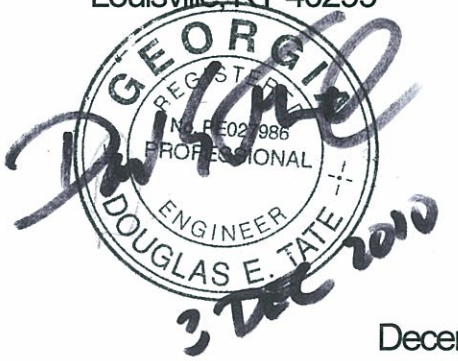
Report of Dam Safety Assessment of Coal Combustion Surface Impoundments Georgia Power Plant Scherer, Juliette, GA

AMEC Project No. 3-2106-0174.0200

Prepared By:

AMEC Earth & Environmental, Inc.
690 Commonwealth Center
11003 Bluegrass Parkway
Louisville, KY 40299



Prepared For:

U.S. Environmental Protection Agency
Office of Solid Waste and Emergency Response
Office of Resource Conservation and Recovery
1200 Pennsylvania Ave., NW
MC: 5304P
Washington, DC 20460

December 2010

I certify that the management unit referenced herein:

Southern Company, Georgia Power, Plant Scherer Ash Pond and Settling Pond were assessed on May 12, 2010.

Signature _____

Douglas Tate, PE
Senior Geotechnical Engineer

List of AMEC Participants who have participated in the assessment of the management units and in preparation of the report:

- James Black, PE
  Project Engineer
- Chris Eger
  CADD Technician
- Todd Johanboeke
  GIS Specialist
- Mary Sawitzki, PE
  Civil/Environmental Engineer

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1.0 INTRODUCTION AND PROJECT DESCRIPTION

1.1 Introduction

AMEC was contracted by the United States Environmental Protection Agency (EPA), via contract BPA EP09W001702, to perform site assessments of selected coal combustion byproducts surface impoundments. As part of this contract with EPA, AMEC was assigned to perform a site assessment of Georgia Power Company's Plant Scherer, which is located approximately 2.5 miles south of Juliette and 6 miles east of Forsyth, Georgia as shown on Figure 1, the Project Location Map.

A site visit to Plant Scherer was made by AMEC on 12 May 2010. The purpose of the visit was to perform visual observations, to inventory coal combustion waste (CCW) surface impoundments, assess the containment dikes, and to collect relevant historical impoundment documentation.

AMEC engineers, Douglas Tate, P.E. and James Black, P.E. were accompanied during the site visit by the following individuals:

Table 1. Site Visit Attendees

Company or Organization	Name and Title
U.S. Environmental Protection Agency	Jim Kohler, P.E., Office of Solid Waste and Emergency Response
Georgia Power Company	Daniel Morton, Plant Manager
Georgia Power Company	Sandra Bain, Plant Compliance and Support Manager
Georgia Power Company	John Horishny, Plant Team Leader-Compliance
Georgia Power Company	Tanya Blalock, Environmental Affairs Manager
Southern Company	Larry Wills, P.E., Principal Engineer, Dam Safety Hydro Services
Southern Company	Hugh Armitage, P.E., Senior Engineer, Hydro Services
Southern Company	Gary McWhorter, P.E., Earth Science and Environmental Engineering
Troutman Sanders	Hollister Hill, Attorney

1.2 Project Background

CCW results from the power production processes at coal fired power plants like Georgia Power's Plant Scherer. Impoundments (dams) are designed and constructed to provide storage and disposal for the CCW that are produced. Georgia Power refers to the CCW impoundment at the Plant Scherer facility as the "Ash Pond." The Scherer Ash Pond discharges to a pond defined as the "Settling Pond" on NDPES Permit documents, however, this pond is also referred to as the "Retention Pond" on Georgia Power facility safety review reports and the "Recycle

Pond" by plant personnel. This pond, to be referred to as the "Settling Pond" in this report, is located southwest of the Ash Pond and west of the plant facility. The original assessment scope for Plant Scherer included the Ash Pond alone. While conducting the site visit, Jim Kohler (EPA) requested that the Settling Pond also be assessed by AMEC engineers.

The National Inventory of Dams (NID), administered by the U.S. Army Corps of Engineers (USACE), provides a list of many dams within the United States, as well as hazard potentials related to the listed dams. The Plant Scherer Ash Pond is not listed in the database. The Settling Pond is listed in the database as "Plant Scherer Retention Pond." The listing notes the Settling Pond is not a state regulated dam.

The Safe Dams Program is the body within the Georgia Department of Natural Resources Environmental Protection Division (EPD) that defines the term dam, as well as regulates dam design, construction, and repair. The Safe Dams Program also evaluates dams to assign a dam category classification to each structure. Each dam within the state that is over 25 feet in height or has at least 100 acre-feet of storage capacity is assigned either a Category I or Category II classification upon review. The Category I classification is assigned to structures "where improper operation or dam failure would result in probable loss of human life. Situations constituting probable loss of life are those situations involving frequently occupied structures or facilities, including, but not limited to, residences, commercial and manufacturing facilities, schools, and churches." A Category II classification indicates that "improper operation or dam failure would not expect to result in probable loss of human life." These definitions are from the Georgia EPD Chapter 391-3-8 Rules for Dam Safety, Section 391-3-8.02(d) and (e). According to the Safe Dam Rules, Category I dams are permitted and monitored periodically, while Category II dams are not permitted, but are re-inventoried once every five (5) years. The re-inventory procedure is conducted to determine if adjacent or downstream development has changed or has been proposed to change in a manner that would necessitate a reclassification to a Category I dam.

Although GA EPD has not classified the Ash Pond, it is listed as "To Be Studied" by the agency. The Settling Pond was classified as a Category II dam and assigned identification number 102-033-4237 in July of 1985.

As part of the observations and evaluations performed at Plant Scherer, AMEC completed EPA's checklist and forms, titled *"Coal Combustion Dam Inspection Checklist Form"* and the *"Coal Combustion Waste (CCW) Impoundment Inspection,"* which are provided in Appendix A. The Impoundment Inspection Forms include a section that assigns a "Hazard Potential" that is used to indicate what would occur following failure of an impoundment. "Hazard Potential" choices include "Less than Low," "Low," "Significant," and "High." Based on the site visit evaluation of the impoundments, AMEC engineers assigned a "Significant Hazard Potential" classification to the Ash Pond, while the Settling Pond was assigned a "Low Hazard Potential" classification. As defined on the Inspection Form, dams assigned a "Significant Hazard Potential" classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant Hazard Potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure. "Low Hazard Potential" classification definition is reserved for dams where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

For purposes of this report and throughout this document, areas of the dam, abutments, and river banks will be referred to as being “left” or “right”, with the point of reference being the middle of the channel, looking downstream.

1.2.1 State Issued Permits

The Georgia Department of Natural Resources has issued Georgia EPD National Pollutant Discharge Elimination System (NDPES) Permit No. GA0035564 to Georgia Power Company. This NPDES Permit authorizes the Georgia Power Company to discharge from Plant Scherer to Berry Creek, Lake Juliette (Rum Creek) and the Ocmulgee River (Ocmulgee River Basin). The permit became effective on January 30, 2002 and had an expiration date of November 30, 2006. A letter from GA EPD dated November 29, 2006 acknowledges receipt for the plant’s application for reissuance of the permit and extends the permit “until such time that it can be reissued within the appropriate river basin group.” The permitted NPDES Final Discharge (01) from Plant Scherer flows from the NPDES Collection Basin, located on-site to the Ocmulgee River.

The State of Georgia issues operating permits for those impoundments that are given the Category I classification. There are no Category I CCW impoundments at Plant Scherer, therefore the state has not issued CCW impoundment operating permits for this facility.

1.3 Site Description and Location

Georgia Power’s Plant Scherer is located on 12,000 acres in Monroe County, approximately 2.5 miles south of Juliette and 6 miles east of Forsyth, Georgia. The area surrounding the plant boundary is a primarily rural. Lake Juliette, a 3,600-acre facility, was created when Georgia Power dammed Rum Creek. Lake Juliette (Lake) is located directly adjacent to the facility’s south side. The Settling Pond, a 300-acre, dammed impoundment, whose creation coincided with the construction of the Ash Pond, is located above Lake Juliette, on a northwest spur of the Lake, and is located to the west of the plant. The Ash Pond, a 550-acre facility, is located above and to the north of the Settling Pond. (Note: A plant brochure provided at the site gives the size of the Ash Pond as 750 acres). The average pool elevations of the Lake, Settling Pond and Ash Pond are reported to be about 435, 469 and 495 feet, respectively. The smallest distance between the Ash Pond and the Lake is approximately three-quarters of a mile. The Ocmulgee River, which flows south, is located to the east of the Plant and Lake. Water is occasionally drawn from the Ocmulgee River to replenish the Lake. The Photo Site Plan, included as Figure 2, shows the location of Ash Pond and the Settling Pond, and their proximity to Lake Juliette and the Ocmulgee River.

An aerial photograph of the region indicating the location of Plant Scherer’s ash and settling ponds in relation to schools, hospitals, and other critical infrastructure located within approximately 5 miles down gradient of the structures is included as Figure 3, the Critical Infrastructure Map. A table that provides names and coordinate data for the infrastructure is included on the map.

1.4 Process Ponds

1.4.1 Ash Handling and Flow Summary

Plant Scherer utilizes coal in the production of electricity. In this process, two types of CCW ash are generated: bottom ash and fly ash. Bottom ash, the heavier and coarser of the two, is

wet sluiced into the Ash Pond and spread with a bulldozer, where it remains. Fly ash either is sent to the ash pond as wet slurry or is marketed off-site. Decant water from the Ash Pond flows by gravity to the Settling Pond through a controlled discharge spillway. According to the NDPES Process Flow Diagram, included in documentation provided by Georgia Power (SCH-API 030), decant water from the Settling Pond is recycled back to the facility's ash system for reuse in CCW sluicing operations. The Settling Pond is equipped with an emergency discharge into the Service Water Pond (Lake Juliette). The Service Water Pond provides water for use in many of the processes at the Plant Scherer Facility and can draw from and discharge to the Ocmulgee River.

The ash handling summary detailed above was provided to AMEC by Southern Company engineers responsible for design and evaluation of the Plant Scherer facility operational processes. Southern Company is the parent company of Georgia Power. Design, communication, inspection, and regulatory documents provided to AMEC by Southern Company and Georgia Power indicate the following background for the Ash Pond and the Settling Pond at Plant Scherer.

1.4.2 Ash Pond

The following information was summarized from documentation provided to AMEC by Georgia Power and Southern Company. The Ash Pond at Plant Scherer contains fly ash, bottom ash, boiler slag, pyrites, and low volume waste as defined under 40 CFR 423.11 The pond was designed internally by Southern Company professional engineers. Construction supervision was provided by a professional engineer, as is the inspection and monitoring of the safety of the waste management units. Review of all inspection documents is performed by professional engineers, each with over 20 years of experience working with dam structures.

The Ash Pond at Plant Scherer was commissioned in 1980 with a total storage capacity of 25,740,029 cubic yards (CY), a corresponding surface area of 552.5 acres, and a maximum embankment height of 100 feet. The pond currently receives sluiced bottom and fly ash, runoff from the coal pile runoff pond, and wastewater basin discharge. The volume of stored material, measured in December 2008, was 11,086,395 CY.

A plan view and the typical (maximum) embankment cross section of the Ash Pond are illustrated on Figures 4 and 5, respectively. More comprehensive information for the Ash Pond is provided in Section 2, Field Assessment.

1.4.3 Settling Pond

The Settling Pond was created following the installation of a dam across an irregularly branched section of Lake Juliette. Based on provided Settling Pond information, the pond was commissioned in 1980 with a corresponding surface area of 300 acres and a maximum dam height of 82 feet. Aerial photo information indicated the length of the dam is approximately 2,300 feet. Figures 6 and 7 illustrate a plan view of the discharge structure region (southern end) and the typical (maximum) cross section, respectively, for the Settling Pond.

1.4.4 Other Site Impoundments

In addition to the Ash Pond and the Settling Pond, AMEC observed and/or was made aware of other impoundments at Plant Scherer. The NPDES Process Flow Diagram shows other impoundments at the facility, including a Coal Pile Runoff Basin, an NPDES Collection Basin,

and a Detention Pond (also known as the "I" Pond). These basins control storm water runoff in the coal pile area, receive bleed-off water from pressure regulating valves, and cooling tower blow-down, fire training area runoff and provide emergency storage for overflow from the NPDES Collection Basin, respectively. These impoundments store water, sometimes intermittently, and do not contain CCW. Therefore, these impoundments were not assessed as part of this project. No other impoundments at Plant Scherer contain CCW or runoff from CCW containing impoundments.

