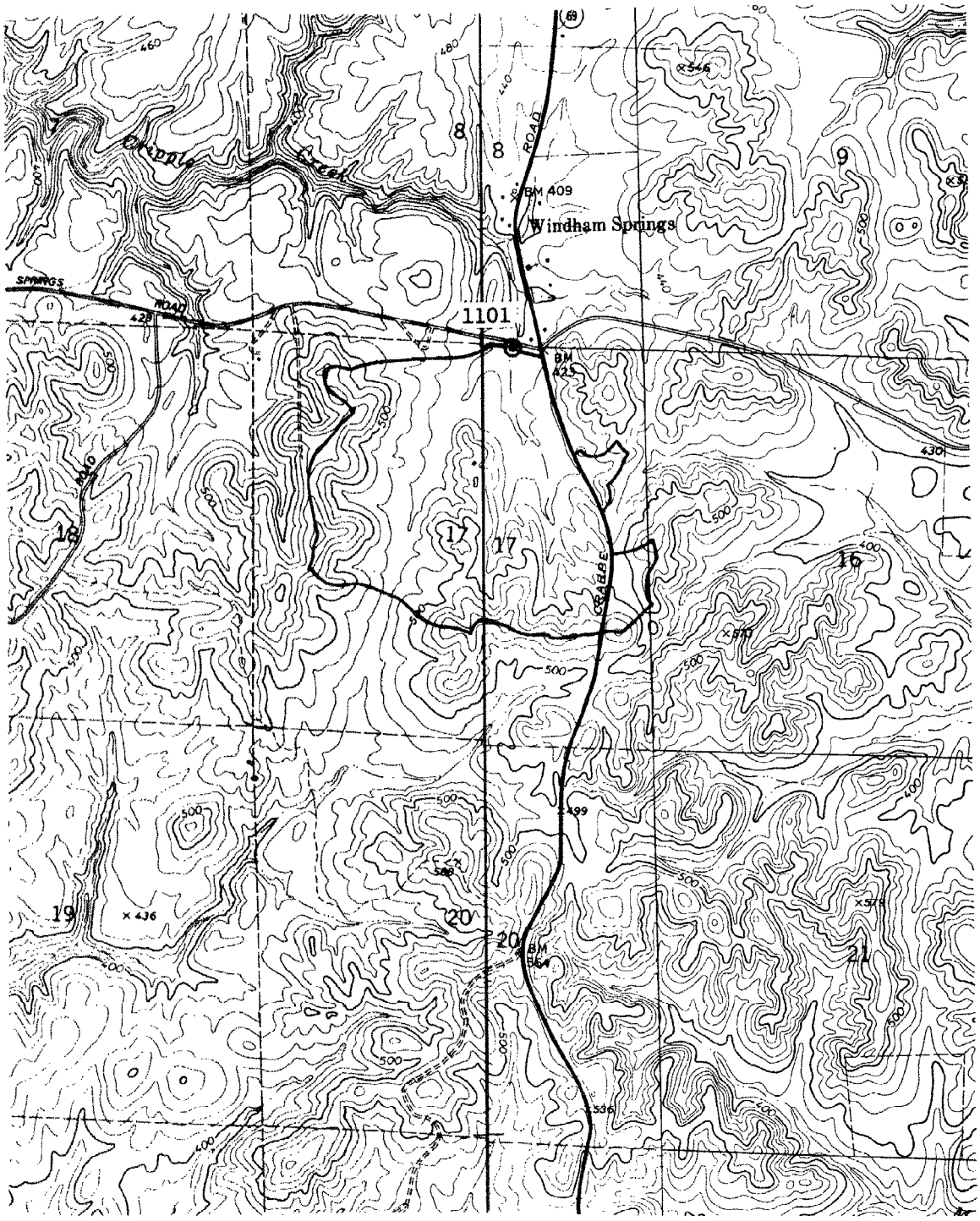

Figure 24. Location map for site 1101, Tuscaloosa Co., Alabama. Windham Springs Quadrangle.

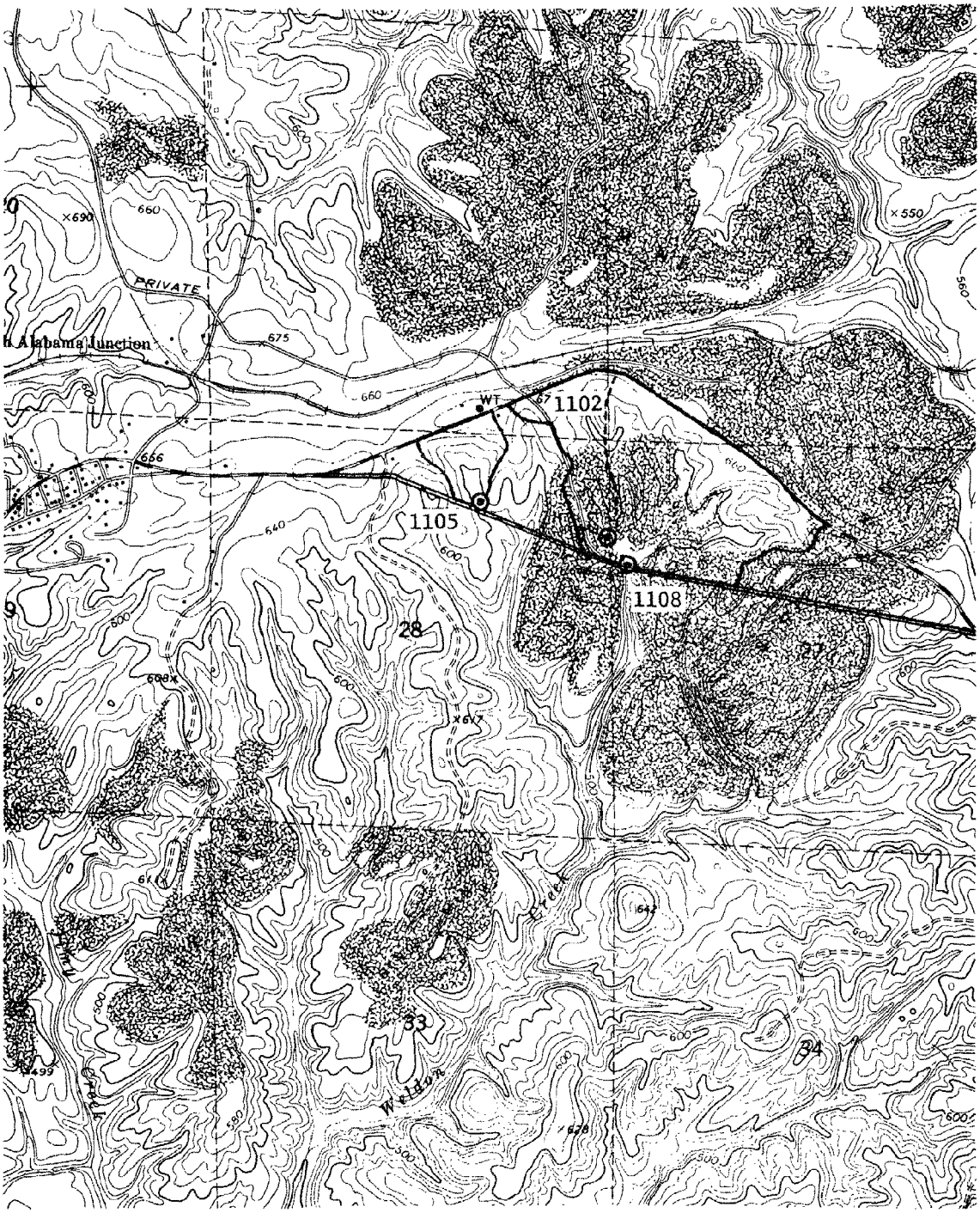

Figure 25. Location map for sites 1102, 1105, and 1108, Tuscaloosa Co., Alabama. Brookwood Quadrangle.

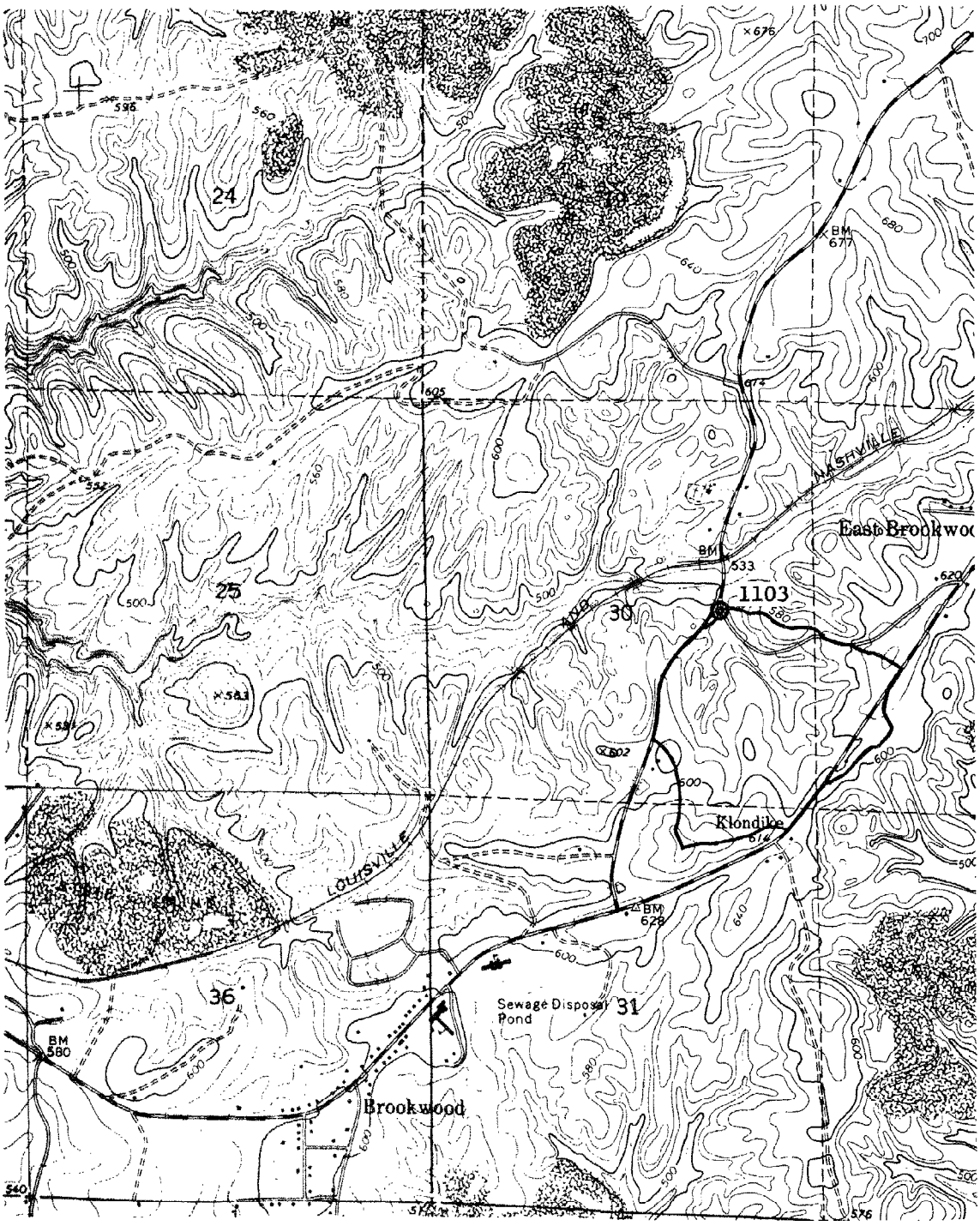

Figure 26. Location map for site 1103, Tuscaloosa Co., Alabama. Brookwood Quadrangle.

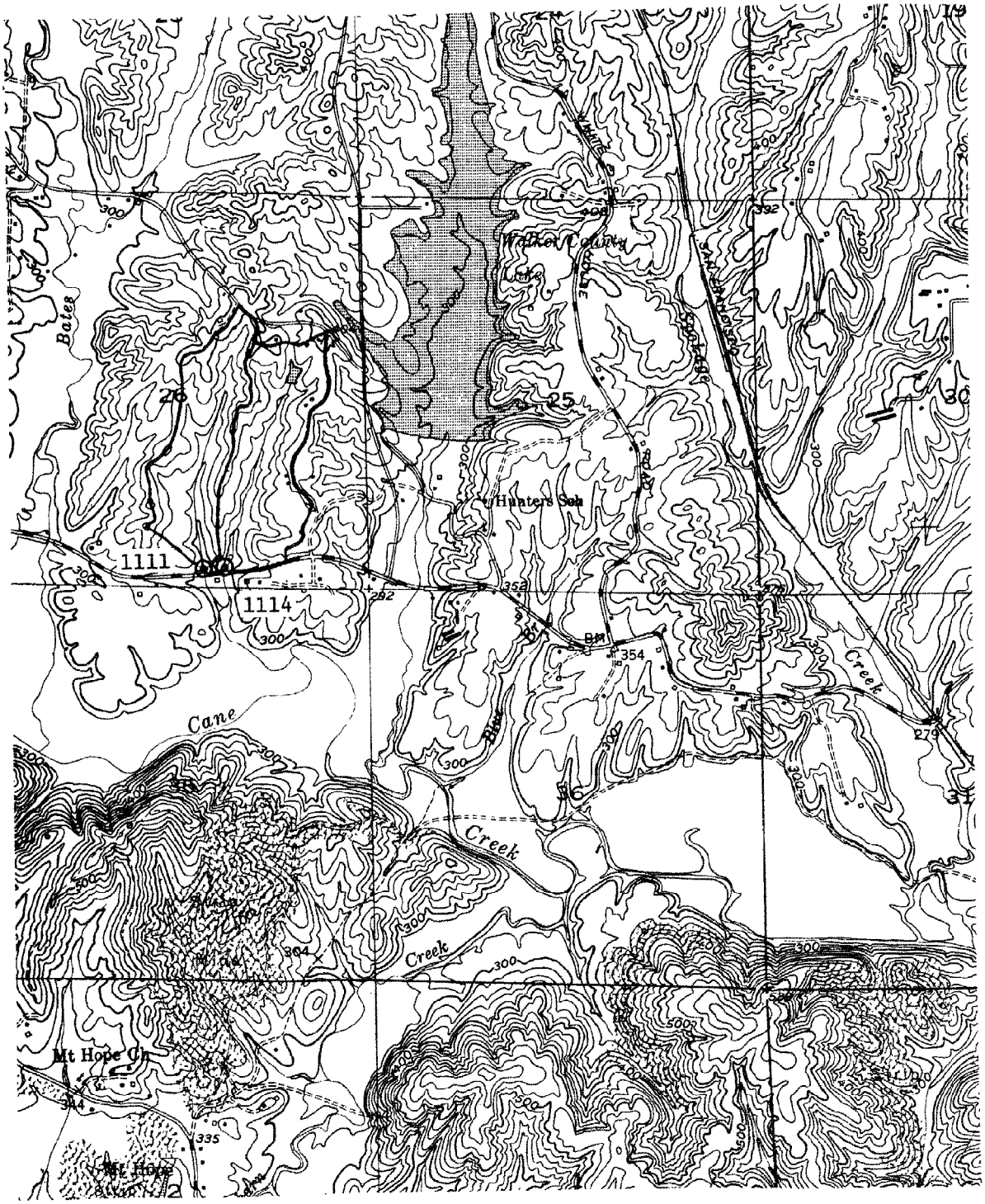

Figure 27. Location map for sites 1111 and 1114, Walker Co., Alabama. Cordova Quadrangle.

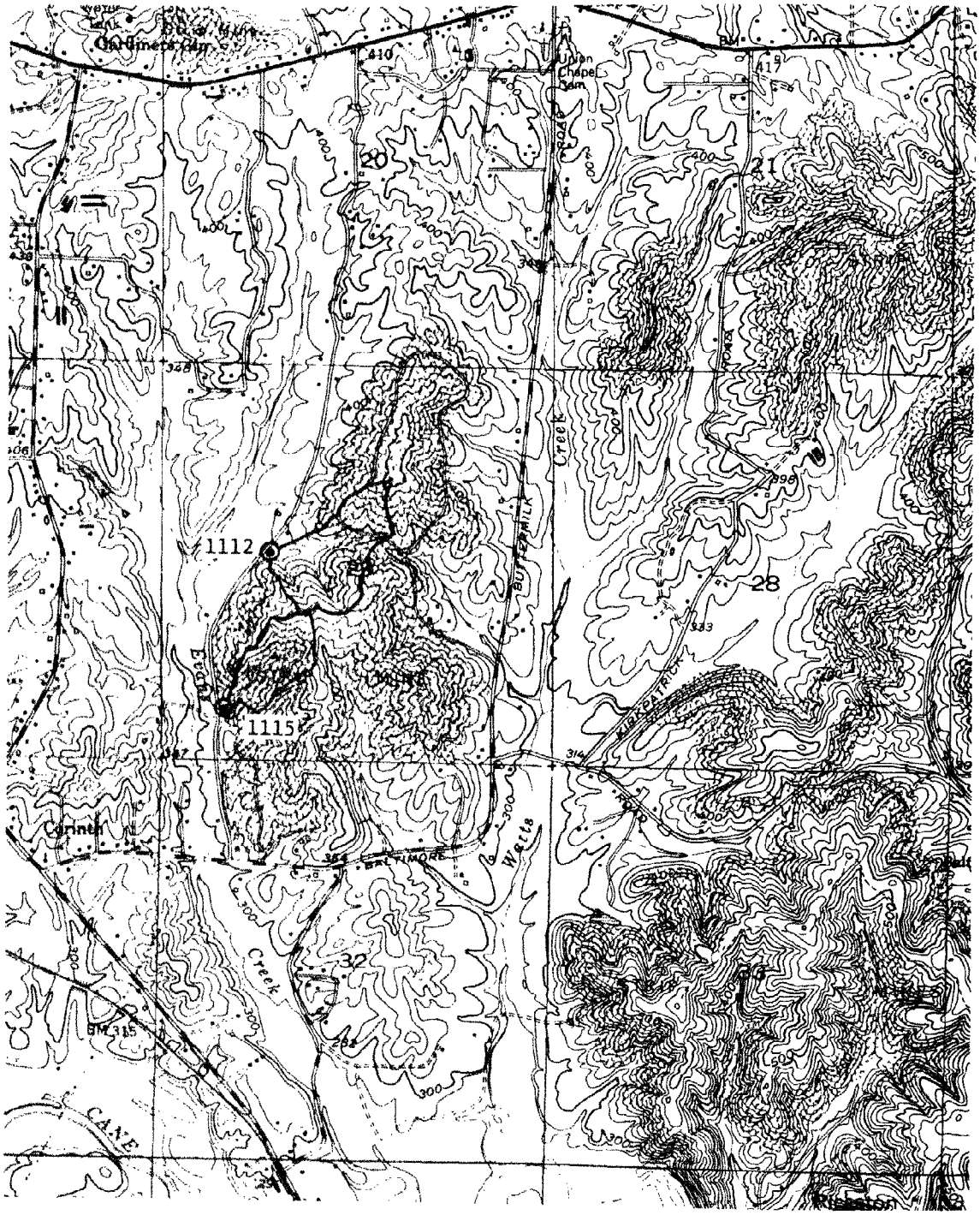

Figure 28. Location map for sites 1112 and 1115, Walker Co., Alabama. Cordova Quadrangle.

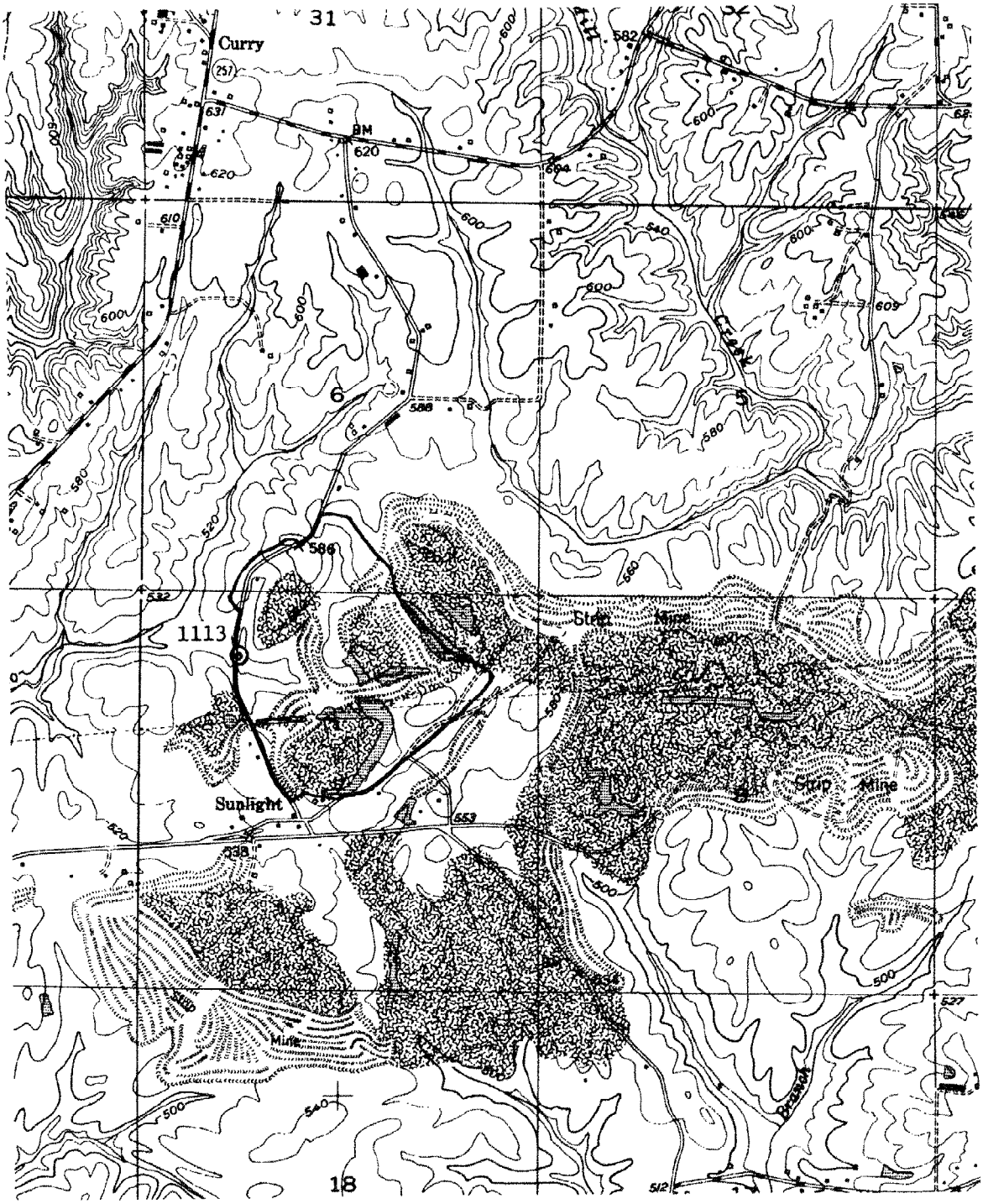

Figure 29. Location map for site 1113, Walker Co., Alabama. Sunlight Quadrangle.

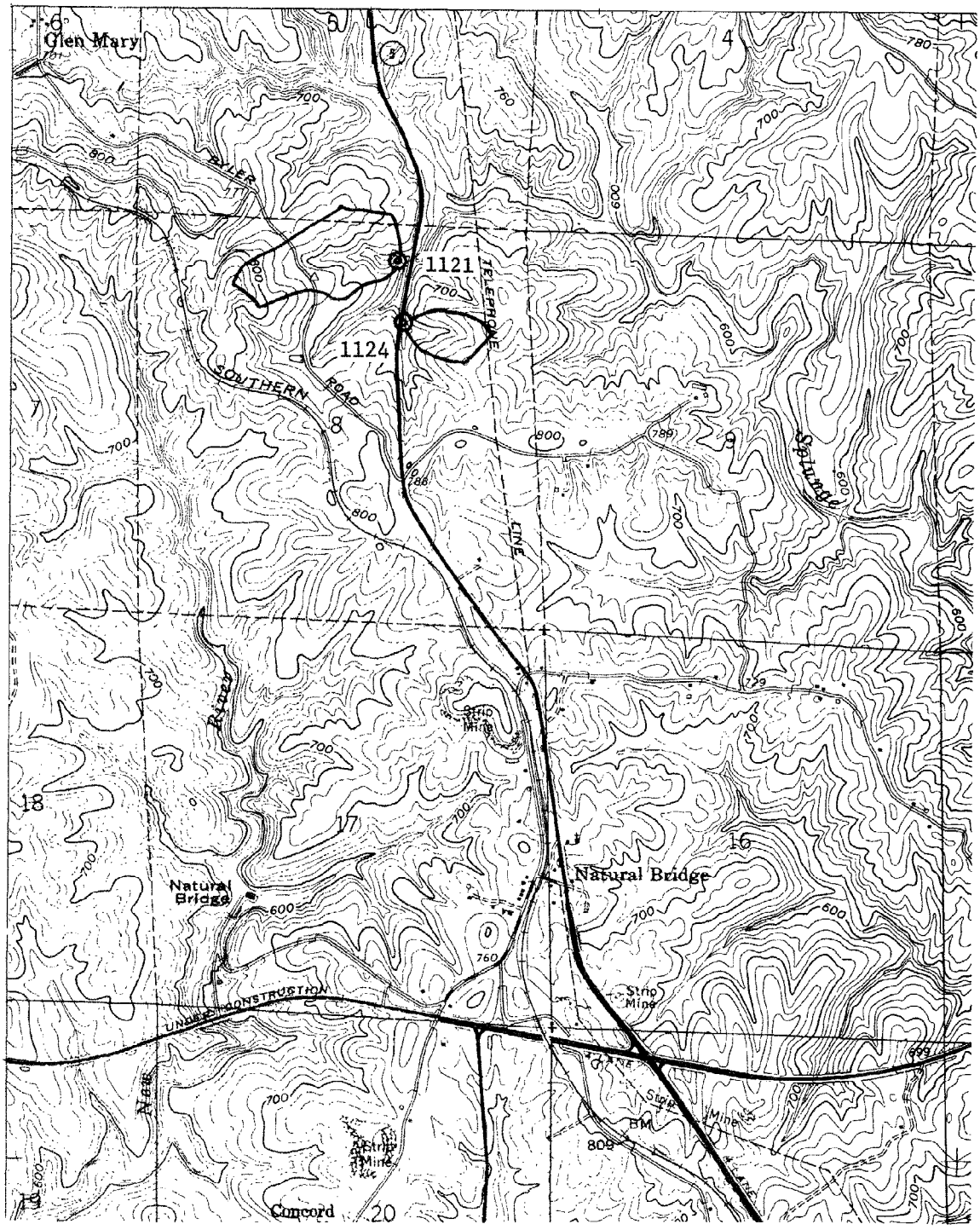

Figure 30. Location map for sites 1121 and 1124, Winston Co., Alabama. Lynn Quadrangle.

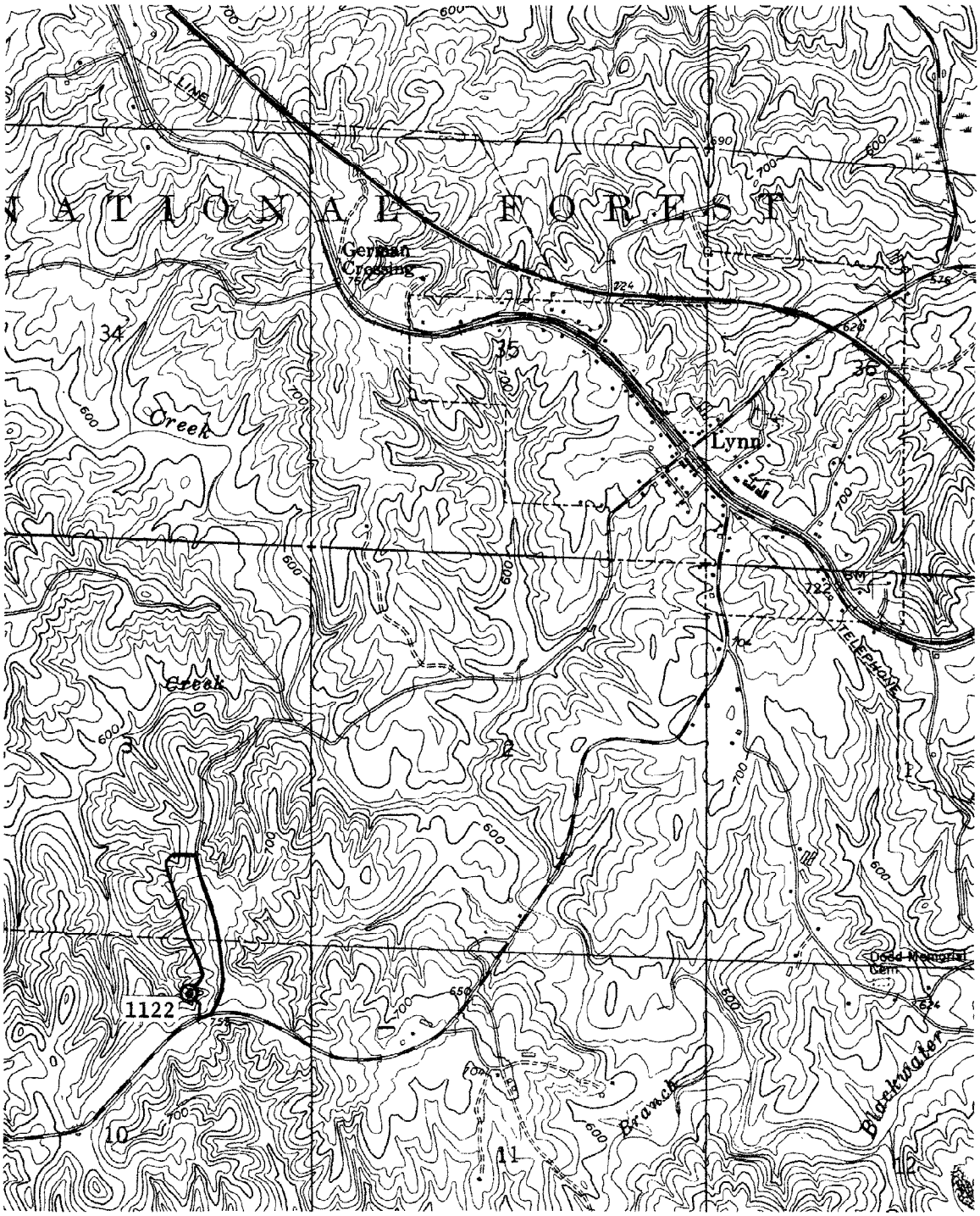

Figure 31. Location map for site 1122, Winston Co., Alabama. Lynn Quadrangle.

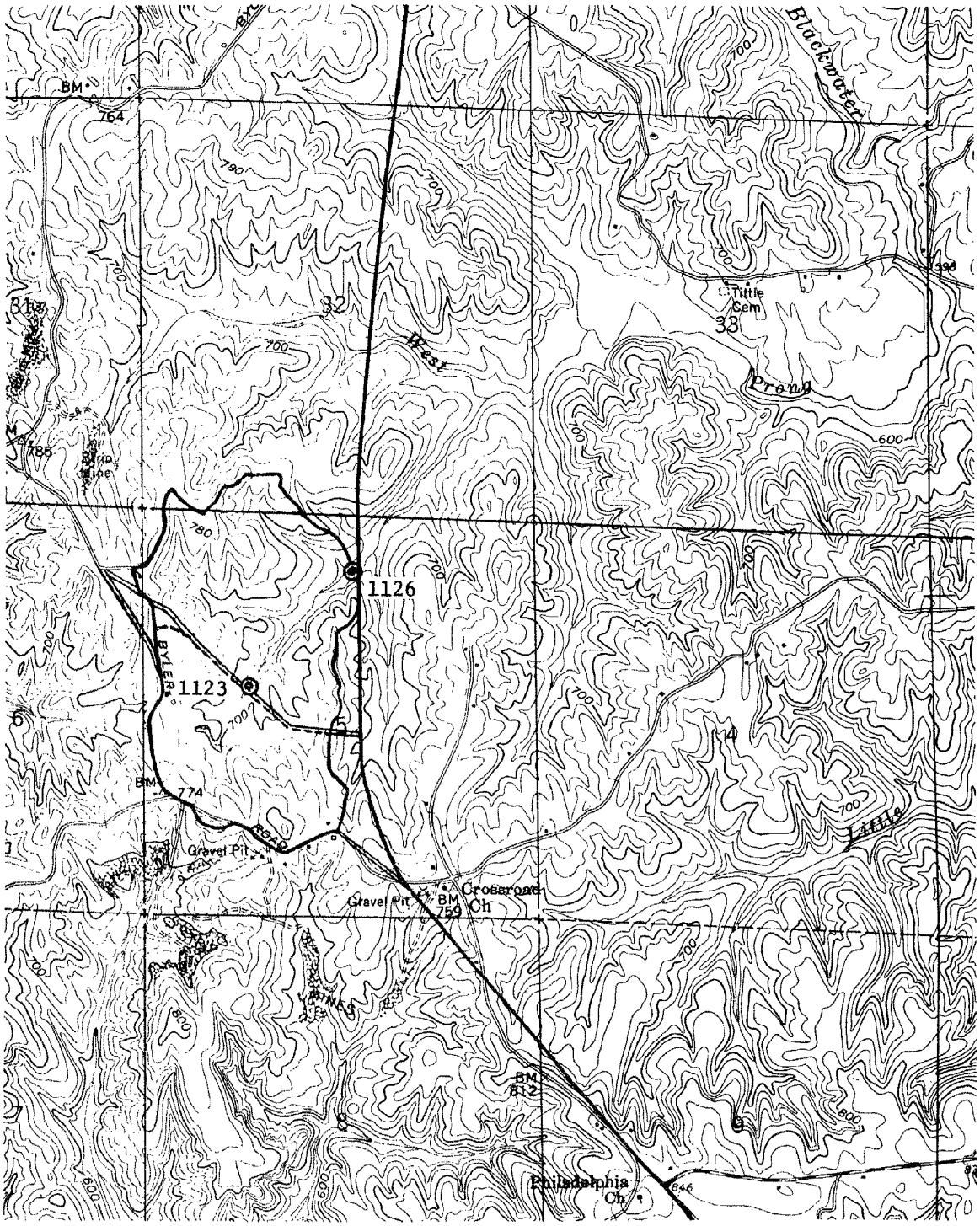

Figure 32. Location map for sites 1123 and 1126, Winston Co., Alabama. Lynn Quadrangle.