1.5 Previously Identified Safety Issues

Discussions with plant personnel indicated that there are no current safety issues or previously identified safety issues from the previous 5 years of operation. Georgia Power provided copies of 14 Dam Safety Surveillance Quarterly Reports that cover the time period beginning with the first quarter of 2005 and ending with the fourth quarter of 2009 (five years). However, six quarterly reports of the five year data review period were not included in the documentation provided to AMEC. During the site visit, Georgia Power personnel explained to AMEC that those six quarterly written reports do not exist. Review of the available Dam Safety Surveillance Quarterly Reports indicated no instance of documented safety issues.

1.6 Site Geology

No specific site geology descriptive information was provided, however, review of the 1976 boring logs for area along the embankment alignment indicate the bedrock consisted of biotite gneiss, hornblende gneiss, and a few bands of very hard dark green amphibolites. Based upon a review of the soil test borings drilled in 1974, the foundation soil is primarily composed of residual micaceous silt with variable amounts of sand and/or clay. The residuum varies in consistency from loose to very hard, and generally increase in consistency with depth, gradually hardening to saprolite (soil that appears to be bedrock) and to bedrock. Most usually, there is not a distinct transition from soil to bedrock. These soil types are consistent with Piedmont soils.

1.7 Inventory of Provided Materials

Southern Company and Georgia Power provided AMEC with numerous documents pertaining to the design and operation of Plant Scherer. These documents were used in the preparation of this report and are listed in Appendix E, Inventory of Provided Materials.

2.0 FIELD ASSESSMENT

2.1 Visual Observations

AMEC performed visual assessments of Plant Scherer's Ash Pond and Settling Pond (Settlement-Recycle Pond) on 12 May 2010. Assessment of the ash and settling ponds was completed in general accordance with *FEMA's Federal Guidelines for Dam Safety, Hazard Potential Classification System for Dams, April 2004*. The EPA coal combustion dam inspection checklist and CCW impoundment inspection form were completed for each ash pond during the site visit. These completed forms were provided to the EPA via email five business days following the site visit. (Refer to Appendix A for copies of the completed checklist forms.) Additionally, photographs were taken of each impoundment during the site visit. The photo log, descriptions, and photo location site maps for each pond can be found in Appendix B. Rainfall data for Central Georgia indicates 1.36 inches of rain was recorded in the area for the month of April. Rainfall data for the Juliette, Georgia area was collected for the days prior to the site visit. A rather sizeable rain of 3.5 inches fell eight days before the visit. Table 2, summarizes the rainfall data for the days immediately preceding AMEC's site visit.

Table 2. Plant Scherer Rainfall Data

Rainfall Prior to Site Visit	
Date	Rainfall (in.)
4 May 2010	3.5
5 May 2010	0.0
6 May 2010	0.0
7 May 2010	0.0
8 May 2010	0.0
9 May 2010	0.0
10 May 2010	0.0
11 May 2010	0.02
Total (8 days prior to visit)	3.52
Total (41 days prior to visit)	4.88

2.2 Visual Observations - Ash Pond

The Ash Pond, commissioned in 1980, is used as a CCW disposal facility. The pond contains fly ash, bottom ash, boiler slag, pyrites, and other low volume wastes.

2.2.1 Ash Pond - Embankments and Crest

The Ash Pond has a cross-valley configuration with dike embankments along the north, east and south sides of the impoundment. According to design drawings, the embankment is a maximum of about 100 feet high and the pool area is 552.5 acres. The maximum section of the embankment is located on the east dike at Station 46+00. A bolster area and later an extension were constructed at Station 21+50 due to a wet area (seepage) and high pore water pressures measured in the piezometers. At the time of the site visit there was approximately 10 feet of freeboard within the pond. In general, the upstream face of the embankment was covered with concrete filled Fabri-form® erosion protection blanket (Appendix B, photos AP-5, AP-7 and AP-50). The crests were surfaced with gravel (roads) and the downstream embankments were covered with grass (photos AP-4, AP-5, AP-8, AP-12 and others). Settlement monuments were located on the crest (photos AP-2, AP-4, AP-5 and AP-8). Piezometers (PZ's) were located along the crest of the dam and near the toe of the downstream slopes (photos AP-4 and AP-9).

No pronounced surface depressions or other deficiencies were noted on the upstream slope or crest of the Ash Pond. At the end of the north dike, a stockpile of emergency supplies was stored (photo AP-14). On the north dike of the embankment, a wet area was observed beyond the downstream slope from PZ's AP-6 and AP-7 (photo AP-15). A concrete ditch was observed at the toe of the downstream slope of the north dike. A broken area of concrete was observed in this ditch (photo AP-16 and AP-17). The outlet of this concrete ditch directed water away from the embankment (photo AP-18). A wet surface area at the toe extending about 125 feet was located beyond the east end of the concrete ditch (photo AP-19).

Repaired surficial areas were noted on the downstream embankment of the east dike (photos AP-20 and AP-24). A concrete ditch beginning at the intersection of the north and east dike extended south along the toe of the downstream slope and directed water away from the embankment (photos AP-21 and AP-22). An emergency stockpile of crushed stone and sand was located near this outlet (photo AP-23). The lower bench at the east dike extends the downstream embankment. A gravel access road crosses a middle bench in this area. A concrete ditch on the upstream side of this road is higher at the middle and directs water to each end (photo AP-24 and AP-25). The concrete ditch is piped beneath the road on both ends and extends down along the groin to the east (photo AP-26 and AP-34). On the south side of this groin ditch, water was observed entering and exiting the ditch at a joint (photo AP-27). Near the bottom of the ditch, water is entering from pipes at blanket drain outlets BD-2 and BD-3 (photos AP-28 and AP-30). Likewise, on the north groin ditch, water is entering the ditch at an upper damaged joint and two lower piped outlets from the blanket drain (photos AP-33 and AP-32). The two ditches combine at the toe into a concrete channel and outlet including a 4-inch diameter pipe and overflow weir (photo AP-31). A dry blanket drain outlet (BD-1) is located in the groin area above the road. Some minor surface scour/erosion was noted in this area(photo AP-35).

The south dike of the Ash Pond is directly upstream of the plant. Runoff pipelines and coal ash pipelines enter the pond at the south dike (photos AP-42 thru AP-44). In addition, much of the ash being stored in the pond is in the south end of the impoundment (photos AP-45 and AP-10). A road leading from the plant to the Ash Pond bisects the downstream slope of the south dike. On the west section of the south dike (photo AP-46), two small 8 by 5 feet seeps are located at the toe of the downstream embankment (photo AP-47). An eroded area was observed in the downstream groin at the right abutment (photo AP-48). Other photos of the west half include AP-49 and AP-50. A surface slough repair is located on the downstream slope on the east half of the south dike (photos AP-51 and AP-52). The slough, which is about 3 feet deep by 100 feet

long and extends about 20 feet up from the toe, developed recently. Georgia Power has started repairs, covered the area for protection, and is waiting for good weather conditions to allow final grading, seeding, and mulching.

2.2.2 Ash Pond - Outlet Control Structure

The outlet structure is located on the southwest corner of the Ash Pond. The outlet structure consists of a skimmer that regulates flow to a decant basin with a 72-inch diameter pipe. The decant basin is equipped with sulfuric acid treatment to the outflow. The decant is a "morning glory," drop inlet that extends down and then southwest under a road and embankment for approximately 285 feet to discharge to a concrete ditch located south of the emergency spillway. The concrete ditch discharges to the Settling Pond. The water entering the Settling Pond was observed to be clear. (photos AP-36, AP-37, AP-40 and AP-41)

The open channel emergency spillway is located adjacent and west of the outlet structure. Plans indicate the concrete control structure at the head of the spillway is elevation 498.5 feet and appears to be in good condition. The bottom of the spillway channel is 120 feet wide and the grass slopes were in good condition. The emergency spillway discharges to the settling pond. See photos AP-38, AP-39 and AP-41.

2.3 Visual Observations - Settling Pond

The commissioned date of the Settling (or Retention) Pond was not provided, but assumed to be around the same time (1980) as the ash pond. The primary purpose of the pond is a storage facility for recycling water to the plant.

2.3.1 Settling Pond - Embankments and Crest

The Settling Pond has a cross-valley configuration with a dam and an associated Saddle Dike to the northeast. Drawings indicate the dam has a maximum embankment height of approximately 82 feet high. (The maximum height of the Saddle Dike is about 12 feet.) The pool area is 300 acres and freeboard at the time of the site visit was approximately 12 feet. In general, the upstream embankment of the Settling Pond and Saddle Dike is covered to the crest with concrete filled Fabri-form® erosion protection blanket (photos SP-2 and SP-9). The crests were surfaced with gravel (roads). The entire saddle dike downstream embankment and the dam downstream embankment above plan elevation 450 feet was covered with grass. Below elevation 450 feet, the dam embankment is armored with concrete filled Fabri-form® erosion protection blanket (See photos SP-1 thru SP-11). The plans indicate the downstream embankment has a 3 feet wide interior chimney drain connected to a 4 feet thick coarse and fine filter toe drain. An animal burrow was observed on the downstream slope above the end of the rip-rap on the left abutment side (photo SP-8) of the dam. Georgia Power reported loss of embankment material at the toe of the right downstream abutment. The Fabri-form® was not extended to the groin area. Georgia Power has placed rip-rap at the toe of the slope and is monitoring conditions (photo SP-4). Except for the above conditions, the Settling Pond dam and Saddle Dike were in good condition.

2.3.2 Settling Pond - Outlet Control Structure

The emergency spillway for the Settling Pond is located northwest of the dam and was constructed by cutting through original ground. Plans indicate the invert of the concrete control structure is elevation 473 feet. The bottom of the open channel spillway is 120 feet wide and positioned to flow away to the west of the Settling Pond.

2.4 Monitoring Instrumentation

Historically, impoundment monitoring equipment has been used and expanded at the Plant Scherer facility. Plans indicate 22 piezometers installed at the ash pond with most installed in the bolster area at Station 21+50 on the south dike and others located in the maximum embankment section area at Station 46+00 on the east dike and at the toe area of the north dike at Station 75+40. Inspection reports note that PZ-APA4 was damaged first quarter 2009 and is abandoned. The reports also indicate PZ-AP12 located at the toe of the bolster area is no longer read. PZ's APA12R and APA12A were added at an unknown time and are located on the crest in the bolster area. During the field visit, wet conditions were noted in areas where PZ's were located at the toe. Gravel had been placed in some of the areas surrounding the PZ's at the toe due to wet and/or soft conditions. In addition, two weir and three blanket drain flows are monitored on the Ash Pond. Four piezometers are installed at the Settling Pond on the maximum embankment area at the approximate center of the dam. The settling pond dam contains two weirs as well. Piezometer installation and drainage weir locations for the Ash Pond and Settling Pond are shown on Figures 8 and 9, and 10, respectively. Typical well construction consisted of a 1 1/4-inch diameter PVC pipe, 5-foot slotted screen, silica sand filter pack and a Bentonite seal. Piezometers and other monitoring elements are read by plant personnel on a monthly basis. Appendices C and D contain corresponding data graphs.

3.0 DATA EVALUATION

3.1 Design Assumptions

No design assumptions related to the design and analysis of the hydraulic adequacy and stability of the Ash Pond and Settling Pond were provided for review.

3.2 Hydrologic and Hydraulic Design

3.2.1 Ash Pond

The Draft Report[1] indicated that the typical top of dike elevation is reported to be 505±. The regular discharge structure is a 72-inch diameter reinforced concrete pipe (RCP), with a documented invert elevation of 494.5. These elevations indicate a typical freeboard of approximately ten feet. A reported surface area of 552.5 acres corresponds to the normal operating water surface elevation 495.

Although Georgia Power did not provide AMEC with hydrologic or hydraulic calculations for the Ash Pond in the time available to prepare the Draft Report, Southern Company submitted an additional study (SCH-API 045), titled "Evaluate Stormwater Capacity of Ash Pond & Settling Pond" as part of their comments to the Draft Report on September 21, 2010. That document is supported by Appendix 1 and 2 (SCH-API 043 and 044).

Document SCH-API 045, submitted for hydrologic and hydraulic analysis, utilized the following data to evaluate the Ash Pond relative to safely storing or passing the rainfall due to the design storm event:

- Ash Pond Drainage Area = 1.45 square miles
- Ash Pond Drainage Slope = 61.9 feet per mile
- Design Storm: 100% Probable Maximum Precipitation for site (6-hour PMP for 10 mi^2) = 31 inches

Based upon the analyses, Georgia power concludes that the Ash Pond is capable of safely passing the design storm with a freeboard of 2.7 feet, which they deem adequate.

3.2.2 Settling Pond

Georgia Power did not provide AMEC with hydrologic or hydraulic calculations for the Settling Pond in the time available to prepare the Draft Report. However, the *Retention (Settling) Pond Dam - General Arrangement* drawing (SCH-API 036), did include normal high and low Settling Pond operating elevations, as well as the peak maximum precipitation (PMP) event pond elevation. Those elevations are 469, 465, and 479 feet, respectively. There were no accompanying documents to indicate what tributary area (Settling Pond alone or in combination with the Ash Pond) was used to determine the PMP elevation of 479 feet. However, Southern Company submitted an additional study (SCH-API 045), titled "Evaluate Stormwater Capacity of

[1] Draft Report submitted by AMEC to EPA in June 2010.