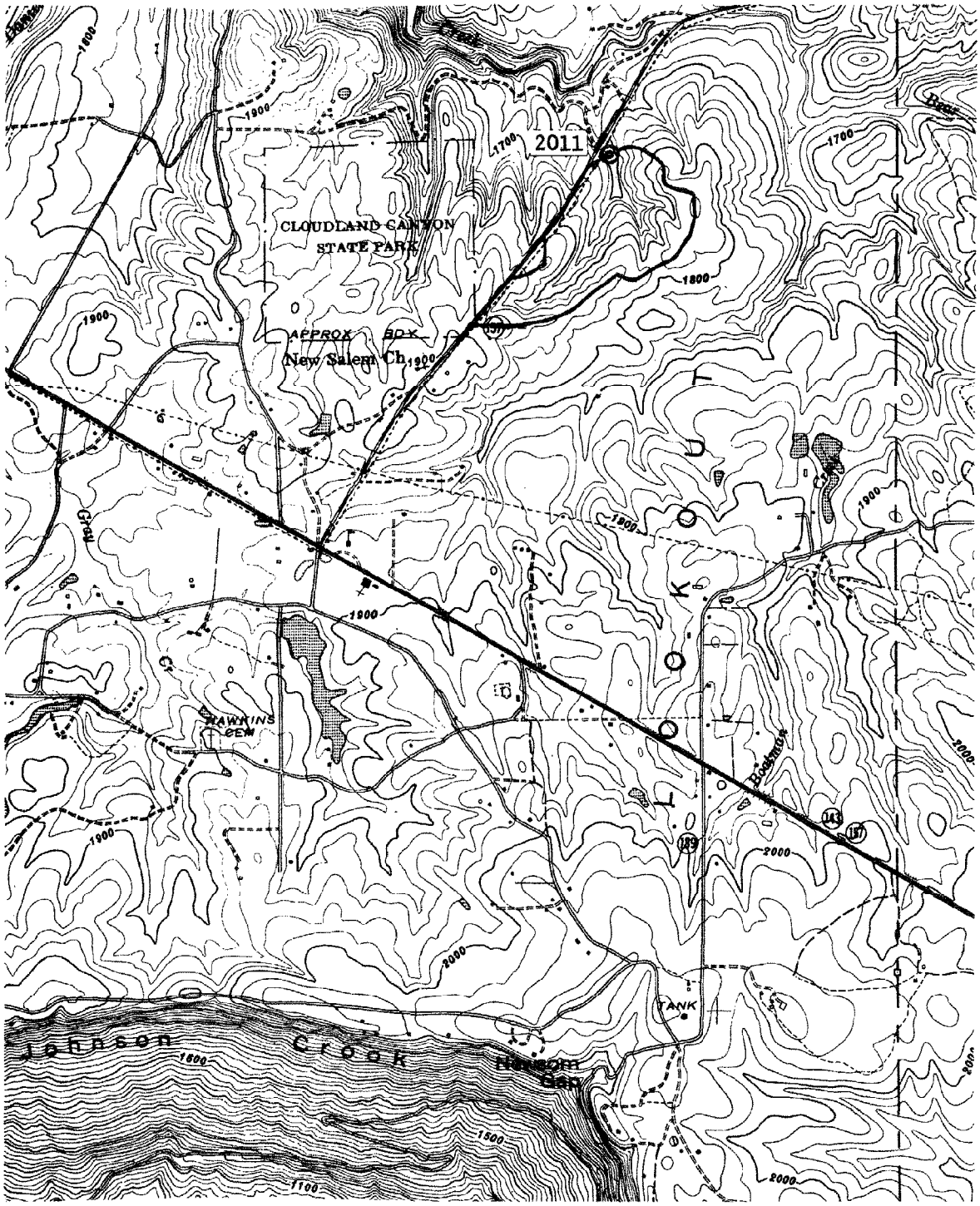

Figure 33. Location map for site 2011, Dade Co., Georgia. Durham Quadrangle.

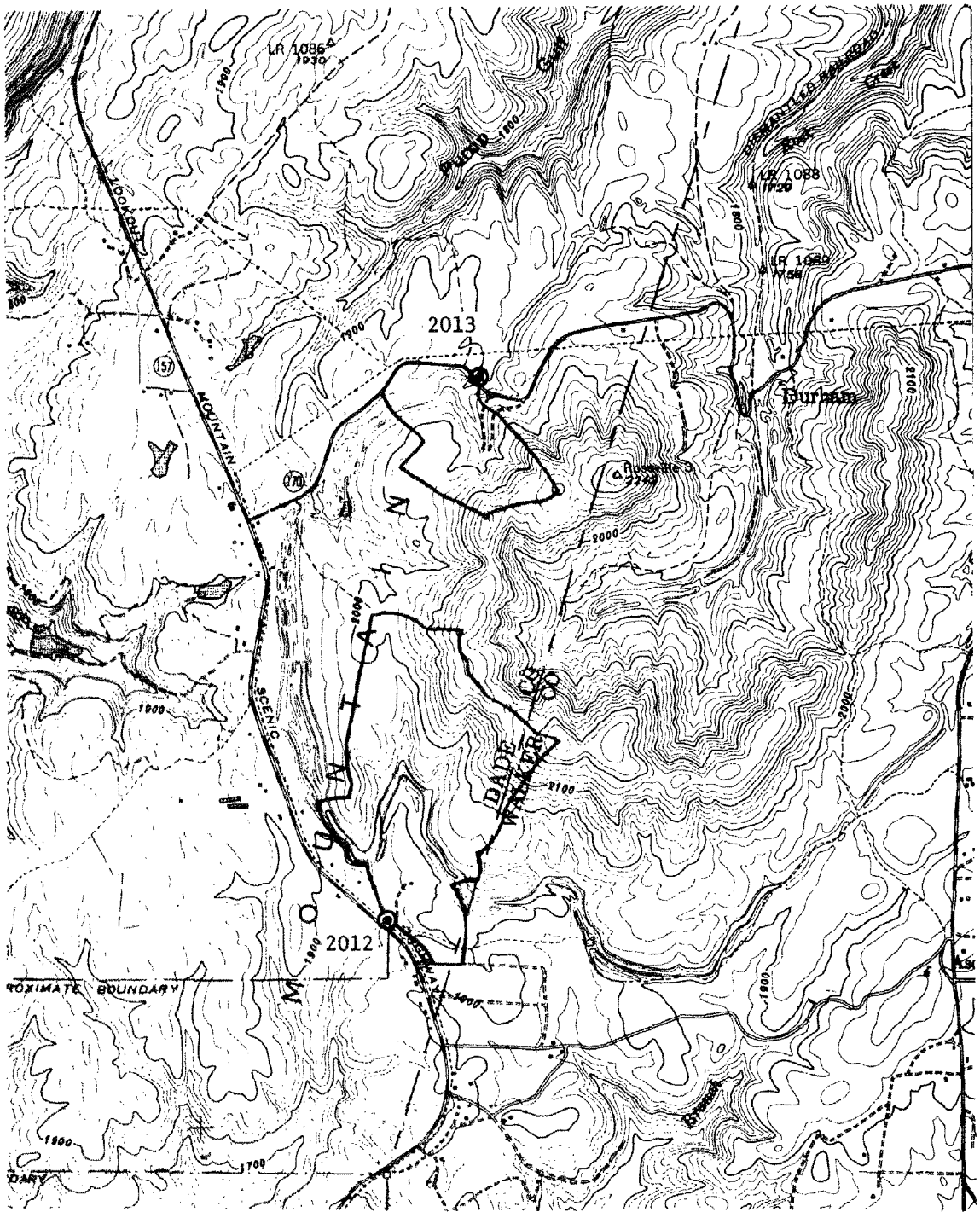

Figure 34. Location map for sites 2012 and 2013, Dade Co., Georgia. Durham Quadrangle.

TABLE 1. DESCRIPTIVE DATA FOR THE ALABAMA WATER QUALITY SITES

Site Number	County	Approximate Date of Surf. Min.	Latitude	Longitude	Acres	Percent Disturbed*	Site Name
1011	Bibb	Unmined	33°02'55"	87°08'04"	56	0	Tributary to Little Schultz Creek near Red Eagle.
1012	Bibb	1972-1979	33 07 26	87 05 30	13	30	Tributary to Caffee Creek at Smith Hill.
1013	Bibb	1945-1955	33 06 29	87 06 27	325	6	Tributary to Caffee Creek at West Blocton.
1015	Bibb	1972-1979	33 07 27	87 05 34	191	19	Tributary to Caffee Creek at Smith Hill.
1021	Blount	Unmined	33 56 23	86 26 03	187	0	Tributary to Champion Creek at Champion.
1022	Blount	1975-1979	33 58 19	86 34 19	120	75	Tributary to Dry Creek near Cleveland.
1023	Blount	1940-1952	33 57 55	86 23 02	68	60	Blackburn Fork Little Warrior River near Taits Gap.
1025	Blount	1975-1979	33 58 18	86 34 22	7	10**	Tributary to Dry Creek near Cleveland.**
1031	Cullman	Unmined	33 57 06	87 01 17	242	0	Brazeal Branch at Wilburn.
1032	Cullman	1972-1977	33 54 08	87 02 24	535	67	Leeth Creek near Wilburn.
1033	Cullman	Before 1972	33 53 16	86 59 01	111	40	Tributary to Dorsey Creek near Arkadelphia.
1035	Cullman	1972-1977	33 54 09	87 02 29	1110	5	Stewart Branch near Wilburn.
1038	Cullman	1972-1977	33 54 16	87 01 59	352	60	Leeth Creek near Wilburn.
1041	DeKalb	Unmined	34 27 18	85 43 53	151	0	Tributary to Big Wills Creek at Fort Payne.
1042	DeKalb	1975-1978	34 34 41	85 45 19	55	50	Tributary to West Fork Benges Creek near Mahan Crossroads.

TABLE 1. DESCRIPTIVE DATA FOR THE ALABAMA WATER QUALITY SITES (cont'd)

Site Number	County	Approximate Date of Surf. Min.	Latitude	Longitude	Acres	Percent Disturbed*	Site Name
1043	DeKalb	1947-1957	34°33'00"	85°46'54"	200	(5)	Tributary to Wolf Branch near Mahan Crossroads.
1051	Etowah	Unmined	34 00 44	86 16 43	58	0	Tributary to Locust Fork Black Warrior River near Gallant.
1052	Etowah	1975-1979	34 10 06	85 52 12	34	90	Tributary to Black Creek at Lay Spring.
1053	Etowah	1965	34 02 07	86 18 10	279	38	Van Zandt Hollow near Altoona.
1056	Etowah	1965	34 02 10	86 18 10	512	33	Van Zandt Hollow near Altoona.
1059	Etowah	1965	34 02 09	86 18 09	39	1	Tributary to Van Zandt Hollow near Altoona.
1061	Jackson	Unmined	34 51 58	86 45 03	36	0	Tributary to Tennessee River at Cameronsville.
1062	Jackson	1975	34 47 37	85 45 57	24	100	Tributary to Warren Smith Creek near Fabius.
1063	Jackson	1955-1965	34 48 10	85 46 30	151	29	Tributary to Rocky Branch at Fabius.
1066	Jackson	1955-1965	34 48 09	85 46 28	260	33	Tributary to Rocky Branch at Fabius.
1069	Jackson	1955-1965	34 48 08	85 46 29	7	100	Tributary to Rocky Branch at Fabius.
1071	Jefferson	Unmined	33 45 27	86 43 25	132	0	Tributary to Self Creek at Bradford.
1072	Jefferson	1973-1979	33 45 33	86 49 55	248	32	Tributary to Turkey Creek near Kimberly.
1073	Jefferson	Before 1970	33 48 34	86 50 23	77	8	Tributary to Cane Creek near Seloca.
1080	Marion	Unmined	34 04 17	87 43 15	456	0	Little New River near Sunny Home.

TABLE 1. DESCRIPTIVE DATA FOR THE ALABAMA WATER QUALITY SITES (cont'd)

Site Number	County	Approximate Date of Surf. Min.	Latitude	Longitude	Acres	Percent Disturbed*	Site Name
1081	Marion	Unmined	34°04'11"	87°43'24"	106	0	Tributary to Little New River near Sunny Home.
1082	Marion	1942-1977	34 01 09	87 43 52	206	46	Tributary to Little New River near Brilliant.
1083	Marion	1966-1969	34 01 00	87 42 39	51	27	Tributary to Little New River near Rock City.
1084	Marion	Unmined	34 04 05	87 43 30	256	0	Tributary to Little New River near Piney Grove.
1085	Marion	1974-1977	34 01 29	87 44 13	148	45	Tributary to Little New River at Brilliant.
1086	Marion	1966-1969	34 00 57	87 42 36	135	23	Tributary to Little New River near Rock City.
1087	Marion	Unmined	34 03 34	87 44 03	552	0	Tributary to Little New River near Gold Mine.
1091	Shelby	Unmined	33 16 12	86 47 54	73	0	Tributary to Peavine Creek at Keystone.
1092	Shelby	1975-1976	33 12 17	86 57 58	52	72	Tributary to Cahaba River at Gurnee Junction.
1094	Shelby	Unmined	33 10 52	86 59 41	102	0	Tributary to Cahaba River at Boothton.
1095	Shelby	1965-1975	33 11 05	86 58 41	453	44	Lick Creek at Boothton.
1097	Shelby	Unmined	33 10 59	86 58 20	7	0	Tributary to Lick Creek at Boothton.
1098	Shelby	1975	33 10 53	86 58 26	19	10	Tributary to Lick Creek at Boothton.
1101	Tuscaloosa	Unmined	33 29 14	87 29 55	299	0	Cripple Creek at Windham Springs.
1102	Tuscaloosa	1972-1976	33 16 31	87 15 59	35	100	Tributary to Weldon Creek near East Brookwood.
1103	Tuscaloosa	1950-1959	33 16 22	87 18 19	158	(5)	Tributary to Daniel Creek at East Brookwood.

TABLE 1. DESCRIPTIVE DATA FOR THE ALABAMA WATER QUALITY SITES (cont'd)

Site Number	County	Approximate Date of Surf. Min.	Latitude	Longitude	Acres	Percent Disturbed*	Site Name
1105	Tuscaloosa	1976	33°16'36"	87°16'19"	20	65	Tributary to Weldon Creek near East Brookwood.
1108	Tuscaloosa	1972-1977	33 16 27	87 15 56	150	98	Weldon Creek near East Brookwood.
1111	Walker	Unmined	33 47 25	87 14 25	63	0	Tributary to Cane Creek near Jasper.
1112	Walker	1973-1977	33 47 49	87 11 36	38	83	Tributary to Edwards Creek at Corinth.
1113	Walker	Before 1951	33 55 58	87 12 46	193	62	Tributary to Rock Creek at Sunlight.
1114	Walker	Unmined	33 47 25	87 14 22	73	0	Tributary to Cane Creek near Jasper.
1115	Walker	1973-1977	33 47 28	87 11 43	23	100	Tributary to Edwards Creek at Corinth.
1121	Winston	Unmined	34 06 58	87 36 28	43	0	Tributary to Splunge Creek near Glen Mary.
1122	Winston	1975-1976	34 01 36	87 34 19	17	50	Tributary to Little Creek near Lynn.
1123	Winston	1947-1969	34 02 19	87 36 49	105	63	Tributary to West Prong Blackwater Creek near Lynne.
1124	Winston	Unmined	34 06 49	87 36 28	13	0	Tributary to Splunge Creek near Glen Mary.
1126	Winston	1947-1969	34 02 34	87 36 32	251	66	Tributary to West Prong Blackwater Creek near Natural Bridge.

*The percentage of land disturbed by surface mining was generally not verified by field observations and so may be subject to considerable error. Percentages enclosed by parentheses are based on very scanty or questionable information and may be subject to larger errors.

**The flow at site 1025 is from natural seeps along the short reach of old stream channel below the sediment basin dam which diverts stream flow to site 1022. The 10 percent disturbance on this watershed is from construction of the dam rather than from mining.

TABLE 2. DESCRIPTIVE DATA FOR THE GEORGIA WATER QUALITY SITES

Site Number	County	Approximate Date of Surf. Min.	Latitude	Longitude	Acres	Percent Disturbed*	Site Name
2011	Dade	Unmined	34°49'24"	85°27'47"	76	0	Tributary to Bear Creek near Ascolon.
2012	Dade	1940-1977	34 50 27	85 27 00	182	25	Tributary to Bear Creek near Ascolon.
2013	Dade	1943-1955	34 51 39	85 26 47	64	40	Tributary to Pump Gulf at Durham.

*The percentage of land disturbed has not, in most cases, been verified by field observations and so may be subject to considerable error. The parentheses enclosed percentages are based on very scanty or questionable information and may be subject to large errors.

TABLE 3. TYPES OF WATER SAMPLES COLLECTED AT EACH SITE, VOLUME OF SAMPLE, TREATMENT OF SAMPLE, AND INCLUSIVE DATES OF COLLECTION

Sample Designation	Volume of Sample (ml)	Treatment/Inclusive Dates of Collection
F	100	Filtered (July 19, 1977 to August 10, 1979)
FA	100	Filtered, acidified with 0.5 ml 50% nitric acid (July 19, 1977 to August 10, 1979)
FN	50	Filtered, acidified with 0.25 ml 50% sulfuric acid (July 11, 1979 to August 9, 1979)
FP	50	Filtered, preserved with 0.25 ml 0.5% mercuric chloride (July 11, 1979 to August 9, 1979)
KJ	100	Unfiltered, acidified with 0.5 ml 50% sulfuric acid (July 11, 1979 to August 9, 1979)
SA	100	Unfiltered, acidified with 0.5 ml 50% nitric acid (Collected July 19, 1977 to about June 1978)
SV	1000	Unfiltered, untreated, raw water (Collected April 17, 1979 to August 9, 1979)
U	100	Unfiltered, untreated, raw water (Collected July 19, 1977 to August 10, 1979)

TABLE 4. TABULATION OF ELEMENTS ANALYZED ON THE SPECTRASPAN III EMISSION SPECTROMETER

Element	Approximate detection limit Mg/l	Approximate deviation from the mean
Aluminum	0.2	± 10%
Barium*	0.5	
Beryllium*	0.01	± 0.01 mg/l
Boron	0.05	± 10%
Calcium	0.05	± 10%
Cobalt	0.1	± 20%
Copper	0.02	± 20%
Iron	0.05	± 10%
Lead	0.1	
Lithium*	0.05	± 25%
Magnesium	0.05	± 10%
Manganese	0.05	± 20%
Molybdenum*	0.25	
Nickel	0.03	± 10%
Potassium	0.1	± 10%
Silicon	0.1	± 20%
Sodium	0.05	± 10%
Strontium*	0.03	± 20%
Titanium	0.5	
Zinc	0.3	± 10%

*Analyzed about every third month

TABLE 5. WATER QUALITY FOR SITE 1011 BIBB COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
11 16 77	14	0.08	28		60	15	17	1.92	6.2		2	2	0	1.6	2	0.2					
12 13 77	10	0.1			8	13	16	1.26	6.0		2	3	0	1.8	3	0.1					
1 18 78	4	1.5			4	31	25	2.08	6.4		4	5	0	2.0	5	0.0					
2 23 78	7	0.04			10	16	17	0.98	5.9		2	2	0	2.4	3	0.1					
4 6 78	16	0.15			10	23	15	1.87	6.7		2	2	0	2.3	2	0.1					
5 5 78	15	0.2	51*		35	15	16	1.51	6.2		2	2	0	1.5	3	0.2					
6 1 78	20	0.04			45	14	16	1.87	6.0		2	2	0	1.4	3	0.1					
6 28 78	23	0.06				14	19	1.73	6.4		2	2	0	1.2	4	0.1					
7 25 78	24	0.6	72*		20	13	16	1.19	6.2		2	2	0	1.9	2	0.1					
8 29 78	22	0.02	18*		10	13	16	1.11	5.9		1	1	0	2.1	3	0.1					
10 11 78	21	0.008	49*		30	12	17	1.34	6.4		2	2	0	1.5	3	0.1					
11 15 78	16	0.02	25		30	19	16	1.60	5.2		0	0	0	2.1	3	0.0					
12 19 78	13	0.01			15	15	20	1.02	6.0		1	1	0	2.2	5	0.0					
2 7 79	5	0.07	95		20	15	19	1.67	4.9		4	5	0	1.4	3	0.3					
3 20 79	15	0.02	129		20	12	17	1.39	5.9		2	3	0	1.3	3	0.4					
4 17 79	17	0.05	12	0.01	40	12	16	1.26	6.1		2	2	0	1.3	4	0.0					
5 24 79	17	0.02	19		35	19	17	1.29	6.2	10	2	2	0	1.4	4	0.0					
6 14 79	20	0.004	16		45	14	17	0.76	5.6		0	0	0	2.1	4	0.0					
7 11 79	21	0.02	25*		50	13	16	0.75	6.2	3	1	1	0	2.0	4	0.0	0.0	0.07	0.75	0.05	0.00
8 3 79	22	0.02	10		8	13	18	0.93	6.5	18	2	2	0	1.7	4	0.0	0.1	0.04	0.00	0.00	0.01

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
11 16 77	0.1	0.00			0.8	0.0	0.00	0.2	0.4		0.5	0.1		1.6	0.01	0.0	3.6		0.0	0.0
12 13 77	0.0	0.00			0.5	0.0	0.00	0.4	0.3		0.5	0.1		1.2	0.00	0.0	3.1		0.0	0.0
1 18 78	0.2	0.02	0.0	0.00	2.3	0.0	0.01	0.5	0.6	0.00	1.0	0.2	0.0	1.5	0.01	0.0	4.2	0.0	0.0	0.0
2 23 78	0.0	0.02			0.5	0.0	0.00	0.2	0.4		0.6	0.0		1.4	0.00	0.0	3.0		0.0	0.0
4 6 78	0.0	0.00	0.0	0.00	0.6	0.0	0.01	0.1	0.7	0.02	0.5	0.0	0.0	1.8	0.00	0.0	2.5	0.0	0.0	0.0
5 5 78	0.1	0.00			0.7	0.0	0.00	0.2	0.4		0.6	0.1		1.4	0.00	0.0	2.7		0.0	0.0
6 1 78	0.0	0.00			0.6	0.0	0.00	0.2	0.4		0.5	0.0		1.5	0.00	0.0	3.2		0.0	0.0
6 28 78	0.1	0.00	0.0	0.00	0.8	0.0	0.00	0.2	0.5	0.10	0.8	0.1	0.0	1.7	0.00	0.0	3.4	0.1	0.0	0.0
7 25 78	0.0	0.00	0.0	0.00	0.6	0.0	0.01	0.2	0.3	0.01	0.3	0.0	0.0	1.1	0.01	0.0	3.6	0.0	0.0	0.0
8 29 78	0.0	0.00			0.9	0.0	0.01	0.1	0.3		0.4	0.0		1.0	0.00	0.0	3.5		0.0	0.0
10 11 78	0.0	0.00	0.0	0.00	1.0	0.0	0.00	0.2	0.5	0.01	0.4	0.0	0.0	1.2	0.00	0.0	3.4	0.0	0.0	0.0
11 15 78	0.1	0.00			1.0	0.0	0.01	0.1	0.4		0.4	0.0		1.4	0.01	0.0	3.7		0.1	0.0
12 19 78	0.1	0.00			1.1	0.0	0.01	0.1	0.5		0.5	0.0		1.6	0.01	0.0	3.8		0.0	0.0
2 7 79	0.1	0.00	0.3	0.00	1.0	0.0	0.01	0.1	0.5	0.06	0.7	0.0	0.0	1.3	0.00	0.0	2.9	0.0	0.0	0.4
3 20 79	0.2	0.00			0.8	0.0	0.01	0.2	0.5		0.4	0.0		1.3	0.00	0.0	3.1		0.0	0.0
4 17 79	0.0	0.00	0.0	0.00	0.7	0.0	0.00	0.1	0.5	0.03	0.6	0.0	0.0	1.1	0.00	0.0	2.8	0.0	0.0	0.0
5 24 79	0.1	0.00			0.9	0.0	0.01	0.3	0.3		0.6	0.0		1.2	0.00	0.0	3.1		0.1	0.1
6 14 79	0.2	0.00			0.5	0.0	0.03	0.2	0.6		0.4	0.0		1.1	0.01	0.0	3.6		0.0	0.0
7 11 79	0.1	0.00	0.0	0.00	0.6	0.0	0.00	0.2	0.2	0.00	0.5	0.0	0.0	0.9	0.00	0.0	3.3	0.0	0.0	0.0
8 3 79	0.2	0.00			0.6	0.0	0.01	0.2	0.3		0.4	0.0		1.3	0.00	0.0	4.0		0.0	0.0

TABLE 6. WATER QUALITY FOR SITE 1012 BIBB COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L			---------- MILLIGRAMS PER LITER ----------											
10 18 77	14	0.008	42			252	157	2.19	7.3		52	64	0	2.4	54	0.0					
11 16 77	18	0.009	17		75	210	138	1.75	7.5		39	47	0	1.4	57	0.0					
12 13 77	11	0.01			2	115	80	2.40	7.2		35	43	0	1.7	19	0.0					
1 18 78	5	8			8	85	56	1.89	6.9		12	15	0	2.4	19	0.1					
2 23 78	4	0.3			10	97	63	1.92	7.1		16	19	0	3.2	21	0.2					
7 25 78	25	0.008	59*			157	104	11.2	7.9		70	85	0	2.1	7	0.1					
12 19 78	13	0.0001	10		70	257	155	1.45	7.0		40	49	0	1.9	73	0.0					
3 20 79	19	0.0000	46		35	226			7.4					1.7	77	0.1					
4 17 79	16	0.003	33	0.00	30	239	153	1.60	7.5		27	33	0	1.6	76	0.5					
5 24 79	18	0.0000	16		180	247	164	1.34	7.7	-21	35	43	0	1.8	85	0.1					
6 14 79	23	0.0002	6		290	229	150	1.37	7.9	-31	40	49	0	2.1	66	0.1					
7 11 79	20	0.0005	64*		110	333	207	1.48	7.9	-36	43	51	0	1.9	100	0.4	0.2	0.04	0.00	0.15	0.03
8 3 79	24	0.0003	9		110	366	203	1.44	8.0	-37	43	52	0	1.8	100	0.1	0.1	0.06	0.00	0.00	0.01
8 7 79	29	0.0001	14		65	262	147	2.14	8.0	-34	48	57	0	2.3	55	0.1					

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	---------- MILLIGRAMS PER LITER ----------																			
10 18 77	0.1	0.03	0.1	0.00	25	0.0	0.00	1.5	5.3	0.10	12	2.4	0.0	3.6	0.02	0.0	8.4	0.1	0.1	0.0
11 16 77	0.0	0.00			18	0.0	0.00	1.0	4.5		11	1.6		3.8	0.02	0.0	7.4		0.0	0.0
12 13 77	0.0	0.00			7.7	0.0	0.00	5.5	2.0		5.6	1.3		2.6	0.00	0.0	6.0		0.0	0.0
1 18 78	0.0	0.00	0.0	0.00	6.6	0.0	0.00	0.2	1.3	0.00	3.9	0.1	0.0	3.3	0.01	0.0	4.9	0.0	0.1	0.0
2 23 78	0.0	0.02			8.1	0.0	0.00	0.2	1.4		4.4	0.1		3.5	0.00	0.0	5.2		0.0	0.0
7 25 78	0.0	0.02	0.1	0.00	14	0.0	0.01	2.5	4.0	0.03	9.0	3.7	0.0	4.0	0.02	0.0	6.7	0.1	0.0	0.0
12 19 78	0.1	0.00			18	0.0	0.00	2.6	3.4		14	1.2		3.2	0.02	0.1	6.4		0.1	0.0
3 20 79	0.1	0.01			16	0.0	0.01	2.1	3.1		19	1.1		3.0	0.01	0.0	5.9		0.1	0.0
4 17 79	0.1	0.02	0.1	0.00	19	0.0	0.00	0.6	4.4	0.09	18	0.3	0.0	2.2	0.04	0.0	5.2	0.1	0.1	0.0
5 24 79	0.0	0.01			18	0.0	0.01	0.0	3.7		16	1.2		3.1	0.02	0.0	6.4		0.0	0.0
6 14 79	0.0	0.01			15	0.0	0.00	6.9	3.7		12	1.2		3.3	0.01	0.0	7.2		0.0	0.0
7 11 79	0.0	0.01	0.1	0.00	22	0.0	0.01	3.8	4.5	0.15	24	1.6	0.0	3.2	0.01	0.0	7.4	0.1	0.1	0.0
8 3 79	0.0	0.02			22	0.0	0.02	5.6	4.9		20	1.9		3.5	0.03	0.1	7.1		0.1	0.0
8 7 79	0.0	0.03			18	0.0	0.00	0.0	3.9		17	1.2		3.0	0.03	0.1	8.0		0.1	0.0

TABLE 7. WATER QUALITY FOR SITE 1013 BIBB COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID- ITY	ALKA- LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
10 18 77	12	0.015	23		20	52	35	2.53	6.8		8	10	0	2.1	8	0.0					
11 16 77	13	0.15	8		35	39	35	1.53	7.4		7	9	0	1.5	12	0.0					
12 13 77	10	0.15			0	38	36	1.19	6.8		7	8	0	1.9	5	2.3					
1 18 78	6	1.5			0	36	30	1.65	6.7		5	6	0	1.6	10	0.0					
2 23 78	7	0.04			10	37	34	1.41	6.2		3	4	0	2.2	8	1.4					
4 6 78	16	0.1			4	37	29	1.65	6.7		7	8	0	2.5	8	0.1					
5 5 78	16	0.4	16*		15	30	32	1.02	6.7		5	6	0	2.6	8	1.2					
6 1 78	20	0.02			9	37	31	1.89	6.5		7	8	0	1.5	8	0.1					
6 28 78	23	0.1	39*			33	30	2.37	6.7		8	10	0	1.5	7	0.0					
12 19 78	11	0.005			1	38	31	1.58	6.9		5	6	0	1.9	9	0.0					
2 7 79	5	0.1	11		5	31	27	1.47	6.1	-1	4	5	0	1.6	9	0.0					
3 20 79	16	0.05	12		4	32	28	1.36	6.3	-2	5	6	0	1.5	9	0.0					
4 17 79	18	0.06	16	0.00	7	26	25	1.27	6.6		2	3	0	1.5	9	0.1					
5 24 79	17	0.008	21	0.00	20	35	31	1.49	6.8	1	7	8	0	1.5	9	0.0					
6 14 79	20	0.02	6		35	54	46	1.83	7.2	0	12	15	0	2.6	13	0.0					
7 11 79	22	0.006	28*		20	44	32	2.22	7.1	-4	8	10	0	1.2	8	0.0	0.0	0.08	0.45	0.20	0.01
8 3 79	23	0.01	46		30	41	35	1.82	7.2	-4	8	10	0	1.8	10	0.0	0.0	0.03	0.35	0.00	0.01

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
10 18 77	0.0	0.00	0.0	0.00	3.1	0.0	0.00	0.2	1.0	0.02	2.0	0.0	0.0	3.3	0.01	0.0	4.7	0.0	0.1	0.0
11 16 77	0.0	0.00			2.4	0.0	0.00	0.1	0.9		1.8	0.0		2.8	0.01	0.0	4.6		0.0	0.0
12 13 77	0.0	0.00			2.0	0.0	0.00	0.1	0.5		1.8	0.0		2.1	0.00	0.0	4.0		0.0	0.0
1 18 78	0.0	0.00	0.0	0.00	2.1	0.0	0.00	0.1	0.6	0.00	2.0	0.0	0.0	2.3	0.01	0.0	3.8	0.0	0.1	0.0
2 23 78	0.0	0.00			2.2	0.0	0.03	0.1	0.8		1.9	0.0		2.6	0.00	0.0	3.9		0.0	0.0
4 6 78	0.0	0.00	0.0	0.00	2.0	0.0	0.01	0.1	0.6	0.04	1.7	0.0	0.0	2.4	0.00	0.0	3.1	0.0	0.0	0.0
5 5 78	0.0	0.00			1.7	0.0	0.00	0.1	0.7		1.4	0.0		2.3	0.00	0.0	3.4		0.0	0.0
6 1 78	0.0	0.01	0.0	0.00	2.2	0.0	0.00	0.2	0.8	0.01	1.8	0.0	0.0	2.5	0.01	0.1	4.1	0.0	0.2	0.0
6 28 78	0.1	0.01			2.1	0.0	0.00	0.2	0.8		1.7	0.0		2.5	0.01	0.0	4.1		0.1	0.0
12 19 78	0.1	0.01			2.5	0.0	0.00	0.1	1.0		1.2	0.0		2.5	0.01	0.0	4.4		0.1	0.0
2 7 79	0.1	0.00	0.3	0.00	1.9	0.0	0.01	0.1	0.8	0.06	1.6	0.0	0.0	1.3	0.02	0.0	3.4	0.0	0.0	0.4
3 20 79	0.0	0.00			2.0	0.0	0.01	0.1	0.7		1.2	0.0		1.9	0.02	0.0	3.9		0.1	0.0
4 17 79	0.0	0.00	0.0	0.00	1.8	0.0	0.00	0.1	0.6	0.01	1.4	0.0	0.0	1.5	0.01	0.0	3.4	0.0	0.0	0.0
5 24 79	0.1	0.00			2.3	0.0	0.00	0.1	0.7		1.3	0.0		2.2	0.01	0.0	4.4		0.0	0.1
6 14 79	0.2	0.01			4.0	0.0	0.02	0.2	1.5		2.1	0.1		3.5	0.00	0.0	5.5		0.0	0.0
7 11 79	0.1	0.01	0.0	0.00	3.3	0.0	0.00	0.3	1.0	0.03	1.3	0.0	0.0	1.9	0.02	0.0	4.9	0.0	0.0	0.1
8 3 79	0.1	0.02			3.4	0.0	0.01	0.2	1.1		1.5	0.0		2.5	0.03	0.0	4.5		0.0	0.0

TABLE 8. WATER QUALITY FOR SITE 1015 BIBB COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L							MILLIGRAMS PER LITER							
2 7 79	4	0.08	38		60	104	67	1.68	6.4		11	13	0	1.8	29	0.2					
3 20 79			40			89	62	1.64	7.0	-7	10	12	0	4.6	27	0.0					

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
2 7 79	0.2	0.00	0.3	0.00	7.7	0.0	0.03	0.2	2.2	0.07	6.0	0.3	0.0	3.0	0.03	0.0	4.2	0.0	0.0	0.3
3 20 79	0.3	0.01			6.6	0.0	0.02	0.0	2.0		5.1	0.0		5.9	0.01	0.0	2.1		0.1	0.0