Ash Pond & Settling Pond" as part of their comments to the Draft Report on September 21, 2010. That document is supported by Appendix 1 and 2 (SCH-API 043 and 044).

Document SCH-API 045, submitted for hydrologic and hydraulic analysis, utilized the following data to evaluate the Settling Pond relative to safely storing or passing the rainfall due to the design storm event:

- Settling Pond Drainage Area = 1.00 square miles
- Settling Pond Drainage Slope = 67.1 feet per mile
- Design Storm: 100% Probable Maximum Precipitation for site (6-hour PMP for 10 mi^2) = 31 inches

Based upon the analyses, Georgia power concludes that the Settling Pond is capable of safely passing the design storm with a freeboard of 4.5 feet, which they deem adequate.

3.3 Structural Adequacy & Stability

The Georgia Department of Natural Resources Environmental Protection Division, *Chapter 391-3-8 Rules for Dam Safety* outlines dam inventory, classification, inspection, and permitting information. Category II dams in Georgia are inventoried (every five years) and categorized, but are specifically excluded from the rules and regulations that pertain to Category I dams, per Section 391-3-8-.04.(d). Although as written, Section 391-3-8-.09 (Standards for the Design and Evaluation of Dams) pertains to Category I dams, this section provides guidelines useful for sound dam design and evaluation. Section 391-3-8-.09-(3)-(a) states that, "all dams must be stable under all conditions of construction and/or operation of the impoundment." Further, earthen embankments, when analyzed using the methods, guidelines, and procedures of the agencies listed in the regulations to determine safety factors, can be considered to have acceptable stability if the analyses yield at least the minimum safety factors shown in Table 3.

To analyze the structural adequacy and stability of the Ash Ponds at Plant Scherer, AMEC reviewed the material provided by Georgia Power with respect to the load cases and factors of safety shown in Table 3 to help determine whether the impoundments meet the requirements for acceptable stability.

Table 3. Georgia EPD Minimum Required Dam Safety Factors

Load Case	Required Minimum Factor of Safety
End of Construction	1.3
Steady State Seepage	1.5
Steady State Seepage with Seismic Loading	1.1
Downstream Maximum surcharge	1.4
Rapid Drawdown (Upstream)	1.3
Submerged Toe with Rapid Drawdown	1.3

3.3.1 Ash Pond - Structural Adequacy & Stability

1976 Foundation Report and Stability Analysis

Soil strength parameters for the effective angle of friction (φ') and cohesion (C') were calculated for the Ash Pond foundation in a 1976 report completed by Southern Company (SCH-API 025). A P-Q curve was developed using σ' values based on data collected from borings performed along eastern and southeastern embankment locations in 1974 (SCH-API 024). Values of φ' and C', calculated for two foundation soils, were reported as 31 degrees (°) and 0 pounds per square foot (psf) and 17° and 470 psf.

Southern Company personnel completed a hand calculated stability analysis (SCH-API 027) in late 1976 for a particular failure surface that was similar to failure surfaces they had obtained from computer programs. The analysis noted that the Simplified Bishop Method was utilized to simulate conditions set up in the SLOPE program. The Bishop Method approach resulted in a factor of safety equal to 1.36 for the downstream steady state seepage condition. The report does not specify what embankment section was analyzed.

1986 Stability Analysis

In 1986, Southern Company performed a stability analysis (SCH-API 026) on the maximum cross section of the dam. A wet area was noted downstream of the maximum section of the dam, therefore, Georgia Power requested a summary of the stability analyses of the ash pond dam, as well as analyses of the existing pressures and seepage measurements by flow nets. The report states "a flow net analysis was performed based on the maximum section of the dam and piezometer and weir flow data." Existing soils data and flow net analysis results were used to update the stability analyses. Conditions, soil properties, and calculated factors of safety are shown in Table 4 for the 1986 Stability Analysis.

Table 4. Plant Scherer Soil Strength Parameters

Zone	Moist Unit Weight	Soil Strength Parameters[(1)]			
		Effective		Total	
	γ_m (pcf)	C` (psf)	φ` (°)	C (psf)	φ (°)
Embankment Fill AP-AA	120	63	33	700	20
Embankment Fill AP-BB	113	79	32.5	600	19
Embankment Fill RP-AA	120	370	32	800	19
Foundation	108	302	24	500	20
Consolidated Ash	105	0	20	---	---
Sluiced Ash	80	0	10	0	10
Rock Bolster	110	0	42	0	42

AP = Ash Pond, RP – Retention Pond, AA & BB = Sections, (pcf) - pounds per cubic foot, (psf) - pounds per square foot, (°) – degrees, (1) – Summarized from SCH-API 040

The 1986 stability analysis further describes the use of piezometer data to describe the free surface in the calculation of a flow net the maximum cross section. The free surface was said to "correlate well with the Nelson-Skornayakov, Mkhitarian, and Numerov-Shankin methods of phreatic surface definition." The surfaces defined were said to include earth dam on an inclined base and earth dams with toe filters.

The 1986 analysis goes on to discuss the case when an embankment is less pervious than the surrounding materials, and relates it to Plant Scherer as the center of that embankment contains

a zone of compacted clayey material. The foundation was stated to be, most likely, "more pervious than the compacted fill," and that "internal drains are oversized in anticipation of worst case conditions, thereby, suppressing the free surface in the embankment."

Measured piezometer pressures in the dam and foundation were said to correlate well with the calculated flow net, however the free surface anticipated in the embankment design was higher than the measured free surface of the operating structure. Based on flow net results and a measured weir flow of 30 gpm, permeability values determined for the embankment and foundation were 1.6 X 10^{-5} cm/sec and 3.2 x 10^{-5} cm/sec, respectively. The report states, "…these values appear reasonable and conservative for the materials at Scherer. The dam is performing adequately."

Concern was expressed in the report over piezometer levels at the embankment's downstream toe. Readings of 2 to 3.5 feet above the ground surface implied confined flow, according to the analysis authors. They pointed to a silty soil near the surface that was from 2 to 11.5 feet thick as the likely confining material. Based on this concern, a piping failure analysis was performed that assumed a critical gradient of one. Factor of safety values against piping failure, based on the assumed thickness of silty soil, were reported to range from 1.1 to 5. The authors maintained that "a sudden piping failure would not be anticipated," but did think that sand cones that had been observed could be explained by the calculated range of values. Regular inspection of this area was recommended, as well as the possible the use of pervious material to raise the wet area if it persisted and caused a maintenance issue.

March 2010 Dam Deformation Survey Analysis

Georgia Power Company Land Department conducted a dam deformation survey analysis (SCH-API 029) based on precise geodetic survey measurements collected periodically beginning in Fall 1991 and continuing through Spring 2010 and rigorous computations to detect movement at the site. The report provides no conclusions or discussion of the findings. A brief review of the results generally show that movement over the 19 year monitoring period at the 24 monitoring points appears to be within expected tolerance except for one point. Monitoring Point AM6, located at approximately Station 50+00 of the Ash Pond, appears to have moved downward about 64 mm (~2.5 inches) between 1994 and 2010. Monitoring Points AM1 through AM8 are shown on provided document SCH-API 0006, as well as on Figure 9 of this report. AMEC was not able to locate drawings or other information regarding the location of Ash Pond Monitoring Points BM5 through BM8 or any of the reported Storage Pond Dike Monitoring Points.

2010 Plant Scherer Ash Pond Stability Analysis

Southern Company and Georgia Power personnel were preparing a stability analysis for the Plant Scherer Ash Pond at the time the Draft Report was being written. Since this analysis was not available for AMEC to review as part of the draft dam safety assessment, comments and recommendations provided in Section 4.0 of this report were based solely upon provided historic documentation. The historic data did not provide sufficient information to assess the stability of the Plant Scherer Ash Pond. The Acknowledgement of Management Unit and Conditions statement provided in the Draft Report's Section 4.1 reflected this status.

Subsequent to AMEC's submittal of the Draft Report, Georgia Power and Southern Company provided "Slope Stability Analyses of Ash Pond and Retention Pond Dikes" dated September

10, 2010 as supplemental information. The slope stability models were run using the following assumptions and design criteria:

- According to the USGS earthquake acceleration probability maps for the vicinity of Plant Scherer, a seismic load of 0.08g was used in the analyses (http://earthquake.usgs.gov/earthquakes/states/georgia/hazards.php).
- The current required minimum criteria (factors of safety) were taken from the Georgia Department of Natural Resources, Environmental Protection, Rules for Dam Safety, Rule 391-3-8-09, Standards for the Design and Evaluation of Dams, supplemented by the US Corps of Engineers Manual EM 1110-2-1902, October 2003.
- The soil properties of unit weight, phi angle, and cohesion were obtained from triaxial shear testing performed on UD samples of the dike fill material obtained during drilling in July 2010, and from data analyses on the Strength Properties of Foundation dated November 2 1976 and parameters used during the stability analysis indicated on Plant Scherer Ash Pond Dam Stability Analysis dated May 30, 1986. The triaxial shear testing was performed according to ASTM D 4767.
- Properties for ash were based on laboratory testing performed on undisturbed and remolded samples of ash from various plants and on previous project experience.
- The data obtained from piezometers BB and DD was used to provide phreatic data for the slope stability analysis for the separation dike.

The stability of the Ash Pond dike and the Retention (Settling) Pond dikes were evaluated under the following Load Cases:

- Downstream Steady State
- Downstream Steady State with Seismic Loading
- Downstream Steady State with Full Ash Loading (for Ash Pond only)
- Downstream Maximum Surcharge Pool
- Upstream Rapid Drawdown (Not applicable for the south Ash Pond dike section B-B with a full ash load)

Based upon the assumptions and design criteria, the results of the analyses in the report for the Ash Pond are shown in Table 5.

Table 5. Ash Pond Slope Stability Results

Location	Failure Conditions	Computed Factor of Safety[2]	Required Minimum Factor of Safety[1]	US Corps of Engineers Manual
Ash Pond A-A	Downstream Steady State	1.6	1.5	1.5
	Downstream Seismic	1.2	1.1	--
	Downstream Maximum Surcharge Pool	1.6	--	1.4
	Downstream Steady State with Full Ash Loading	1.6	1.5	1.5
	Upstream Rapid Drawdown	2.0	1.3	1.3
Ash Pond B-B	Downstream Steady State	2.3	1.5	1.5
	Downstream Seismic	1.8	1.1	--

1 Georgia Rules for Dam Safety, Rule 391-3-8-09
2 Use slip surface optimization in stability analyzes.

The Southern Company report concludes that, for the Ash Pond, the analyses show that in all load cases, the dikes are stable. Safety factors for all cases were acceptable and exceeded the minimum safety factors required.

3.3.2 Settling Pond - Structural Adequacy & Stability

The Settling Pond was added to the site assessment by the EPA representative during the May 2010 site visit, and was not part of the original site assessment scope. Georgia Power did not provide data relating to the structural stability of the Settling Pond's main or saddle dam prior to submittal of the Draft Report.

However, as noted above, Georgia Power and Southern Company provided "Slope Stability Analyses of Ash Pond and Retention Pond Dikes" dated September 10, 2010 as supplemental information. Based upon the assumptions, design criteria, and load cases noted above for the Ash Pond, the results of the analyses in the report for the Settling Pond are shown in Table 6.

Table 6. Retention Pond Slope Stability Results

Location	Failure Conditions	Computed Factor of Safety[2]	Required Minimum Factor of Safety[1]	US Corps of Engineers Manual
Retention Pond A-A	Downstream Steady State	1.6	1.5	1.5
	Downstream Seismic	1.2	1.1	--
	Downstream Maximum Surcharge Pool (Settling Pond)	1.6	--	1.4
	Upstream Rapid Drawdown (Settling Pond)	2.3	1.3	1.3

1 Georgia Rules for Dam Safety, Rule 391-3-8-09
2 Use slip surface optimization in stability analyzes.

The Southern Company report concludes that, for the Retention (Settling) Pond, the analyses show that in all load cases, the dike is stable. Safety factors for all cases were acceptable and exceeded the minimum safety factors required.

3.4 Foundation Conditions

Boring logs from 1974 (SCH-API 024) and were included in the documentation provided to AMEC. Several borings were completed in the southeastern and eastern areas of the proposed dam location. Boring locations were placed and numbered, initially, in the crest of the proposed southern embankment area, then added toward the northeast, along the crest.