TABLE 9. WATER QUALITY FOR SITE 1021 BLOUNT COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L			MILLIGRAMS PER LITER											
8 19 77	22	0.009			10	178	96	3.89	7.3		51	62	0	2.5	20	0.0					
10 20 77	11	0.05	21		25	67	46	3.06	7.1		16	20	0	3.0	10	0.2					
11 18 77	9	0.8	33		30	60	41	2.36	7.0		9	11	0	2.7	10	0.3					
12 15 77	15	0.06	2		4	36	38	1.81	6.7		7	8	0	1.9	12	0.0					
1 17 78	3	4			15	34	29	1.85	6.9		7	8	0	1.2	8	0.0					
2 22 78	1	0.04			6	41	43	1.90	6.8		8	10	0	2.3	14	0.1					
4 4 78	15	0.015	8		4	75	37	2.20	7.0		8	10	0	2.6	9	0.4					
5 3 78	15	0.05	11		15	48	41	2.02	7.0		10	12	0	3.1	10	0.2					
5 31 78	19	0.03			0	59	49	2.21	6.6		13	16	0	3.5	13	0.1					
6 27 78	24	0.0000	34*			85	70	3.36	7.4		30	37	0	1.6	16	0.0					
11 17 78	16	0.0001	9		45	134	80	2.87	6.3	-28	30	37	0	3.0	19	0.5					
12 21 78	9	0.01	10		10	52	39	1.71	7.1		9	11	0	2.1	10	0.0					
2 13 79		0.02	3		4	34	33	1.55	6.7		7	8	0	1.8	10	0.0					
3 23 79	10	0.002			20	37	35	1.60	6.4	-4	6	7	0	1.6	12	0.0					
4 20 79	19	0.006	8	0.00	30	33	30	1.58	6.7	-3	5	6	0	1.7	10	0.0					
5 23 79	18	0.01	13		15	49	43	1.85	7.1	-3	12	15	0	1.5	13	0.0					
6 18 79	25	0.0004	5		10	49	45	2.09	7.3		16	19	0	2.2	12	0.0					
7 15 79	21	0.0000	0		5	94	51	3.16	7.5	-17	21	26	0	2.0	10	0.0	0.0	0.16	0.55	0.10	0.00
8 2 79	22	0.0000	0		15	89	54	3.63	7.8	-21	25	31	0	1.9	9	0.1	0.0	0.05	0.00	0.00	0.01

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
8 19 77	0.0	0.02			14	0.0	0.00	0.1	2.9		7.1	0.5		9.0	0.00	0.0	4.3		0.0	0.0
10 20 77	0.1	0.00	0.0	0.00	4.5	0.0	0.00	0.2	1.4	0.02	3.2	0.1	0.0	4.2	0.02	0.0	4.1	0.0	0.1	0.0
11 18 77	0.1	0.02			3.5	0.0	0.00	0.1	1.4		2.7	0.0		3.9	0.01	0.0	4.3		0.0	0.0
12 15 77	0.1	0.00			2.0	0.0	0.00	0.1	1.0		2.7	0.0		3.2	0.02	0.0	5.3		0.2	0.0
1 17 78	0.1	0.00	0.0	0.00	1.2	0.0	0.00	0.1	0.7	0.00	1.8	0.0	0.0	2.7	0.01	0.0	4.1	0.0	0.0	0.0
2 22 78	0.1	0.00			2.8	0.0	0.00	0.1	1.0		3.9	0.2		3.4	0.01	0.0	4.5		0.0	0.0
4 4 78	0.0	0.00	0.0	0.00	2.0	0.0	0.00	0.1	0.9	0.01	2.7	0.0	0.0	3.4	0.00	0.0	4.6	0.0	0.0	0.0
5 3 78	0.0	0.00			2.4	0.0	0.00	0.1	0.9		3.0	0.1		3.3	0.01	0.0	4.8		0.0	0.0
5 31 78	0.1	0.01			3.4	0.1	0.00	0.1	1.2		4.2	0.2		3.9	0.02	0.1	5.1		0.2	0.0
6 27 78	0.1	0.01	0.0	0.00	5.7	0.0	0.00	0.2	1.9	0.02	6.0	0.4	0.0	6.8	0.02	0.0	6.2	0.0	0.1	0.0
11 17 78	0.1	0.01			6.0	0.0	0.00	0.1	5.4		5.4	0.0		9.2	0.01	0.0	5.3		0.0	0.0
12 21 78	0.1	0.00	0.0	0.00	1.9	0.0	0.00	0.0	1.5	0.03	1.8	0.0	0.0	3.3	0.00	0.0	6.0	0.0	0.0	0.0
2 13 79	0.1	0.00			1.7	0.0	0.01	0.1	0.9		1.9	0.0		2.8	0.00	0.0	4.1		0.0	0.7
3 23 79	0.1	0.01			2.6	0.0	0.01	0.1	1.0		2.2	0.0		2.6	0.00	0.0	4.4		0.0	0.0
4 20 79	0.1	0.00	0.0	0.00	1.7	0.0	0.00	0.1	0.9	0.10	1.9	0.0	0.0	2.3	0.01	0.0	4.2	0.0	0.0	0.0
5 23 79	0.1	0.00			3.2	0.0	0.00	0.1	1.2		2.7	0.1		3.1	0.01	0.0	4.9		0.0	0.0
6 18 79	0.1	0.00			2.8	0.0		0.1	1.5		2.4	0.0		4.2	0.00	0.0	4.8		0.0	0.0
7 15 79	0.0	0.00			3.7	0.0	0.00	0.1	1.4		3.8	0.1		4.8	0.00	0.0	5.7		0.0	0.0
8 2 79	0.0	0.01			4.2	0.0	0.02	0.1	1.4		3.8	0.2		4.9	0.00	0.0	5.8		0.0	0.0

TABLE 10. WATER QUALITY FOR SITE 1022 BLOUNT COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L														
												MILLIGRAMS PER LITER									
8 18 77	26	0.015			20	475	329	1.31	6.7		36	44	0	2.8	200	0.1					
10 20 77	13	0.06	15		8	448	306	1.36	7.0		20	24	0	2.7	180	1.6					
11 18 77	10	0.25	36		4	522	346	1.20	6.6		15	18	0	1.4	200	6.6					
12 14 77	12	0.1			0	524	318	1.11	7.2		24	29	0	3.0	200	1.0					
1 17 78	6	1.0			45	345	220	1.14	7.1		11	14	0	2.0	140	1.3					
7 27 78	27	0.0000	72*		65	635	425	1.06	6.4		2	3	0	1.5	290	3.2					
8 30 78	28	0.02	47*		110	576	376	1.08	7.5		32	39	0	3.5	250	0.4					
10 17 78	15	0.002	16*		0	277	177	1.03	7.3		12	15	0	3.4	110	0.0					
12 21 78	13	0.02	11		8	439	288	1.15	7.3		25	31	0	2.3	180	1.4					
3 1 79	11	1.0	23		8	444	274	1.39	7.6		17	21	0	2.1	150	5.6					
3 23 79	11	0.02	3		1	820	612	0.91	7.2	-10	18	22	0	2.7	410	7.1					
4 20 79	20	0.002	20	0.00	5	402	287	1.10	6.5		3	4	0	1.6	180	4.7					
5 23 79	25	0.02	38		10	779	543	0.98	7.6	-8	17	21	0	2.7	350	7.6					
6 18 79	32	0.0006	33		10	779	587	1.02	7.6		25	31	0	3.6	370	10					
7 15 79	26	0.006	6	0.01	20	938	602	1.17	7.8	-24	30	37	0	3.7	380	6.7	1.0	0.08	1.00	0.00	0.00
8 2 79	29	0.01	11		30	1120	688	1.09	7.9	-31	40	48	0	4.6	470	0.1	0.0	0.46	1.45	0.05	0.01

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR											MILLIGRAMS PER LITER									
8 18 77	0.0	0.01			29	0.0	0.01	0.1	2.8		34	3.3		25	0.02	0.0	6.8		0.0	0.0
10 20 77	0.1	0.01	0.1	0.00	30	0.1	0.00	0.2	3.1	0.10	34	2.5	0.0	20	0.06	0.1	6.5	0.2	0.2	0.0
11 18 77	0.1	0.03			37	0.0	0.01	0.3	4.2		32	2.8		20	0.05	0.0	5.6		0.0	0.0
12 14 77	0.1	0.00			29	0.0	0.00	0.2	2.4		34	4.1		13	0.04	0.0	5.2		0.0	0.0
1 17 78	0.0	0.00	0.0	0.00	19	0.0	0.00	1.3	2.0	0.01	25	2.8	0.0	9.3	0.04	0.0	4.0	0.2	0.0	0.0
7 27 78	0.1	0.03			50	0.0	0.02	0.1	11		44	3.4		6.6	0.07	0.1	1.5		0.1	0.0
8 30 78	0.2	0.02			40	0.0	0.01	0.2	6.7		36	2.2		13	0.03	0.1	3.2		0.1	0.0
10 17 78	0.0	0.00	0.0	0.05	12	0.0	0.00	0.1	2.8	0.15	18	0.1	0.0	9.8	0.01	0.0	5.0	0.0	0.0	0.0
12 21 78	0.1	0.01			33	0.0	0.00	0.1	3.8		28	0.9		10	0.03	0.0	1.9		0.0	0.0
3 1 79	0.1	0.00			37	0.0	0.01	0.0	3.5		26	2.8		15	0.05	0.0	3.4		0.0	0.0
3 23 79	0.2	0.01			71	0.0	0.00	0.1	3.6		51	5.3		13	0.10	0.1	3.8		0.1	0.0
4 20 79	0.1	0.00	0.0	0.00	36	0.0	0.02	0.1	2.5	0.15	28	2.4	0.0	7.4	0.07	0.0	2.7	0.2	0.0	0.0
5 23 79	0.1	0.02			66	0.0	0.00	0.1	4.3		45	4.0		18	0.07	0.1	2.9		0.1	0.0
6 18 79	0.1	0.03			71	0.0	0.00	0.1	5.4		48	1.5		22	0.03	0.1	3.1		0.2	0.0
7 15 79	0.2	0.03	0.0	0.00	76	0.0	0.01	0.1	5.0	0.50	57	0.6	0.1	26	0.06	0.2	3.0	0.9	0.4	0.1
8 2 79	0.2	0.04			88	0.0	0.00	0.1	4.8		62	1.5		26	0.04	0.2	2.6		0.3	0.0

TABLE 11. WATER QUALITY FOR SITE 1023 BLOUNT COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L					MILLIGRAMS PER LITER									
8 18 77	26	0.0025			20	1790	1350	0.81	3.5		0	0	0	2.1	1000	0.0					
10 20 77	13	0.01	11		30	969	729	1.02	3.9		0	0	0	4.4	520	0.7					
11 18 77	10	0.2	31		20	727	462	1.02	3.7		0	0	0	4.2	330	0.3					
12 15 77	11	0.2	6		6	859	650	1.10	3.8		0	0	0	4.0	460	0.6					
1 17 78	6	0.7			8	311	197	1.21	4.5		0	0	0	4.1	130	1.2					
2 22 78	1	0.04			8	938	758	0.90	4.0		0	0	0	3.4	560	0.4					
4 4 78	14	0.04	16		4	1220	905	0.91	3.4		0	0	0	3.9	670	0.6					
5 3 78	14	0.06	9		10	891	645	0.97	3.7		0	0	0	4.5	470	0.3					
5 31 78	20	0.02			5	1390	1000	0.91	3.4		0	0	0	2.1	750	0.2					
6 27 78	24	0.0000	123*			1490	1020	0.98	3.3		0	0	0	6.7	730	0.1					
7 27 78		0.0000			4	1160	783	1.01	4.0		0	0	0	1.8	550	0.3					
8 25 78	22	0.005	12		4	857	580	0.80	3.4		0	0	0	2.8	440	0.2					
12 21 78	12	0.002	5		3	566	344	1.14	4.3	18	0	0	0	4.9	230	1.0					
2 13 79	7	0.002	3		0	762	557	0.99	4.1	19	0	0	0	6.0	400	1.1					
3 23 79	12	0.005	4		0	1110	865	0.96	4.0	21	0	0	0	2.8	640	0.6					
4 20 79	17	0.003		0.03	45	977	820	0.89	4.0	20	0	0	0	2.6	620	0.4					
5 23 79	18	0.007	11		40	1230	792	0.85	3.7	44	0	0	0	1.9	600	0.1					
6 18 79	23	0.002	13		55	1630	1290	0.75	3.3	80	0	0	0	2.4	1000	0.1					
7 15 79	23	0.003	7		15	1590	903	1.10	3.3	60	0	0	0	2.3	640	0.1	0.0	0.24	1.30	0.00	0.01
8 2 79	23	0.0001	9		10	1500	846	0.85	3.3	100	0	0	0	2.8	640	0.1	0.1		0.40	0.00	0.01

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
8 18 77	5.8	0.02			100	0.8	0.01	4.9	6.6		140	21		14	0.78	0.1	10		0.2	2.4
10 20 77	2.3	0.00	0.0	0.00	58	0.3	0.00	1.7	4.0	0.15	96	16	0.0	8.4	0.31	0.1	6.6	0.1	0.2	0.3
11 18 77	1.2				34	0.2	0.01	1.2	3.1		62	8.5		7.0	0.19	0.0	4.3		0.1	0.1
12 15 77	2.3	0.00			52	0.2	0.00	1.1	3.1		93	14		6.4	0.23	0.1	5.5		0.4	0.2
1 17 78	0.6	0.00	0.0	0.00	14	0.1	0.00	0.4	2.0	0.00	30	3.8	0.0	3.5	0.08	0.0	2.8	0.0	0.1	0.1
2 22 78	2.2	0.02			58	0.2	0.00	2.2	3.4		89	14		7.7	0.28	0.0	5.1		0.1	0.2
4 4 78	2.4	0.00	0.0	0.00	65	0.3	0.03	1.8	3.5	0.35	110	23	0.0	8.3	0.31	0.0	5.2	0.1	0.2	0.2
5 3 78	1.5	0.02			49	0.2	0.00	2.1	3.1		83	13		6.4	0.21	0.1	5.3		0.2	0.2
5 31 78	2.6	0.02			75	0.3	0.01	3.4	4.1		120	19		9.5	0.32	0.1	5.6		0.4	0.2
6 27 78	2.1	0.02	0.1	0.00	77	0.3	0.01	14	17	0.20	130	23	0.0	10	0.30	0.1	7.5	0.1	0.4	0.2
7 27 78	1.1	0.02			68	0.2	0.03	8.6	6.7		95	23		9.0	0.20	0.1	6.3		0.2	0.1
8 25 78	1.0	0.02	0.0	0.00	42	0.2	0.01	2.8	3.9	0.15	60	10	0.0	5.6	0.16	0.1	6.7	0.1	0.1	0.1
12 21 78	0.8	0.00	0.1	0.00	33	0.1	0.01	0.4	3.2	0.20	46	5.8	0.0	4.0	0.15	0.0	3.6	0.1	0.1	0.3
2 13 79	1.7	0.00			51	0.2	0.01	0.5	2.7		68	9.2		5.1	0.21	0.1	3.5		0.3	0.6
3 23 79	2.2	0.02			77	0.2	0.01	0.7	3.4		110	14		6.9	0.34	0.2	4.8		0.8	0.2
4 20 79	0.5	0.00	0.0	0.00	76	0.2	0.00	3.8	2.8	0.35	90	10	0.0	6.9	0.20	0.1	3.5	0.1	0.3	0.1
5 23 79	1.0	0.01			62	0.2	0.02	2.4	3.4		88	11		7.4	0.25	0.1	4.2		0.2	0.1
6 18 79	1.9	0.02			94	0.3	0.00	3.1	4.3		130	18		10	0.32	0.1	5.5		0.5	0.2
7 15 79	1.4	0.02	0.0	0.00	86	0.2	0.02	4.0	3.6	0.70	120	17	0.1	7.7	0.23	0.1	5.7	0.2	0.3	0.1
8 2 79	0.6	0.03			76	0.2	0.01	2.6	1.9		90	15		3.6	0.14	0.3	3.2		0.9	0.1

TABLE 12. WATER QUALITY FOR SITE 1025 BLOUNT COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L			MILLIGRAMS PER LITER											
2 22 78	2	0.015			50	37	31	1.48	6.6		4	5	0	2.7	9	0.2					
4 4 78	27	0.008	48		55	33	29	1.72	6.6		3	4	0	3.0	7	0.1					
5 3 78	15	0.05	138		250	161	96	1.07	6.3		5	6	0	2.9	56	0.9					
5 31 78	35	0.004			75	36	32	1.69	6.4		6	7	0	1.6	10	0.0					
6 27 78	24	0.0025	86#			45	48	1.30	6.6		6	7	0	2.5	19	0.1					
11 17 78	17	0.005	46		65	107	62	1.49	6.8	-7	11	14	0	3.3	28	0.0					
2 13 79	13	0.0008			10	56	43	1.13	6.3		2	3	0	2.1	21	0.2					

Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
2 22 78	0.0	0.00			1.3	0.0	0.00	0.2	0.9		2.1	0.1		2.5	0.00	0.0	4.0		0.0	0.0
4 4 78	0.2	0.00	0.0	0.00	1.1	0.0	0.00	0.2	0.7	0.03	1.8	0.1	0.0	2.8	0.00	0.0	4.7	0.0	0.0	0.0
5 3 78	0.1	0.01			9.3	0.0	0.00	0.2	1.9		9.0	0.6		3.1	0.02	0.0	2.9		0.1	0.0
5 31 78	0.2	0.01			1.4	0.1	0.00	0.2	1.0		2.1	0.1		2.7	0.02	0.1	4.5		0.2	0.0
6 27 78	0.3	0.00	0.0	0.00	2.2	0.0	0.00	0.3	1.3	0.01	3.6	0.1	0.0	3.5	0.02	0.0	4.9	0.0	0.2	0.0
11 17 78	0.2	0.00			5.2	0.0	0.01	0.3	3.4		5.8	0.1		3.6	0.03	0.1	1.9		0.1	0.0
2 13 79	0.1	0.00			3.2	0.0	0.01	0.2	1.2		2.9	0.1		3.0	0.01	0.0	3.1		0.0	0.5

TABLE 13. WATER QUALITY FOR SITE 1031 CULLMAN COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L			MILLIGRAMS PER LITER											
9 7 77	24	0.15			75	46	34	1.72	6.3		5	6	0	2.0	12	0.1					
10 19 77	19	0.025	22		45	52	34	2.42	6.6		6	7	0	2.2	8	0.1					
11 17 77	16	1.0	34		35	53	31	2.10	6.6		6	7	0	1.3	9	0.1					
12 14 77	13	0.2			2	38	26	2.56	6.7		7	8	0	2.3	5	0.1					
1 13 78	2	0.08			20	41	31	1.78	6.8		6	7	0	1.7	9	0.2					
2 22 78	9	0.1			8	35	31	1.80	6.8		6	7	0	2.0	9	0.1					
4 5 78	20	0.1			10	55	35	1.61	6.8		6	7	0	3.6	11	0.1					
5 3 78	17	0.1	9		25	46	30	2.48	6.6		9	11	0	2.2	7	0.2					
5 31 78	29	0.05			10	42	33	2.56	6.7		10	12	0	1.6	8	0.2					
6 30 78		0.0000	31*		8	72	49	2.93	7.4		18	22	0	2.5	12	0.0					
7 26 78	27	0.0000	61*		25	104	65	9.20	7.6		40	49	0	3.0	6	0.0					
10 17 78	20	0.0001	12		4	97	64	0.97	6.6		2	2	0	3.9	32	0.0					
11 17 78	17	0.0002	4		0	113	71	1.59	6.9	-14	20	24	0	2.9	28	0.0					
12 21 78	9	0.002	68		150	86	59	1.69	7.0		11	14	0	3.7	20	0.2					
2 14 79		0.02	12		7	41	32	1.13	6.5	2	3	4	0	3.2	10	0.4					
3 22 79	13	0.003	14		20	49	33	1.42	6.5		4	5	0	2.1	11	0.2					
4 18 79	20	0.02	21	0.00	15	32	30	1.46	6.7	-1	5	6	0	1.6	10	0.1					
5 25 79	23	0.001	20		55	51	40	2.62	7.2	-3	16	19	0	2.3	9	0.0					
6 18 79	22	0.001	38		50	89	55	3.86	7.6	-20	28	34	0	3.0	9	0.0					
7 13 79	26	0.002	11	1.2	40	94	56	3.60	7.5	-20	25	30	0	3.3	10	0.0	0.0	0.07	0.45	0.10	0.01
8 7 79	29	0.0007	4		65	111	62	5.14	7.9	-27	34	42	0	3.5	8	0.0	0.0	0.06	0.00	0.00	0.01

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CD	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
9 7 77	0.3	0.02			2.8	0.0	0.00	0.2	1.5		2.2	0.1		2.7	0.02	0.0	3.3		0.0	0.1
10 19 77	0.1	0.00	0.0	0.00	2.4	0.1	0.00	0.4	1.4	0.02	2.3	0.2	0.0	3.1	0.04	0.1	4.3	0.0	0.2	0.0
11 17 77	0.0	0.00			2.3	0.0	0.00	0.2	1.0		2.0	0.1		3.1	0.00	0.0	3.9		0.0	0.0
12 14 77	0.1	0.00			1.7	0.0	0.00	0.2	0.7		1.8	0.2		2.3	0.00	0.0	3.4		0.0	0.0
1 13 78	0.0	0.00	0.0	0.00	1.8	0.0	0.00	0.2	0.8	0.00	2.0	0.1	0.0	2.8	0.01	0.0	3.6	0.0	0.0	0.0
2 22 78	0.0	0.00			1.8	0.0	0.00	0.4	1.0		1.8	0.1		3.1	0.00	0.0	3.6		0.0	0.0
4 5 78	0.1	0.00	0.0	0.00	2.1	0.0	0.02	0.4	1.4	0.01	2.2	0.1	0.1	3.6	0.00	0.0	3.2	0.0	0.0	0.0
5 3 78	0.1	0.00			2.2	0.0	0.00	0.4	0.8		2.1	0.2		3.2	0.00	0.0	2.5		0.0	0.0
5 31 78	0.1	0.00			2.4	0.0	0.01	0.4	1.4		2.2	0.2		3.7	0.02	0.1	2.7		0.1	0.0
6 30 78	0.0	0.01			3.1	0.0	0.00	0.1	1.2		4.3	0.0		5.5	0.00	0.0	4.6		0.0	0.0
7 26 78	0.0	0.01	0.0	0.00	7.0	0.0	0.01	0.1	2.4	0.01	6.2	1.8	0.0	5.5	0.02	0.0	4.4	0.0	0.0	0.0
10 17 78	0.0	0.01	0.1	0.00	3.8	0.0	0.00	0.1	2.6	0.04	3.7	1.4	0.0	4.7	0.03	0.0	4.8	0.0	0.1	0.0
11 17 78	0.0	0.01			5.4	0.0	0.00	0.0	2.0		5.3	0.5		6.1	0.01	0.0	4.3		0.0	0.0
12 21 78	0.2	0.01			5.1	0.0	0.01	0.8	2.1		3.7	0.6		4.8	0.01	0.0	4.8		0.0	0.0
2 14 79	0.1	0.00			2.4	0.0	0.00	0.1	0.8		1.5	0.1		2.1	0.00	0.0	3.4		0.0	0.5
3 22 79	0.1	0.01			2.4	0.0	0.02	0.2	1.2		1.6	0.1		2.7	0.02	0.0	3.6		0.0	0.0
4 18 79	0.1	0.00	0.0	0.00	1.9	0.0	0.01	0.2	1.1	0.01	1.6	0.1	0.0	2.1	0.01	0.0	3.5	0.0	0.0	0.0
5 25 79	0.0	0.00			3.5	0.0	0.00	0.6	1.2		2.6	0.2		3.1	0.01	0.0	3.7		0.0	0.0
6 18 79	0.0	0.00			5.2	0.0	0.01	0.3	2.0		4.0	1.2		4.3	0.00	0.0	4.2		0.0	0.0
7 13 79	0.0	0.01			4.8	0.0	0.00	0.3	1.6		4.3	0.7		4.7	0.02	0.0	5.3		0.0	0.1
8 7 79	0.0	0.01			5.9	0.0	0.02	0.2	1.6		4.9	1.2		5.6	0.00	0.0	4.7		0.0	0.0

TABLE 14. WATER QUALITY FOR SITE 1032 CULLMAN COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID- ITY	ALKA- LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	%	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				---------- MILLIGRAMS PER LITER ----------											
9 7 77	24	0.25			300	689	465	1.04	4.5		0	0	0	3.0	320	1.5						
1 13 78	6	2.5			0	518	362	1.47	7.6		53	65	0	4.3	200	2.1						
2 22 78	10	0.9			8	568	403	1.47	7.9		64	77	0	4.8	220	3.0						
4 5 78	16	0.25			4	580	420	1.44	7.4		64	78	0	6.6	230	1.8						
2 28 79	11	1.0	24		10	668	489	1.28	7.9	-45	51	61	0	4.8	290	3.2						
3 22 79	13	0.09	153		30	724	546	1.22	7.9	-63	69	83	0	4.3	330	2.9						
4 18 79	19	1.0	140	0.00	120	630	457	1.24	7.8	-43	51	61	0	3.3	280	2.8						
5 25 79	20	0.15	20		10	722	502	1.07	8.0	-55	74	89	1	4.3	310	2.3						
6 18 79	24	0.09	18		0	718	495	1.48	8.3		80	95	1	5.8	280	1.9						
7 13 79	24	0.15	8		20	771	483	1.33	8.3	-59	70	84	1	5.0	280	1.2	0.2	0.13	0.65	0.00	0.00	
8 7 79	29	0.25	7		10	809	449	1.47	8.3	-66	80	94	1	5.4	250	0.7	0.3	0.06	0.45	0.00	0.01	

DATE	AL	B	BA	BE	CA	CD	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	---------- MILLIGRAMS PER LITER ----------																			
9 7 77	0.8	0.03			64	0.1	0.02	3.2	3.7		43	4.0		7.8	0.15	0.0	2.8		0.1	0.2
1 13 78	0.1	0.00	0.0	0.00	49	0.0	0.00	1.7	4.0	0.10	41	5.2	0.0	10	0.07	0.0	3.1	0.2	0.0	0.0
2 22 78	0.1				55	0.0	0.00	1.9	4.0		45	4.4		11	0.07	0.0	3.2		0.1	0.0
4 5 78	0.1	0.00	0.1	0.00	54	0.0	0.01	0.7	4.8	0.15	48	4.4	0.0	12	0.06	0.0	3.2	0.1	0.1	0.4
2 28 79	0.1	0.01			73	0.0	0.00	1.0	4.0		49	4.3		8.4	0.10	0.1	2.7		0.1	0.1
3 22 79	0.2	0.01			77	0.0	0.00	0.7	4.2		54	3.5		8.3	0.07	0.1	2.8		0.3	0.0
4 18 79	0.3	0.01	0.0	0.00	66	0.1	0.00	0.4	3.7	0.30	46	3.5	0.0	6.5	0.11	0.1	2.5	0.1	0.2	0.0
5 25 79	0.1	0.01			65	0.0	0.01	0.2	4.6		43	3.3		9.3	0.07	0.1	2.7		0.1	0.0
6 18 79	0.2	0.01			73	0.0	0.01	0.2	5.8		55	4.2		11	0.05	0.1	3.1		0.2	0.0
7 13 79	0.1	0.01	0.0	0.00	71	0.0	0.01	0.2	4.9	0.40	49	3.5	0.1	10	0.05	0.1	2.8	0.2	0.1	0.0
8 7 79	0.1	0.02			68	0.0	0.00	0.1	4.9		48	3.2		11	0.04	0.1	2.6		0.2	0.0

TABLE 15. WATER QUALITY FOR SITE 1033 CULLMAN COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
NO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
9 7 77	24	0.2			130	194	109	1.79	6.7		33	40	0	3.3	45	0.3					
10 19 77	16	0.08			25	196	134	2.54	7.2		50	61	0	3.7	44	0.1					
11 17 77	16	0.6	64		55	123	85	1.69	7.4		22	27	0	1.9	35	0.1					
12 14 77	14	0.2			2	168	95	1.80	7.4		40	49	0	2.6	33	0.1					
1 13 78	6	0.5			8	155	89	2.13	7.5		35	43	0	2.2	29	0.2					
2 22 78	5	0.01			8	97	61	2.64	7.4		23	28	0	2.5	15	0.1					
4 5 78	14	0.03			4	150	98	2.17	7.7		34	42	0	3.1	35	0.1					
5 3 78	16	0.03	35		80	125	79	1.99	7.4		25	30	0	2.9	27	0.2					
5 31 78	22	0.015			10	94	63	2.24	6.9		19	23	0	2.3	19	0.1					
6 30 78		0.0000	26#		20	92	56	2.36	7.5		16	19	0	2.5	19	0.0					
7 26 78	25	0.0000	44#		0	158	88	4.05	7.7		45	55	0	3.6	18	0.0					
8 24 78	25	0.009	19#		3	165	97	3.05	7.6		39	48	0	4.0	26	0.1					
10 17 78	12	0.009	12		4	186	107	3.17	8.2		59	71	1	4.2	26	0.0					
11 17 78	17	0.01	64		15	157	88	3.20	7.4		34	42	0	4.3	23	0.0					
12 21 78	9	0.02	11		15	187	122	2.64	7.7		45	55	0	3.7	37	0.1					
2 14 79		0.01	8		5	159	106	1.72	7.5		33	40	0	2.4	44	0.0					
3 22 79	10	0.01	40		1	166	110	1.38	7.4	-30	30	36	0	2.3	52	0.5					
4 18 79	20	0.008	22	0.00	7	166	102	1.74	7.5		26	32	0	2.1	46	0.1					
5 25 79	17	0.007	23		15	199	119	1.56	7.6	-26	36	44	0	2.3	54	0.1					
6 18 79	20	0.01	10		3	213	117	1.57	7.9	-32	46	55	0	4.3	48	0.1					
7 13 79	24	0.01	0		5	246	125	1.71	8.0	-40	47	56	0	4.3	49	0.1	0.0	0.02	0.70	0.05	0.00
8 7 79	26	0.0002	8		10	232	109	2.43	8.0	-38	49	59	0	4.6	33	0.0	0.0	0.05	0.00	0.00	0.01

Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
NO DA YR	MILLIGRAMS PER LITER																			
9 7 77	0.0	0.00			11	0.0	0.00	0.1	2.5		10	0.8		7.8	0.02	0.0	3.3		0.0	0.1
10 19 77	0.1	0.00	0.0	0.00	11	0.1	0.00	0.4	2.6	0.05	16	3.2	0.0	9.6	0.05	0.1	5.5	0.0	0.3	0.0
11 17 77	0.2	0.00			6.9	0.0	0.00	0.4	1.8		7.3	1.2		6.9	0.01	0.0	4.8		0.0	0.0
12 14 77	0.1	0.00			7.3	0.0	0.00	0.2	1.4		8.3	2.7		5.5	0.00	0.0	4.0		0.0	0.0
1 13 78	0.0	0.00	0.0	0.00	7.0	0.0	0.00	0.4	1.5	0.00	8.2	2.3	0.0	6.9	0.00	0.0	4.1	0.1	0.0	0.0
2 22 78	0.0	0.02			3.8	0.0	0.00	0.9	1.4		5.2	2.4		6.0	0.00	0.0	4.4		0.0	0.0
4 5 78	0.1	0.00	0.0	0.00	8.2	0.0	0.00	0.3	2.2	0.04	10	1.2	0.0	8.4	0.01	0.0	3.9	0.0	0.0	0.0
5 3 78	0.1	0.01			5.4	0.0	0.00	0.7	1.7		7.3	2.5		6.9	0.01	0.0	4.1		0.1	0.0
5 31 78	0.0	0.01			4.4	0.0	0.00	0.2	1.5		5.6	1.4		6.0	0.02	0.0	4.6		0.1	0.0
6 30 78	0.0	0.01			5.4	0.0	0.00	0.0	1.5		5.7	0.0		4.9	0.00	0.0	3.6		0.0	0.0
7 26 78	0.0	0.01	0.0	0.00	8.8	0.0	0.01	0.2	2.4	0.00	8.9	0.3	0.0	9.1	0.02	0.0	4.4	0.0	0.0	0.0
8 24 78	0.1	0.01			10.0	0.0	0.01	0.2	3.0		10	0.3		8.4	0.02	0.1	4.4		0.1	0.0
10 17 78	0.0	0.00	0.0	0.00	10	0.0	0.00	0.3	2.2	0.06	11	0.7	0.0	8.2	0.01	0.0	3.9	0.0	0.1	0.0
11 17 78	0.1	0.00			9.0	0.0	0.01	0.2	3.6		8.9	0.2		8.7	0.03	0.1	4.1		0.2	0.0
12 21 78	0.1		0.0	0.00	12	0.1	0.01	0.3	1.4	0.08	12	2.1	0.0	11	0.07	0.0	6.2	0.0	0.3	0.2
2 14 79	0.1	0.00			9.7	0.0	0.01	0.2	1.6		9.6	1.5		7.7	0.01	0.0	3.9		0.1	0.7
3 22 79	0.0	0.01			9.6	0.0	0.00	0.1	1.6		9.8	1.0		5.7	0.01	0.0	3.6		0.0	0.0
4 18 79	0.1	0.01	0.0	0.00	11	0.0	0.00	0.1	1.9	0.03	11	0.9	0.0	5.7	0.02	0.0	3.6	0.0	0.1	0.0
5 25 79	0.0	0.01			11	0.0	0.00	0.1	2.1		11	0.9		6.8	0.01	0.0	3.8		0.0	0.1
6 18 79	0.0	0.01			9.5	0.1	0.02	0.2	1.9		10	0.6		7.1	0.02	0.0	3.3		0.0	0.0
7 13 79	0.0	0.01			12	0.0	0.00	0.1	2.3		11	0.8		8.5	0.02	0.0	4.0		0.1	0.0
8 7 79	0.0	0.02			11	0.0	0.00	0.5	2.1		11	0.9		8.0	0.02	0.0	4.3		0.0	0.0

TABLE 16. WATER QUALITY FOR SITE 1035 CULLMAN COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID- ITY	ALKA- LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L			MILLIGRAMS PER LITER											
10 19 77	17	0.4	24		45	112	70	2.10	6.6		16	20	0	3.0	22	0.6					
11 17 77	13	0.5	149		95	50	40	1.70	6.7		7	9	0	1.9	14	0.1					
12 14 77	13	1.5			35	70	47	1.73	6.9		14	17	0	2.6	14	0.4					
5 3 78	16	0.05	47		130	110	62	1.98	7.3		17	21	0	2.2	23	0.5					
5 31 78	26	0.06			5	22	22	1.97	6.6		2	3	0	1.9	4	0.2					
7 26 78	32	0.015	61*		5	170	95	2.79	7.2		42	51	0	3.7	27	0.0					
8 24 78	26	0.0009	12		4	157	91	2.73	7.5		34	41	0	2.6	25	0.1					
10 17 78	14	0.001	14		4	200	118	2.53	8.2		60	72	1	3.4	30	0.2					
11 17 78	17	0.002	14		20	228	125	2.10	7.9	-55	61	74	0	4.5	40	0.1					
12 21 78	10	0.06	40		75	171	105	1.15	7.4		19	23	0	3.0	50	1.3					
4 18 79	20	0.08	32	0.00	45	79	52	1.40	6.7		9	11	0	1.6	23	0.3					
5 25 79	18	0.06	5		25	173	94	1.31	7.0	-6	16	20	0	2.6	48	0.4					
6 18 79	28	0.0005	19		40	175	102	1.33	7.6		29	35	0	3.4	48	0.0					
7 13 79	28	0.003	1		20	217	115	1.42	7.6	-14	17	21	0	2.5	61	0.1	0.0	0.08	0.55	0.00	0.01
8 7 79	36	0.001	3		45	217	104	2.42	7.9	-33	45	55	0	3.5	32	0.0	0.0	0.13	0.00	0.00	0.00

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
10 19 77	0.1	0.00	0.0	0.00	6.9	0.1	0.03	0.4	1.7	0.02	6.0	1.2	0.0	4.8	0.04	0.1	4.8	0.0	0.2	0.0
11 17 77	0.1	0.00			3.6	0.0	0.00	0.2	1.2		2.4	0.3		3.3	0.01	0.0	4.1		0.0	0.0
12 14 77	0.1	0.00			3.8	0.0	0.01	0.4	0.9		3.4	0.9		2.9	0.01	0.0	3.6		0.0	0.0
5 3 78	0.2	0.01			7.4	0.0	0.00	0.2	1.4		4.9	0.3		5.2	0.00	0.0	2.2		0.1	0.0
5 31 78	0.0	0.00			0.7	0.0	0.00	0.1	0.8		1.1	0.1		2.1	0.00	0.0	4.0		0.0	0.0
7 26 78	0.0	0.01	0.0	0.00	11	0.0	0.02	0.1	2.5	0.01	9.3	3.6	0.0	6.3	0.03	0.0	2.8	0.1	0.0	0.0
8 24 78	0.0	0.01			9.7	0.0	0.01	0.5	1.9		8.6	3.1		6.3	0.02	0.0	5.6		0.0	0.0
10 17 78	0.0	0.00	0.0	0.00	11	0.0	0.00	1.3	1.8	0.07	10	5.2	0.0	6.6	0.02	0.0	5.0	0.1	0.0	0.0
11 17 78	0.1	0.01			14	0.0	0.01	0.1	2.2		10	4.3		7.2	0.01	0.0	2.3		0.0	0.0
12 21 78	0.1	0.00			9.3	0.0	0.01	0.8	2.0		7.4	2.0		5.8	0.02	0.0	3.5		0.0	0.0
4 18 79	0.1	0.00	0.0	0.00	5.2	0.0	0.00	0.3	1.1	0.05	4.0	0.6	0.1	2.5	0.01	0.0	3.3	0.0	0.0	0.0
5 25 79	0.1	0.00			10	0.0	0.01	0.4	1.9		8.3	1.0		4.5	0.02	0.0	2.6		0.0	0.0
6 18 79	0.0	0.00			10	0.1	0.01	0.5	2.0		8.2	2.5		4.5	0.02	0.0	2.3		0.0	0.0
7 13 79	0.1	0.01			14	0.0	0.00	0.5	3.0		11	2.1		4.8	0.03	0.0	2.4		0.1	0.0
8 7 79	0.0	0.01			12	0.0	0.00	0.1	2.5		10	3.4		5.3	0.01	0.0	3.3		0.0	0.0

TABLE 17. WATER QUALITY FOR SITE 1038 CULLMAN COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
3 22 79	14	0.01	100		20	650	482	0.89	4.8	13	0	0	0	3.1	350	1.1					

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
3 22 79	1.1	0.01			58	0.1	0.01	0.2	3.1		41	6.9		5.7	0.12	0.1	4.0		0.1	0.1

TABLE 18. WATER QUALITY FOR SITE 1041 DE KALB COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L					MILLIGRAMS PER LITER									
11 9 77	16	0.15	29		75	181	84	8.03	8.3		56	67	1	1.6	9	0.1					
12 15 77	11	0.1	3		4	188	106	16.8	7.9		81	98	0	2.3	5	0.4					
1 18 78	6	0.8			8	130	78	5.71	7.9		58	70	0	1.5	10	0.0					
2 28 78	7	0.01			8	159	83	10.5	7.9		66	79	0	2.2	6	0.2					
3 29 78	9	0.15			4	148	89	10.5	8.1		69	83	1	2.1	7	0.1					
5 2 78	19	0.4	12		20	150	84	7.27	8.1		61	73	1	2.3	9	0.1					
5 31 78	16	0.09			0	167	94	14.4	7.7		79	95	0	1.6	5	0.2					
6 27 78	20	0.04	23*			159	102	5.99	7.8		76	92	0	1.2	13	0.1					
7 27 78	22	0.015	50*		5	176	103	24.7	8.1		80	97	1	1.8	4	0.1					
8 31 78	26	0.009	52*		25	177	101	30.9	7.9		80	97	0	1.4	3	0.1					
10 18 78	10	0.009	24*		7	203	125	17.3	8.4		98	117	2	1.4	7	0.0					
11 18 78	13	0.006	4		6	203	122	11.2	7.9	-93	95	115	1	2.1	9	0.1					
12 27 78	3	0.01	1		0	189	119	8.19	8.0	-76	84	102	1	2.1	13	0.2					
2 15 79		0.005	2		3	160	103	8.75	8.1		68	82	1	1.9	11	0.1					
3 23 79	10	0.01	12		5	141	80	6.48	7.7	-55	56	68	0	1.8	10	0.1					
4 20 79	17	0.02	64		15	261	151	15.2	8.2		120	143	1	1.6	10	0.0					
5 22 79	18	0.02	7		9	145	83	16.3	8.0	-59	67	81	0	1.5	4	0.1					
6 19 79	18	0.005	16*		9	173	90	19.2	8.4	-72	75	89	1	1.0	4	0.1					
7 16 79	20	0.01	0	0.01	10	196	112	18.6	8.3		91	108	1	1.6	5	0.1	0.0	0.01	0.60	0.05	0.01
8 9 79	21	0.02	0		8	214	107	22.6	8.3	-75	89	107	1	1.5	4	0.0	0.0	0.05	0.00	0.00	0.01

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
11 9 77	0.0	0.00			24	0.0	0.00	0.1	1.4		3.8	0.1		2.5	0.01	0.0	3.8		0.0	0.0
12 15 77	0.1	0.00			28	0.2	0.00	0.3	1.2		5.0	0.1		2.2	0.04	0.2	4.5		0.6	0.0
1 18 78	0.0	0.00	0.0	0.00	18	0.0	0.00	0.0	1.0	0.08	3.5	0.0	0.0	2.2	0.00	0.0	3.3	0.0	0.0	0.0
2 28 78	0.0	0.00			21	0.0	0.00	0.2	0.9		3.5	0.0		2.1	0.00	0.0	3.2		0.0	0.0
3 29 78	0.0	0.00	0.0	0.00	23	0.0	0.01	0.1	1.0	0.08	3.7	0.0	0.0	2.2	0.01	0.0	3.3	0.0	0.1	0.0
5 2 78	0.1	0.01			20	0.0	0.00	0.1	1.2		3.8	0.1		2.2	0.00	0.1	3.9		0.1	0.0
5 31 78	0.1	0.01			24	0.0	0.00	0.1	1.0		3.7	0.1		2.1	0.02	0.1	3.7		0.2	0.0
6 27 78	0.1	0.00	0.0	0.00	25	0.1	0.01	0.2	1.1	0.08	3.9	0.1	0.0	2.0	0.02	0.1	4.1	0.0	0.3	0.0
7 27 78	0.1	0.00			32	0.0	0.01	0.1	1.1		3.4	0.0		1.9	0.02	0.0	4.4		0.0	0.0
8 31 78	0.1	0.01			32	0.0	0.01	0.1	1.0		3.5	0.1		1.6	0.02	0.1	4.4		0.1	0.0
10 18 78	0.1	0.00	0.0	0.00	40	0.0	0.00	0.1	1.2	0.20	3.8	0.1	0.0	1.8	0.01	0.0	4.4	0.0	0.0	0.0
11 18 78	0.1	0.00			36	0.0	0.00	0.1	1.4		3.5	0.0		1.8	0.01	0.1	4.5		0.0	0.0
12 27 78	0.1	0.00	0.0	0.00	36	0.0	0.01	0.2	1.2	0.40	4.3	0.1	0.0	2.4	0.00	0.0	3.4	0.1	0.0	0.0
2 15 79	0.1	0.00			34	0.0	0.01	0.1	1.0		3.7	0.0		2.1	0.01	0.0	3.1		0.0	1.1
3 23 79	0.1	0.01			21	0.0	0.01	0.1	1.0		3.3	0.0		1.7	0.02	0.0	3.4		0.1	0.0
4 20 79	0.2	0.00	0.0	0.00	50	0.1	0.02	0.2	0.8	0.25	5.5	0.0	0.0	1.9	0.04	0.2	3.8	0.1	0.1	0.0
5 22 79	0.1	0.00			23	0.0	0.01	0.1	0.9		2.8	0.0		1.8	0.00	0.0	3.6		0.0	0.0
6 19 79	0.1	0.00	0.0	0.00	24	0.0	0.00	0.2	0.9	0.45	3.2	0.1	0.1	1.6	0.01	0.0	4.1	0.1	0.0	0.1
7 16 79	0.1	0.00			35	0.0	0.00	0.2	0.9		3.9	0.1		1.8	0.01	0.0	3.9		0.0	0.0
8 9 79	0.1	0.01			32	0.0	0.00	0.1	0.8		3.3	0.1		1.6	0.01	0.0	4.2		0.0	0.0

TABLE 19. WATER QUALITY FOR SITE 1042 DE KALB COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
7 19 77	21	0.04			30	67	40	1.19	5.8		4	5	0	5.6	14	0.4					
8 17 77	23	0.003			30	1020	698	0.55	3.4		0	0	0	1.3	540	1.0					
10 20 77	14	0.015	52		65	64	36	1.14	7.3		2	3	0	4.9	9	0.9					
11 9 77	17	0.5	47		60	74	50	1.07	6.1		2	3	0	2.8	24	0.5					
12 15 77	11	0.2	12		8	108	98	0.86	6.9		21	26	0	4.2	37	0.1					
1 18 78	4	0.4			20	95	50	1.19	5.3		0	0	0	2.9	23	1.0					
2 28 78	5	0.2			8	195	116	0.85	4.3		0	0	0	4.1	67	1.4					
3 29 78	15	0.09			4	159	98	0.92	4.9		0	0	0	4.0	57	0.7					
5 2 78	17	0.7	23		55	219	132	1.22	7.4		19	23	0	3.9	68	0.4					
5 30 78	25	0.05			20	246	160	1.26	7.1		27	33	0	2.7	82	0.2					
6 27 78	20	0.1	187*			277	171	1.93	7.7		52	63	0	1.3	64	0.1					
12 27 78	3	0.003	2		5	236	153	1.32	7.3	-15	18	22	0	2.9	84	0.9					
2 15 79		0.07	7		1	114	75	1.16	5.8		8	10	0	3.3	30	2.5					
3 23 79	12	0.0001			5	209	127	1.32	7.3	-10	13	16	0	2.8	71	0.7					
4 20 79	25	0.001	23		85	185	112	1.21	7.3	-4	12	15	0	2.7	64	0.7					
5 22 79	28	0.008	7		10	222	121	1.25	6.1	-6	15	18	0	2.5	71	0.4					
6 19 79	30	0.002	21*		65	236	111	1.48	7.5	-14	17	21	0	1.9	61	0.1					
7 16 79	29	0.002	39*		65	248	136	1.22	7.6	-16	23	28	0	3.3	79	0.1	0.3	0.08	0.75	0.15	0.01
8 9 79	33	0.02	10		10	249	111	1.54	7.6	-16	21	26	0	2.8	58	0.1	0.0	0.06	0.00	0.00	0.02

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
7 19 77	0.0	0.01			4.2	0.0	0.00	0.1	2.4		1.8	0.1		2.2	0.01	0.0	2.5		0.0	0.1
8 17 77	25	0.02			38	0.7	0.17	0.4	9.3		48	17		4.6	0.87	0.0	4.1		0.0	1.4
10 20 77	0.1	0.00	0.0	0.00	3.2	0.0	0.00	0.4	1.4	0.01	1.3	0.4	0.0	2.8	0.01	0.0	3.0	0.0	0.0	0.0
11 9 77	0.1	0.00			5.3	0.0	0.00	0.7	1.9		3.0	0.8		2.1	0.03	0.0	2.5		0.0	0.0
12 15 77	0.1	0.00			3.7	0.1	0.01	12	1.7		4.6	8.7		4.2	0.01	0.1	3.7		0.0	0.0
1 18 78	0.2	0.00	0.0	0.00	5.6	0.0	0.00	0.9	1.6	0.06	3.8	1.0	0.0	2.2	0.03	0.0	1.8	0.0	0.0	0.0
2 28 78	0.6	0.00			12	0.0	0.01	2.7	2.7		6.3	2.3		4.4	0.05	0.0	3.2		0.0	0.2
3 29 78	0.8	0.00	0.1	0.00	10	0.0	0.01	0.9	2.4	0.05	6.2	2.5	0.0	4.0	0.06	0.0	3.3	0.0	0.1	0.0
5 2 78	0.0	0.01			17	0.1	0.00	0.4	2.6		8.3	1.9		6.0	0.03	0.1	4.8		0.1	0.0
5 30 78	0.1	0.02			19	0.1	0.00	0.2	3.6		10	2.0		8.6	0.05	0.1	6.6		0.3	0.0
6 27 78	0.1	0.01	0.3	0.00	26	0.1	0.01	5.0	2.6	0.10	11	1.1	0.0	9.2	0.04	0.1	8.5	0.5	0.3	0.0
12 27 78	0.1	0.00	0.0	0.00	27	0.0	0.01	0.1	3.6	0.15	9.0	0.6	0.0	5.5	0.03	0.0	2.4	0.2	0.0	0.0
2 15 79	0.2	0.00	0.3	0.00	10	0.0	0.00	0.2	2.1	0.05	3.8	0.6	0.0	2.6	0.03	0.0	2.2	0.0	0.0	0.6
3 23 79	0.1	0.00			22	0.0	0.01	0.1	2.6		9.2	0.9		4.4	0.03	0.0	1.7		0.0	0.0
4 20 79	0.2	0.01	0.0	0.00	18	0.0	0.01	0.1	2.6	0.15	7.9	0.6	0.0	3.7	0.01	0.0	0.9	0.1	0.0	0.0
5 22 79	0.1	0.00			19	0.0	0.01	0.0	2.7		9.1	0.1		4.3	0.01	0.0	0.4		0.0	0.0
6 19 79	0.1	0.00	0.0	0.00	20	0.0	0.00	0.1	2.5	0.40	8.8	0.2	0.1	3.5	0.01	0.0	0.5	0.2	0.0	0.1
7 16 79	0.1	0.00	0.0	0.00	20	0.0	0.00	0.1	3.0	0.15	10	0.3	0.0	4.4	0.00	0.0	0.5	0.2	0.0	0.0
8 9 79	0.1	0.01			19	0.0	0.01	0.1	2.7		9.3	0.1		3.8	0.01	0.1	0.7		0.0	0.0

TABLE 20. WATER QUALITY FOR SITE 1043 DE KALB COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L			---------- MILLIGRAMS PER LITER ----------											
8 17 77	22	0.004			40	48	33	2.69	6.8		10	12	0	3.1	6	0.2					
10 20 77	13	0.04	35		10	71	39	1.40	6.9		5	6	0	3.5	14	0.5					
11 9 77	17	0.8	32		50	60	35	1.42	6.6		4	5	0	4.7	11	0.7					
12 15 77	15	0.25	10		6	67	44	1.60	6.9		8	10	0	4.0	14	0.6					
1 18 78	5	3			0	59	36	1.61	6.5		2	2	0	2.9	12	1.2					
2 28 78	5	0.15			10	88	58	1.18	6.8		6	7	0	3.5	23	2.0					
3 29 78	9	0.06			4	85	51	1.63	6.8		5	6	0	3.5	19	1.3					
5 2 78	18	0.2	21		45	67	39	1.52	6.7		3	4	0	4.2	14	0.7					
5 30 78	22	0.008			8	150	86	1.14	6.4		7	9	0	3.5	44	1.6					
6 27 78	22	0.0000				120	78	1.34	6.7		6	7	0	3.2	43	0.1					
12 27 78	3	0.002	2		3	115	78	1.14	6.7	-1	5	6	0	2.2	40	1.6					
2 15 79		0.006	5		3	69	47	1.06	6.0		2	2	0	3.5	20	1.2					
3 23 79	10	0.005	6		8	61	39	1.18	6.1		2	3	0	2.9	17	0.7					
4 20 79	18	0.04	32		55	73	52	1.50	7.1	-2	9	11	0	2.7	21	0.9					
5 22 79	21	0.0000	11	0.01	20	157	92	1.24	7.1	-5	15	18	0	2.9	50	0.6					
6 19 79	21	0.0005	46*		25	166	91	1.32	7.4	-11	17	21	0	2.7	48	0.3					
7 16 79	22	0.0000	0	0.01	25	185	100	1.55	7.6	-21	24	29	0	3.5	48	0.1	0.2	0.10	0.55	0.00	0.00
8 9 79	25	0.0007	6		30	152	76	1.28	7.5	-14	19	23	0	3.7	35	0.5	0.2	0.24	0.00	0.00	0.00

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	---------- MILLIGRAMS PER LITER ----------																			
8 17 77	0.1	0.02			2.2	0.1	0.01	0.2	2.2		1.7	0.1		2.9	0.00	0.2	3.2		0.6	0.1
10 20 77	0.1	0.00	0.0	0.00	3.4	0.0	0.00	0.1	2.1	0.01	2.6	0.2	0.0	2.8	0.00	0.0	1.9	0.0	0.0	0.0
11 9 77	0.1	0.00			3.4	0.0	0.00	0.3	2.1		2.2	0.2		2.4	0.00	0.0	1.5		0.0	0.0
12 15 77	0.1	0.00			4.0	0.1	0.00	0.4	2.6		2.9	0.2		2.4	0.03	0.1	2.7		0.4	0.0
1 18 78	0.1	0.00	0.0	0.00	3.6	0.0	0.00	0.2	1.6	0.00	2.8	0.3	0.0	2.4	0.02	0.0	2.1	0.0	0.0	0.0
2 28 78	0.0	0.04			4.5	0.0	0.00	0.2	1.8		5.1	0.6		2.5	0.02	0.0	2.2		0.0	0.0
3 29 78	0.1	0.00	0.0	0.00	5.4	0.0	0.00	0.1	2.2	0.02	5.0	0.6	0.0	2.5	0.03	0.0	1.9	0.0	0.0	0.0
5 2 78	0.1	0.01			3.6	0.0	0.00	0.2	1.9		3.3	0.4		2.4	0.00	0.0	1.6		0.1	0.0
5 30 78	0.1	0.00			7.5	0.0	0.01	0.2	2.7		8.4	0.9		3.2	0.02	0.0	1.6		0.0	0.0
6 27 78	0.1	0.01	0.0	0.00	7.6	0.1	0.01	0.1	3.2	0.04	8.1	0.8	0.0	3.7	0.05	0.1	2.0	0.0	0.2	0.1
12 27 78	0.2	0.00	0.0	0.00	7.6	0.1	0.01	0.1	2.9	0.05	6.5	0.3	0.0	2.9	0.05	0.1	2.3	0.0	0.1	0.1
2 15 79	0.6	0.01			4.6	0.0	0.01	0.1	1.8		3.1	0.2		2.1	0.03	0.0	1.9		0.0	0.9
3 23 79	0.1	0.00			4.3	0.0	0.01	0.1	1.7		2.6	0.2		1.9	0.01	0.0	1.7		0.0	0.0
4 20 79	0.1	0.00	0.0	0.00	5.4	0.0	0.01	0.1	2.2	0.04	4.6	0.5	0.0	2.1	0.03	0.0	2.0	0.0	0.0	0.0
5 22 79	0.1	0.01			11	0.0	0.01	0.1	2.8		8.3	0.4		2.6	0.03	0.0	1.2		0.0	0.0
6 19 79	0.1	0.00	0.0	0.00	11	0.0	0.02	0.1	2.6	0.09	8.2	0.4	0.0	2.4	0.02	0.0	1.6	0.0	0.0	0.0
7 16 79	0.1	0.01			14	0.0	0.01	0.2	2.9		9.3	0.7		2.7	0.03	0.0	1.8		0.1	0.0
8 9 79	0.0	0.02			9.2	0.0	0.00	0.2	2.2		5.7	0.5		2.0	0.02	0.0	1.8		0.0	0.1

TABLE 21. WATER QUALITY FOR SITE 1051 ETOWAH COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L							MILLIGRAMS PER LITER							
8 18 77	25	0.004			410	39	21	1.51	6.0		1	1	0	0.9	8	0.3					
10 20 77	13	0.03			4	39	27	1.78	6.7		2	3	0	3.3	5	0.4					
11 18 77	12	0.025	23		35	20	16	1.25	6.1		1	1	0	1.8	5	0.0					
12 15 77	11	0.09	4		4	32	38	2.61	7.5		16	20	0	3.5	5	0.1					
1 15 78	4	0.6			4	26	19	1.77	6.4		3	4	0	1.2	5	0.2					
2 22 78	4	0.05			8	41	26	2.83	6.9		9	11	0	2.4	4	0.4					
4 4 78	15	0.04			40	43	24	4.45	6.9		8	10	0	3.4	2	0.2					
5 3 78	14	0.15	4		10	23	20	4.06	6.8		6	7	0	1.6	3	0.1					
5 31 78	17	0.01			8	43	31	3.54	6.8		14	17	0	1.7	5	0.0					
6 27 78	23	0.0000				73	49	9.36	7.9		30	37	0	1.5	4	0.2					
7 27 78	21	0.0015			5	91	52	15.7	7.6		35	43	0	1.6	3	0.0					
8 25 78	22	0.003	16*		3	85	54	7.50	7.2		34	42	0	1.7	5	0.1					
10 18 78	9	0.0002	32*		10	100	62	8.24	7.8		43	52	0	1.8	6	0.0					
11 17 78	16	0.002	6		35	104	58	5.23	7.0	-38	31	38	0	2.9	9	0.1					
12 21 78	10	0.005			9	33	29	1.67	7.0		7	9	0	2.2	8	0.1					
2 13 79	7	0.05	5		1	27	24	1.60	6.5		3	4	0	3.0	6	0.4					
3 23 79	9	0.1	755		1100	22	20	1.25	5.6	8	0	0	0	1.6	6	0.3					
4 20 79	16	0.009	3	0.00	0	23	23	1.47	6.2		2	2	0	1.8	8	0.2					
5 23 79	17	0.005	19		10	38	29	3.28	6.9	-1	11	14	0	1.3	5	0.1					
6 18 79	20	0.0000	48		10	54	41	6.07	7.5	-7	20	25	0	3.5	4	0.1					
7 14 79	24	0.0000	16	0.01	25	79	52	4.46	7.6	-20	28	34	0	1.9	8	0.1	0.0	0.05	0.55	0.10	0.00
8 1 79	21	0.0002	100			73	53	2.23	7.7	-20	23	28	0	2.2	15	0.1			0.00	0.00	0.01

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
8 18 77	0.2	0.00			2.1	0.0	0.00	0.1	2.4		1.0	0.3		1.2	0.01	0.0	1.5		0.0	0.1
10 20 77	0.0	0.00	0.2	0.00	1.6	0.0	0.00	0.1	1.0	0.01	1.2	0.4	0.0	2.4	0.00	0.0	3.6	0.0	0.0	0.0
11 18 77	0.0	0.00			1.0	0.0	0.01	0.0	0.6		0.9	0.0		1.2	0.00	0.0	2.1		0.0	0.0
12 15 77	0.1	0.01			1.5	0.2	0.00	0.4	1.5		2.2	0.4		2.3	0.05	0.2	4.2		0.7	0.0
1 15 78	0.0	0.00	0.0	0.00	1.4	0.0	0.00	0.1	0.8	0.00	1.2	0.0	0.0	1.2	0.02	0.0	2.2	0.0	0.1	0.0
2 22 78	0.0	0.03			2.3	0.0	0.00	0.1	0.7		1.6	0.0		1.8	0.00	0.0	2.6		0.0	0.0
4 4 78	0.0	0.00	0.0	0.00	2.5	0.0	0.00	0.0	1.0	0.02	1.4	0.0	0.0	1.7	0.02	0.0	2.4	0.0	0.1	0.0
5 3 78	0.1	0.01			1.7	0.0	0.00	0.1	0.9		1.3	0.1		1.5	0.00	0.0	2.7		0.1	0.0
5 31 78	0.0	0.00			3.3	0.0	0.00	0.1	1.0		1.9	0.2		2.3	0.01	0.0	3.1		0.1	0.0
6 27 78	0.1	0.00			7.2	0.0	0.00	0.1	1.9		3.0	0.2		4.6	0.00	0.0	3.6		0.0	0.0
7 27 78	0.0	0.00	0.0	0.00	8.8	0.0	0.01	0.1	1.6	0.01	3.3	0.1	0.0	4.0	0.02	0.0	3.8	0.0	0.0	0.0
8 25 78	0.3	0.01			8.4	0.0	0.01	0.2	1.5		3.3	0.3		3.5	0.02	0.1	3.8		0.1	0.0
10 18 78	0.1	0.00	0.0	0.00	11	0.0	0.00	0.1	1.8	0.07	4.3	0.0	0.0	3.7	0.02	0.0	3.3	0.0	0.1	0.0
11 17 78	0.1	0.01			9.6	0.0	0.00	0.2	4.3		3.4	0.1		3.6	0.00	0.0	2.9		0.0	0.0
12 21 78	0.1	0.00			2.9	0.0	0.00	0.1	1.1		1.3	0.0		1.8	0.01	0.0	3.0		0.0	0.0
2 13 79	0.1	0.00			2.3	0.0	0.00	0.1	0.8		1.4	0.0		1.5	0.00	0.0	2.0		0.0	0.5
3 23 79		0.00			1.5	0.0	0.00	0.5	1.0		1.0	0.0		1.2	0.00	0.0	2.5		0.0	0.0
4 20 79	0.0	0.00	0.0	0.00	2.0	0.0	0.00	0.0	0.8	0.07	1.7	0.0	0.0	1.3	0.01	0.0	2.3	0.0	0.0	0.0
5 23 79	0.0	0.00			3.6	0.0	0.01	0.1	1.0		1.5	0.2		1.7	0.01	0.0	3.1		0.0	0.1
6 18 79	0.0	0.01			5.6	0.0	0.00	0.1	1.2		2.1	0.0		2.7	0.00	0.0	4.0		0.0	0.0
7 14 79	0.0	0.01			7.9	0.0	0.00	0.1	1.4		3.2	0.2		2.9	0.01	0.0	4.2		0.0	0.1
8 1 79	0.1	0.02			8.0	0.0	0.01	0.2	1.4		2.6	0.1		2.6	0.04	0.0	3.0		0.0	0.0

TABLE 22. WATER QUALITY FOR SITE 1052 ETOWAH COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L			MILLIGRAMS PER LITER											
10 20 77	14	0.05	16		4	266	160	0.92	4.6		0	0	0	0.9	110	0.8					
11 18 77	14	0.15	31		30	75	51	1.54	6.7		7	9	0	1.8	20	0.1					
12 15 77	11	0.07	23		4	81	58	1.16	6.9		13	16	0	1.8	22	0.8					
2 28 78	7	0.01			8	127	111	0.74	7.1		15	18	0	2.0	54	0.0					
4 4 78	12	0.02			80	116	105	0.84	6.9		11	13	0	2.0	52	0.1					
5 2 78	20	0.05	16		15	120	81	0.99	6.9		7	8	0	1.7	40	0.2					
5 31 78	18	0.01			5	141	98	1.01	6.9		11	13	0	1.4	46	0.1					
6 27 78	24	0.015				148	104	1.03	6.9		12	15	0	1.9	47	0.2					
7 27 78	25	0.004			3	157	108	1.01	7.2		14	17	0	2.5	49	0.0					
8 30 78	23	0.005	15		4	324	207	0.91	6.2		3	4	0	1.3	120	0.0					
10 18 78	14	0.0000	21‡		4	397	294	0.77	7.4		16	19	0	2.3	190	0.2					
12 22 78	10	0.0004	24		100	339	253	0.86	6.6		16	20	0	2.4	150	0.6					
2 13 79	7	0.005	9		8	319	221	1.01	5.0		0	0	0	1.3	150	0.6					
3 23 79	11	0.01				229	161	1.01	5.8	6	1	1	0	1.1	110	0.2					
4 20 79	22	0.005	10		110	243	164	0.97	6.2	9	2	3	0	1.7	110	0.2					
5 22 79	23	0.0000	13		35	249	143	1.05	6.5	17	5	6	0	1.8	88	0.2					
6 18 79	20	0.002			30	270	170	0.91	6.8	11	4	5	0	1.6	110	0.1					
7 14 79	30	0.0000	54‡		180	383	225	0.95	6.7	12	2	3	0	12	140	0.1	0.2	0.12	0.85	0.25	0.01
8 9 79	30	0.0000	0	0.01	8	455	264	0.86	6.5	16	2	2	0	1.1	190	0.2	0.1	0.05	0.00	0.00	0.01

‡ Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
10 20 77	0.7	0.00	0.1	0.00	12	0.3	0.03	0.2	4.1	0.04	16	5.3	0.0	3.3	0.26	0.0	2.2	0.0	0.1	0.4
11 18 77	0.0	0.00			3.3	0.0	0.00	0.6	1.2		4.0	2.0		3.9	0.01	0.0	4.2		0.0	0.0
12 15 77	0.2	0.00			5.4	0.1	0.01	3.0	1.8		2.8	0.8		2.3	0.03	0.1	2.6		0.3	0.0
2 28 78	0.0	0.04			3.6	0.1	0.01	15	1.2		6.1	8.5		3.8	0.01	0.0	3.4		0.0	0.0
4 4 78	0.1	0.00	0.1	0.00	3.9	0.1	0.01	11	1.9	0.01	6.6	7.9	0.1	4.2	0.03	0.0	3.3	0.0	0.1	0.0
5 2 78	0.1	0.00			3.3	0.0	0.00	6.5	1.7		6.1	5.0		4.0	0.01	0.0	3.6		0.0	0.0
5 31 78	0.1	0.01			4.3	0.1	0.00	9.5	2.0		7.1	7.8		3.9	0.02	0.0	4.0		0.1	0.0
6 27 78	0.0	0.01			4.1	0.1	0.00	11	2.3		7.6	8.1		4.2	0.01	0.0	4.3		0.0	0.0
7 27 78	0.0	0.01	0.1	0.00	4.4	0.1	0.02	9.8	2.4	0.00	8.0	8.5	0.0	3.8	0.03	0.0	4.8	0.0	0.0	0.0
8 30 78	0.1	0.02			9.3	0.2	0.01	16	2.9		20	15		4.0	0.04	0.1	5.4		0.1	0.0
10 18 78	0.1	0.01	0.1	0.00	11	0.2	0.00	9.3	2.8	0.10	28	24	0.0	3.9	0.04	0.1	4.6	0.1	0.1	0.0
12 22 78	0.2	0.01	0.1	0.00	11	0.2	0.01	18	2.6	0.09	24	16	0.0	4.6	0.08	0.0	4.7	0.0	0.1	0.1
2 13 79	0.4	0.01			13	0.1	0.01	6.5	2.7		28	9.9		3.3	0.09	0.0	3.4		0.1	0.5
3 23 79	0.3	0.01			9.9	0.1	0.00	1.9	2.2		20	5.6		2.3	0.10	0.0	3.3		0.0	0.1
4 20 79	0.1	0.00	0.1	0.00	10	0.1	0.01	3.6	2.3	0.07	19	6.9	0.0	2.4	0.11	0.0	3.3	0.0	0.0	0.1
5 22 79	0.0	0.00			10	0.1	0.01	0.1	2.3		16	9.8		2.9	0.06	0.1	3.3		0.0	0.0
6 18 79	0.2	0.00	0.1	0.00	9.6	0.1	0.00	5.4	2.8	0.09	17	11	0.0	3.1	0.05	0.0	4.5	0.0	0.0	0.0
7 14 79	0.1	0.00	0.0	0.00	19	0.2	0.00	1.2	3.4	0.15	24	10.0	0.0	3.4	0.17	0.0	2.6	0.1	0.1	0.1
8 9 79	0.2	0.01			23	0.3	0.05	0.1	3.4		26	11		2.7	0.26	0.1	3.0		0.1	0.2

TABLE 23. WATER QUALITY FOR SITE 1053 ETOWAH COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L			MILLIGRAMS PER LITER											
11 17 78	16	0.03	607		110	194	102	1.38	6.8	-10	12	15	0	2.4	57	0.1					
12 21 78	10	0.02	9		3	260	163	1.42	7.2		17	21	0	2.4	94	0.0					
2 28 79	7	1.5	4		2	192	122	1.94	7.3		39	48	0	1.6	54	0.2					
3 23 79	9	0.2	2180		150	112	104	0.63	6.8		3	4	0	1.4	73	0.2					
4 20 79	17	0.02	13	0.00	7	267	175	1.42	7.6	-28	31	38	0	2.0	100	0.2					
5 23 79	18	0.02	45		110	259	170	1.12	7.4	-19	29	35	0	2.0	100	0.1					
6 18 79	24	0.006	7		3	240	140	1.04	7.5	-10	20	24	0	3.1	86	0.1					
7 14 79	25	0.004	6	0.02	8	271	172	1.39	7.6	-8	17	21	0	2.3	100	0.1	0.0	0.05	0.25	0.05	0.00
8 1 79	25	0.003	5		10	269	123	1.44	7.5	-6	16	20	0	2.4	66	0.1	0.1	0.05	0.20	0.00	0.00

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
11 17 78	0.2	0.01			9.0	0.0	0.01	0.2	4.2		12	0.1		4.5	0.01	0.0	2.5		0.0	0.0
12 21 78	0.0	0.00	0.1	0.00	14	0.0	0.01	0.1	2.4	0.09	20	0.2	0.0	10	0.02	0.0	3.9	0.0	0.0	0.1
2 28 79	0.0	0.00			11	0.0	0.00	0.0	1.5		19	0.1		3.3	0.01	0.0	3.4		0.0	0.0
3 23 79	1.2	0.00			5.6	0.0	0.00	0.6	1.4		7.3	0.0		2.3	0.00	0.0	3.5		0.1	0.0
4 20 79	0.0	0.00	0.0	0.00	15	0.0	0.00	0.1	1.9	0.06	25	0.3	0.0	4.7	0.02	0.0	2.8	0.0	0.1	0.0
5 23 79	0.0	0.01			13	0.0	0.00	0.0	1.9		19	0.0		4.8	0.01	0.0	3.4		0.0	0.0
6 18 79	0.0	0.01			9.8	0.1	0.02	0.0	2.2		15	0.0		4.8	0.02	0.0	3.1		0.0	0.0
7 14 79	0.1	0.02			15	0.0	0.03	0.0	2.7		23	0.1		6.4	0.00	0.0	4.7		0.1	0.0
8 1 79	0.0	0.01			12	0.0	0.00	0.0	2.6		14	0.1		5.6	0.03	0.0	4.4		0.0	0.0