Upper areas of the borings located along the southeastern section consisted of layers of very stiff red, brown, medium to fine sandy silty clay, to stiff, red, brown, micaceous, slightly clayey fine sandy silt to stiff, yellow, brown, sandy, micaceous, medium to fine sandy silt with lenses of white coarse to fine very sandy silt just above the refusal layer. As the boring locations moved toward the northeast, similar materials were seen above refusal, but a partially weathered rock sampled as very dense green and white silty medium to fine sand with weathered rock fragments was evident prior to refusal. Corings were extended at three of the first four boring locations. Coring materials collected below refusal included hard to very hard, tan, green, and gray Biotite Gneiss and Hornblende Gneiss, and a few bands of very hard dark green Amphibolites. At what is now the Bolster Area near Station 21+50, a 15 to 50 foot layer of white micaceous silty medium to fine sand was evident just above bore termination.

The crest boring that was located at the maximum cross section of the dam, approximately Station 46+00, was extended 40 feet into the ground. The sample was primarily comprised of very silty medium to fine sand, with the final six feet being comprised of partially weathered rock sampled as very dense black tan and whit silty coarse to fine sand with weathered rock fragments. Samples from borings placed at the upstream and downstream toe at the crest at Station 42+00 contained material similar to those found at the crest location, except the top nine feet of the toe samples contained alluvium-very soft gray blue slightly micaceous medium to fine sandy clayey silt (upstream) and alluvium-stiff blue and tan fine sandy silty clay (downstream).

Excavation plan design drawings for the Ash and Settling ponds provided to AMEC (SCH-API 0004 and 037) indicate that the dam foundation areas were prepared by clearing and grubbing; stripping was performed as necessary. A key, equal to the greater of 50 percent of dam height or 20 feet, was installed along the center alignment. Areas where excavation of alluvium was necessary were shown on the drawings as well.

A 1986 report (SCH-API 026) covering a stability analysis for the maximum cross section of the Ash Pond embankment stated that the calculated foundation permeability at that location was 3.2×10^{-5} centimeters per second (cm/sec).

3.5 Operations and Maintenance

SCG Hydro Services performs quarterly safety and surveillance inspections for the embankments at Plant Scherer and provides reports to Georgia Power. AMEC was provided copies of these quarterly reports for 14 of the 20 quarters over the five-year time span between early 2005 through late 2009. Reportedly, plant personnel inspect the ponds and embankments weekly, however, they are not normally documented and no documentation was provided for these inspections.

No safety issues were reported in the quarterly reports that were reviewed. Review of these reports indicates that dams at Plant Scherer are operated properly and maintained well. The reports and any maintenance recommendations are clearly written and typically documented as being addressed on the subsequent semi-annual report discussion of past recommendations.

The facility has occasional instances of minor slope sloughing, animal burrowing, erosion, or ditch degradation issues, but the issues appear to be addressed in a timely manner. The site visit and observation performed by AMEC in May 2010 showed no major operational or maintenance issues that needed to be addressed.

3.5.1 Instrumentation

We understand that data from the embankment piezometers, weirs, and blanket drains that were initially installed at the Ash and Settling Ponds, or added during years of operation at Plant Scherer, provide information that facility personnel will use to guide operation and maintenance of the facility. Plant personnel collect data from this instrumentation on a monthly basis. There is no other instrumentation at the facility for pond monitoring.

3.5.2 State or Federal Inspections

Since the Ash Pond and Settling Pond at Plant Scherer are unclassified and a Category II structures, respectively, as a rule, the state does not require inspection of the ponds. There was no evidence of past inspections by State or Federal regulatory agencies found in the provided documentation. The state does, however, reevaluate each Category II dam once each 5 year period to determine if adjacent downstream development has increased to a level that would prompt a change in the assigned dam classification category.

4.0 COMMENTS AND RECOMMENDATIONS

Condition assessment definitions, per the BPA Performance Work Statement, are as follows:

SATISFACTORY

No existing or potential management unit safety deficiencies are recognized. Acceptable performance is expected under all applicable loading conditions (static, hydrologic, seismic) in accordance with the applicable criteria. Minor maintenance items may be required.

FAIR

Acceptable performance is expected under all required loading conditions (static, hydrologic. seismic) in accordance with the applicable safety regulatory criteria. Minor deficiencies may exist that require remedial action and/or secondary studies or investigations.

POOR

A management unit safety deficiency is recognized for any required loading condition (static, hydrologic, seismic) in accordance with the applicable dam safety regulatory criteria. Remedial action is necessary. **POOR** also applies when further critical studies or investigations are needed to identify any potential dam safety deficiencies.

UNSATISFACTORY

Considered unsafe. A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution. Reservoir restrictions may be necessary.

Additionally, if the dam has not been inspected, is not under state jurisdiction, or has been inspected but, for whatever reason, has not been rated. The condition assessment is assigned "**NOT RATED**."

4.1 Acknowledgement of Management Unit Conditions

I certify that the management unit referenced herein was personally assessed by me and was found to be in the following condition:

Ash Pond: Satisfactory

This management unit was rated poor in the Draft Report because, in AMEC's opinion, further critical studies or investigations (detailed below) were needed to identify any potential dam safety deficiencies.

Based upon the information provided by Georgia Power on September 21, 2010, in AMEC's opinion, the Ash Pond is now rated **SATISFACTORY** because the analysis, studies, or investigations that were completed appear to address the critical potential dam safety deficiencies.

Retention (Settling) Pond: Satisfactory

This management unit was not rated in the Draft Report because it was not part of the original scope of work of the BPA Performance Work Statement.

Based upon the information provided by Georgia Power on September 21, 2010, in AMEC's opinion, Retention (Settling) Pond is rated **SATISFACTORY** because the analysis, studies, or investigations that were completed appear to address the critical potential dam safety deficiencies.

Additional Information regarding recommendations for instrumentation and analyses can be found in Sections 4.2 through 4.4.

4.2 Hydrologic and Hydraulic Recommendations

June 2010 Draft Report. AMEC recommended that Georgia Power determine what rainfall event the Ash and Settling Ponds are capable of safely containing or passing. A more complete evaluation would determine the effect of the PMP rainfall event on the Ash Pond and the Plant Scherer site. The analyses should include evaluation of Lake Juliette's ability to safely contain or pass the design storm event.

During the site visit, the hazard potential was evaluated to be "significant hazard" because failure of the dam could result in damage to public roads and environmental damage, but would be unlikely to cause loss of human life. There are residences nearby, to the north of the dam, along Luther Smith Road; the nearest residence is about 800 feet from the dam. Due to the thickness of the wooded terrain and the presence of a deep defile between the dam and the homes, the potential for loss of human life was assessed as being unlikely. In AMEC's opinion, it would be prudent to perform a dam breech analyses to evaluate the potential for a dam failure to inundate these homes.

Final Report. Based upon additional information provided by Georgia Power on September 21, 2010 (SCH-API 043), in AMEC's opinion, the analyses that were provided address the ability of the both impoundments to safely control or pass appropriate storm events.

4.3 Geotechnical and Stability Recommendations

June 2010 Draft Report. SCH-API 025 discusses soil strength parameters of foundation soil only. Embankment soil strength parameters are shown in SCH-API 026 and 027, but their genesis is not provided. AMEC recommends that clarification of how the engineering soil strength parameters for the embankment soil were determined be provided. AMEC recommends that the stability analyses include design storm peak/surcharge stage water levels that reflect appropriate phreatic surfaces due to pre-saturation by appropriate antecedent precipitation and the limited outflow capacity of the pond. Likewise, the stability analyses should consider all critical stages during the life of the facility, such as maximum pool area and any potential surcharges, as well as likely loading combinations. Furthermore, the previous analyses limit the failure surfaces to circular surfaces; AMEC recommends that the slope stability analyses include slip surface optimization to allow for noncircular failure surfaces.

Final Report. Based upon additional information provided by Georgia Power on September 21, 2010 (SCH-API 040), in AMEC's opinion, the information provided adequately documents the

soil strength parameters and the analyses address the stability of both impoundments under the noted load cases.

4.4 Monitoring Instrumentation

AMEC has reviewed provided information and records and determined that Georgia Power has adequate instrument monitoring and review practices. We recommend that Plant Scherer continue the current instrument monitoring and review practices.

4.5 Inspection Recommendations

AMEC has reviewed provided information and inspection records and determined that Georgia Power has adequate inspection practices. We recommend that Plant Scherer continue the current inspection program and practices.

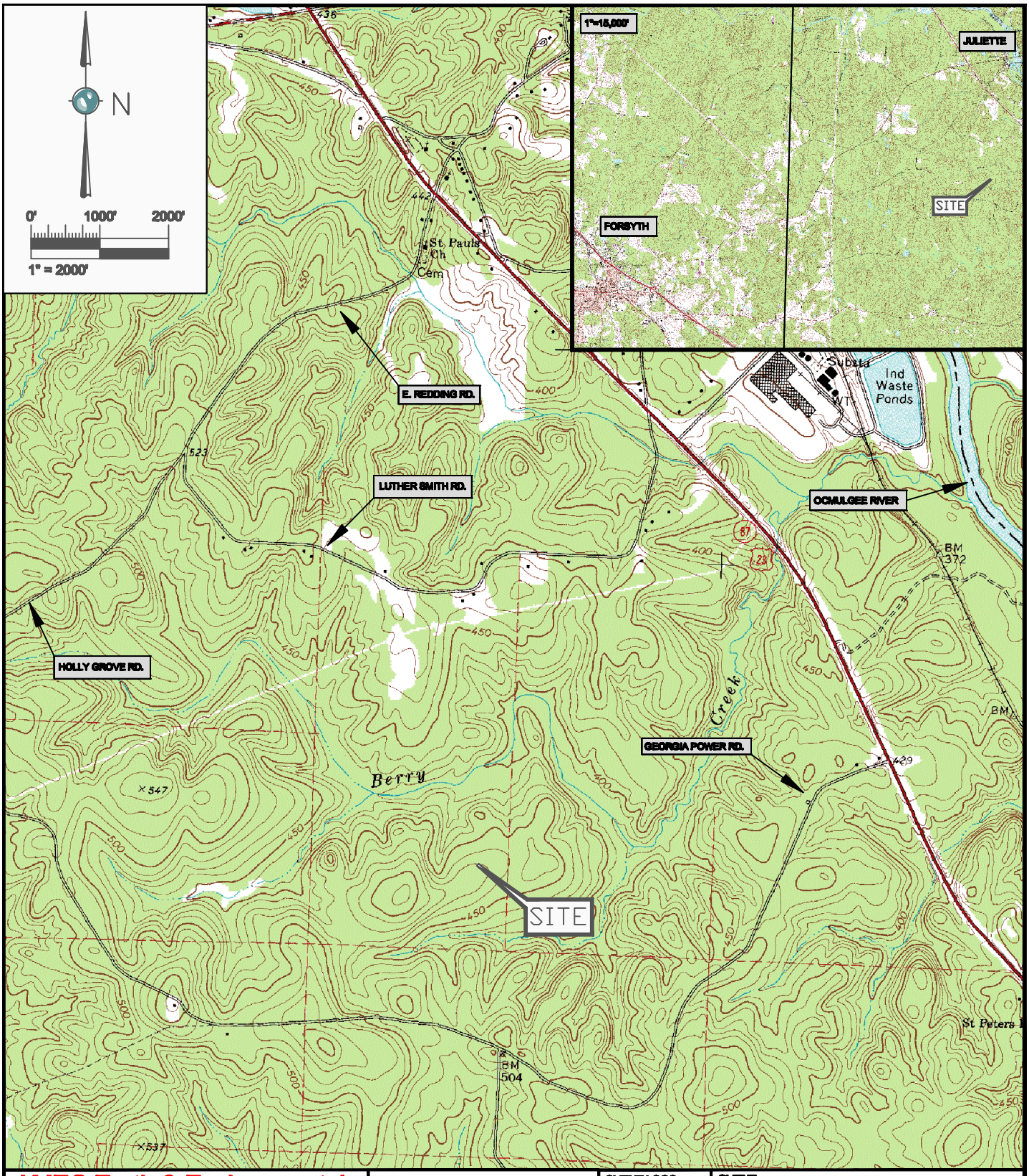
5.0 CLOSING

This report is prepared for the exclusive use of the Environmental Protection Agency for the site and criteria stipulated herein. This report does not address regulatory issues associated with storm water runoff, the identification and modification of regulated wetlands, or ground water recharge areas. Further, this report does not include review or analysis of environmental or regional geo-hydrologic aspects of the site, except as noted herein. Questions or interpretation regarding any portion of the report should be addressed directly by the geotechnical engineer.

Any use, reliance on, or decisions to be made based on this report by a third party are the responsibility of such third parties. AMEC accepts no responsibility for damages, if any, suffered by any third party because of decisions made or actions based on this report.

The conclusions and recommendations given in this report are based on visual observations, our partial knowledge of the history of Plant Scherer impoundments, and information provided to us by others. This report has been prepared in accordance with normally accepted geotechnical engineering practices. No other warranty is expressed or implied.