TABLE 24. WATER QUALITY FOR SITE 1056 ETOWAH COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID- ITY	ALKA- LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
8 18 77	23	0.05			0	206	113	1.16	7.4		11	13	0	1.8	68	0.2					
10 20 77	13	0.1	9		0	224	134	1.38	6.7		16	20	0	2.3	76	0.1					
11 18 77	10	1.5	23		60	194	129	1.63	7.3		21	26	0	1.9	68	0.0					
12 15 77	10	0.3	5		4	198	116	1.53	7.1		14	17	0	2.2	61	0.1					
2 22 78	1	0.15			8	208	155	1.42	7.3		20	25	0	2.3	89	0.1					
4 4 78	17	0.06			4	211	133	1.56	7.0		19	23	0	5.7	70	0.1					

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
8 18 77	0.1	0.04			9.5	0.0	0.00	0.1	2.6		11	0.0		5.8	0.00	0.0	3.2		0.1	0.1
10 20 77	0.0	0.01	0.0	0.00	12	0.0	0.00	0.1	1.8	0.03	16	0.5	0.0	5.9	0.01	0.0	4.2	0.0	0.0	0.0
11 18 77	0.0	0.00			11	0.0	0.00	0.2	2.0		18	0.7		5.5	0.02	0.0	4.0		0.0	0.0
12 15 77	0.1	0.00			10	0.1	0.00	0.2	2.3		15	0.5		4.5	0.03	0.1	4.4		0.5	0.0
2 22 78	0.0	0.04			12	0.0	0.01	0.2	2.0		22	0.7		5.5	0.02	0.0	3.6		0.1	0.0
4 4 78	0.0	0.00	0.0	0.00	10	0.0	0.01	0.1	2.3	0.03	20	0.3	0.0	5.5	0.03	0.0	3.6	0.0	0.1	0.0

TABLE 25. WATER QUALITY FOR SITE 1059 ETOWAH COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID- ITY	ALKA- LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
1 15 78	4	0.4			40	30	27	1.48	6.6		5	6	0	1.1	8	0.1					
5 3 78	14	0.01	17		20	37	30	1.80	6.7		5	6	0	2.4	7	0.1					
5 31 78	19	0.0025			25	40	39	1.54	6.8		8	10	0	3.7	9	0.3					
7 27 78		0.0000				73	59	1.23	6.1		1	1	0	2.4	30	0.3					
2 13 79	6	0.006	15		1	30	30	1.03	6.3		2	2	0	1.5	13	0.1					

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
1 15 78	0.1	0.00	0.0	0.00	1.1	0.0	0.01	0.5	0.7	0.00	1.5	0.1	0.0	2.2	0.01	0.0	3.7	0.0	0.0	0.0
5 3 78	0.0	0.00			1.2	0.0	0.00	1.0	0.6		1.8	0.4		2.6	0.00	0.0	4.3		0.0	0.0
5 31 78	0.1	0.01			1.8	0.1	0.01	1.2	0.9		2.2	0.5		2.7	0.03	0.1	4.9		0.3	0.0
7 27 78	0.1	0.01	0.0	0.00	4.1	0.0	0.02	0.2	3.7	0.00	5.2	0.8	0.0	2.8	0.04	0.0	3.7	0.0	0.0	0.0
2 13 79	0.2	0.00			1.3	0.0	0.01	0.2	0.7		1.7	0.2		2.4	0.01	0.0	3.5		0.0	0.7

TABLE 26. WATER QUALITY FOR SITE 1061 JACKSON COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
10 21 77	11	0.008			10	308	170	9.17	7.6		119	144	0	5.1	17	0.4					
11 9 77	16	1.5	109		180	180	94	8.79	8.1		62	75	1	2.8	9	0.4					
12 15 77	14	0.5	0		6	237	112	8.13	8.1		88	105	1	3.1	12						
1 18 78	6	1.5			4				8.0					2.1	14	0.1					
2 28 78	5	0.02			10	340	199	11.9	8.4		162	192	3	4.2	15	0.2					
3 29 78	17	0.09			4				8.2					3.5	17	0.3					
5 2 78	15	0.09	18		20	334			8.1					5.4	21	0.2					
5 30 78	25	0.0000			8	347	190	14.4	8.1		164	197	1	2.5	12	0.1					
12 27 78	7	0.0002	1		6	372	217	4.73	8.3		111	132	2	15	39	0.1					
2 15 79		0.002	110		20	388	190	8.09	8.6		157	182	4	7.2	17	0.4					
3 26 79	13	0.04	69		2	323			8.0					2.4	19	0.1					
4 25 79	14	0.002	87	0.00	4	334	196	15.2	8.3		149	178	2	2.2	13	0.2					
5 22 79	21	0.0000	84		15	330	133	9.02	8.1		115	138	1	3.0	11	0.2					
6 19 79	19	0.004	74		3	279	146	9.45	8.1		93	112	1	2.6	16	0.1					

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
10 21 77	0.1	0.02	0.0	0.00	56	0.0	0.00	0.6	1.0	0.20	5.9	0.2	0.1	2.6	0.01	0.0	3.9	0.2	0.0	0.0
11 9 77	0.1	0.00			28	0.0	0.00	0.1	1.1		3.8	0.0		2.1	0.00	0.0	3.4		0.0	0.0
12 15 77	0.0	0.00			30	0.0	0.00	0.0	0.5		4.6	0.1		1.8	0.00	0.0	3.0		0.0	0.0
1 18 78	0.1	0.00	0.0	0.00	74	0.0	0.00	0.1	0.8	0.30	5.0	0.0	0.0	1.3	0.02	0.0	3.4	0.2	0.0	0.0
2 28 78	0.1	0.02			68	0.0	0.00	0.1	0.9		5.1	0.0		1.4	0.00	0.0	2.6		0.0	0.0
3 29 78	0.1	0.00	0.0	0.00	68	0.0	0.00	0.0	0.8	0.07	5.4	0.0	0.0	1.4	0.00	0.0	3.3	0.1	0.0	0.0
5 2 78	0.1	0.02			68	0.0	0.00	0.1	1.0		5.1	0.0		1.4	0.00	0.1	2.9		0.1	0.0
5 30 78	0.1	0.03	0.0	0.00	60	0.1	0.01	0.1	0.7	0.20	5.2	0.1	0.0	1.8	0.03	0.1	3.5	0.1	0.3	0.0
12 27 78	0.2	0.00	0.0	0.00	73	0.1	0.01	0.0	4.0	0.30	4.4	0.1	0.0	4.1	0.04	0.2	4.2	0.1	0.1	0.0
2 15 79	0.2	0.01			49	0.0	0.02	0.1	3.2		5.1	0.0		4.2	0.02	0.1	3.3		0.0	0.6
3 26 79	0.2	0.01			73	0.0	0.01	0.1	0.9		4.3	0.0		1.1	0.02	0.1	2.9		0.0	0.0
4 25 79	0.2	0.00	0.0	0.00	74	0.0	0.01	0.0	1.0	0.30	4.9	0.0	0.0	1.8	0.01	0.0	3.5	0.1	0.0	0.1
5 22 79	0.1	0.01			35	0.0	0.01	0.0	0.9		4.5	0.0		1.5	0.02	0.1	3.3		0.0	0.0
6 19 79	0.1	0.00			57	0.0	0.01	0.1	0.8		4.1	0.0		1.1	0.00	0.0	3.2		0.0	0.0

TABLE 27. WATER QUALITY FOR SITE 1062 JACKSON COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
10 21 77	17	0.07			20	602	459	0.93	7.2		9	11	0	3.4	300	4.9					
11 9 77	18	0.25	41		50	422	284	0.91	5.3		0	0	0	1.8	190	1.6					
12 15 77	17	0.2	0		10	669	418	1.09	6.8		10	12	0	3.4	280	0.2					
3 29 78	12	3			4	291	199	0.80	6.6		0	0	0	2.4	130	2.2					
5 2 78	16	0.01	15		15	450	278	1.46	8.1		66	80	1	2.3	150	0.3					
5 30 78	29	0.0000			7	2060	1670	0.97	7.2		40	49	0	8.7	1200	0.4					
6 27 78	24	0.04	22*			998	672	1.04	6.3		12	15	0	4.3	450	2.0					
7 27 78	21	0.07	40*		4	958	676	1.00	7.2		11	14	0	5.1	420	11					
9 12 78	21	0.009	53*		5	956	664	0.85	5.2		0	0	0	5.4	440	9.7					
10 18 78	16	0.0001	14		2	938	682	0.90	4.2		0	0	0	6.4	490	0.4					
11 18 78	17	0.0004	5		6	901	718	0.78	4.1	71	0	0	0	7.3	520	1.8					
12 27 78	13	0.003	1		0	825	609	1.04	7.0	42	8	10	0	8.4	390	5.0					
2 27 79	15	1.0	7		3	1210	960	0.90	5.0	72	0	0	0	3.4	670	4.5					
3 26 79	15	0.02	16		5	1440	1200	0.95	6.4	67	2	3	0	3.3	810	9.2					
4 25 79	15	0.03	20	0.00	5	1480	1310	0.75	4.5	88	0	0	0	3.3	970	5.1					
5 22 79	11	0.009	8		5	1520	1230	0.84	6.2	73	8	10	0	4.0	850	10					
6 19 79	17	0.007	59*		7	1400	1190	0.76	6.8	66	4	5	0	4.1	850	9.5					
7 16 79	17	0.015	19*		35	1400	1220	0.76	7.1	60	9	11	0	4.2	870	9.0	2.2	0.68	2.90	0.20	0.01
8 9 79	21	0.025	0		15	1470	806	0.93	7.0	64	6	7	0	4.2	560	1.8	1.8	0.56	0.75	0.00	0.01
8 10 79	17	0.08	12		25	1430	1050	0.79	7.0	92	7	8	0	4.2	770	2.6					

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
10 21 77	1.2		0.0	0.00	57	0.2	0.00	0.5	6.8	0.20	34	17	0.0	7.4	0.36	0.0	3.9	0.1	0.0	0.1
11 9 77	1.6	0.00			32	0.1	0.01	0.5	5.9		22	8.7		5.6	0.26	0.0	3.1		0.0	0.1
12 15 77	1.2	0.00			54	0.2	0.01	0.5	6.5		40	14		6.1	0.39	0.0	3.6		0.1	0.1
3 29 78	2.0	0.00	0.0	0.00	19	0.1	0.01	3.8	3.1	0.06	13	7.7	0.0	4.8	0.20	0.0	3.6	0.1	0.1	0.1
5 2 78	0.1	0.01			54	0.0	0.00	0.1	5.0		21	0.0		2.3	0.00	0.0	1.3		0.0	0.0
5 30 78	0.2		0.0	0.00	160	0.1	0.01	0.3	21	0.65	190	43	0.1	17	0.46	0.1	2.4	0.5	0.3	0.0
6 27 78	1.2	0.02			80	0.3	0.00	0.2	9.5		64	29		10	0.67	0.1	3.9		0.1	0.1
7 27 78	0.9	0.02			81	0.2	0.02	0.3	9.5		60	26		10	0.56	0.2	3.9		0.1	0.1
9 12 78	2.5	0.02			72	0.2	0.01	1.0	10		53	24		9.1	0.51	0.2	3.5		0.1	0.1
10 18 78	2.1	0.02	0.0	0.00	85	0.2	0.00	0.5	7.6	0.50	55	22	0.0	8.8	0.33	0.1	2.6	0.3	0.1	0.1
11 18 78	2.8	0.02			80	0.2	0.01	1.5	8.4		51	24		8.8	0.36	0.1	2.6		0.2	0.1
12 27 78	1.3	0.00			80	0.2	0.01	0.2	9.2		52	22		11	0.54	0.2	3.6		0.2	0.1
2 27 79	2.6	0.02			110	0.4	0.01	0.2	7.4		87	41		7.5	0.96	0.2	6.0		0.6	0.4
3 26 79	2.2	0.02			140	0.4	0.08	0.2	11		110	49		13	1.2	0.2	5.9		0.6	0.4
4 25 79	3.3	0.02	0.0	0.00	130	0.5	0.02	0.6	8.6	0.60	100	48	0.2	12	1.1	0.2	5.6	0.2	0.5	0.5
5 22 79	1.4	0.02			130	0.4	0.02	0.3	10		110	49		12	1.1	0.2	5.4		0.4	0.4
6 19 79	1.7	0.02	0.0	0.00	110	0.4	0.01	0.5	11	0.75	96	43	0.0	13	1.1	0.2	6.3	0.3	0.4	0.4
7 16 79	1.4	0.02	0.0	0.00	120	0.5	0.01	0.3	12	0.85	96	46	0.0	14	1.2	0.2	6.4	0.4	0.4	0.4
8 9 79	1.0	0.03			95	0.3	0.00	0.2	7.5		71	33		9.3	0.82	0.2	4.8		0.2	0.4
8 10 79	1.1	0.03			110	0.3	0.00	0.2	7.6		82	42		9.3	0.87	0.2	4.7		0.3	0.4

TABLE 28. WATER QUALITY FOR SITE 1063 JACKSON COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID- ITY	ALKA- LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
7 19 77	31	0.01			60	304	166	1.97	7.6		60	73	0	3.3	65	0.1					
8 17 77	30	0.015			390	314	169	1.90	6.7		59	72	0	2.0	70	0.5					
10 21 77	9	0.03	29		90	182	104	1.83	7.3		31	38	0	3.1	39	0.2					
11 9 77	18	1.5	55		45	89	48	1.72	6.9		10	12	0	2.3	19	0.1					
12 15 77	13	0.25	6		8	110	67	1.28	7.2		13	16	0	8.1	24	0.4					
3 26 79	13	0.04	9		8	85	54	1.41	7.0	-7	11	13	0	2.3	24	0.0					
4 25 79	16	0.01	26	0.00	20	126	81	1.72	7.3	-17	20	24	0	1.6	35	0.1					
5 22 79	21	0.002	33		110	197	116	1.13	7.3	-18	31	38	0	2.3	59	0.1					
6 19 79	27	0.002	62*		75	203	116	1.72	7.8	-27	35	43	0	1.5	48	0.0					
7 16 79	34	0.0003	35*		90	256	157	1.21	7.6	-22	33	40	0	2.2	80	0.3	0.5	0.33	1.30	0.10	0.01
8 9 79	33	0.0002	18		35	251	136	1.23	7.8	-26	34	42	0	2.6	66	0.0		0.35	0.25	0.00	0.00

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
7 19 77	0.1	0.02			32	0.0	0.00	1.2	3.3		11	3.7		3.9	0.02	0.0	2.9		0.0	0.0
8 17 77	0.2	0.00			39	0.0	0.00	0.1	5.8		7.5	1.4		3.2	0.03	0.0	1.4		0.0	0.1
10 21 77	0.0	0.00	0.0	0.00	20	0.0	0.00	5.9	1.7	0.05	5.0	2.0	0.0	3.0	0.02	0.0	2.6	0.0	0.0	0.0
11 9 77	0.1	0.00			8.7	0.0	0.01	1.1	1.8		2.1	0.5		2.4	0.01	0.0	1.8		0.0	0.0
12 15 77	0.1	0.01			10	0.0	0.00	3.4	1.3		3.4	0.9		1.7	0.03	0.0	2.2		0.1	0.0
3 26 79	0.1	0.01			9.0	0.0	0.01	1.0	1.4		2.7	0.5		1.4	0.03	0.0	2.2		0.0	0.0
4 25 79	0.1	0.01	0.0	0.00	17	0.0	0.01	1.8	1.5	0.09	4.2	1.1	0.0	1.9	0.03	0.0	2.2	0.0	0.0	0.1
5 22 79	0.0	0.01			16	0.0	0.01	0.0	1.9		6.1	2.0		2.3	0.03	0.0	2.8		0.0	0.0
6 19 79	0.0	0.02	0.0	0.00	19	0.1	0.01	3.1	2.0	0.30	7.7	3.3	0.0	2.5	0.00	0.0	3.2	0.1	0.2	0.0
7 16 79	0.0	0.02	0.1	0.00	20	0.0	0.00	4.2	2.7	0.15	11	4.2	0.0	3.2	0.03	0.0	3.8	0.1	0.0	0.0
8 9 79	0.1	0.02			18	0.0	0.00	3.9	2.4		8.1	3.5		2.8	0.04	0.0	3.4		0.0	0.0

TABLE 29. WATER QUALITY FOR SITE 1066 JACKSON COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L							MILLIGRAMS PER LITER							
3 29 78	17	0.15			4	119	68	1.57	7.0		15	18	0	2.6	28	0.2					
5 2 78	15	0.3	94		35	101	56	1.52	7.3		13	16	0	4.5	20	0.2					
5 30 78	26	0.015			0	242	142	1.40	7.5		43	52	0	1.7	67	0.2					
6 27 78	27	0.01	19*			267	154	1.44	7.8		37	45	0	1.7	67	1.6					
7 27 78	31	0.0015				266	148	1.63	7.8		44	54	0	2.2	64	0.2					
2 27 79	9	2.0	31		10	82	52	1.32	6.8	2	4	5	0	2.6	24	0.5					

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CD	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
3 29 78	0.0	0.00	0.0	0.00	10	0.0	0.00	3.6	1.7	0.04	4.1	1.1	0.0	2.0	0.03	0.0	2.2	0.0	0.0	0.0
5 2 78	0.1	0.02			8.8	0.0	0.01	1.6	1.4		2.9	0.7		1.8	0.01	0.1	2.0		0.1	0.0
5 30 78	0.0	0.02	0.0	0.00	21	0.0	0.00	0.0	2.6	0.15	9.2	3.2	0.0	3.5	0.02	0.0	3.2	0.1	0.0	0.0
6 27 78	0.0	0.01			21	0.0	0.00	4.8	3.2		10	4.2		4.2	0.03	0.0	3.6		0.0	0.0
7 27 78	0.1	0.02			23	0.0	0.01	1.0	3.4		11	4.3		3.6	0.03	0.0	3.9		0.0	0.0
2 27 79	0.1	0.01			9.1	0.0	0.01	0.4	1.3		2.6	0.3		1.7	0.02	0.0	2.2		0.0	0.0

TABLE 30. WATER QUALITY FOR SITE 1069 JACKSON COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L							MILLIGRAMS PER LITER							
9 6 78	27	0.0005	42*		9	126	102	0.65	5.3		0	0	0	0.9	61	0.6					
12 27 78	3	0.0000	46		35	264	157	1.03	5.5	7	0	0	0	1.1	100	0.5					

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CD	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
9 6 78	0.0	0.02			7.5	0.0	0.00	10	2.3		4.9	1.7		1.6	0.04	0.0	3.8		0.1	0.0
12 27 78	1.3	0.00			24	0.1	0.01	0.4	3.4		10	2.4		2.6	0.15	0.0	3.8		0.1	0.2

TABLE 31. WATER QUALITY FOR SITE 1071 JEFFERSON COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	NNO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L			MILLIGRAMS PER LITER											
9 9 77	20	0.006			55	100	59	1.64	6.8		12	15	0	2.1	24	0.0					
10 20 77	11	0.006			20	106	59	2.31	7.3		17	21	0	2.5	18	0.0					
11 17 77	16	0.7	61		50	48	36	1.31	6.9		6	7	0	1.5	16	0.0					
12 14 77	13	0.07			20	56	37	1.84	6.9		8	10	0	2.6	11	0.1					
1 17 78	4	4			20	85	52	1.99	6.8		7	8	0	2.4	18	0.4					
2 22 78	5	0.007			10	50	36	1.66	6.9		7	9	0	3.3	12	0.1					
4 4 78	17	0.01			4	72	46	1.99	7.0		13	16	0	2.6	14	0.1					
5 3 78	16	0.3	31		70	43	33	1.91	6.9		7	8	0	2.0	9	0.2					
5 31 78	21	0.008			35	54	42	1.98	6.7		11	13	0	1.5	13	0.1					
11 17 78	17	0.0002				101	62	1.88	6.9	-12	18	22	0	2.5	22	0.0					
12 21 78	10	0.004	31		50	47	34	1.65	6.9		4	5	0	2.3	12	0.0					
2 14 79		0.009	3		9	38	37	1.34	6.7		7	8	0	1.8	12	0.4					
3 22 79	9	0.01	10		10	63	46	1.13	6.4		3	4	0	1.5	22	0.0					
4 18 79	18	0.02	8	0.00	30	34	29	1.44	6.6		3	4	0	1.3	10	0.0					
5 25 79	16	0.0000	13		30	75	45	1.97	7.1	-2	13	16	0	1.4	14	0.0					
6 18 79	24	0.0001				70	55	2.30	7.4	-10	20	25	0	2.5	14	0.0					
7 12 79	23	0.0000	8		110	64	49	1.49	7.3	-6	12	15	0	1.6	16	0.5	0.0	0.05	0.95	0.20	0.01

DATE	AL	B	BA	BE	CA	CD	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
9 9 77	0.1	0.00			5.3	0.0	0.00	0.2	1.7		4.7	0.1		3.9	0.03	0.0	4.4		0.0	0.1
10 20 77	0.0	0.00	0.0	0.00	5.4	0.0	0.00	0.1	1.2	0.00	5.1	0.1	0.0	5.6	0.00	0.0	4.7	0.0	0.0	0.0
11 17 77	0.1	0.00			1.8	0.0	0.01	0.1	1.1		2.1	0.0		4.0	0.00	0.0	3.1		0.0	0.0
12 14 77	0.1	0.00			2.1	0.0	0.00	0.1	0.7		3.0	0.0		3.0	0.00	0.0	4.1		0.1	0.0
1 17 78	0.1	0.00	0.0	0.00	4.0	0.0	0.00	0.2	1.8	0.05	4.7	0.3	0.0	4.8	0.04	0.0	4.6	0.0	0.1	0.0
2 22 78	0.0	0.00			2.0	0.0	0.00	0.0	0.7		2.8	0.0		3.5	0.00	0.0	3.4		0.0	0.0
4 4 78	0.0	0.00	0.0	0.00	2.7	0.0	0.00	0.1	1.0	0.02	3.4	0.0	0.0	4.7	0.00	0.0	4.4	0.0	0.0	0.0
5 3 78	0.1	0.00			1.4	0.0	0.01	0.1	0.8		2.4	0.0		3.3	0.00	0.1	4.0		0.1	0.0
5 31 78	0.1	0.00	0.0	0.00	2.4	0.0	0.00	0.1	1.1	0.06	3.1	0.0	0.0	4.2	0.01	0.0	4.8	0.0	0.0	0.0
11 17 78	0.3	0.00			6.6	0.0	0.02	0.3	8.4		3.8	0.1		1.4	0.02	0.0	2.8		0.1	0.0
12 21 78	0.2	0.00	0.0	0.00	2.2	0.0	0.00	0.2	1.1	0.03	2.5	0.0	0.0	2.7	0.01	0.0	3.9	0.0	0.0	0.0
2 14 79	0.2	0.00			2.0	0.0	0.00	0.2	0.7		2.2	0.0		2.7	0.00	0.0	4.0		0.0	0.5
3 22 79	0.2	0.00			2.7	0.0	0.02	0.3	1.1		2.9	0.1		3.4	0.02	0.0	4.7		0.0	0.0
4 18 79	0.1	0.00	0.0	0.00	1.5	0.0	0.00	0.1	0.8	0.10	1.9	0.0	0.0	2.2	0.01	0.0	4.2	0.0	0.1	0.0
5 25 79	0.1	0.00			3.0	0.0	0.00	0.1	1.0		3.2	0.0		3.7	0.01	0.0	5.0		0.1	0.1
6 18 79	0.2	0.01			3.6	0.0	0.02	0.2	1.5		3.6	0.1		5.1	0.01	0.0	5.5		0.0	0.0
7 12 79	0.2	0.01			2.6	0.0	0.00	0.2	2.4		3.0	0.1		3.3	0.01	0.0	4.7		0.0	0.0

TABLE 32. WATER QUALITY FOR SITE 1072 JEFFERSON COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	NO3 NO2 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L							MILLIGRAMS PER LITER							
9 8 77	19	0.4			10	884	605	1.09	5.0		0	0	0	1.5	420	0.3					
10 20 77	17	0.2			8	784	602	0.99	5.3		0	0	0	2.0	440	0.3					
11 17 77	17	0.5	36		50	673	429	0.83	5.3		0	0	0	1.3	320	0.2					
12 14 77	16	0.2			4	703	438	1.19	5.1		0	0	0	1.9	300	0.3					
1 17 78	3	2.0			4	466	290	1.34	5.7		1	1	0	1.4	190	0.2					
2 22 78	10	0.4			8	707	535	1.01	5.2		0	0	0	1.9	390	0.5					
4 4 78	17	0.06			4	656	512	1.03	5.1		2	2	0	2.4	370	0.2					
5 3 78	16	0.1	0		7	521	362	0.99	5.8		1	1	0	1.7	260	0.6					
5 31 78	18	0.1			0	698	496	1.08	5.6		0	0	0	1.4	350	0.5					
6 27 78	24	0.3	302*			712	472	0.97	6.4		2	3	0	2.3	340	0.2					
7 26 78	26	0.05	34*		3	995	697	1.04	6.1		1	1	0	1.9	500	0.1					
8 24 78	21	0.03	12		0	989	731	0.93	5.2		0	0	0	1.7	540	0.1					
10 17 78	13	0.006	15		0	1310	980	0.96	4.5		0	0	0	6.7	720	0.0					
11 17 78	17	0.004	2		4	1050	770	1.00	4.9	23	0	0	0	2.9	560	0.1					
12 21 78	13	0.002	2		4	716	566	0.97	5.6	7	0	0	0	1.4	410	0.3					
2 13 79		0.05	6		0	536	410	1.00	5.2	6	0	0	0	2.1	290	0.3					
3 22 79	9	0.05	4		3	739	609	0.97	5.0	8	0	0	0	2.3	450	0.2					
4 18 79	16	0.2	17		1	638	459	0.94	4.9	5	0	0	0	1.4	340	0.2					
5 25 79	16	0.004	2		15	844	571	0.97	5.2	10	0	0	0	1.2	420	0.3					
6 18 79	18	0.02	28		15	936	666	1.02	5.3		0	0	0	2.1	480	0.2					
7 12 79	20	0.006	0		50	1020	711	1.03	5.7	5	0	0	0	1.5	510	0.1	0.0	0.04	0.70	0.00	0.00
8 7 79	19	0.003	2	0.01	25	1180	843	0.90	5.6	8	0	0	0	1.7	630	0.1	0.2	0.05	0.55	0.00	0.01

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
9 8 77	0.7	0.00			70	0.1	0.00	2.1	2.9		71	7.8		8.5	0.15	0.0	6.4		0.1	0.2
10 20 77	1.0	0.00	0.0	0.00	63	0.1	0.00	1.4	2.3	0.20	67	5.9	0.0	7.8	0.14	0.0	6.7	0.1	0.1	0.1
11 17 77	0.8	0.00			37	0.0	0.01	1.0	2.6		41	3.7		8.3	0.10	0.0	4.6		0.0	0.0
12 14 77	0.8	0.00			46	0.0	0.00	0.7	2.1		59	6.3		6.0	0.11	0.0	6.4		0.0	0.1
1 17 78	0.5	0.00	0.0	0.00	27	0.1	0.01	0.6	2.8	0.15	45	2.7	0.0	5.2	0.10	0.0	5.6	0.1	0.2	0.1
2 22 78	1.0	0.00			50	0.1	0.00	0.7	2.2		65	5.2		6.8	0.12	0.0	5.8		0.0	0.1
4 4 78	0.9	0.00	0.0	0.00	48	0.0	0.01	0.7	2.3	0.15	63	5.3	0.0	7.3	0.12	0.0	6.2	0.1	0.1	0.1
5 3 78	0.5	0.01			27	0.1	0.01	0.7	2.2		47	3.1		5.8	0.08	0.1	4.8		0.2	0.1
5 31 78	0.7	0.01	0.0	0.00	51	0.1	0.01	0.9	2.6	0.20	61	4.8	0.0	7.4	0.12	0.0	6.3	0.1	0.2	0.1
6 27 78	0.0	0.01			42	0.0	0.00	0.0	4.0		54	6.6		7.2	0.08	0.0	6.2		0.0	0.0
7 26 78	0.3	0.01			74	0.1	0.01	2.8	3.4		81	8.7		9.8	0.16	0.1	7.3		0.1	0.1
8 24 78	0.6	0.02			69	0.1	0.01	2.9	3.3		79	8.0		9.7	0.15	0.2	7.3		0.2	0.1
10 17 78	1.0	0.01	0.0	0.00	100	0.1	0.01	3.0	3.2	0.70	110	13	0.0	10	0.17	0.2	7.2	0.3	0.2	0.1
11 17 78	0.7	0.01			84	0.1	0.01	1.9	5.9		85	12		8.6	0.14	0.2	5.6		0.3	0.1
12 21 78	0.4	0.00			60	0.0	0.01	1.0	2.5		61	4.8		7.9	0.10	0.1	5.6		0.1	0.1
2 13 79	0.7	0.00			45	0.0	0.01	0.6	2.3		44	3.2		5.6	0.11	0.1	5.3		0.2	0.6
3 22 79	1.1	0.00			65	0.1	0.01	0.5	2.4		67	4.6		6.4	0.16	0.1	5.9		0.4	0.1
4 18 79	0.7	0.00	0.0	0.00	45	0.1	0.01	0.3	1.7	0.25	52	2.8	0.0	4.6	0.10	0.1	4.2	0.1	0.2	0.1
5 25 79	0.8	0.00			55	0.1	0.01	1.1	2.3		66	5.1		6.7	0.14	0.1	6.0		0.1	0.1
6 18 79	0.9	0.01			66	0.1	0.01	1.5	3.1		78	6.9		8.9	0.15	0.1	7.5		0.2	0.1
7 12 79	0.4	0.01	0.0	0.00	78	0.1	0.02	2.6	2.8	0.50	81	8.1	0.1	8.5	0.13	0.1	6.4	0.2	0.2	0.(
8 7 79	0.6	0.01			87	0.1	0.01	2.5	3.2		84	8.7		10	0.17	0.1	7.1		0.3	0.1

TABLE 33. WATER QUALITY FOR SITE 1073 JEFFERSON COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 N AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L														
														MILLIGRAMS PER LITER							
9 8 77	25	0.05			10	59	41	2.38	6.8		11	14	0	1.2	12	0.0					
10 20 77	11	0.01			30	73	41	2.62	6.5		16	19	0	1.3	9	0.1					
11 17 77	16	0.4	22		55	53	35	2.14	6.7		8	10	0	1.1	11	0.0					
12 14 77	14	0.08			2	48	34	2.33	6.7		11	13	0	1.6	8	0.1					
1 17 78	4	0.6			25	62	41	1.76	6.9		7	8	0	3.3	13	0.3					
2 22 78	7	0.007				75	54	2.63	7.3		20	25	0	2.1	13	0.0					
4 4 78	20	0.0025				95	62	3.64	7.0		30	36	0	2.9	10	0.1					
5 3 78	15	0.01	49		65	72	47	3.59	7.2		15	18	0	1.8	8	0.8					
5 31 78	21	0.0025			35	78	62	3.56	7.1		24	29	0	1.8	11	0.2					
6 27 78	23	0.05				98	67	4.65	7.5		42	51	0	2.6	7	0.2					
12 21 78	9	0.002	12		5	61	42	1.65	6.6		10	12	0	1.7	13	0.1					
2 14 79		0.03	5		3	39	34	1.83	6.7		9	11	0	2.3	10	0.3					
3 1 79	9	0.8	14		30	35	31	1.80	6.7		7	9	0	1.2	9	0.2					
3 22 79	12	0.002	20		70	37	31	1.11	6.5	-1	5	6	0	1.1	11	0.4					
4 18 79	17	0.05	21	0.00	70	45	27	1.60	6.7		4	5	0	1.0	9	0.1					
5 25 79	18	0.0000	33			80	65	5.19	7.8		42	51	0	1.1	6	0.0					
6 18 79	24	0.0005				78	80	3.96	7.9		49	59	0	1.0	8	0.0					
7 12 79	24	0.0002	20			91	49	5.92	7.8	-16	34	41	0	1.1	5	0.0	0.0	0.06	0.75	0.15	0.00
8 7 79	24	0.0001				134	61	4.54	8.0	-22	37	45	0	1.1	10	0.0	0.0	0.12	0.45	0.00	0.00

DATE	AL	B	BA	BE	CA	CD	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
9 8 77	0.0	0.00			3.3	0.0	0.00	0.7	1.5		3.0	1.7		3.4	0.03	0.0	3.5		0.0	0.1
10 20 77	0.0	0.00	0.0	0.00	3.4	0.0	0.00	1.4	1.2	0.01	2.6	1.5	0.1	3.2	0.00	0.0	3.5	0.0	0.0	0.0
11 17 77	0.0	0.02			3.0	0.0	0.00	0.8	1.1		2.3	0.6		3.6	0.00	0.0	3.2		0.0	0.0
12 14 77	0.0	0.00			2.1	0.0	0.00	0.6	0.8		2.6	1.0		2.6	0.00	0.0	3.7		0.0	0.0
1 17 78	0.1	0.00	0.0	0.00	2.6	0.0	0.00	0.1	1.1	0.05	2.9	0.1	0.0	4.7	0.00	0.0	3.3	0.0	0.0	0.0
2 22 78	0.1	0.03			4.3	0.0	0.00	1.6	0.6		4.5	1.7		4.1	0.00	0.0	4.3		0.0	0.0
4 4 78	0.1	0.00	0.0	0.00	4.5	0.0	0.01	3.3	1.3	0.03	4.6	3.6	0.0	4.8	0.01	0.0	4.2	0.0	0.0	0.0
5 3 78	0.1	0.00			3.9	0.0	0.00	1.0	0.8		3.8	0.6		4.6	0.00	0.0	4.7		0.0	0.0
5 31 78	0.1	0.00	0.0	0.00	4.9	0.1	0.01	2.5	1.4	0.09	4.4	2.8	0.0	5.2	0.02	0.1	5.6	0.0	0.1	0.0
6 27 78	0.0	0.02			4.2	0.0	0.00	0.4	1.5		4.2	8.7		3.6	0.00	0.0	4.2		0.0	0.0
12 21 78	0.1	0.01			2.5	0.0	0.00	0.4	1.4		2.4	1.0		3.1	0.01	0.1	4.8		0.0	0.0
2 14 79	0.1	0.00			3.2	0.0	0.01	0.1	1.0		1.9	0.0		2.7	0.00	0.0	2.6		0.0	0.5
3 1 79	0.1	0.00			1.9	0.0	0.00	0.1	0.9		1.9	0.0		2.6	0.00	0.0	3.6		0.0	0.0
3 22 79	0.0	0.00			1.6	0.0	0.00	0.1	1.1		1.4	0.1		2.2	0.01	0.0	3.2		0.0	0.0
4 18 79	0.1	0.00	0.0	0.00	1.8	0.0	0.00	0.2	1.0	0.05	1.7	0.1	0.0	1.9	0.01	0.0	3.2	0.0	0.0	0.0
5 25 79	0.0	0.00			4.9	0.0	0.00	4.3	0.8		3.6	6.3		2.9	0.01	0.0	4.3		0.1	0.1
6 18 79	0.0	0.00			4.5	0.0	0.06	11	0.7		3.8	9.3		3.4	0.01	0.0	4.0		0.0	0.0
7 12 79	0.0	0.00			3.9	0.0	0.00	0.0	0.9		4.2	1.5		2.9	0.02	0.0	4.1		0.1	0.0
8 7 79	0.0	0.02			11	0.0	0.04	0.0	1.4		3.5	0.0		2.9	0.00	0.0	3.8		0.0	0.0