FIGURES



AMEC Earth & Environmental
680 Commonwealth Center
11003 Bluegrass Parkway
Louisville, Ky 40299
(502) 267-0700

CLIENT LOGO

CLIENT: ENVIRONMENTAL PROTECTION AGENCY

PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS	DWN BY: CAE	DATUM:	DATE: 6/2/10
TITLE: GEORGIA POWER PLANT SCHERER, JULIETTE, GA. SITE LOCATION & VICINITY MAP	CHK'D BY: JHB	REV. NO.:	PROJECT NO: 3-2106-0174.0200
	PROJECTION:	SCALE: AS SHOWN	FIGURE No. 1

S:\Geosciences\Proposals\EPA Coal Impoundment Inspection\March 2010 RFP Pro\Georgia Power\Plant Scherer\fig1-siteandloc.dwg – Layout1 – Jun. 10, 2010 10:30am – chris.eger

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11003 Bluegrass Parkway
Louisville, KY 40299

DWN BY: ATJ

DWN BY: MS

Datum: NAD 83

Projection: Albers

Scale: As Shown

ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS

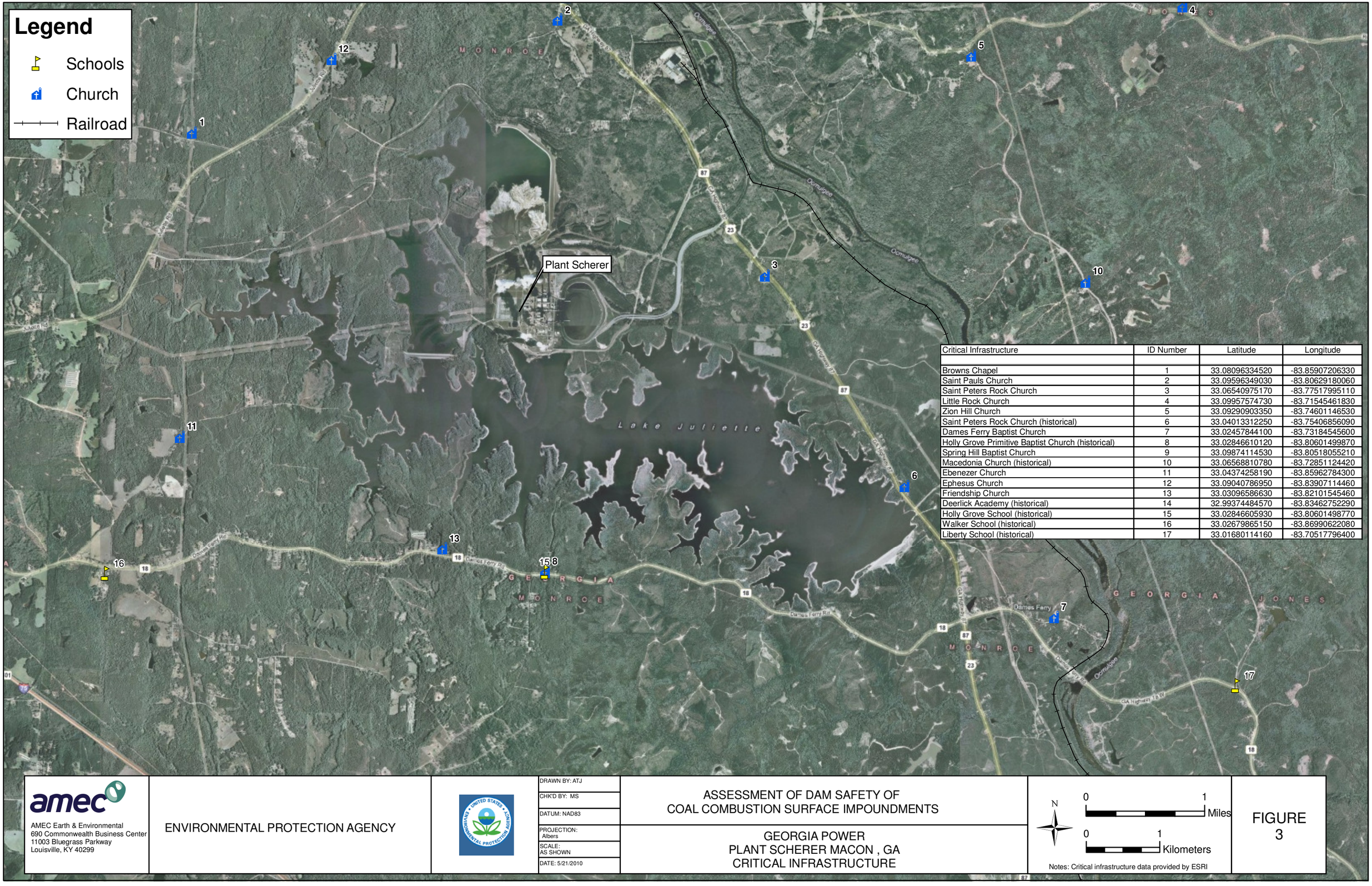
GEORGIA POWER
PLANT SCHERER MACON, GA
SITE PLAN

REV. No.: A

Date: 5-26-2010

Project No: 3-2106-0174-0100

Figure No: 2



Critical Infrastructure	ID Number	Latitude	Longitude
Browns Chapel	1	33.08096334520	-83.85907206330
Saint Pauls Church	2	33.09596349030	-83.80629180060
Saint Peters Rock Church	3	33.06540975170	-83.77517995110
Little Rock Church	4	33.09957574730	-83.71545461830
Zion Hill Church	5	33.09290903350	-83.74601146530
Saint Peters Rock Church (historical)	6	33.04013312250	-83.75406856090
Dames Ferry Baptist Church	7	33.02457844100	-83.73184545600
Holly Grove Primitive Baptist Church (historical)	8	33.02846610120	-83.80601499870
Spring Hill Baptist Church	9	33.09874114530	-83.80518055210
Macedonia Church (historical)	10	33.06568810780	-83.72851124420
Ebenezer Church	11	33.04374258190	-83.85962784300
Ephesus Church	12	33.09040786950	-83.83907114460
Friendship Church	13	33.03096586630	-83.82101545460
Deerlick Academy (historical)	14	32.99374484570	-83.83462752290
Holly Grove School (historical)	15	33.02846605930	-83.80601498770
Walker School (historical)	16	33.02679865150	-83.86990622080
Liberty School (historical)	17	33.01680114160	-83.70517796400

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ENVIRONMENTAL PROTECTION AGENCY

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CHK'D BY: MS
DATUM: NAD83
PROJECTION: Albers
SCALE: AS SHOWN
DATE: 5/21/2010

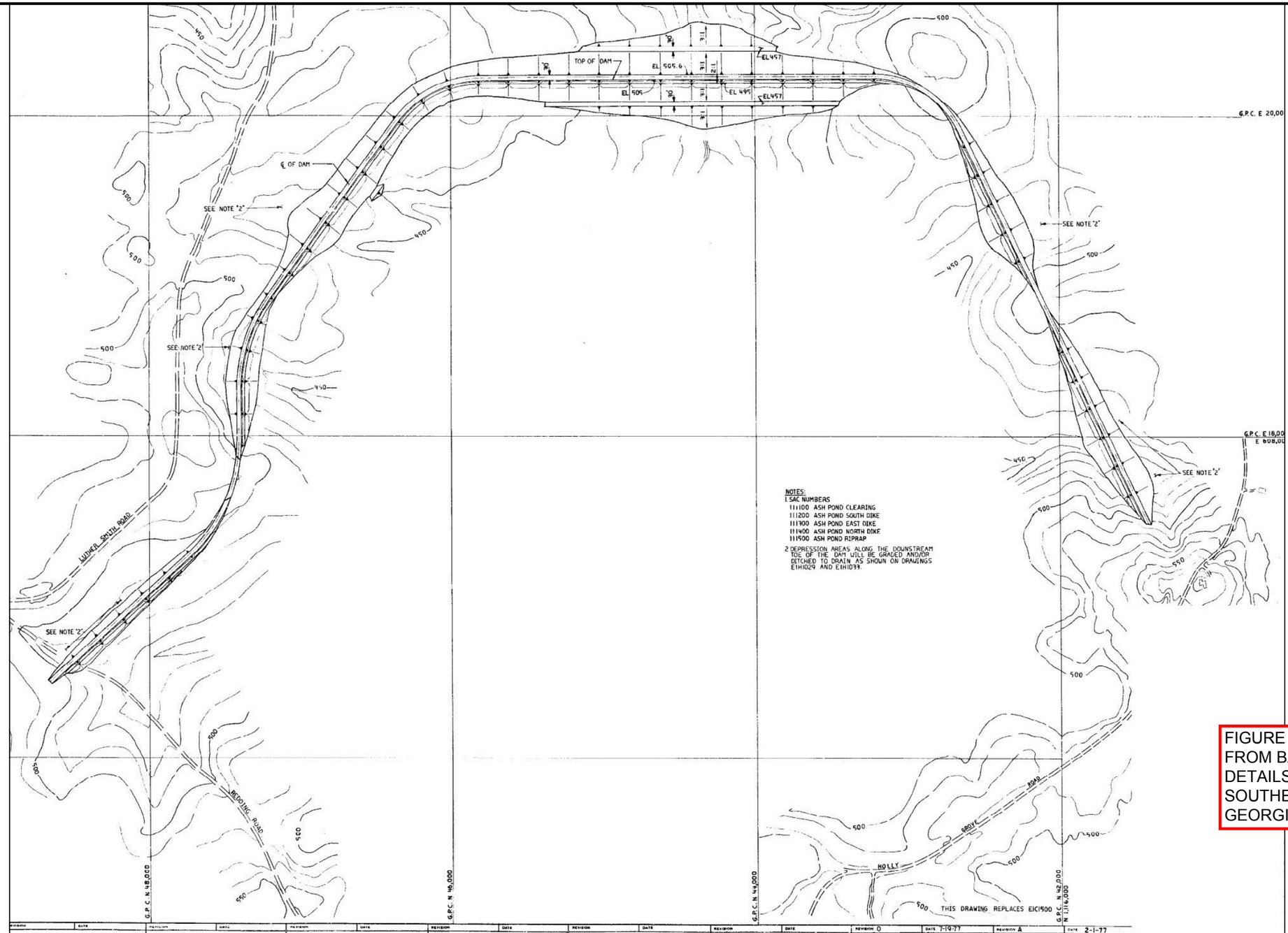
ASSESSMENT OF DAM SAFETY OF
COAL COMBUSTION SURFACE IMPOUNDMENTS

GEORGIA POWER
PLANT SCHERER MACON , GA
CRITICAL INFRASTRUCTURE

N
0 1 Miles
0 1 Kilometers

Notes: Critical infrastructure data provided by ESRI

FIGURE 3



NOTES:
1. SAC NUMBERS
   - 111100 ASH POND CLEARING
   - 111200 ASH POND SOUTH DIKE
   - 111300 ASH POND EAST DIKE
   - 111400 ASH POND NORTH DIKE
   - 111500 ASH POND RIPRAP
2. DEPRESSION AREAS ALONG THE DOWNSTREAM TOE OF THE DAM WILL BE GRADED AND/OR DITCHED TO DRAIN AS SHOWN ON DRAWINGS E1H1029 AND E1H1039.

FIGURE DEVELOPED FROM BASE MAPS AND DETAILS PREPARED BY SOUTHERN COMPANY/ GEORGIA POWER

0' 300' 600' 900'
1" = 600'

NOTE: THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC EARTH & ENVIRONMENTAL REPORT

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DWN BY: CAE
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DATUM:
PROJECTION:
SCALE: AS SHOWN

PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS

TITLE: GEORGIA POWER
PLANT SCHERER, JULIETTE, GA.
ASH POND PLAN VIEW

DATE: 6/8/10
PROJECT NO: 3-2106-0174.0200
REV. NO.:
FIGURE No. 4

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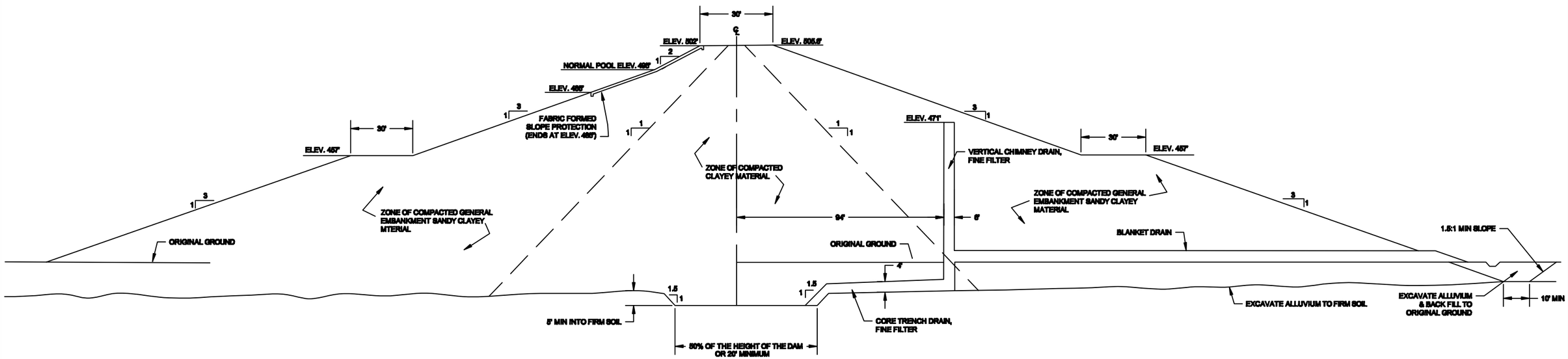