TABLE 34. WATER QUALITY FOR SITE 1080 MARION COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID- ITY	ALKA- LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L														
											MILLIGRAMS PER LITER										
5 25 79					40	19	21	0.72	6.4		2	2	0	1.5	7	0.1					

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR											MILLIGRAMS PER LITER									
5 25 79	0.3	0.00			0.8	0.0	0.00	0.2	0.6		0.7	0.0		1.2	0.00	0.0	3.4		0.0	0.0

TABLE 35. WATER QUALITY FOR SITE 1081 MARION COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID- ITY	ALKA- LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L														
											MILLIGRAMS PER LITER										
9 8 77	23	0.15			15	54	32	5.80	6.7		9	11	0	2.3	3	0.3					
10 19 77	12	0.06	5		30	32	27	2.15	6.5		5	6	0	3.0	4	0.2					
11 17 77	14	3	41		45	28	21	2.55	6.4		3	4	0	2.5	4	0.1					
12 14 77	11	0.5			10	20	23	1.45	6.4		3	4	0	3.4	4	0.2					
4 5 78	17	0.03			50	24	19	1.91	6.8		3	4	0	3.0	2	0.2					
5 4 78	17	0.02	27		60	24	20	1.76	6.4		4	5	0	2.9	3	0.3					
6 1 78	17	0.03			25	18	20	1.81	6.0		2	3	0	1.7	2	0.4					
12 20 78	13	0.001	17		15	22	22	1.04	7.3		2	2	0	2.2	5	0.2					
5 25 79					15	15	18	1.78	6.2		2	2	0	1.5	3	0.2					
7 13 79	21	0.001	24*		25	25	25	1.29	6.6		4	5	0	2.9	4	0.3	0.2	0.02	0.60	0.20	0.01
8 8 79	20	0.0000	38		15	108	72	14.5	7.7	-35	48	59	0	1.9	4	0.6	0.1	0.09	0.00	0.00	0.01

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR											MILLIGRAMS PER LITER									
9 8 77	0.0	0.00			2.5	0.0	0.01	0.8	1.8		2.0	0.3		2.7	0.00	0.0	4.7		0.0	0.0
10 19 77	0.0	0.00	0.0	0.00	1.5	0.0	0.00	0.4	1.1	0.01	0.9	0.1	0.0	2.3	0.00	0.0	4.4	0.0	0.0	0.0
11 17 77	0.2	0.00			1.8	0.0	0.01	0.3	1.4		1.0	0.1		2.1	0.01	0.0	2.7		0.0	0.0
12 14 77	0.1	0.00			1.1	0.0	0.00	0.4	0.8		1.1	0.1		1.6	0.00	0.0	3.4		0.0	0.0
4 5 78	0.1	0.00	0.0	0.00	0.8	0.0	0.01	0.0	0.6	0.04	0.8	0.0	0.0	1.9	0.00	0.0	3.1	0.0	0.0	0.0
5 4 78	0.1	0.00			1.0	0.0	0.01	0.1	0.6		0.8	0.1		1.7	0.00	0.0	3.0		0.1	0.0
6 1 78	0.0	0.00	0.0	0.00	0.7	0.0	0.00	0.0	0.5	0.08	0.7	0.0	0.0	1.5	0.00	0.0	4.1	0.0	0.0	0.0
12 20 78	0.1	0.00			1.0	0.0	0.00	0.0	0.7		0.6	0.0		1.6	0.01	0.0	4.2		0.0	0.0
5 25 79	0.0	0.00			0.8	0.0	0.00	0.1	0.7		0.7	0.0		1.3	0.00	0.0	3.6		0.0	0.0
7 13 79	0.3	0.00	0.0	0.00	1.5	0.0	0.02	0.2	0.5	0.04	0.9	0.0	0.0	1.4	0.01	0.0	4.2	0.0	0.0	0.0
8 8 79	0.2	0.03			21	0.0	0.01	0.0	2.3		2.0	0.0		2.0	0.03	0.0	3.2		0.0	0.0

TABLE 36. WATER QUALITY FOR SITE 1082 MARION COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	#NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
11 17 77	16	1.5	91		95	221	139	1.25	6.7		11	14	0	1.2	87	0.1					
12 14 77	10	0.1			75	323	203	1.35	7.1		25	30	0	1.9	120	0.8					
1 12 78	3	0.4			0	284	219	1.04	7.4		20	25	0	1.7	150	0.3					
2 23 78	4	0.1			10	369	224	1.41	7.6		30	36	0	2.0	130	0.2					
4 5 78	24	0.05			4	338	226	1.13	7.5		25	30	0	3.1	150	0.1					
5 4 78	16	0.15	32		40	369	219	1.02	7.4		18	22	0	2.7	150	0.2					
6 1 78	28	0.09			0	353	216	1.19	7.2		25	30	0	1.7	130	0.8					
6 29 78		0.0000	21*		15	398	238	1.33	7.3		24	29	0	2.0	150	0.0					
7 26 78	24	0.0000	68*		85	281	151	1.24	6.6		3	4	0	6.2	84	2.9					
8 23 78	30	0.0004	21*		35	353	201	1.05	6.4		3	4	0	4.1	130	1.2					
12 20 78	13	0.015	23		8	403	223	1.19	7.7		38	46	0	2.6	130	0.5					
2 9 79	3	0.005	19		6	380	248	1.26	7.6	-32	32	39	0	1.6	150	0.1					
3 21 79	17	0.01	18		6	435	332	1.15	7.3	-29	36	44	0	1.9	220	0.1					
4 19 79	22	0.04	46	0.00	30	398	257	1.27	7.6	-32	37	45	0	1.7	160	0.0					
5 25 79	25	0.006	17		10	505	348	1.11	8.0	-30	43	52	0	2.1	230	0.7					
6 16 79	29	0.02	20		7	476	296	1.07	7.6	-21	27	33	0	2.6	200	0.1					
7 13 79	30	0.025	25*		60	402	266	0.94	7.7	-19	25	31	0	2.2	180	0.2	0.2	0.05	0.80	0.40	0.01
8 8 79	31	0.02	0	0.01	5	564	311	1.23	7.8	-25	33	40	0	2.8	200	0.0	0.2	0.04	0.35	0.00	0.01

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
11 17 77	0.0	0.00			12	0.0	0.01	0.2	2.9		18	2.2		3.2	0.03	0.0	2.4		0.0	0.0
12 14 77	0.0	0.00			15	0.0	0.01	0.1	2.7		31	5.1		3.0	0.03	0.0	3.0		0.0	0.0
1 12 78	0.0	0.00	0.0	0.00	14	0.0	0.00	0.4	2.4	0.15	28	3.4	0.0	3.0	0.03	0.0	3.0	0.1	0.0	0.0
2 23 78	0.1	0.02			17	0.0	0.01	0.0	3.0		35	4.8		3.8	0.04	0.0	2.5		0.1	0.0
4 5 78	0.0	0.00	0.0	0.00	15	0.0	0.01	0.0	3.0	0.08	31	3.3	0.0	3.9	0.02	0.0	1.9	0.1	0.0	0.0
5 4 78	0.1	0.00			14	0.0	0.01	0.0	3.3		28	2.8		3.6	0.02	0.1	1.4		0.2	0.0
6 1 78	0.0	0.01	0.0	0.00	17	0.0	0.00	0.1	3.9	0.15	28	4.2	0.0	3.1	0.04	0.0	2.1	0.1	0.1	0.0
6 29 78	0.0	0.02			20	0.0	0.00	0.0	3.6		37	0.4		3.8	0.02	0.0	1.6		0.1	0.0
7 26 78	0.1	0.01			14	0.0	0.01	0.1	8.4		18	0.4		2.7	0.02	0.0	0.8		0.0	0.0
8 23 78	0.1	0.02	0.0	0.00	19	0.1	0.01	0.1	7.2	0.07	23	1.3	0.0	2.5	0.04	0.1	1.2	0.1	0.1	0.0
12 20 78	0.1	0.01			18	0.0	0.00	0.1	2.8		28	4.0		2.8	0.04	0.0	2.2		0.1	0.0
2 9 79	0.1	0.00			20	0.0	0.00	0.6	2.7		36	3.7		3.0	0.04	0.1	2.7		0.3	0.4
3 21 79	0.1	0.00			30	0.0	0.01	0.1	3.2		42	3.1		4.6	0.03	0.0	2.5		0.1	0.0
4 19 79	0.1	0.01	0.0	0.00	21	0.0	0.00	0.0	2.8	0.15	37	2.4	0.0	2.8	0.04	0.0	2.4	0.1	0.2	0.0
5 25 79	0.1	0.00			30	0.1	0.01	0.0	3.7		44	3.2		3.8	0.05	0.1	2.0		0.1	0.0
6 16 79	0.1	0.01			24	0.0	0.00	0.0	4.2		38	2.2		3.5	0.01	0.0	1.3		0.1	0.0
7 13 79	0.1	0.01	0.0	0.00	19	0.0	0.00	0.0	3.8	0.15	30	3.1	0.0	2.9	0.03	0.0	2.0	0.1	0.1	0.0
8 8 79	0.1	0.01			30	0.0	0.00	0.1	3.5		42	0.4		3.9	0.01	0.0	2.1		0.1	0.0

TABLE 37. WATER QUALITY FOR SITE 1083 MARION COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID- ITY	ALKA- LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
9 8 77	30	0.06			4	339	198	2.35	8.4		82	97	1	2.1	73	0.4					
10 19 77	18	0.04	40		10	672	400	2.26	7.8		166	201	1	1.8	160	0.0					
11 17 77	17	0.1	30		35	127	70	2.75	6.9		25	30	0	1.1	22	0.5					
12 14 77	11	0.02			8	172	81	2.06	7.1		30	37	0	1.4	32	0.1					
7 26 78	24	0.05	27*		3	384	220	4.68	8.3		147	175	2	2.2	44	0.2					
8 24 78	24	0.01	27*		5	401	219	4.62	7.7		153	186	1	1.5	43	0.1					
10 12 78	21	0.004	16*		4	439	263	4.26	8.7		176	202	6	2.0	56	0.0					
11 16 78	20	0.005	12		2	452	272	3.70	8.2		168	201	2	2.0	69	0.0					
12 20 78	13	0.004	11		6	462	270	2.69	8.3		115	136	2	1.8	99	0.2					
2 9 79	4	0.015	4		1	247	160	1.98	8.0		59	71	0	1.4	70	0.1					
3 21 79	16	0.01	7		3	344	213	2.71	8.0		108	130	1	2.9	72	0.3					
4 19 79	19	0.005	6	0.00	15	272	164	2.19	8.3		72	86	1	1.5	64	0.1					
5 25 79	20	0.0000	12		10	369	213	3.36	8.6	-110	122	142	3	1.5	61	0.0					
6 16 79	23	0.002	24		15	383	234	3.66	8.5	-110	135	159	3	2.2	62	0.1					
7 13 79	25	0.002	38*		10	369	209	3.46	8.5	-120	125	146	3	2.0	55	0.0	0.0	0.08	0.50	0.30	0.01
8 8 79	26	0.003	22		25	465	239	3.77	8.2		160	191	2	1.9	57	0.1	0.4	0.08	0.00	0.00	0.01

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
9 8 77	0.1	0.00			30	0.0	0.00	0.3	2.8		23	4.7		4.8	0.02	0.0	2.8		0.0	0.0
10 19 77	0.1	0.00	0.0	0.00	66	0.0	0.00	0.3	4.4	0.15	50	0.5	0.0	6.2	0.02	0.0	2.3	0.2	0.0	0.0
11 17 77	0.1	0.00			12	0.0	0.01	0.1	1.7		6.8	0.1		2.9	0.01	0.0	2.4		0.0	0.1
12 14 77	0.0	0.00			8.9	0.0	0.00	0.3	1.5		9.9	1.6		2.2	0.00	0.0	2.5		0.0	0.0
7 26 78	0.0	0.01			36	0.0	0.01	2.2	3.4		28	4.2		4.2	0.02	0.1	3.4		0.1	0.0
8 24 78	0.1	0.02			34	0.1	0.01	2.7	3.4		27	3.8		4.2	0.04	0.1	3.4		0.1	0.0
10 12 78	0.1	0.00	0.0	0.00	43	0.0	0.00	2.7	3.6	0.25	31	5.3	0.0	4.9	0.02	0.1	3.6	0.1	0.1	0.0
11 16 78	0.1	0.01			46	0.0	0.01	0.6	3.1		33	4.5		5.6	0.03	0.1	3.1		0.1	0.0
12 20 78	0.1	0.01			49	0.0	0.01	0.9	3.0		35	1.4		4.8	0.02	0.1	2.1		0.1	0.0
2 9 79	0.1	0.00			22	0.0	0.00	0.2	2.2		20	0.4		2.3	0.03	0.1	1.9		0.2	0.5
3 21 79	0.1	0.00			34	0.0	0.01	0.4	2.7		27	0.8		3.3	0.06	0.0	1.6		0.0	0.0
4 19 79	0.1	0.00	0.0	0.00	26	0.1	0.01	0.2	2.2	0.15	18	0.5	0.0	2.4	0.03	0.1	2.0	0.1	0.1	0.0
5 25 79	0.1	0.00			36	0.0	0.01	0.4	3.0		27	1.5		3.6	0.03	0.1	2.4		0.1	0.0
6 16 79	0.1	0.02			38	0.0	0.01	0.5	3.2		33	2.2		4.0	0.04	0.1	3.1		0.1	0.0
7 13 79	0.1	0.01	0.0	0.00	35	0.0	0.02	0.6	3.6	0.15	24	2.0	0.1	4.2	0.04	0.1	2.8	0.1	0.1	0.0
8 8 79	0.1	0.01			36	0.0	0.02	1.2	3.6		30	2.5		4.4	0.02	0.1	3.0		0.1	0.0

TABLE 38. WATER QUALITY FOR SITE 1084 MARION COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L							MILLIGRAMS PER LITER							
2 9 79	2	0.015	18		6	17	21	1.04	6.6	0	2	3	0	1.8	5	0.2					
3 21 79	14	0.05	9		10	29	21	1.64	6.3	0	3	4	0	2.7	4	0.1					
4 19 79	17	0.02	18	0.00	15		26	1.18	6.4		3	4	0	1.9	9	0.1					
5 25 79	17	0.02	38		40	25	27	1.62	6.5	5	5	6	0	2.1	5	0.2					
6 16 79	24	0.0006	5		50	30	35	2.34	7.0	3	11	13	0	2.7	5	0.1					
7 13 79	26	0.008	18*		25	33	33	1.12	6.6	-3	5	6	0	3.1	8	0.5	0.0	0.01	0.70	0.15	0.01

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
2 9 79	0.2	0.00	0.3	0.00	0.9	0.0	0.00	0.1	0.5	0.06	0.7	0.0	0.0	1.5	0.00	0.0	3.5	0.0	0.0	0.4
3 21 79	0.1	0.00			1.1	0.0	0.01	0.2	1.0		0.7	0.0		1.7	0.02	0.0	3.2		0.0	0.0
4 19 79	0.1	0.00	0.0	0.00	1.4	0.0	0.00	0.2	0.9	0.01	1.6	0.2	0.0	1.4	0.01	0.0	3.2	0.0	0.0	0.0
5 25 79	0.0	0.00			1.5	0.0	0.01	0.8	1.0		1.0	0.1		1.6	0.01	0.0	4.4		0.0	0.1
6 16 79	0.1	0.01			1.7	0.0	0.01	1.4	1.5		1.3	0.2		2.1	0.00	0.0	5.7		0.1	0.0
7 13 79	0.0	0.00	0.0	0.00	1.8	0.0	0.00	0.8	1.2	0.03	1.6	0.1	0.0	1.4	0.00	0.0	4.3	0.0	0.0	0.0

TABLE 39. WATER QUALITY FOR SITE 1085 MARION COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
9 8 77	29	0.07			8	662	401	0.97	3.8		0	0	0	2.3	280	0.3					
10 19 77	18	0.04			60	490	342	0.86	5.6		0	0	0	2.3	240	0.7					

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
9 8 77	2.3	0.03			37	0.1	0.00	3.1	4.7		32	4.4		24	0.07	0.0	4.9		0.0	0.7
10 19 77	0.2	0.00	0.1	0.00	29	0.1	0.00	2.6	3.8	0.09	22	9.2	0.0	22	0.05	0.0	3.7	0.1	0.0	0.0

TABLE 40. WATER QUALITY FOR SITE 1086 MARION COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
1 12 78	3	0.7			15	179	93	2.71	7.9		44	54	0	1.6	29	0.1					
2 23 78	5	0.04			10	207	113	2.54	8.0		57	69	0	1.8	37	0.1					
4 5 78	24	0.08			4	211	92	2.25	7.7		51	62	0	2.3	30	0.1					
5 4 78	17	0.06	11		15	250	127	2.39	8.1		83	100	1	2.5	38	0.1					
6 1 78	28	0.06			4	181	96	3.35	7.7		58	71	0	1.3	25	0.0					
6 29 78	29	0.03	39*		20	216	123	5.01	8.0		80	97	1	1.5	24	0.1					

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
1 12 78	0.0	0.00	0.0	0.00	14	0.0	0.00	0.2	1.7	0.15	10	0.4	0.0	2.5	0.00	0.0	2.6	0.1	0.0	0.0
2 23 78	0.1	0.01			18	0.0	0.01	0.1	2.3		11	0.2		3.0	0.01	0.0	1.8		0.1	0.0
4 5 78	0.0	0.00	0.0	0.00	13	0.0	0.02	0.0	2.5	0.06	7.8	0.2	0.0	3.4	0.00	0.0	1.0	0.1	0.0	0.0
5 4 78	0.1	0.00			17	0.0	0.01	0.1	2.4		10	0.6		3.4	0.00	0.1	0.9		0.2	0.0
6 1 78	0.1	0.00	0.0	0.00	15	0.0	0.00	0.1	2.6	0.09	9.9	1.0	0.0	2.4	0.00	0.0	1.6	0.1	0.0	0.0
6 29 78	0.0	0.01			19	0.0	0.00	0.0	2.4		18	1.1		2.9	0.01	0.0	2.6		0.1	0.0

TABLE 41. WATER QUALITY FOR SITE 1087 MARION COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID- ITY	ALKA- LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
1 12 78	4	3			0	24	23	1.87	6.5		2	3	0	3.0	4	0.2					
2 23 78	5	0.09			10	28	23	2.01	6.7		4	5	0	2.8	5	0.3					

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
1 12 78	0.1	0.00	0.0	0.00	1.2	0.0	0.00	0.3	0.7	0.07	1.3	0.1	0.0	2.0	0.00	0.0	3.3	0.0	0.0	0.0
2 23 78	0.1	0.02			1.2	0.0	0.00	0.2	1.3		1.4	0.0		1.9	0.01	0.0	2.5		0.1	0.0

TABLE 42. WATER QUALITY FOR SITE 1091 SHELBY COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L			MILLIGRAMS PER LITER											
10 18 77	14	0.02			65	62	42	3.14	7.3		16	19	0	3.1	7	0.0					
11 15 77	13	0.06	35		45	45	35	2.76	7.0		8	10	0	2.2	7	0.2					
12 12 77	9	0.025			25	42	35	2.84	6.7		11	13	0	2.8	5	0.1					
1 11 78	1	0.8			20	35	34	2.32	6.8		8	10	0	2.3	7	0.1					
2 24 78	3	0.015			10	43	35	3.83	7.2		12	15	0	2.7	5	0.1					
4 7 78	15	0.015			55	84	48	4.69	7.7		18	22	0	8.8	4	0.1					
5 5 78	19	0.5	38*		35	33	29	1.69	6.5		4	5	0	2.2	7	0.4					
6 1 78	22	0.02			0	45	37	3.30	6.9		13	16	0	2.7	6	0.1					
6 28 78	23	0.02	34*			57	44	3.72	7.2		18	22	0	2.6	7	0.1					
7 25 78	23	0.0000	54*		20	77	49	6.00	7.5		26	32	0	2.6	5	0.2					
8 22 78	26	0.0005	21*		10	78	54	5.66	7.4		30	36	0	1.3	6	0.2					
12 19 78	10	0.001	22		20	53	42	2.06	6.9		11	14	0	2.9	10	0.0					
2 6 79	5	0.07	24		40	50	37	1.83	6.8		8	10	0	4.8	8	0.1					
3 20 79	14	0.01	19		20	41	38	1.90	6.5	0	9	11	0	2.2	9	0.1					
4 18 79	18	0.004	9	0.00	15	30	33	1.56	7.0		6	7	0	2.0	10	0.1					
5 23 79	21	0.0000	32		55	45	39	2.62	7.0	-3	14	17	0	2.4	7	0.1					
6 14 79	25	0.0001		0.00		78	50	4.65	7.6	-15	27	33	0	3.0	6	0.0					
7 11 79	23	0.0005	32*	0.02	50	86	55	2.18	7.4	-18	25	30	0	1.1	13	0.7	0.2	0.01	0.80	0.15	0.01
8 3 79	24	0.0001	9	0.02	30	68	54	2.96	7.7	-16	21	26	0	2.5	11	0.1	0.0	0.05	0.00	0.00	0.00

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CD	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
10 18 77	0.1	0.00	0.0	0.00	2.6	0.0	0.00	0.1	1.1	0.02	1.7	0.0	0.0	5.4	0.00	0.0	5.6	0.0	0.0	0.0
11 15 77	0.1	0.00			2.3	0.0	0.02	0.2	0.9		1.7	0.0		4.6	0.01	0.0	4.6		0.0	0.0
12 12 77	0.0	0.00			1.8	0.0	0.00	0.1	0.8		1.8	0.0		3.2	0.00	0.0	5.8		0.0	0.0
1 11 78	0.2	0.00	0.0	0.00	1.8	0.0	0.01	0.4	0.7	0.09	1.9	0.1	0.0	3.1	0.00	0.0	5.4	0.0	0.1	0.0
2 24 78	0.1	0.01			2.3	0.0	0.01	0.1	0.9		2.4	0.0		4.0	0.01	0.0	4.3		0.0	0.0
4 7 78	0.1	0.00	0.0	0.00	2.9	0.0	0.03	0.2	1.5	0.02	2.9	0.0	0.0	5.4	0.01	0.0	5.0	0.0	0.0	0.0
5 5 78	0.1	0.00			1.4	0.0	0.00	0.1	0.8		1.4	0.0		3.1	0.00	0.0	3.9		0.0	0.0
6 1 78	0.0	0.00	0.0	0.00	2.3	0.0	0.00	0.2	1.1	0.03	2.2	0.0	0.0	3.8	0.00	0.0	4.8	0.0	0.0	0.0
6 28 78	0.1	0.02			2.8	0.0	0.00	0.2	1.3		2.5	0.0		5.2	0.00	0.0	5.4		0.0	0.0
7 25 78	0.0	0.01			4.4	0.0	0.01	0.1	1.5		3.4	0.0		5.0	0.01	0.0	4.7		0.0	0.0
8 22 78	0.0	0.01	0.0	0.00	5.1	0.0	0.01	0.2	1.6	0.01	3.7	0.0	0.0	5.0	0.01	0.0	5.6	0.0	0.0	0.0
12 19 78	0.1	0.01			2.6	0.0	0.01	0.1	1.0		1.8	0.0		4.6	0.01	0.0	5.8		0.1	0.0
2 6 79	0.2	0.01	0.3	0.00	2.8	0.0	0.02	0.2	1.2	0.08	1.9	0.0	0.0	3.2	0.00	0.0	3.6	0.0	0.0	0.3
3 20 79	0.2	0.01			1.9	0.0	0.01	0.2	1.2		1.4	0.0		4.3	0.03	0.0	5.3		0.1	0.0
4 18 79	0.1	0.00	0.0	0.00	2.2	0.0	0.01	0.2	0.8	0.08	1.6	0.0	0.0	2.6	0.02	0.0	4.8	0.0	0.0	0.0
5 23 79	0.3	0.00			2.4	0.0	0.01	0.3	0.9		1.9	0.0		3.6	0.01	0.0	5.2		0.0	0.0
6 14 79	0.0	0.01			3.8	0.0	0.01	0.1	1.4		2.7	0.1		5.2	0.01	0.0	5.1		0.0	0.0
7 11 79	0.1	0.00	0.0	0.00	4.3	0.0	0.00	0.2	1.2	0.08	2.8	0.1	0.0	4.2	0.00	0.0	5.0	0.0	0.0	0.1
8 3 79	0.1	0.01			4.6	0.0	0.03	0.1	1.4		3.4	0.1		4.9	0.00	0.0	5.6		0.0	0.0

TABLE 43. WATER QUALITY FOR SITE 1092 SHELBY COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L														
											MILLIGRAMS PER LITER										
2 6 79	6	0.025	121		130	156	107	2.34	7.4		54	66	0	1.9	30	0.5					
3 20 79	20	0.01	15		8	283	183	1.94	8.0		57	68	0	2.2	76	0.6					
4 17 79	16	0.015	9	0.00	25	242	156	1.63	7.5		33	40	0	2.1	73	1.4					
5 23 79	21	0.007	19		40	262	165	1.60	7.9	-51	61	73	0	2.3	69	0.4					
6 14 79	26	0.002	4		3	272	164	2.03	8.1	-60	70	84	1	2.6	58	0.2					
7 11 79	25	0.005	71*		50	273	164	2.42	8.3		70	84	1	2.4	53	0.1	0.2	0.05	0.35	0.25	0.01
8 3 79	29	0.005	10		15	307	156	3.06	8.3	-72	80	95	1	2.3	44	0.1	0.0	0.04	0.00	0.00	0.01

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
2 6 79	0.2	0.00	0.5	0.00	13	0.0	0.01	1.0	2.7	0.10	7.9	0.8	0.0	4.7	0.05	0.0	3.8	0.0	0.2	0.3
3 20 79	0.1	0.00			21	0.0	0.00	2.0	2.5		21	1.8		7.5	0.02	0.0	5.8		0.1	0.0
4 17 79	0.0	0.00	0.1	0.00	17	0.0	0.00	0.3	2.4	0.10	18	1.3	0.0	6.0	0.03	0.0	4.7	0.1	0.0	0.0
5 23 79	0.0	0.00			20	0.0	0.00	0.0	2.3		13	1.3		7.3	0.02	0.0	5.8		0.0	0.0
6 14 79	0.0	0.01			20	0.0	0.00	0.8	2.5		14	1.4		7.9	0.02	0.0	6.3		0.0	0.0
7 11 79	0.1	0.00	0.0	0.00	20	0.0	0.01	1.9	2.8	0.15	15	1.8	0.0	9.2	0.03	0.0	6.6	0.1	0.1	0.0
8 3 79	0.0	0.00			20	0.1	0.02	0.7	2.6		17	1.4		8.7	0.02	0.1	5.4		0.1	0.0

TABLE 44. WATER QUALITY FOR SITE 1094 SHELBY COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L														
											MILLIGRAMS PER LITER										
1 11 78	1	0.2			25	44	35	2.76	7.4		10	12	0	2.3	7	0.0					
2 23 78	6	0.1			25	62	44	3.66	7.1		20	25	0	3.1	7	0.1					
4 6 78	17	0.04			4	88	57	6.57	7.9		31	38	0	3.4	5	0.1					
5 5 78	17	0.15	38*		35	39	35	2.15	7.8		8	10	0	1.5	8	0.4					
6 1 78	21	0.015			4	64	37	4.04	6.7		14	17	0	1.7	5	0.0					

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
1 11 78	0.1	0.00	0.0	0.00	2.8	0.1	0.00	0.5	0.8	0.10	2.2	0.2	0.0	3.0	0.01	0.1	4.2	0.0	0.3	0.0
2 23 78	0.0	0.01			4.6	0.0	0.00	1.1	0.8		2.7	0.4		3.5	0.00	0.0	3.8		0.0	0.0
4 6 78	0.1	0.00	0.0	0.00	6.1	0.0	0.01	4.2	1.4	0.04	3.8	1.4	0.0	4.0	0.01	0.0	3.9	0.0	0.0	0.0
5 5 78	0.1	0.01			2.9	0.0	0.00	0.7	0.7		2.0	0.2		3.0	0.00	0.0	4.0		0.1	0.0
6 1 78	0.0	0.01	0.0	0.00	3.4	0.0	0.00	0.5	1.0	0.04	2.1	0.2	0.0	3.2	0.01	0.0	5.1	0.0	0.0	0.0

TABLE 45. WATER QUALITY FOR SITE 1095 SHELBY COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L							MILLIGRAMS PER LITER							
10 18 77	14	0.4			50	132	82	1.45	6.7		14	17	0	2.2	32	1.6					
11 16 77	16	0.08	63		30	165	94	1.26	6.8		16	19	0	1.4	48	0.1					
12 13 77	12	0.04			2	161	106	1.01	7.0		19	23	0	2.2	55	0.2					
1 18 78	6	0.15			20	475	328	2.16	8.4		116	136	2	3.0	140	0.1					
2 23 78	6	0.2			30	255	166	1.58	7.9		51	61	0	2.5	70	1.1					
4 6 78	22	0.1			40	252	152	1.82	8.0		54	65	0	3.4	58	0.2					
5 5 78	18	0.7	110*		140	148	89	1.58	6.8		11	13	0	2.0	44						
6 1 78	22	0.25			0	186	117	1.39	7.3		23	28	0	1.7	54	1.0					
6 28 78	25	0.25	58*			292	163	2.00	7.7		58	71	0	2.2	61	0.3					
7 25 78	24	0.1	41*		25	276	165	2.25	7.6		64	78	0	2.8	57	0.2					
8 29 78	25	0.04	25*		4	302	188	1.66	7.7		64	78	0	1.4	81	0.1					
10 11 78	20	0.01	22*		5	337	203	1.83	8.2		83	99	1	2.2	77	0.1					
11 15 78	18	0.009	10		4	328	205	2.06	8.3	-77	85	102	1	2.5	74	0.1					
12 19 78	9	0.02	15		15	274	150	1.65	7.8		40	49	0	2.6	67	0.1					
2 6 79	5	0.015	27		30	379	234	1.84	7.4		47	57	0	2.1	110	0.3					
3 20 79	19	0.03	2		3	368	251	1.66	7.6	-41	51	62	0	2.0	130	0.5					
4 17 79	16	1.0	65	0.00	430	247	159	1.06	7.3	-16	19	23	0	1.6	98	0.3					
5 23 79	22	0.04	27	0.25	20	297	191	1.47	7.7	-37	35	43	0	2.1	100	0.4					
6 14 79	27	0.01	4		30	314	222	1.77	8.1		60	72	1	5.5	98	0.2					
7 11 79	24	0.015	36*		20	349	217	1.81	8.2	-52	61	73	1	2.5	96	0.3	0.1	0.04	0.40	0.25	0.01
8 3 79	26	0.02	4		20	378	220	1.67	8.2	-52	60	72	1	2.3	100	0.5	0.2	0.13	0.00	0.10	0.01

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
10 18 77	0.1	0.03	0.0	0.00	9.2	0.0	0.00	0.2	1.4	0.03	5.7	0.5	0.0	4.4	0.01	0.0	4.9	0.0	0.0	0.0
11 16 77	0.0	0.00			8.5	0.0	0.02	1.3	1.9		8.1	2.7		3.7	0.03	0.0	3.9		0.0	0.0
12 13 77	0.0	0.00			7.6	0.0	0.00	1.9	1.8		8.5	3.2		2.7	0.01	0.0	5.2		0.0	0.0
1 18 78	0.1	0.01	0.0	0.00	66	0.1	0.11	0.2	4.2	0.40	31	0.0	0.0	5.6	0.05	0.1	5.4	0.4	0.4	0.0
2 23 78	0.1	0.00			22	0.0	0.01	0.2	2.1		12	1.7		7.4	0.02	0.1	5.9		0.0	0.0
4 6 78	0.0	0.00	0.0	0.00	19	0.0	0.00	0.4	2.2	0.08	12	1.3	0.0	8.0	0.02	0.0	6.4	0.1	0.0	0.0
5 5 78	0.1	0.01			10	0.0	0.00	0.5	2.1		7.7	1.0		4.4	0.00	0.0	4.8		0.1	0.0
6 1 78	0.0	0.00	0.0	0.00	13	0.0	0.00	0.4	2.9	0.08	9.2	1.0	0.0	5.1	0.02	0.0	5.2	0.1	0.0	0.0
6 28 78	0.1	0.02			24	0.0	0.00	0.2	2.4		13	1.1		7.3	0.00	0.0	7.0		0.0	0.0
7 25 78	0.0	0.01			21	0.0	0.01	0.1	2.6		15	1.7		8.9	0.03	0.1	7.6		0.0	0.0
8 29 78	0.2	0.01			22	0.0	0.01	0.5	3.0		16	3.3		8.3	0.04	0.1	6.3		0.1	0.0
10 11 78	0.1	0.01	0.0	0.00	23	0.0	0.00	2.3	3.0	0.20	17	6.3	0.0	8.2	0.06	0.1	6.5	0.1	0.0	0.0
11 15 78	0.1	0.00			24	0.0	0.01	1.4	2.6		18	6.1		11	0.04	0.1	6.1		0.1	0.0
12 19 78	0.1	0.00			22	0.0	0.00	0.4	2.4		12	1.6		6.5	0.02	0.0	5.3		0.1	0.0
2 6 79	0.2	0.00	0.2	0.00	48	0.0	0.02	0.2	2.8	0.35	20	1.0	0.0	6.2	0.04	0.1	5.2	0.2	0.1	0.3
3 20 79	0.1	0.00			44	0.0	0.02	0.2	3.1		23	1.0		6.4	0.03	0.0	5.2		0.1	0.0
4 17 79	0.1	0.00	0.0	0.00	24	0.0	0.01	0.1	2.5	0.15	10	0.3	0.0	2.7	0.03	0.0	3.1	0.1	0.0	0.0
5 23 79	0.1	0.00			31	0.0	0.01	0.0	2.4		15	0.3		5.9	0.03	0.1	5.2		0.1	0.0
6 14 79	0.1	0.01			37	0.0	0.02	0.2	2.9		18	1.0		8.3	0.03	0.1	6.5		0.1	0.0
7 11 79	0.1	0.01	0.0	0.00	35	0.0	0.01	0.5	2.9	0.25	18	1.6	0.0	9.2	0.00	0.0	6.0	0.1	0.1	0.0
8 3 79	0.1	0.01			33	0.0	0.04	0.1	3.7		17	2.2		9.7	0.04	0.1	5.8		0.1	0.0