FIGURE DEVELOPED FROM BASE MAPS AND DETAILS PREPARED BY SOUTHERN COMPANY/ GEORGIA POWER

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DATUM:
PROJECTION:
SCALE: AS SHOWN

PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS

TITLE: GEORGIA POWER
PLANT SCHERER, JULIETTE, GA.
ASH POND TYPICAL MAXIMUM CROSS-SECTION

DATE: 6/8/10
PROJECT NO: 3-2106-0174.0200
REV. NO.:
FIGURE No. 5

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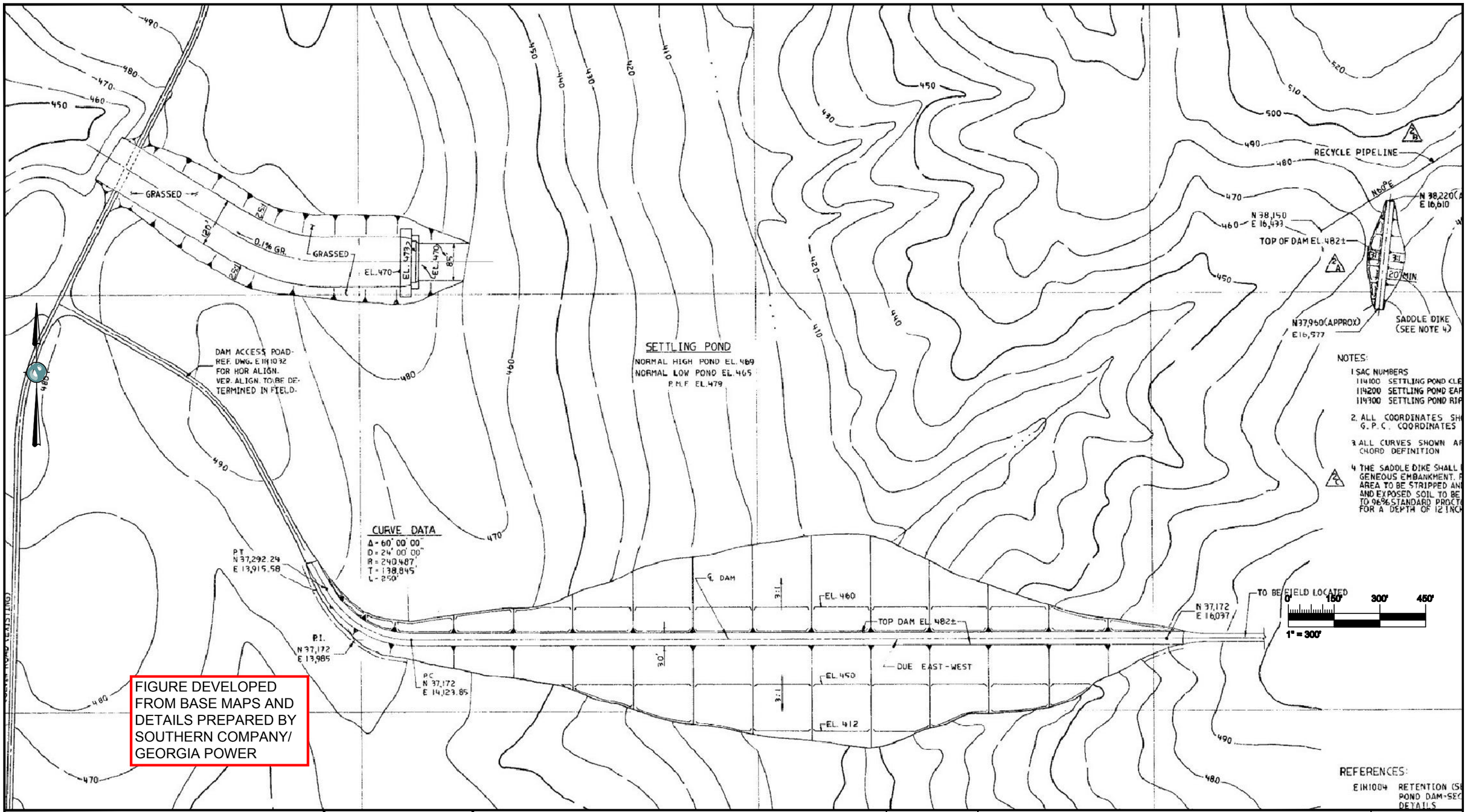

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CHK'D BY:	MS
DATUM:	
PROJECTION:	
SCALE:	AS SHOWN

PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS

TITLE: GEORGIA POWER
PLANT SCHERER, JULIETTE, GA.
SETTLING POND DAM AND EMERGENCY DISCHARGE STRUCTURE PLAN VIEW

DATE: 6/8/10
PROJECT NO: 3-2106-0174.0200
REV. NO.:
FIGURE No. 6

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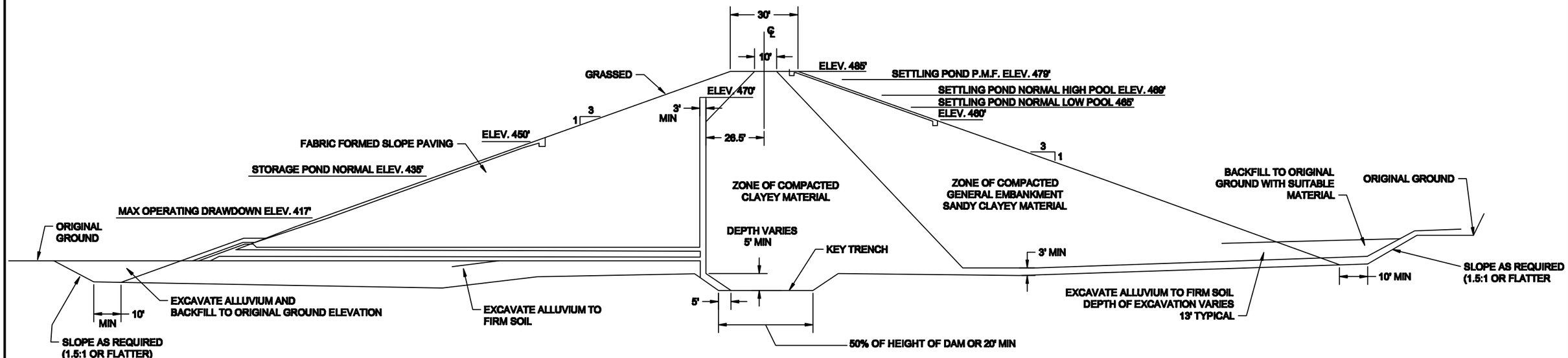
FIGURE DEVELOPED FROM BASE MAPS AND DETAILS PREPARED BY SOUTHERN COMPANY/ GEORGIA POWER



NOTE: THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC EARTH & ENVIRONMENTAL REPORT

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Louisville, Ky 40299
(502) 267-0700

DWN BY: CAE
CHK'D BY: MS
DATUM:
PROJECTION:
SCALE: NTS

PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS

TITLE: GEORGIA POWER, PLANT SCHERER, JULIETTE, GA.
SETTLING POND
TYPICAL MAXIMUM CROSS-SECTION

DATE: 6/8/10
PROJECT NO: 3-2106-0174.0200
REV. NO.:
FIGURE No. 7

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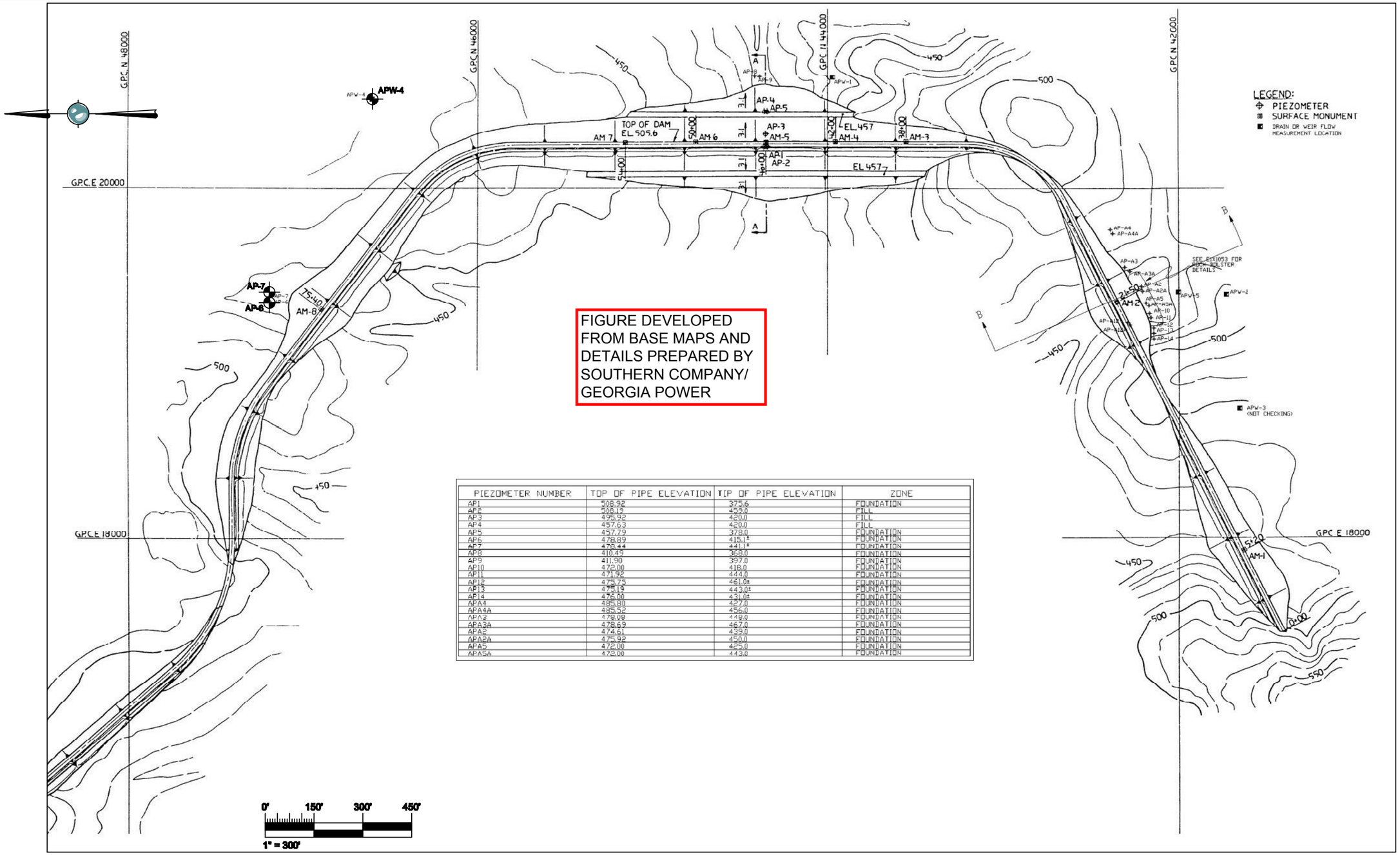

PIEZOMETER NUMBER	TOP OF PIPE ELEVATION	TIP OF PIPE ELEVATION	ZONE
AP1	508.92	375.6	FOUNDATION
AP2	508.13	433.0	FILL
AP3	495.92	420.0	FILL
AP4	457.63	420.0	FILL
AP5	457.79	378.0	FOUNDATION
AP6	478.89	415.1±	FOUNDATION
AP7	478.44	441.1±	FOUNDATION
AP8	410.49	368.0	FOUNDATION
AP9	411.90	397.0	FOUNDATION
AP10	472.00	418.0	FOUNDATION
AP11	471.92	444.0	FOUNDATION
AP12	473.79	461.0±	FOUNDATION
AP13	479.13	443.0±	FOUNDATION
AP14	476.00	431.0±	FOUNDATION
APA4	485.80	427.0	FOUNDATION
APA4A	485.52	456.0	FOUNDATION
APA3	479.09	448.0	FOUNDATION
APA3A	478.69	467.0	FOUNDATION
APA2	474.51	439.0	FOUNDATION
APA2A	475.92	450.0	FOUNDATION
APA5	472.00	425.0	FOUNDATION
APA5A	472.00	443.0	FOUNDATION

NOTE: THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC EARTH & ENVIRONMENTAL REPORT

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PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS

TITLE: GEORGIA POWER, PLANT SCHERER, JULIETTE, GA. COMPREHENSIVE ASH POND PIEZOMETER AND WEIR LOCATION MAP

DATE:	6/9/10
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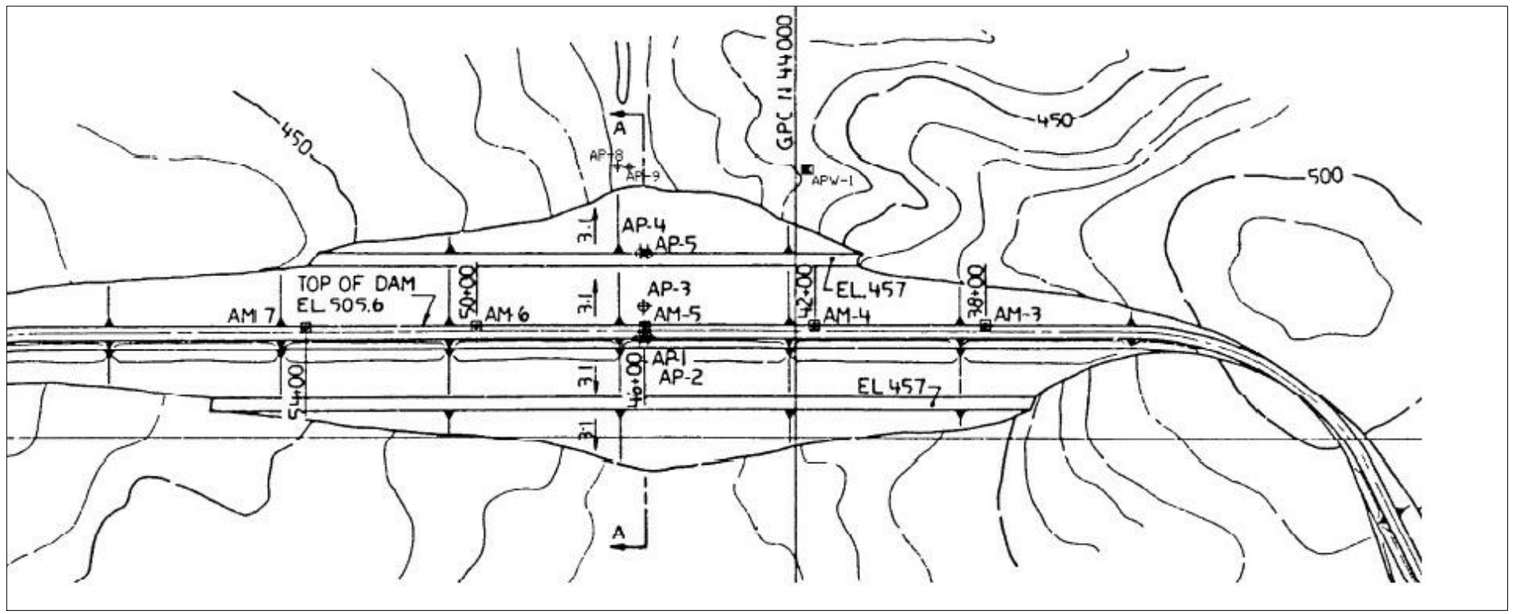
REV. NO.:	
FIGURE No.	8

S:\Geosciences\Proposals\EPA Coal Impoundment Inspection\March 2010 RFP Pro\Georgia Power\Plant Scherer\fig9-piez-weirloc.dwg - Layout1 - Jun. 11, 2010 11:43am - chris.eger

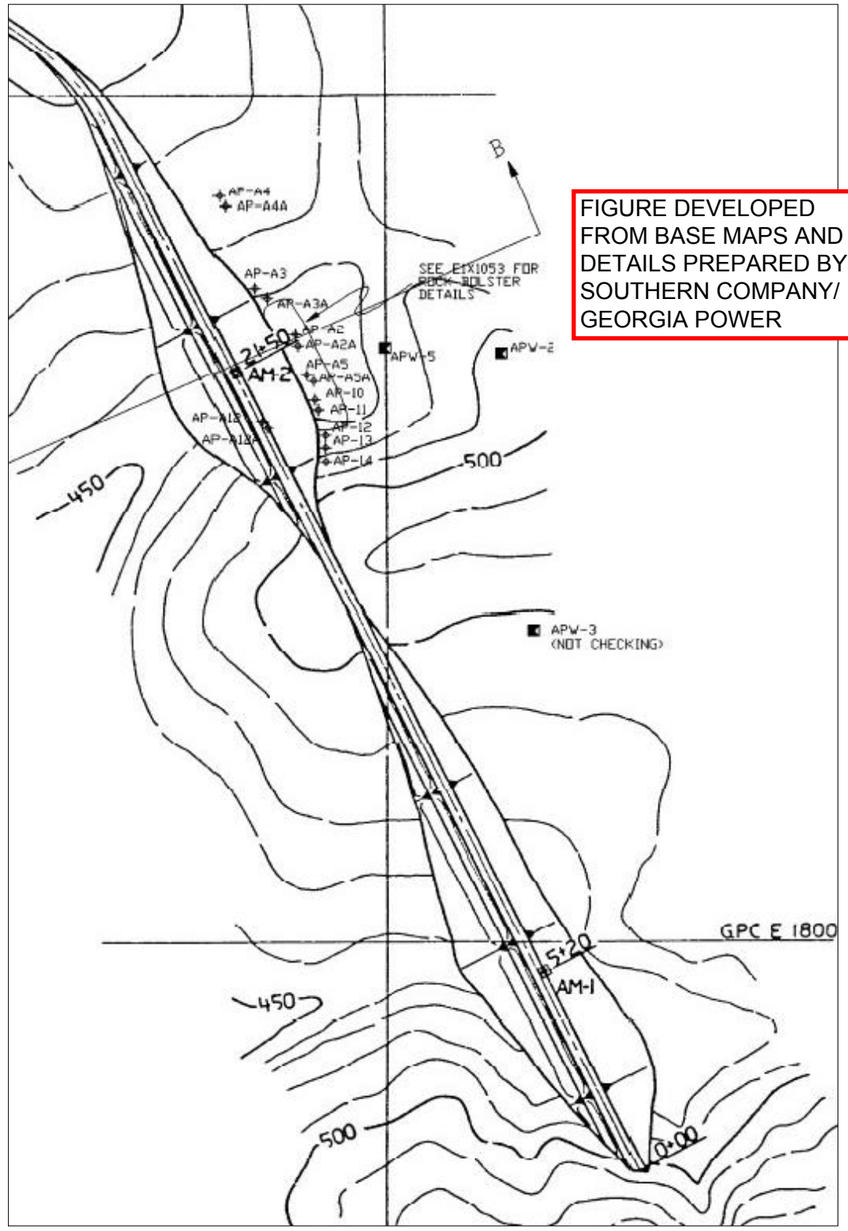
FIGURE DEVELOPED FROM BASE MAPS AND DETAILS PREPARED BY SOUTHERN COMPANY/ GEORGIA POWER



EAST EMBANKMENT PIEZOMETER LOCATIONS
(MAXIMUM SECTION)

0' 150' 300' 450'
1" = 300'

FIGURE DEVELOPED FROM BASE MAPS AND DETAILS PREPARED BY SOUTHERN COMPANY/ GEORGIA POWER



SOUTH EMBANKMENT PIEZOMETER LOCATIONS

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PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS

TITLE: GEORGIA POWER, PLANT SCHERER, JULIETTE, GA. EAST AND SOUTH EMBANKMENT PIEZOMETER DETAILED LOCATION MAPS

DATE:	6/9/10
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REV. NO.:	
FIGURE No.	9

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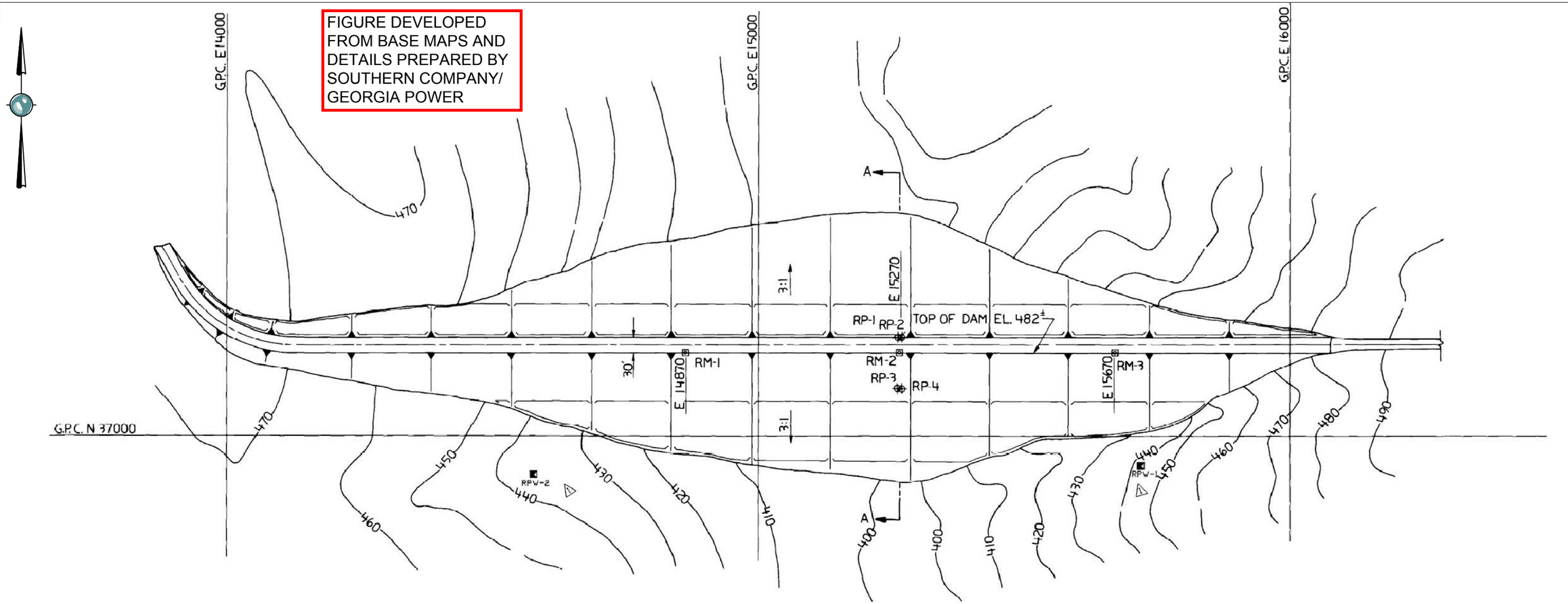
FIGURE DEVELOPED FROM BASE MAPS AND DETAILS PREPARED BY SOUTHERN COMPANY/ GEORGIA POWER



0' 100' 200' 300'

1" = 200'

NOTE: THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC EARTH & ENVIRONMENTAL REPORT

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PROJECTION:	
SCALE:	NTS

PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS

TITLE: GEORGIA POWER, PLANT SCHERER, JULIETTE, GA. SETTLING POND PIEZOMETER AND WEIR LOCATION MAP

DATE:	6/9/10
PROJECT NO:	3-2106-0174.0200
REV. NO.:	
FIGURE No.	10

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APPENDIX A

EPA COAL COMBUSTION DAM INSPECTION CHECKLISTS AND COAL COMBUSTION WASTE IMPOUNDMENT INSPECTION FORMS DATA-MAY 2010

APPENDIX B

SITE PHOTO LOG MAP AND SITE PHOTOS

* No Photo, Ditch between North Dike and Luther Smith Road

ENVIRONMENTAL PROTECTION AGENCY

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Louisville, KY 40299

DWN BY: ATJ

DWN BY: MS

Datum: NAD 83

Projection: Albers

Scale: As Shown

ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS

GEORGIA POWER
PLANT SCHERER MACON, GA
ASH POND
PHOTO LOCATION MAP

REV. No.: A

Date: 5-26-2010

Project No: 3-2106-0174-0100

Figure No: B-1

ENVIRONMENTAL PROTECTION AGENCY

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DWN BY:	MS
Datum:	NAD 83
Projection:	Albers
Scale:	As Shown

ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS

GEORGIA POWER
PLANT SCHERER MACON, GA
SETTLING POND
PHOTO LOCATION MAP

REV. No.:	A
Date:	5-26-2010
Project No:	3-2106-0174-0100
Figure No:	B-2

AP-1

CREST OF EAST DIKE, LOOKING SOUTH TOWARD TIE-IN WITH SOUTH DIKE

AP-2

CREST OF EAST DIKE, LOOKING SOUTH AT SETTLEMENT MONUMENT #4

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TITLE: GEORGIA POWER PLANT SCHERER JULIETTE, GA. ASH POND SITE PHOTOS	CHK'D BY: MS	REV. NO.:	PROJECT NO: 3-2106-0174.0200
	PROJECTION:	SCALE:	PAGE NO. B-3