TABLE 46. WATER QUALITY FOR SITE 1097 SHELBY COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L														
12 19 78	12	0.0003			35	32	22	0.83	6.3	4	2	2	0	1.7	6	0.1					

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
12 19 78	0.0	0.01			0.6	0.0	0.00	0.1	0.7		0.8	0.0		1.0	0.03	0.1	4.4		0.1	0.1

TABLE 47. WATER QUALITY FOR SITE 1098 SHELBY COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L														
12 19 78	12	0.0002	35		15	93	49	1.54	7.3	-14	14	17	0	2.1	18	0.1					

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
12 19 78	0.0	0.01			3.2	0.0	0.00	0.2	1.0		4.7	0.6		1.7	0.04	0.1	3.8		0.2	0.1

TABLE 48. WATER QUALITY FOR SITE 1101 TUSCALOOSA COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	NO2 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
NO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L			MILLIGRAMS PER LITER											
10 18 77	16	0.07	21		45	39	28	2.20	7.1		7	9	0	2.1	5	0.1					
11 16 77	14	0.15	68		55	29	25	2.95	6.5		5	6	0	1.5	4	0.1					
12 13 77	10	0.15			6	28	28	1.57	7.2		5	6	0	2.0	7	0.1					
1 11 78	3	0.4			10	29	31	1.91	6.8		5	6	0	2.4	7	0.3					
2 23 78	5	0.05			10	29	26	3.01	6.8		7	8	0	1.2	5	0.1					
4 5 78	22	0.08			50	51	32	1.47	7.3		8	10	0	3.9	9	0.1					
5 4 78	17	0.2	19		70	36	28	1.52	6.9		7	8	0	1.4	9	0.1					
6 1 78	19	0.02			55	36	33	1.96	6.8		8	10	0	1.2	9	0.0					
12 20 78	12	0.0000	29		45	43	32	1.45	6.3		3	4	0	1.9	12	0.0					
2 8 79	7	0.25	56		30	39	28	1.33	6.2		4	5	0	1.1	9	0.0					
3 21 79	13	0.002	7		25	30	40	0.97	6.1	1	3	4	0	1.2	18	0.0					
4 17 79	17	0.009	23	0.00	50	22	34	1.03	6.4		2	3	0	1.1	16	0.0	*				
5 24 79	18	0.0000	57		80	32	35	0.78	6.4	6	3	4	0	2.1	13	0.1					
6 15 79	17	0.0000	38		90	39	39	1.76	7.1	3	12	15	0	1.9	9	0.0					
7 12 79	23	0.002	18		95	30	39	0.85	6.3	11	6	7	0	1.4	14	0.0	0.0	0.05	0.45	0.05	0.01

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
NO DA YR	MILLIGRAMS PER LITER																			
10 18 77	0.1		0.0	0.00	1.1	0.0	0.00	0.3	0.9	0.01	1.4	0.1	0.0	2.6	0.01	0.0	4.3	0.0	0.0	0.0
11 16 77	0.1	0.00			1.2	0.0	0.00	0.4	0.9		1.5	0.1		2.2	0.00	0.0	4.7		0.0	0.0
12 13 77	0.0	0.00			1.0	0.0	0.00	0.3	0.8		1.6	0.1		2.1	0.01	0.0	4.3		0.0	0.0
1 11 78	0.1	0.00	0.0	0.00	1.1	0.1	0.00	0.3	1.1	0.10	2.0	0.1	0.0	2.6	0.02	0.1	4.2	0.0	0.3	0.0
2 23 78	0.2	0.00			1.4	0.0	0.00	0.1	0.7		2.3	0.0		2.3	0.01	0.0	3.9		0.0	0.0
4 5 78	0.1	0.00	0.0	0.00	1.4	0.0	0.02	0.1	1.5	0.00	1.6	0.0	0.1	3.3	0.00	0.0	2.9	0.0	0.0	0.0
5 4 78	0.1	0.00			1.3	0.0	0.01	0.1	0.8		1.9	0.2		2.4	0.00	0.1	2.6		0.2	0.0
6 1 78	0.1	0.00	0.0	0.00	1.7	0.0	0.00	0.2	1.1	0.05	2.2	0.0	0.0	2.4	0.00	0.0	4.7	0.0	0.0	0.0
12 20 78	0.2	0.01			2.0	0.0	0.00	0.4	1.6		2.2	0.1		1.9	0.01	0.0	3.8		0.1	0.0
2 8 79	0.3	0.00	0.3	0.00	1.2	0.0	0.02	0.3	0.8	0.06	1.5	0.2	0.0	1.8	0.01	0.0	3.8	0.0	0.0	0.4
3 21 79	0.3	0.00			1.8	0.0	0.01	1.3	0.9		2.6	0.6		1.8	0.04	0.0	4.0		0.1	0.0
4 17 79	0.2	0.00	0.0	0.00	1.9	0.0	0.00	0.7	0.8	0.04	2.4	0.4	0.0	1.4	0.01	0.0	3.4	0.0	0.0	0.0
5 24 79	0.8	0.00			1.0	0.0	0.00	0.6	0.9		1.5	0.0		1.8	0.00	0.0	4.9		0.0	0.0
6 15 79	0.2	0.01			1.8	0.0	0.01	0.5	1.5		2.0	0.4		2.4	0.00	0.0	5.2		0.0	0.0
7 12 79	1.3	0.01			1.3	0.0	0.00	1.1	1.2		1.5	0.0		1.5	0.01	0.0	6.0		0.0	0.0

TABLE 49. WATER QUALITY FOR SITE 1102 TUSCALOOSA COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L							MILLIGRAMS PER LITER							
2 8 79	2	0.003			1	3730	3690	0.69	2.9	870	0	0	0	0.6	2700	0.1					
3 21 79	20	0.004			50	6790	9250	0.54	2.8	1500	0	0	0	0.9	7000	0.0					
4 17 79	25	0.001		7.0	440	7500	8100	0.54	2.8		0	0	0	0.3	6000	0.0					
5 24 79	23	0.0005	69		75	7250	6750	0.62	2.8	1700	0	0	0	1.3	5100	0.0					
6 15 79	19	0.0001			200	7330	8110	0.55	2.5		0	0	0	7.1	6100	0.0					
7 12 79	33	0.0001	437		55	5380	4880	0.56	2.5	1300	0	0	0	2.1	3700	0.0	0.0	1.01	1.75	0.00	0.06
8 8 79					130	6290	5650	0.57	2.7	1500	0	0	0	2.7	4300	0.0					

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
2 8 79	82	0.03	0.0	0.03	170	2.2	0.33	170	3.1	0.50	370	130	0.1	8.8	4.1	0.3	11	0.1	1.7	5.8
3 21 79	110	0.12			340	5.0	0.32	720	6.1		730	300		27	7.5	0.7	16		3.3	7.4
4 17 79	130	0.08	0.0	0.04	310	4.6	0.31	650	7.3	2.0	620	260	0.2	26	7.1	0.5	15	0.7	3.8	7.4
5 24 79	96	0.10			290	3.7	0.18	340	4.4		600	270		22	5.8	0.5	25		1.7	7.6
6 15 79	120	0.12			270	4.0	0.90	450	2.7		690	290		21	6.2	0.5	49		2.5	8.2
7 12 79	98	0.08	0.0	0.04	170	3.1	0.31	260	2.1	1.0	400	160	0.3	17	5.0	0.6	38	0.5	2.7	7.6
8 8 79	150	0.08			180	4.1	0.58	220	1.5		490	210		19	5.2	0.7	47		2.8	7.4

TABLE 50. WATER QUALITY FOR SITE 1103 TUSCALOOSA COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID- ITY	ALKA- LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
9 9 77	24	0.06			20	242	134	0.85	4.2		0	0	0	1.5	88	0.1					
10 18 77	14	0.02	13		45	221	136	0.89	4.9		0	0	0	1.8	90	0.0					
11 16 77	14	0.09	43		30	165	100	0.88	4.5		0	0	0	1.3	64	0.0					
12 13 77	10	0.15			0	185	94	0.77	4.2		0	0	0	2.6	60	0.1					
1 11 78	3	0.15			4	132	76	0.99	4.4		0	0	0	1.7	45	0.0					
2 23 78	5	0.04			0	151	81	1.01	4.4		0	0	0	1.3	49	0.2					
4 6 78	17	0.04			4	153	77	0.71	4.3		0	0	0	1.9	53	0.1					
5 5 78	14	0.8	13		5	137	75	0.93	4.3		0	0	0	1.4	47	0.1					
6 1 78	22	0.02	55*		8	144	90	0.85	5.0		0	0	0	2.0	57	0.1					
6 28 78	24	0.004	19*			251	144	1.21	4.7		0	0	0	1.1	87	0.1					
7 25 78	23	0.009	26*		9	280	161	1.03	4.4		0	0	0	1.8	100	0.0					
8 22 78	29	0.0007	20*		0	311	190	0.96	4.4		0	0	0	1.7	130	0.0					
10 11 78	17	0.003	22*		6	387	225	0.93	4.3		0	0	0	1.4	150	0.0					
11 15 78	17	0.001	12		6	390	251	0.86	4.2	10	0	0	0	1.3	180	0.0					
12 19 78	13	0.003	8		30	337	202	0.94	4.1	24	0	0	0	2.1	140	0.1					
2 8 79	5	0.03	3		3	148	79	1.02	3.8	14	0	0	0	2.0	48	0.0					
3 21 79	15	0.01	26		0	130	78	0.83	4.2	10	0	0	0	1.6	50	0.0					
4 17 79	15	0.15	17	0.00	30	106	61	0.78	4.3	11	0	0	0	1.7	40	0.0					
5 24 79	18	0.02	14		35	109	67	0.81	4.3	10	0	0	0	1.4	42	0.0					
6 15 79	18	0.003	13		75	178	113	0.74	4.6	14	0	0	0	1.8	76	0.0					
7 12 79	24	0.02	13		50	170	92	0.79	4.3	10	0	0	0	1.2	60	0.0	0.0	0.07	0.55	0.00	0.01
8 3 79	24	0.005	3		30	169	78	0.86	5.0	7	0	0	0	1.5	47	0.0	0.0	0.13	0.00	0.00	0.00

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
9 9 77	0.4	0.00			10	0.1	0.00	4.3	2.0		11	4.0		2.3	0.11	0.0	4.4		0.0	0.3
10 18 77	0.2		0.0	0.00	11	0.1	0.00	3.9	1.6	0.05	13	3.6	0.0	2.3	0.05	0.0	4.3	0.0	0.0	0.0
11 16 77	0.2	0.00			7.2	0.0	0.00	3.1	1.1		9.0	2.9		2.2	0.04	0.0	3.7		0.0	0.0
12 13 77	0.3	0.00			5.3	0.0	0.00	3.1	1.2		8.3	2.9		1.4	0.04	0.0	4.0		0.0	0.0
1 11 78	0.3	0.00	0.0	0.00	4.7	0.1	0.00	2.1	1.1	0.20	7.8	2.4	0.0	1.7	0.04	0.1	3.8	0.0	0.4	0.1
2 23 78	0.3	0.04			6.0	0.0	0.00	2.7	0.9		8.4	2.4		1.7	0.03	0.0	3.5		0.0	0.0
4 6 78	0.2	0.04	0.0	0.00	4.4	0.0	0.02	0.8	1.2		6.3	2.3	0.0	1.7	0.03	0.0	2.1	0.0	0.0	0.0
5 5 78	0.3	0.00			4.5	0.0	0.00	1.9	1.1		7.6	2.3		1.7	0.03	0.0	3.1		0.1	0.0
6 1 78	0.2	0.00	0.0	0.00	5.8	0.0	0.02	2.0	1.5	0.05	8.0	2.6	0.0	1.9	0.03	0.0	4.2	0.0	0.0	0.0
6 28 78	0.1	0.00			12	0.0	0.00	4.6	2.1		18	4.7		2.5	0.04	0.0	5.1		0.1	0.1
7 25 78	0.1	0.00			14	0.0	0.01	3.7	2.6		17	4.6		2.6	0.06	0.1	5.3		0.0	0.0
8 22 78	0.1	0.01			16	0.0	0.01	2.9	2.4		20	5.2		2.2	0.05	0.1	5.6		0.1	0.0
10 11 78	0.2	0.01	0.0	0.00	20	0.0	0.00	3.5	2.5	0.15	23	6.0	0.0	2.0	0.07	0.1	5.7	0.0	0.1	0.0
11 15 78	0.3	0.01			21	0.1	0.01	0.8	2.4		25	7.4		2.5	0.06	0.0	5.6		0.0	0.0
12 19 78	0.6	0.00			16	0.1	0.01	4.6	2.0		22	5.9		2.0	0.11	0.1	5.0		0.1	0.2
2 8 79	0.7	0.00	0.2	0.00	5.8	0.0	0.01	1.2	1.1	0.08	8.4	2.2	0.0	1.5	0.07	0.0	3.5	0.0	0.1	0.4
3 21 79	0.5	0.01			5.0	0.0	0.02	0.7	1.5		6.6	1.9		2.0	0.06	0.0	3.7		0.0	0.1
4 17 79	0.7	0.00	0.0	0.00	3.4	0.0	0.00	0.4	0.8	0.03	5.5	1.4	0.0	1.1	0.05	0.0	3.0	0.0	0.0	0.1
5 24 79	0.2	0.00			4.3	0.0	0.01	1.8	1.0		5.3	2.0		1.4	0.03	0.0	3.8		0.0	0.1
6 15 79	0.2	0.00			7.6	0.1	0.01	3.6	1.4		8.9	3.6		1.5	0.05	0.0	4.0		0.0	0.0
7 12 79	0.2	0.00			5.5	0.0	0.01	2.6	1.2		8.0	2.4		1.4	0.07	0.0	4.1		0.1	0.0
8 3 79	0.1	0.02			5.6	0.0	0.00	3.0	1.0		6.5	2.8		1.1	0.04	0.0	4.2		0.0	0.1

TABLE 51. WATER QUALITY FOR SITE 1105 TUSCALOOSA COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID- ITY	ALKA- LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L														
												MILLIGRAMS PER LITER									
1 11 78	4	0.025			0	729	472	0.94	3.4		0	0	0	1.0	340	0.1					
2 23 78	6	0.03			3	205	105	0.46	3.6		0	0	0	2.6	70	0.2					
4 6 78	17	0.04			4	164	85	0.42	3.7		0	0	0	3.4	56	0.1					
5 4 78	15	0.06			100	335	166	0.48	3.6		0	0	0	2.6	110	0.2					
6 1 78	26	0.01			95	173	88	0.53	3.8		0	0	0	2.5	52	0.1					

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR																				
											MILLIGRAMS PER LITER									
1 11 78	5.6	0.00	0.0	0.00	27	0.2	0.03	6.4	3.0	0.30	62	8.6	0.0	3.7	0.28	0.1	5.3	0.1	0.5	0.4
2 23 78	3.8	0.00			3.8	0.1	0.02	5.0	1.2		5.4	1.3		2.3	0.07	0.0	3.8		0.0	0.1
4 6 78	3.9	0.00	0.0	0.00	2.7	0.0	0.04	3.4	1.6	0.01	3.7	1.0	0.0	2.5	0.06	0.0	3.0	0.0	0.0	0.1
5 4 78	9.6	0.00			6.5	0.1	0.06	5.2	1.5		9.2	2.8		2.4	0.18	0.0	4.6		0.0	0.3
6 1 78	2.9	0.01	0.0	0.00	3.1	0.0	0.02	6.4	1.7	0.02	4.2	1.3	0.0	2.5	0.06	0.0	4.8	0.0	0.0	0.1

TABLE 52. WATER QUALITY FOR SITE 1108 TUSCALOOSA COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID- ITY	ALKA- LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L														
												MILLIGRAMS PER LITER									
9 22 78		0.0004				3070	2620	0.57	2.8	570	0	0	0	1.6	2000	0.0					
12 19 78	18	0.002	17		3	1620	1610	0.57	3.5	390	0	0	0	0.9	1300	0.0					

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR																				
											MILLIGRAMS PER LITER									
9 22 78	30	0.04	0.0	0.01	120	1.9	0.04	110	7.1	1.0	200	92	0.1	19	1.7	0.3	11	0.3	0.6	1.4
12 19 78	42	0.01			72	1.1	0.22	2.1	2.4		140	55		5.1	1.5	0.2	6.0		0.4	2.6

TABLE 53. WATER QUALITY FOR SITE 1111 WALKER COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L			---------- MILLIGRAMS PER LITER ----------											
10 19 77	14	0.08	18		15	106	70	2.31	7.1		20	24	0	4.7	21	0.2					
11 16 77	12	0.2	32		35	84	53	2.00	7.0		11	14	0	3.5	17	0.2					
12 13 77	8	0.02			2	79	51	1.56	6.5		10	12	0	4.0	17	0.4					
7 25 78	21	0.0000	54*		20	450	292	3.21	8.2		134	161	2	7.2	76	2.0					
8 23 78	25	0.0000	34*		30	452	282	2.77	7.7		127	154	0	6.3	81	1.7					
12 20 78	12	0.0002	10		10	138	83	1.85	7.1		19	23	0	4.0	31	0.4					
2 8 79	8	0.01	3		4	51	38	1.56	6.9	5	5	6	0	2.0	14	0.2					
3 21 79	14	0.01	12		10	57	43	1.46	6.9	-2	7	8	0	3.8	15	0.2					
4 19 79	18	0.007	31	0.00	10	51	65	1.35	6.7		6	7	0	2.5	32	0.1					
5 24 79	19	0.0004	3		20	75	66	1.33	7.0	0	11	14	0	3.3	30	0.0					
6 15 79	19	0.0005	35		15	71	53	1.99	7.3	-5	16	19	0	4.6	14	0.1					
7 11 79	20	0.01	8		40	59	37	1.71	7.2	-2	7	9	0	2.1	12	0.1	0.2	0.02	0.70	0.15	0.01
8 7 79	25	0.001	12		20	89	53	2.75	7.6	-10	18	22	0	4.4	12	0.0	0.1	0.14	0.00	0.00	0.00

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	---------- MILLIGRAMS PER LITER ----------																			
10 19 77	0.1		0.0	0.00	7.4	0.0	0.00	0.2	1.7	0.03	5.6	0.1	0.0	6.5	0.01	0.1	4.5	0.0	0.1	0.0
11 16 77	0.1	0.00			3.6	0.0	0.02	0.1	1.9		4.0	0.0		6.3	0.01	0.0	3.9		0.0	0.0
12 13 77	0.0	0.00			2.9	0.0	0.00	0.1	1.2		3.9	0.0		4.7	0.01	0.0	4.3		0.0	0.0
7 25 78	0.1	0.03	0.1	0.00	40	0.0	0.01	0.7	6.1	0.09	25	3.4	0.0	28	0.02	0.1	7.6	0.2	0.0	0.1
8 23 78	0.1	0.03	0.1	0.00	37	0.0	0.01	0.4	6.1	0.10	23	1.8	0.0	25	0.01	0.1	7.8	0.2	0.1	0.0
12 20 78	0.1	0.00			8.0	0.0	0.00	0.0	1.6		6.7	0.0		8.2	0.00	0.0	4.6		0.0	0.0
2 8 79	0.1	0.00			3.0	0.0	0.02	0.0	0.8		2.7	0.0		3.1	0.00	0.0	3.6		0.0	0.3
3 21 79	0.1	0.01			2.1	0.0	0.00	0.1	1.3		2.6	0.0		5.0	0.00	0.0	3.9		0.0	0.0
4 19 79	0.2	0.00	0.0	0.00	6.0	0.0	0.01	0.2	1.2	0.02	5.5	0.0	0.0	4.4	0.03	0.0	4.2	0.0	0.0	0.0
5 24 79	0.2	0.00			5.5	0.0	0.01	0.1	1.2		5.0	0.0		4.4	0.01	0.0	4.7		0.0	0.0
6 15 79	0.1	0.01			3.3	0.0	0.02	0.1	1.8		3.6	0.0		4.9	0.01	0.0	4.7		0.0	0.0
7 11 79	0.1	0.01			2.2	0.0	0.00	0.1	1.2		2.4	0.0		3.1	0.00	0.0	4.2		0.0	0.0
8 7 79	0.1	0.01			4.5	0.0	0.01	0.1	1.7		4.2	0.1		4.8	0.01	0.0	4.7		0.0	0.1

TABLE 54. WATER QUALITY FOR SITE 1112 WALKER COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID- ITY	ALKA- LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
9 7 77	21	0.2			10	1890	1460	1.17	7.8		146	176	1	3.4	960	2.6					
10 19 77	14	0.04	146		80	2060	1770	1.24	7.8		142	171	1	5.1	1200	7.0					
11 16 77	16	0.3	260		200	874	702	1.17	6.5		24	29	0	1.8	480	1.4					
12 13 77	14	0.04			2	2090	1860	1.01	7.9		151	181	1	4.8	1300	3.4					
7 25 78	22	0.02	39*		8	1910	1780	1.12	8.1		184	219	3	4.1	1200	0.6					
8 23 78	24	0.02	33*		20	1920	1750	1.14	8.1		183	218	3	3.6	1200	0.8					
10 12 78	15	0.01	11		7	2270	1960	0.96	8.2		204	242	4	4.9	1400	0.3					
11 16 78	16	0.003	9		4	2300	2100	0.94	8.3		210	247	5	5.5	1500	0.1					
12 20 78	15	0.02			3	2160	1700	1.18	8.1		266	317	4	3.5	1100	0.4					
2 8 79	8	0.03	94		4	2080	1700	1.47	8.1		157	188	2	3.1	1100	0.7					
3 21 79	15	0.01	75		2	2000	2170	1.14	8.1		176	210	3	3.1	1500	0.3					
4 19 79	19	0.02		0.00	3	1820	1630	1.19	8.1		192	229	3	1.8	1100	1.1					
5 24 79	19	0.01		0.02	5	2250	1750	1.01	8.6	-220	216	246	9	37	1200	0.1					
6 15 79	19	0.03			5	2080	1680	0.97	8.2		130	154	2	3.2	1200	0.3					
7 11 79	20	0.09	37*		110	1520	1310	1.01	8.5		115	133	4	1.5	920	0.6	0.2	0.03	0.90	0.25	0.01
8 7 79	24	0.015	7		15	2120	1550	1.10	8.2		193	229	3	3.1	1000	0.1	0.2	0.06	1.75	0.00	0.02

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CD	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
9 7 77	0.1	0.04			160	0.0	0.00	0.2	7.8		160	1.3		52	0.08	0.0	3.4		0.2	0.1
10 19 77	0.2		0.0	0.00	190	0.1	0.01	0.2	10	0.45	210	1.1	0.0	70	0.10	0.1	3.7	0.7	0.3	0.0
11 16 77	0.2	0.04			96	0.1	0.01	0.1	4.6		75	2.9		18	0.16	0.0	1.4		0.1	0.2
12 13 77	0.2	0.01			170	0.0	0.00	0.2	8.5		200	0.4		53	0.08	0.1	3.6		0.3	0.0
7 25 78	0.3	0.05	0.0	0.00	210	0.0	0.00	0.1	9.6	0.50	180	0.2	0.1	51	0.09	0.3	2.9	0.7	0.3	0.0
8 23 78	0.4	0.05			200	0.0	0.01	0.2	9.8		190	0.2		53	0.08	0.3	3.2		0.4	0.0
10 12 78	0.3	0.03	0.0	0.00	200	0.0	0.01	0.2	8.7	1.5	190	0.3	0.1	45	0.08	0.3	2.8	1.1	0.4	0.0
11 16 78	0.3	0.05			220	0.0	0.01	0.1	8.6		190	0.2		63	0.12	0.3	3.1		0.5	0.0
12 20 78	0.4	0.04	0.0	0.00	210	0.1	0.01	0.1	7.2	1.5	170	0.7	0.1	56	0.13	0.3	2.5	1.1	0.6	0.0
2 8 79	0.3	0.04	0.0	0.00	270	0.0	0.01	0.1	8.2	0.75	200	0.7	0.1	56	0.08	0.2	2.4	0.6	0.5	0.5
3 21 79	0.4	0.03			280	0.0	0.01	0.1	8.9		220	0.7		60	0.10	0.2	1.8		0.8	0.0
4 19 79	0.4	0.03	0.0	0.00	220	0.0	0.01	0.3	9.2	0.85	160	0.6	0.0	44	0.04	0.1	1.7	0.5	0.7	0.0
5 24 79	0.2	0.03			170	0.0	0.00	0.1	7.0		180	0.0		42	0.05	0.2	1.9		0.3	0.0
6 15 79	0.2	0.05			180	0.1	0.01	0.2	6.7		170	0.4		34	0.08	0.2	2.2		0.4	0.0
7 11 79	0.2	0.04	0.0	0.00	150	0.0	0.01	0.2	7.1	0.75	130	0.5	0.1	25	0.06	0.2	2.3	0.4	0.4	0.0
8 7 79	0.4	0.05			180	0.0	0.02	0.1	6.9		160	0.1		40	0.08	0.2	2.4		0.8	0.0

TABLE 55. WATER QUALITY FOR SITE 1113 WALKER COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L			MILLIGRAMS PER LITER											
11 17 77	16	0.8	62		35	460	298	1.29	6.9		45	55	0	2.2	180	0.0					
12 14 77	13	0.25			8	528	332	1.19	7.7		51	62	0	2.4	210	0.1					
1 12 78	2	0.8			10	595	375	2.05	8.2		90	108	1	2.4	190	0.0					
2 23 78	2	0.09			3	618	397	1.49	8.2		69	82	1	2.4	230	0.2					
4 5 78	20	0.3			4	567	468	1.36	8.2		80	95	1	3.6	280	0.1					
5 4 78	20	0.09			8	496	300	1.33	7.8		51	61	0	2.4	180	0.2					
5 31 78	25	0.15			0	635	396	1.60	7.8		98	119	1	2.6	210	0.1					
6 29 78	25	0.3	27*		0	810	545	1.60	7.9		126	152	1	2.5	300	0.1					
7 25 78	24	0.05	32*		7	900	587	1.54	8.4		151	177	3	3.7	320	0.0					
8 23 78	27	0.02	19*		5	847	612	1.42	8.4		143	168	3	3.0	350	0.1					
10 12 78	17	0.003	13		6	856	610	1.39	8.4		129	151	3	3.0	360	0.1					
11 16 78	17	0.0006	7		6	770	571	1.20	7.2	-82	91	111	0	3.3	360	0.0					
12 20 78	13	0.001	8		8	572	405	1.26	7.3	-44	56	68	0	2.4	250	0.1					
2 8 79	6	0.015	24		3	522	310	1.70	7.7	-54	65	78	0	5.7	160	0.1					
3 21 79	13	0.01	6		3	593	434	1.35	8.0	-79	75	90	1	1.9	260	0.1					
4 19 79	20	0.02	2	0.01	15	486	324	1.41	7.9	-62	63	76	0	1.8	190	0.1					
5 24 79	19	0.02	14		10	719	467	1.29	8.4	-93	104	123	2	2.3	270	0.6					
6 15 79	23	0.005	7		25	793	475	1.54	8.5	-110	128	149	3	2.8	260	0.1					
7 11 79	22	0.1	146*	2.3	120	461	305	1.07	8.0	-43	48	58	0	2.2	190	0.1	0.1	0.10	0.50	0.15	0.01
8 7 79	28	0.02	25		20	858	551	1.23	8.4	-100	125	147	3	2.8	330	0.1	0.0	0.13	1.25	0.80	0.01
8 9 79	25	0.06			10	589	329	1.33	8.2	-55	68	81	1	2.4	190	0.1					

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
11 17 77	0.1	0.00			27	0.0	0.00	2.2	3.0		39	2.4		6.4	0.04	0.0	3.9		0.0	0.0
12 14 77	0.1	0.00			29	0.0	0.00	1.9	3.2		41	2.0		7.6	0.02	0.0	3.0		0.0	0.0
1 12 78	0.2	0.00	0.0	0.00	46	0.0	0.00	1.7	3.2	0.25	65	1.8	0.0	7.6	0.04	0.0	3.1	0.2	0.1	0.0
2 23 78	0.0	0.05			46	0.0	0.00	2.1	3.0		54	2.1		8.6	0.03	0.0	3.5		0.0	0.0
4 5 78	0.1	0.00	0.0	0.00	52	0.0	0.01	0.8	3.7	0.15	60	2.4	0.0	9.3	0.03	0.1	3.4	0.2	0.2	0.0
5 4 78	0.1	0.01			25	0.0	0.00	2.5	2.9		41	2.6		7.2	0.02	0.0	2.9		0.0	0.0
5 31 78	0.1	0.03			43	0.0	0.01	0.6	4.6		54	1.5		10	0.04	0.0	3.0		0.1	0.0
6 29 78	0.1	0.04			64	0.0	0.00	0.3	5.1		76	3.1		12	0.02	0.1	3.7		0.3	0.0
7 25 78	0.1	0.03	0.1	0.00	68	0.0	0.00	0.1	5.7	0.15	77	1.4	0.0	11	0.05	0.1	4.5	0.2	0.2	0.0
8 23 78	0.1	0.04			67	0.0	0.01	0.1	5.8		78	1.5		11	0.04	0.2	4.8		0.2	0.0
10 12 78	0.1	0.03	0.0	0.00	68	0.0	0.00	0.2	5.2	0.30	78	1.4	0.0	10	0.03	0.1	4.5	0.2	0.1	0.0
11 16 78	0.1	0.02			60	0.0	0.01	0.4	4.3		66	1.8		11	0.04	0.1	4.2		0.2	0.0
12 20 78	0.2	0.01			43	0.0	0.01	0.9	3.0		49	2.2		8.4	0.04	0.1	4.1		0.1	0.0
2 8 79	0.2	0.01	0.2	0.00	41	0.0	0.03	1.0	2.9	0.20	42	1.3	0.3	7.0	0.05	0.1	3.0	0.1	0.1	0.5
3 21 79	0.2	0.02			52	0.0	0.08	0.7	3.4		53	2.0		7.2	0.06	0.1	3.4		0.3	0.0
4 19 79	0.1	0.02	0.0	0.00	40	0.0	0.01	0.5	2.4	0.25	40	1.3	0.0	5.2	0.03	0.0	2.2	0.2	0.1	0.0
5 24 79	0.1	0.02			53	0.0	0.00	0.1	3.6		53	2.2		8.0	0.03	0.0	3.0		0.1	0.0
6 15 79	0.1	0.03			57	0.0	0.00	0.1	3.9		60	1.8		8.6	0.02	0.1	3.0		0.2	0.0
7 11 79	0.2	0.01	0.0	0.00	24	0.1	0.02	1.3	3.0	0.20	35	2.2	0.0	5.9	0.05	0.1	4.0	0.1	0.1	0.0
8 7 79	0.1	0.03			59	0.0	0.05	0.2	4.6		62	1.8		9.4	0.03	0.1	2.9		0.2	0.0
8 9 79	0.0	0.02			35	0.0	0.05	0.1	3.2		40	2.2		6.4	0.02	0.0	3.1		0.1	0.0

TABLE 56. WATER QUALITY FOR SITE 1114 WALKER COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
1 12 78	4	0.2			0	62	44	2.19	7.0		10	12	0	3.7	11	0.4					
2 22 78	6	0.15			3	60	43	2.12	7.2		11	14	0	3.6	12	0.2					
4 5 78	17	0.015			35	67	37	1.58	7.0		8	10	0	5.4	10	0.1					
5 4 78	16	0.2	38		35	66	53	2.01	7.0		11	13	0	3.7	17	0.2					
5 31 78	20	0.03	62*		25	68	57	1.99	7.0		13	16	0	3.5	18	0.2					

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
1 12 78	0.1	0.00	0.0	0.00	2.2	0.0	0.00	0.2	0.9	0.02	3.2	0.0	0.0	5.4	0.00	0.0	4.5	0.0	0.0	0.0
2 22 78	0.0	0.01			2.3	0.0	0.00	0.0	0.9		3.1	0.0		5.4	0.00	0.0	4.0		0.0	0.0
4 5 78	0.1	0.00	0.0	0.00	1.6	0.0	0.01	0.0	1.1	0.00	2.2	0.0	0.0	4.9	0.00	0.0	2.8	0.0	0.0	0.0
5 4 78	0.1	0.00			3.4	0.0	0.00	0.1	1.3		4.2	0.0		6.7	0.00	0.0	4.1		0.1	0.0
5 31 78	0.1	0.00	0.0	0.00	3.6	0.0	0.00	0.1	1.6	0.03	4.2	0.0	0.0	6.7	0.00	0.0	5.0	0.0	0.0	0.0

TABLE 57. WATER QUALITY FOR SITE 1115 WALKER COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
1 12 78	0	0.004			60	2800	2550	1.07	6.8		16	19	0	2.6	1900	5.2					
2 22 78	7	0.05			4	2220	1900	1.23	8.3		112	132	2	4.8	1300	2.2					
4 5 78	19	0.04			130	2140	2060	1.05	8.3		122	143	3	5.7	1500	2.4					
5 4 78	17	0.04			8	1610	1290	1.04	8.0		67	81	1	4.7	880	7.0					
5 31 78	19	0.06			5	2000	1790	1.12	8.3		190	224	4	3.3	1200	4.0					
6 29 78	24	0.02	33*		0	2360	1910	1.16	8.2		166	197	3	6.0	1300	1.5					

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
1 12 78	1.1	0.00	0.0	0.00	230	0.1	0.00	0.2	6.8	1.5	350	14	0.0	28	0.41	0.1	6.2	1.0	0.5	0.3
2 22 78	0.2				210	0.0	0.00	0.5	7.8		240	0.4		62	0.08	0.1	3.2		0.4	0.0
4 5 78	0.3	0.02	0.0	0.00	190	0.0	0.00	0.3	7.7	0.60	250	0.5	0.1	57	0.06	0.2	3.3	0.8	0.5	0.0
5 4 78	0.2	0.03			140	0.1	0.00	0.1	7.7		130	1.4		46	0.06	0.1	2.7		0.3	0.0
5 31 78	0.2	0.03			170	0.0	0.00	0.2	8.4		210	0.4		47	0.09	0.1	3.6		0.5	0.0
6 29 78	0.2	0.04			190	0.0	0.01	0.3	10		230	0.3		57	0.08	0.1	3.6		0.7	0.0

TABLE 58. WATER QUALITY FOR SITE 1121 WINSTON COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L			MILLIGRAMS PER LITER											
9 8 77	20	0.15			25	40	24	2.81	6.6		5	6	0	1.1	4	0.1					
10 19 77	11	0.08			25	35	25	2.64	7.2		4	5	0	1.4	4	0.1					
11 17 77	16	0.15	43		60	19	15	2.58	6.3		2	2	0	1.3	2	0.0					
12 14 77	12	0.06			8	20	18	2.09	7.3		3	4	0	1.0	3	0.0					
7 26 78	19	0.06	29*		0	17	23	3.06	6.8		5	6	0	1.2	3	0.1					
8 23 78	19	0.006	14		8	21	26	1.71	6.7		5	6	0	1.5	4	0.1					
10 12 78	15	0.003	14		3	14	24	2.17	6.7		5	6	0	1.0	4	0.0					
11 16 78	15	0.002	36		25	18	27	2.11	6.6	-2	5	6	0	0.8	6	0.0					
12 20 78	12	0.003	5		2	17	23	1.72	6.7		4	5	0	0.9	4	0.0					
2 8 79	6	0.015	13		3	17	19	1.77	5.8		3	4	0	1.0	4	0.0					
3 22 79	9	0.001			9	17	30	0.28	4.6		0	0	0	1.5	7	1.9					
4 19 79	13	0.004	7	0.00	15	15	18	1.71	6.5		2	3	0	1.1	4	0.0					
5 24 79	17	0.0000	14	0.13	10	29	26	2.06	6.6	4	6	7	0	0.8	6	0.0					
6 16 79	15	0.0002	5		15	21	24	2.47	7.0		6	7	0	1.3	3	0.0					
7 13 79	18	0.002	21*		3	16	21	1.43	6.7	-1	5	6	0	1.0	4	0.1	0.2	0.00	0.70	0.15	0.01
8 8 79	19	0.0002	2		20	21	26	1.39	7.1	8	5	6	0	1.4	5	0.1	0.0	0.05	1.25	0.30	0.02

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
9 8 77	0.0	0.00			1.5	0.0	0.00	0.6	1.0		0.9	0.1		2.3	0.01	0.0	4.1		0.0	0.1
10 19 77	0.0		0.0	0.00	1.1	0.1	0.00	0.2	1.0	0.03	1.2	0.1	0.0	2.0	0.02	0.1	4.8	0.0	0.1	0.0
11 17 77	0.1	0.00			0.6	0.0	0.00	0.0	0.6		0.7	0.0		1.5	0.01	0.0	3.1		0.0	0.0
12 14 77	0.0	0.00			0.5	0.0	0.00	0.1	0.8		0.7	0.0		1.3	0.00	0.0	3.9		0.0	0.0
7 26 78	0.0	0.00	0.0	0.00	1.3	0.0	0.00	0.1	1.2	0.02	0.9	0.0	0.0	1.4	0.02	0.1	5.0	0.0	0.1	0.0
8 23 78	0.0	0.00			1.0	0.0	0.01	0.1	1.1		0.7	0.0		1.6	0.02	0.0	5.5		0.1	0.0
10 12 78	0.0	0.00	0.0	0.00	1.0	0.0	0.00	0.1	1.1	0.01	0.6	0.0	0.0	1.5	0.00	0.0	5.6	0.0	0.0	0.0
11 16 78	0.1	0.00			1.9	0.0	0.00	0.2	1.0		1.1	0.0		1.5	0.00	0.0	5.6		0.0	0.0
12 20 78	0.0	0.00			0.8	0.0	0.00	0.1	0.9		0.5	0.0		1.4	0.01	0.0	5.6		0.0	0.0
2 8 79	0.0	0.00	0.3	0.00	1.0	0.0	0.01	0.0	0.7	0.06	0.9	0.0	0.0	1.0	0.02	0.0	3.0	0.0	0.0	0.4
3 22 79	0.1	0.00			1.2	0.0	0.01	0.1	0.9		1.0	0.1		1.3	0.01	0.0	4.0		0.0	0.0
4 19 79	0.0	0.00	0.0	0.00	1.2	0.0	0.00	0.1	0.7	0.10	0.8	0.0	0.0	1.1	0.01	0.0	3.4	0.0	0.0	0.0
5 24 79	0.0	0.00			2.0	0.0	0.00	0.0	0.9		1.4	0.0		1.5	0.00	0.0	4.4		0.0	0.0
6 16 79	0.0	0.00			0.8	0.0	0.02	0.0	1.1		0.5	0.0		1.7	0.01	0.0	5.6		0.0	0.0
7 13 79	0.0	0.00	0.0	0.00	0.9	0.0	0.00	0.0	0.9	0.01	0.5	0.1	0.0	1.2	0.00	0.0	4.4	0.0	0.0	0.1
8 8 79	0.0	0.01	0.2	0.00	0.9	0.0	0.00	0.0	1.0	0.15	0.8	0.0	0.1	1.7	0.00	0.0	5.3	0.2	0.0	0.0

TABLE 59. WATER QUALITY FOR SITE 1122 WINSTON COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L			MILLIGRAMS PER LITER											
9 8 77	21	0.08			40	180	146	0.87	6.9		15	18	0	2.4	82	1.6					
10 19 77	13	0.04	20		90	280	189	1.03	7.0		17	21	0	3.2	98	2.9					
11 17 77	16	0.15	38		55	180	114	1.10	7.1		7	8	0	1.9	63	1.0					
12 14 77	12	0.03			10	264	170	1.06	6.6		7	8	0	2.5	96	2.3					
2 23 78	9	0.005			3	213	126	1.25	7.3		14	17	0	2.6	62	1.2					
4 5 78	18	0.009			45	172	131	1.04	7.2		11	14	0	4.1	69	1.3					
5 4 78	17	0.02			7	305	189	0.98	4.3		0	0	0	2.6	110	4.1					
6 1 78	27	0.04	58*		55	234	142	0.91	4.9		0	0	0	1.9	82	1.7					
6 29 78	34	0.008	19*		0	583	408	0.85	4.3		0	0	0	3.9	270	3.2					
7 26 78	23	0.005	35*		0	638	446	0.81	4.3		0	0	0	5.0	270	11					
8 30 78	26	0.001	12		3	663	516	0.81	4.0		0	0	0	3.0	320	12					
10 12 78	20	0.0002	18*		4	588	401	0.76	4.2		0	0	0	4.2	250	9.3					
11 16 78	18	0.0002	6		1	407	283	0.80	4.4		0	0	0	2.7	180	4.7					
12 20 78	16	0.0003	3		5	390	242	0.96	4.3	26	0	0	0	2.8	150	1.8					
2 9 79	10	0.004	2		0	406	239	0.94	4.4		0	0	0	2.3	120	11					
3 22 79	13	0.001	16		1	421	300	0.88	4.2	30	0	0	0	2.5	200	2.0					
4 19 79	20	0.0000	32	0.01	1	318	218	0.97	4.2	19	0	0	0	2.1	130	4.1					
5 24 79	21	0.0003	6		3	572	401	0.73	4.3	44	0	0	0	2.9	270	6.4					
6 16 79	25	0.003	17		3	664	508	0.69	4.1	54	0	0	0	3.9	330	12					
7 13 79	28	0.0005	17*		15	333	218	0.74	4.3	36	0	0	0	2.2	150	2.1	0.6	0.03	0.00	0.00	0.01
8 8 79	27	0.0002	0		8	758	485	0.82	4.1	70	0	0	0	3.8	340	2.4	0.9	0.05	2.50	0.65	0.02

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
9 8 77	0.0	0.00			11	0.0	0.00	3.2	4.1		9.6	4.9		4.6	0.10	0.0	3.6		0.0	0.1
10 19 77	0.1	0.02	0.1	0.00	13	0.2	0.00	5.7	4.3	0.05	18	7.9	0.0	4.7	0.12	0.1	5.0	0.1	0.2	0.0
11 17 77	0.1	0.00			9.9	0.1	0.00	1.8	3.8		9.9	3.9		3.6	0.09	0.0	3.7		0.0	0.1
12 14 77	0.1	0.00			12	0.1	0.00	2.9	4.0		18	5.2		3.7	0.14	0.0	5.1		0.0	0.1
2 23 78	0.0	0.01			11	0.0	0.00	1.2	4.2		12	4.8		4.2	0.07	0.0	4.8		0.0	0.1
4 5 78	0.1	0.00	0.0	0.00	10	0.0	0.00	0.7	3.9	0.05	11	5.6	0.0	3.8	0.07	0.0	4.4	0.1	0.0	0.1
5 4 78	1.5	0.00			12	0.2	0.01	0.2	5.4		20	3.9		5.2	0.18	0.0	4.8		0.0	0.2
6 1 78	1.3	0.01			10	0.1	0.01	0.2	4.2		11	3.0		4.3	0.18	0.0	7.6		0.1	0.2
6 29 78	3.6	0.01			24	0.3	0.01	0.2	9.2		41	11		7.8	0.31	0.1	9.7		0.2	0.5
7 26 78	3.8	0.01	0.1	0.00	28	0.3	0.01	0.1	8.3	0.08	43	11	0.0	7.2	0.42	0.1	8.4	0.2	0.2	0.5
8 30 78	4.6	0.02			33	0.4	0.02	0.1	9.4		50	13		8.2	0.45	0.1	8.8		0.1	0.6
10 12 78	3.7	0.00	0.0	0.00	21	0.2	0.01	0.1	7.8	0.15	39	9.3	0.0	6.9	0.33	0.1	6.8	0.1	0.0	0.4
11 16 78	1.9	0.00			16	0.2	0.01	0.1	5.2		27	6.4		6.7	0.23	0.0	7.0		0.1	0.3
12 20 78	2.1	0.01			18	0.2	0.01	0.3	5.0		24	6.1		4.9	0.33	0.1	8.4		0.0	0.3
2 9 79	1.1	0.00	0.3	0.00	16	0.3	0.03	0.1	6.0	0.07	24	6.2	0.0	3.7	0.31	0.1	6.5	0.2	0.1	0.5
3 22 79	4.3	0.00			18	0.2	0.01	0.2	6.7		31	7.0		5.4	0.35	0.0	7.9		0.1	0.3
4 19 79	1.6	0.00	0.1	0.00	14	0.2	0.01	0.2	4.3	0.09	25	4.9	0.0	3.8	0.22	0.0	5.9	0.1	0.0	0.2
5 24 79	4.8	0.01			22	0.3	0.02	0.1	6.4		37	9.6		5.8	0.40	0.1	7.5		0.1	0.5
6 16 79	4.9	0.01			31	0.3	0.01	0.1	7.7		44	12		6.7	0.46	0.1	7.9		0.1	0.6
7 13 79	1.3	0.00	0.0	0.00	12	0.2	0.02	0.2	4.5	0.15	19	4.6	0.0	4.0	0.22	0.1	6.7	0.1	0.1	0.3
8 8 79	5.0	0.01			34	0.3	0.07	0.0	8.6		46	12		7.9	0.46	0.1	7.6		0.1	0.6

TABLE 60. WATER QUALITY FOR SITE 1123 WINSTON COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 N AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L				MILLIGRAMS PER LITER										
11 17 77	12	0.4	217		380	431	259	2.34	8.3		103	123	2	2.2	99	2.5					
12 14 77	13	0.15			100	560	317	2.13	7.7		129	156	1	2.5	130	0.5					
1 12 78	2	0.4			4	602	432	2.57	8.4		167	197	3	2.6	170	0.9					
2 23 78	4	0.08			4	700			8.5					2.4	160	0.1					
4 5 78	26	0.07			10	590	419	2.64	8.5		181	212	5	3.8	160	0.2					
5 4 78	17	0.05	56		60	670	388	2.13	8.3		163	194	3	3.0	170	0.3					
6 1 78	25	0.04	83*		55	454	282	2.28	7.9		128	154	1	1.3	110	2.1					
6 29 78	32	0.25	25*		20	649	406	2.80	8.6		200	231	6	3.0	150	0.1					
7 26 78	27	0.04	41*		20	612	369	2.74	8.3		189	225	3	2.1	130	0.4					
8 30 78	27	0.0005	19*		10	541	315	2.89	8.3		156	185	2	2.4	110	0.6					
10 12 78	20	0.0000				516	333	1.43	7.6		26	32	0	6.2	180	4.6					
12 20 78	16	0.0003	29		30	659	474	1.03	4.8	20	0	0	0	2.4	310	7.3					
2 9 79	4	0.003			15	735	600	1.14	8.3	-82	89	105	2	2.4	380	0.4					
3 22 79	17	0.01			5	728	506	2.37	8.3		250	297	4	3.5	190	0.3					
4 19 79	19	0.05	72	0.00	5	624	454	1.80	8.4		170	200	3	1.8	210	0.0					
5 24 79	25	0.003	51		20	762	485	1.79	8.6		213	246	7	2.3	220	0.2					
6 16 79	26	0.0005			25	737	519	2.14	8.4		183	215	4	2.5	230	0.2					
7 13 79	26	0.007	7		20	694	437	1.23	8.1	-45	49	59	1	1.7	280	1.2	0.2	0.72	1.40	0.00	0.00
8 8 79	31	0.002	18		45	783	498	1.19	8.4	-96	122	144	3	2.4	300	0.0	0.1	0.07	1.55	0.80	0.02

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
11 17 77	0.1	0.00			35	0.0	0.01	0.1	4.8		37	1.1		4.4	0.03	0.0	1.2		0.1	0.0
12 14 77	0.1	0.00			43	0.0	0.00	0.1	4.2		44	1.9		4.2	0.02	0.0	1.8		0.0	0.0
1 12 78	0.1	0.00	0.0	0.00	63	0.0	0.00	0.1	5.2	0.45	72	2.1	0.0	5.6	0.04	0.0	1.9	0.2	0.1	0.1
2 23 78	0.1	0.04			69	0.0	0.00	0.1	5.3		69	1.7		6.2	0.02	0.0	1.3		0.1	0.0
4 5 78	0.1	0.00	0.0	0.00	62	0.0	0.00	0.1	5.3	0.25	67	1.2	0.0	5.8	0.02	0.0	0.8	0.2	0.0	0.0
5 4 78	0.1	0.00			51	0.0	0.01	0.0	6.0		54	0.6		6.4	0.00	0.0	0.5		0.0	0.0
6 1 78	0.2	0.02			39	0.0	0.00	0.1	4.2		37	0.4		3.8	0.02	0.0	1.0		0.1	0.0
6 29 78	0.1	0.03			53	0.0	0.00	0.0	5.5		68	0.0		5.8	0.04	0.0	1.8		0.2	0.0
7 26 78	0.1	0.02	0.0	0.00	52	0.0	0.00	0.2	5.6	0.15	54	0.2	0.0	4.3	0.05	0.1	2.4	0.1	0.2	0.0
8 30 78	0.1	0.02			49	0.0	0.01	0.1	5.5		46	0.1		4.2	0.03	0.1	1.9		0.1	0.0
10 12 78	0.2	0.04	0.0	0.00	60	0.0	0.01	0.2	7.9	0.30	32	0.1	0.0	3.4	0.03	0.1	0.6	0.1	0.1	0.0
12 20 78	1.4	0.01			65	0.1	0.04	3.2	4.0		44	5.1		4.3	0.16	0.1	1.9		0.2	0.4
2 9 79	0.4	0.01			74	0.1	0.01	1.3	4.5		63	5.7		5.1	0.13	0.2	2.5		0.7	0.6
3 22 79	0.1	0.02			74	0.0	0.03	0.1	5.5		68	1.6		5.2	0.03	0.1	1.4		0.3	0.0
4 19 79	1.0	0.01	0.0	0.00	59	0.1	0.01	3.8	4.3	0.40	58	4.5	0.0	4.2	0.11	0.1	1.4	0.1	0.2	0.1
5 24 79	0.1	0.01			62	0.0	0.01	0.1	4.9		58	1.2		4.7	0.04	0.1	1.4		0.1	0.0
6 16 79	0.2	0.02			75	0.0	0.01	0.1	7.0		76	1.0		6.8	0.02	0.1	1.7		0.2	0.0
7 13 79	0.2	0.02	0.0	0.00	60	0.1	0.01	0.2	4.5	0.45	48	3.1	0.0	3.6	0.10	0.1	1.7	0.2	0.3	0.1
8 8 79	0.2	0.02			60	0.0	0.00	0.0	4.3		51	1.1		4.3	0.03	0.1	0.8		0.2	0.0

TABLE 61. WATER QUALITY FOR SITE 1124 WINSTON COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID- ITY	ALKA- LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L														
												MILLIGRAMS PER LITER									
1 12 78	3	0.3			25	22	20	2.25	6.6		3	4	0	1.4	4	0.1					
2 23 78	6	0.03			4	21	22	4.32	7.1		9	11	0	1.1	2	0.2					
4 5 78	17	0.08			20		23	2.65	7.2		8	10	0	2.5	3	0.1					
5 4 78	18	0.015			20	20	19	1.93	6.7		3	4	0	1.1	5	0.1					
6 1 78	16	0.15	61*		20	28	24	2.06	6.7		7	8	0	1.1	4	0.4					
6 29 78	29	0.02	27*		20	19	25	2.30	6.3		2	3	0	1.3	5	0.6					

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
1 12 78	0.1	0.00	0.0	0.00	1.0	0.1	0.00	0.2	0.8	0.06	1.3	0.0	0.0	1.4	0.03	0.1	3.3	0.0	0.4	0.0
2 23 78	0.0	0.01			0.9	0.0	0.00	0.0	0.5		1.8	0.0		1.5	0.00	0.0	3.6		0.0	0.0
4 5 78	0.0	0.00	0.0	0.00	0.9	0.0	0.00	0.0	0.7	0.01	1.1	0.0	0.0	1.6	0.00	0.0	3.6	0.0	0.0	0.0
5 4 78	0.1	0.00			0.8	0.0	0.00	0.0	0.8		1.0	0.0		1.8	0.00	0.0	3.1		0.0	0.0
6 1 78	0.1	0.00			1.0	0.0	0.01	0.0	1.0		1.0	0.0		1.8	0.01	0.0	3.7		0.0	0.0
6 29 78	0.1	0.01			2.0	0.0	0.00	0.0	1.1		1.7	0.0		1.6	0.01	0.0	3.6		0.1	0.0

TABLE 62. WATER QUALITY FOR SITE 1126 WINSTON COUNTY, ALABAMA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID- ITY	ALKA- LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L														
												MILLIGRAMS PER LITER									
9 8 77	21	0.08			100	431	220	1.54	7.4		62	76	0	2.4	120						
10 19 77	16	0.06			40	462	286	2.08	7.5		101	122	0	3.4	130	0.3					

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
9 8 77	0.0	0.00			25	0.0	0.00	0.1	3.7		25	1.5		5.7	0.04	0.0	2.0		0.0	0.1
10 19 77	0.1		0.0	0.00	38	0.1	0.00	0.1	4.7	0.10	41	0.0	0.0	5.7	0.04	0.1	1.4	0.1	0.2	0.0

TABLE 63. WATER QUALITY FOR SITE 2011 DADE COUNTY, GEORGIA

DATE			WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO	DA	YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L			MILLIGRAMS PER LITER											
10	21	77	11	0.01			20	29	16	2.66	5.9		2	3	0	1.6	3	0.0					
11	9	77	14	0.25	28		20	19	17	1.29	7.2		2	2	0	1.1	5	0.1					
12	15	77	14	0.07			8	15	18	2.38	7.1		2	2	0	0.9	2	0.5					
1	19	78	3	0.9			0	17	18	1.09	6.2		2	2	0	3.7	4	0.1					
2	28	78	5	0.04			3	21	17	2.08	6.8		4	5	0	2.4	2	0.1					
3	28	78	12	0.09			4	16	16	1.97	6.5		2	2	0	1.3	4	0.0					
5	2	78	11	0.3	6		3	31	17	0.26	6.3		2	2	0	4.9	2	0.1					
5	30	78	18	0.04			0	17	19	0.90	6.0		2	2	0	1.2	6	0.1					
10	18	78	14	0.0001			40	50	35	1.83	7.0		7	8	0	3.7	11	0.3					
11	18	78	13	0.0001	11		3	71	43	2.41	6.5	-10	7	9	0	7.4	9	0.1					
12	27	78	4	0.004	1		1	16	24	0.23	5.7	4	1	1	0	1.8	7	1.3					
2	16	79		0.03	3		0	20	20	0.85	5.9		0	0	0	3.0	6	0.1					
3	26	79	11	0.02	11		2		33	1.13	5.8		0	0	0	1.7	17	0.0					
4	25	79	15	0.01	53	0.00	10	25	18	1.06	5.8		0	0	0	1.2	6	0.1					
5	28	79	14	0.03	24		6	82	101	0.64	5.2	9	0	0	0	1.5	69	0.0					
6	19	79	24	0.0003	12		130	71	45	1.89	7.1	-2	6	7	0	14	7	0.0					
7	16	79	23	0.0000	37*		5	156	72	2.34	6.9		10	12	0	27	8	0.1	0.0	0.02	0.80	0.10	0.00
8	9	79	23	0.0000	0		10	146	68	1.52	7.0	4	8	10	0	22	12	0.3	0.1	0.05	1.30	0.40	0.01

* Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE			AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO	DA	YR	MILLIGRAMS PER LITER																			
10	21	77	0.1	0.00	0.0	0.00	1.2	0.1	0.01	0.1	0.8	0.02	0.7	0.0	0.0	1.4	0.03	0.1	2.8	0.0	0.2	0.0
11	9	77	0.0	0.05			1.1	0.0	0.05	0.0	0.6		0.8	0.0		1.0	0.01	0.0	2.7		0.0	0.0
12	15	77	0.1	0.01			1.0	0.1	0.02	0.2	0.8		0.9	0.0		1.0	0.03	0.1	3.2		0.4	0.0
1	19	78	0.0	0.00	0.0	0.00	0.9	0.0	0.00	0.0	0.5	0.04	0.8	0.0	0.0	1.7	0.00	0.0	2.3	0.0	0.0	0.0
2	28	78	0.0	0.02			1.1	0.0	0.00	0.1	0.3		0.6	0.0		1.6	0.00	0.0	2.6		0.0	0.0
3	28	78	0.0	0.00	0.0	0.00	1.0	0.0	0.01	0.1	0.6	0.03	1.0	0.0	0.0	1.4	0.00	0.0	2.5	0.0	0.0	0.0
5	2	78	0.0	0.00	0.0	0.00	0.7	0.0	0.00	0.0	0.5	0.01	0.8	0.0	0.0	1.1	0.00	0.0	2.3	0.0	0.0	0.0
5	30	78	0.0	0.00			0.6	0.0	0.00	0.0	0.8		0.7	0.0		1.1	0.01	0.0	3.0		0.0	0.0
10	18	78	0.2	0.00	0.0	0.00	4.3	0.0	0.01	0.2	2.4	0.02	1.5	0.1	0.1	3.2	0.01	0.0	1.5	0.0	0.0	0.0
11	18	78	0.1	0.00			5.6	0.0	0.00	0.0	1.4		1.8	0.0		4.9	0.00	0.0	3.4		0.0	0.0
12	27	78	0.0	0.00	0.1	0.00	1.0	0.0	0.00	0.0	0.8	0.02	0.6	0.0	0.0	1.3	0.01	0.0	2.6	0.0	0.0	0.0
2	16	79	0.1	0.00			1.1	0.0	0.00	0.0	0.5		0.9	0.0		1.6	0.00	0.0	2.3		0.0	0.9
3	26	79	0.1	0.00			3.1	0.0	0.02	0.1	1.0		2.2	0.8		1.7	0.05	0.0	2.6		0.1	0.0
4	25	79	0.0	0.00			0.9	0.0	0.00	0.0	0.7		0.8	0.0		1.1	0.02	0.0	2.8		0.1	0.0
5	28	79	1.2	0.00			4.6	0.0	0.01	4.6	0.7		7.8	3.2		1.7	0.09	0.0	3.0		0.0	0.5
6	19	79	0.0	0.00	0.0	0.00	3.9	0.1	0.17	0.0	1.5	0.03	1.7	0.0	0.0	6.6	0.04	0.0	3.0	0.0	0.0	0.0
7	16	79	0.0	0.00	0.1	0.00	8.2	0.0	0.00	0.0	1.4	0.07	2.9	0.1	0.0	11	0.00	0.0	2.6	0.0	0.0	0.0
8	9	79	0.0	0.00			7.7	0.0	0.00	0.0	1.3		2.5	0.2		9.4	0.00	0.0	2.9		0.0	0.0

TABLE 64. WATER QUALITY FOR SITE 2012 DADE COUNTY, GEORGIA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L					MILLIGRAMS PER LITER									
10 21 77	16	0.06			170	308	214	1.13	6.6		10	12	0	1.5	130	0.0					
11 9 77	16	0.4	53		60	149	104	1.04	7.3		2	2	0	0.9	57	2.3					
12 15 77	12	0.09	9		10	193	100	1.54	6.7		4	5	0	1.3	52	0.5					
1 19 78	3	0.6			4	105	76	0.92	6.9		2	3	0	1.7	43	1.4					
2 28 78	5	0.06			4	172	98	1.24	7.0		7	9	0	1.6	53	0.6					
3 28 78	11	0.04			8	160	91	1.14	6.2		2	2	0	1.5	54	0.5					
5 2 78	11	0.1	29		40	121	76	1.23	6.8		5	6	0	1.2	43	0.3					
5 30 78	22	0.03			3	148	94	1.17	6.7		9	11	0	1.2	53	0.3					
6 26 78	23	0.02	95#			133	82	1.11	7.0		11	14	0	2.4	43	0.1					
7 28 78	19	0.025	27#		1	124	88	1.21	6.5		8	10	0	1.7	46	0.1					
9 12 78	20	0.0006			35	118	82	0.91	6.5		6	7	0	1.8	48	0.1					
10 18 78	13	0.0001	26#		6	115	72	1.43	7.5		16	20	0	2.0	33	0.0					
11 18 78	13	0.0009	32		30	445	295	0.92	4.2	22	0	0	0	3.5	200	0.0					
12 27 78	4	0.005	1		2	108	66	1.03	4.8	10	0	0	0	1.4	39	0.2					
2 16 79		0.001	29		10	375	289	0.97	5.1		0	0	0	1.9	210	0.8					
3 26 79	13	0.004	10		3	399	272	1.05	6.1	21	1	1	0	1.4	190	0.8					
4 25 79	15	0.03	51	0.00	5	393	276	1.20	6.7	4	4	5	0	1.5	190	0.7					
5 28 79	16	0.0009	14	0.00	15	245	155	0.99	6.8	10	5	6	0	1.2	100	0.1					
6 19 79	21	0.0005	38#		75	235	170	0.93	7.4	-3	12	15	0	1.6	110	0.0					
7 16 79	21	0.0009	58#		30	211	145	1.00	7.4	-5	14	17	0	2.2	86	0.0	0.2	0.07	0.35	0.25	0.01
8 9 79	29	0.001	10		120	215	129	0.97	7.6	3	20	25	0	2.4	70	0.1	0.0	0.09	1.10	0.40	0.01

Suspended Solids values followed by an asterisk are believed to be 5 to 80 mg/l too high (most are 20 to 40 mg/l too high).

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
10 21 77	0.1	0.03	0.0	0.00	18	0.2	0.01	11	2.0	0.06	22	3.2	0.0	6.0	0.13	0.1	7.8	0.1	0.2	0.1
11 9 77	0.2	0.05			9.5	0.0	0.01	0.3	2.3		8.7	1.3		3.8	0.07	0.0	4.2		0.0	0.1
12 15 77	0.1	0.01			9.9	0.2	0.01	0.8	2.4		12	1.7		3.7	0.09	0.1	4.7		0.5	0.1
1 19 78	0.0	0.00	0.0	0.00	5.6	0.0	0.00	0.0	1.4	0.07	6.4	0.8	0.0	2.9	0.03	0.0	3.1	0.0	0.0	0.0
2 28 78	0.0	0.04			9.0	0.0	0.00	2.0	1.3		9.9	2.0		3.4	0.04	0.0	4.0		0.0	0.0
3 28 78	0.0	0.00	0.0	0.00	8.4	0.0	0.00	1.3	1.8	0.04	9.1	1.5	0.0	3.5	0.05	0.0	3.1	0.0	0.0	0.0
5 2 78	0.1	0.01	0.0	0.00	6.8	0.0	0.00	0.9	1.7	0.05	7.3	1.3	0.0	3.8	0.02	0.0	2.9	0.0	0.1	0.0
5 30 78	0.0	0.00			7.9	0.0	0.00	1.3	1.8		8.6	1.6		4.4	0.03	0.0	3.5		0.0	0.0
6 26 78	0.0	0.00			6.2	0.0	0.00	0.7	1.3		7.2	3.1		2.7	0.00	0.0	4.0		0.2	0.0
7 28 78	0.0	0.01	0.0	0.00	7.8	0.0	0.01	1.1	1.6	0.04	8.0	3.8	0.0	2.9	0.03	0.0	4.7	0.0	0.0	0.1
9 12 78	0.0	0.01			5.5	0.0	0.00	0.4	1.8		6.4	1.8		2.6	0.02	0.0	4.4		0.0	0.0
10 18 78	0.0	0.00	0.0	0.00	5.6	0.0	0.00	0.6	1.4	0.05	7.5	1.0	0.0	2.6	0.02	0.0	4.0	0.0	0.1	0.0
11 18 78	2.8	0.01			32	0.3	0.01	3.2	3.6		24	5.3		4.8	0.49	0.0	5.7		0.1	0.8
12 27 78	0.3	0.00			5.7	0.0	0.01	0.5	1.4		5.5	1.7		2.4	0.03	0.0	3.5		0.0	0.1
2 16 79	0.4	0.00			28	0.1	0.01	0.2	2.0		32	3.4		4.1	0.15	0.0	3.1		0.1	1.2
3 26 79	0.2	0.01			22	0.1	0.01	0.2	2.0		36	3.1		3.9	0.16	0.1	2.9		0.2	0.1
4 25 79	0.1	0.01	0.1	0.00	32	0.0	0.00	0.2	2.2	0.25	35	2.2	0.0	4.9	0.11	0.0	2.7	0.1	0.1	0.2
5 28 79	0.1	0.00			12	0.1	0.01	1.4	1.4		17	3.4		3.4	0.07	0.1	2.9		0.1	0.1
6 19 79	0.1	0.00	0.0	0.00	12	0.1	0.01	2.1	1.8	0.25	16	6.1	0.0	4.9	0.07	0.0	4.1	0.1	0.1	0.0
7 16 79	0.0	0.01	0.0	0.00	10	0.1	0.01	3.7	1.5	0.15	14	6.1	0.0	3.5	0.00	0.0	3.8	0.0	0.1	0.0
8 9 79	0.0	0.01			9.8	0.0	0.00	3.4	1.4		10	9.1		2.8	0.02	0.0	3.7		0.0	0.0

TABLE 65. WATER QUALITY FOR SITE 2013 DADE COUNTY, GEORGIA

DATE	WATER TEMP	EST DISCH	SUSP SOL	SETT MATTER	TURB	SPEC COND	DIS SOLID	NEUT RATIO	LAB PH	ACID-ITY	ALKA-LINITY	HCO3	CO3	CL	SO4	NO3 AS N	%NO3 AS N	NH3 AS N	TOT N	TOT P	ORTH PO4
MO DA YR	DEG C	CFS	MG/L	ML/L	JTU	UM/CM	MG/L							MILLIGRAMS PER LITER							
10 21 77	12	0.0006			30	116	74	1.01	6.4		5	6	0	1.4	40	0.0					
11 9 77	16	0.04	23		20	51	37	1.21	6.5		1	1	0	1.2	17	0.1					
12 15 77	11	0.003			8	104	62	0.91	5.5		0	0	0	3.4	32	0.2					
1 19 78	3	0.03			0	31	23	1.31	6.7		2	2	0	1.8	9	0.1					
2 28 78	3	0.006			35	99	48	1.62	7.0		4	5	0	3.3	20	0.4					
3 28 78	12	0.005			4	43	22	1.35	6.5		2	3	0	1.6	9	0.1					
5 2 78	12	0.008	8		5	165	63	0.18	3.7		0	0	0	6.8	34	0.2					
6 26 78	25	0.008				82	60	1.10	6.8		8	10	0	1.6	28	1.5					
2 16 79		0.0008	8		8	73	38	1.09	6.5		3	4	0	5.7	15	0.2					
3 26 79	8	0.0004			20	37	34	1.17	6.4	0	2	2	0	1.3	18	0.0					
4 25 79	18	0.001	37	0.35	200	88	38	1.87	6.5		3	4	0	1.5	17	0.1					
5 28 79	15	0.0000	5		15	81	57	0.93	4.8		0	0	0	1.0	33	0.0					
6 19 79	22	0.0000				79	50	0.69	6.0	4	0	0	0	1.2	31	0.0					

DATE	AL	B	BA	BE	CA	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	PB	SI	SR	TI	ZN
MO DA YR	MILLIGRAMS PER LITER																			
10 21 77	0.4	0.03	0.1	0.00	8.8	0.0	0.00	0.6	1.6	0.03	3.8	1.2	0.0	2.0	0.03	0.0	5.2	0.0	0.0	0.0
11 9 77	0.4				4.4	0.0	0.00	0.2	1.4		2.0	0.3		1.2	0.02	0.0	3.5		0.1	0.0
12 15 77	0.5	0.00			6.0	0.0	0.00	2.6	1.6		3.7	1.3		1.4	0.04	0.0	4.1		0.1	0.1
1 19 78	0.1	0.00	0.0	0.00	3.0	0.0	0.00	0.0	0.8	0.06	1.2	0.0	0.0	1.1	0.00	0.0	1.8	0.0	0.0	0.0
2 28 78	0.1	0.02			9.8	0.0	0.00	0.1	0.9		2.0	0.1		3.0	0.00	0.0	1.7		0.0	0.0
3 28 78	0.1	0.00	0.0	0.00	2.7	0.0	0.01	0.0	0.8	0.02	1.1	0.0	0.0	1.3	0.00	0.0	1.6	0.0	0.0	0.0
5 2 78	2.8	0.00	0.0	0.00	2.0	0.0	0.01	0.2	1.0	0.05	2.0	0.5	0.0	1.1	0.02	0.0	5.0	1.0	0.0	0.0
6 26 78	0.2	0.01			9.2	0.0	0.00	0.3	1.7		1.8	0.0		3.3	0.00	0.0	1.4		0.0	0.0
2 16 79	0.2	0.00			5.6	0.0	0.01	0.1	0.8		1.7	0.0		1.6	0.00	0.0	1.7		0.0	0.8
3 26 79	0.1	0.01			4.5	0.0	0.01	0.0	0.9		2.0	0.1		1.3	0.02	0.0	2.3		0.0	0.0
4 25 79	0.3	0.00			9.0	0.0	0.01	0.2	1.1		1.9	0.0		1.4	0.01	0.0	1.7		0.0	0.0
5 28 79	0.3	0.00			6.3	0.0	0.01	0.9	1.3		3.1	0.8		1.4	0.04	0.0	4.0		0.0	0.0
6 19 79	0.2	0.00	0.0	0.00	5.1	0.0	0.00	0.4	1.2	0.04	1.8	0.9	0.0	1.0	0.03	0.0	3.4	0.0	0.0	0.1