AP-3

CREST OF EAST DIKE, LOOKING EAST AT TOE DRAIN OUTLET

AP-4

CREST OF EAST DIKE, LOOKING SOUTH AT PZ'S AP-1R, AP2 AND SETTLEMENT MONUMENT #5

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PLANT SCHERER JULIETTE, GA.
ASH POND SITE PHOTOS

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AP-5

CREST OF EAST DIKE, LOOKING NORTH AT SETTLEMENT MONUMENT #6 AND #7) LEFT:UPSTREAM FABRIFORM SLOPE OF SOUTH END OF NORTH DIKE, RIGHT:DOWNSTREAM SLOPE OF NORTH END OF EAST DIKE

AP-6

CREST OF EAST DIKE, LOOKING SOUTH (SETTLEMENT MONUMENT #6) REPAIRED SURFACE EROSION AREA (RESEEDED AND MATTED) ON DOWNSTREAM SLOPE AT FAR LEFT OF PHOTO

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PLANT SCHERER JULIETTE, GA.
ASH POND SITE PHOTOS

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PROJECTION:	SCALE:	PAGE NO. B-5	

AP-7

INTERSECTION OF CREST OF EAST AND NORTH DIKE LOOKING NORTHWEST, LEFT: UPSTREAM FABRIFORM SLOPE OF NORTH DIKE, FAR LEFT: NORTH DIKE ABUTMENT TIE-IN

AP-8

CREST OF NORTH DIKE, LOOKING SOUTHEAST AT SETTLEMENT MONUMENT #8

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	PROJECTION:	SCALE:	PAGE NO. B-6

AP-9

CREST OF NORTH DIKE, LOOKING NORTH AT PZ'S AP-6 AND AP-7 (GPS POINT 10) AT TOE OF DOWNSTREAM SLOPE

AP-10

CREST OF NORTH DIKE, LOOKING SOUTH AT PLANT SCHERER

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	PROJECTION:	SCALE:	PAGE NO. B-7

AP-11

CREST OF NORTH DIKE, LOOKING AT UPSTREAM SLOPE AT LEFT ABUTMENT TIE-IN

AP-12

CREST OF NORTH DIKE, LOOKING AT DOWNSTREAM SLOPE AT LEFT ABUTMENT TIE-IN

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AP-13

NORTH DIKE FROM LT. ABUTMENT TIE-IN LOOKING EAST AT DOWNSTREAM SLOPE

AP-14

NORTH DIKE, LT ABUTMENT TIE-IN, EMERGENCY SUPPLIES

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PLANT SCHERER JULIETTE, GA.
ASH POND SITE PHOTOS

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AP-15

DOWNSTREAM TOE OF NORTH DIKE, WET AREA NORTH OF PZ'S AP-6 AND 7

AP-16

DOWNSTREAM TOE OF NORTH DIKE, LOOKING SOUTHEAST AT GRAVEL ROAD AND CONCRETE DITCH AT TOE AND DOWNSTREAM SLOPE

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	PROJECTION:	SCALE:	PAGE NO. B-10

AP-17

DOWNSTREAM TOE OF NORTH DIKE, MINOR EROSION AND BROKEN CONCRETE DITCH

AP-18

DOWNSTREAM TOE OF NORTH DIKE, LOOKING NORTHEAST AT TOE DRAIN OUTLET

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ASH POND SITE PHOTOS

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AP-19

DOWNSTREAM TOE OF NORTH DIKE, APPROX. 125 FEET LONG WET SURFACE AREA AT EAST END OF CONCRETE DITCH

AP-20

DOWNSTREAM SLOPE OF EAST DIKE, LOOKING SOUTH AT REPAIRED AREAS ON SLOPE

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AP-21

DOWNSTREAM TOE OF EAST DIKE, LOOKING NORTHWEST AT BEGINNING OF CONCRETE DITCH

AP-22

DOWNSTREAM TOE OF EAST DIKE, LOOKING EAST AT TOE-DRAIN OUTLET

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AP-23

EAST OF DOWNSTREAM TOE OF EAST DIKE, EMERGENCY SUPPLIES

AP-24

LOWER DOWNSTREAM SLOPE OF EAST DIKE, LOOKING NORTH, END OF CONCRETE DITCH ABOVE GRAVEL ROAD, REPAIRED AREAS ON DOWNSTREAM SLOPE

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AP-25

DOWNSTREAM SLOPE OF EAST DIKE, LOOKING NORTH, END OF CONCRETE DITCH ABOVE GRAVEL ROAD

AP-26

DOWNSTREAM SLOPE OF EAST DIKE, LOOKING NORTHEAST, SOUTH END START OF SLOPE AND BLANKET DRAIN CONCRETE DITCH

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ASH POND SITE PHOTOS

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AP-27

DOWNSTREAM SLOPE OF EAST DIKE, LOOKING NORTH, WATER SEEPING INTO AND BACK OUT OF DITCH AT JOINTS

AP-28

DOWNSTREAM SLOPE OF EAST DIKE, LOOKING NORTH, WATER ENTERING CONCRETE DITCH FROM BD-2 AND BD-3

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		PROJECTION:	SCALE:	PAGE NO. B-16

AP-29

DOWNSTREAM TOE OF EAST DIKE, LOOKING EAST, BLANKET DRAIN OUTLET

AP-30

DOWNSTREAM TOE OF EAST DIKE, LOOKING SOUTHWEST AT BLANKET DRAIN DITCH

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AP-31

DOWNSTREAM TOE OF EAST DIKE, LOOKING EAST AT BLANKET DRAIN OUTLET WITH 4-INCH DIAMETER PIPE

AP-32

DOWNSTREAM TOE OF EAST DIKE, LOOKING SOUTH AT FLOWING BLANKET DRAIN ON NORTH SIDE OF BLANKET DRAIN OUTLET

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AP-33

DOWNSTREAM SLOPE OF EAST DIKE, LOOKING NORTH AT WATER SEEPING IN DITCH AND HEAVED JOINT ON NORTH SIDE OF BLANKET DRAIN OUTLET

AP-34

DOWNSTREAM SLOPE OF EAST DIKE, LOOKING SOUTHEAST, TOP OF NORTH END OF ROAD AND BLANKET DRAIN CONCRETE DITCH

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PROJECTION:	SCALE:	PAGE NO. B-19

AP-35

DOWNSTREAM SLOPE OF EAST DIKE, LOOKING NORTHEAST AT BD-1 OUTLET, MINOR EROSION ABOVE THIS AREA

AP-36

ASH POND OUTLET WEIR AND DECANT PIPE (TREATMENT PIPE ABOVE DECANT)

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AP-37
SULFURIC ACID TANK FOR OUTLET TREATMENT

AP-38
EMERGENCY SPILLWAY

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AP-39

LOOKING SOUTH THROUGH EMERGENCY SPILLWAY

AP-40

LOOKING NORTHEAST AT DECANT PIPE OUTLET TO CONCRETE DITCH

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AP-41

LOOKING SOUTH AT ASH POND OUTLET TO SETTLING BASIN

AP-42

SOUTH DIKE, WASTEWATER BASIN (WWB1 AND WWB2) AND COAL PILE RUNOFF OUTLET PIPES

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	PROJECTION:	SCALE:	PAGE NO. B-23

AP-43

SOUTH DIKE, BOTTOM AND TOP ASH SLURRY LINE OUTLET PIPES

AP-44

SOUTH DIKE, UNITS 1 AND 2 TOP ASH SLURRY LINE OUTLET PIPES

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AP-45

SOUTH DIKE, LOOKING NORTH AT ASH POND

AP-46

CREST OF SOUTH DIKE, LOOKING WEST AT DOWNSTREAM SLOPE AND CREST

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CLIENT LOGO	CLIENT: ENVIRONMENTAL PROTECTION AGENCY		
PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS	DWN BY: CAE	DATUM:	DATE: 6/8/10
TITLE: GEORGIA POWER PLANT SCHERER JULIETTE, GA. ASH POND SITE PHOTOS	CHK'D BY: MS	REV. NO.:	PROJECT NO: 3-2106-0174.0200
	PROJECTION:	SCALE:	PAGE NO. B-25

AP-47

TOE OF SOUTH DIKE, LOOKING EAST AT TWO SMALL 8X5 FEET BOILS/SEEPS

AP-48

EROSION ON DOWNSTREAM SLOPE IN GROIN OF LEFT ABUTMENT

AMEC Earth & Environmental
690 Commonwealth Center
11003 Bluegrass Parkway
Louisville, Ky 40299
(502) 267-0700

CLIENT LOGO	CLIENT: ENVIRONMENTAL PROTECTION AGENCY		
PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS	DWN BY: CAE	DATUM:	DATE: 6/8/10
TITLE: GEORGIA POWER PLANT SCHERER JULIETTE, GA. ASH POND SITE PHOTOS	CHK'D BY: MS	REV. NO.:	PROJECT NO: 3-2106-0174.0200
	PROJECTION:	SCALE:	PAGE NO. B-26

AP-49

SOUTH DIKE, TIE-IN OF RIGHT ABUTMENT

AP-50

SOUTH DIKE, UPSTREAM FABRIFORM SLOPE OF SOUTH DIKE

AMEC Earth & Environmental
690 Commonwealth Center
11003 Bluegrass Parkway
Louisville, Ky 40299
(502) 267-0700

CLIENT LOGO

CLIENT: ENVIRONMENTAL PROTECTION AGENCY

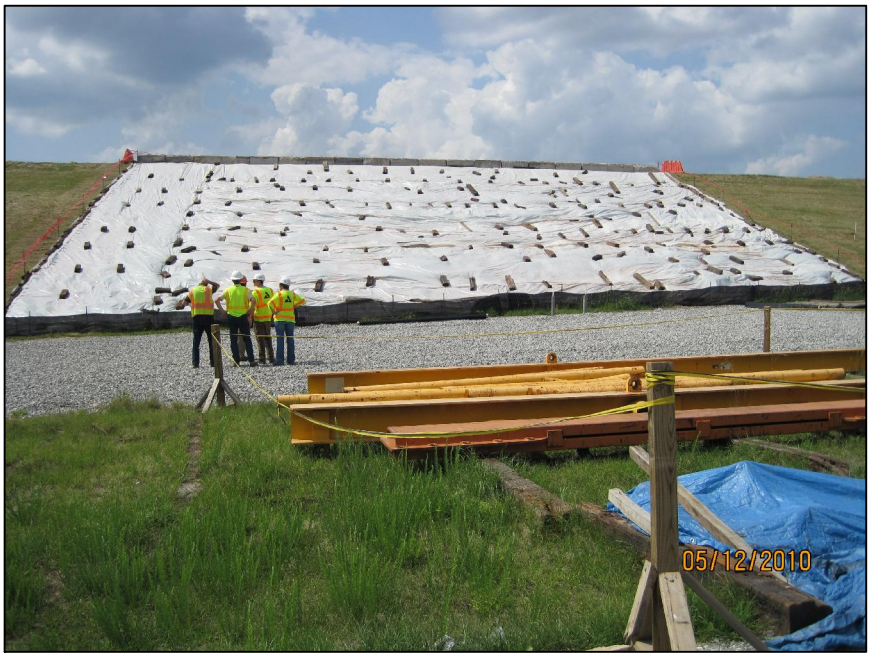
PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS

TITLE: GEORGIA POWER
PLANT SCHERER JULIETTE, GA.
ASH POND SITE PHOTOS

DWN BY:	DATUM:	DATE:
CAE		6/8/10
CHK'D BY:	REV. NO.:	PROJECT NO:
MS		3-2106-0174.0200
PROJECTION:	SCALE:	PAGE NO.
		B-27

AP-51

INTERSECTION OF SOUTH AND EAST DIKE LOOKING WEST AT SOUTH DIKE DOWNSTREAM SLOPE



AP-52

SOUTH OF SOUTH DIKE TOE LOOKING NORTH AT REPORTED SURFACE SLOUGH; WAITING FOR DRY WEATHER TO COMPLETE SLOPE REPAIR

AMEC Earth & Environmental
690 Commonwealth Center
11003 Bluegrass Parkway
Louisville, Ky 40299
(502) 267-0700

CLIENT LOGO

CLIENT: ENVIRONMENTAL PROTECTION AGENCY

PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS

TITLE: GEORGIA POWER
PLANT SCHERER JULIETTE, GA.
ASH POND SITE PHOTOS

DWN BY:	DATUM:	DATE:
CAE		6/8/10
CHK'D BY:	REV. NO.:	PROJECT NO:
MS		3-2106-0174.0200
PROJECTION:	SCALE:	PAGE NO.
		B-28

AP-53

LOOKING NORTHEAST AT 2136 LUTHER SMITH ROAD

AMEC Earth & Environmental
690 Commonwealth Center
11003 Bluegrass Parkway
Louisville, Ky 40299
(502) 267-0700

CLIENT LOGO	CLIENT: ENVIRONMENTAL PROTECTION AGENCY		
PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS	DWN BY: CAE	DATUM:	DATE: 6/8/10
TITLE: GEORGIA POWER PLANT SCHERER JULIETTE, GA. ASH POND SITE PHOTOS	CHK'D BY: MS	REV. NO.:	PROJECT NO: 3-2106-0174.0200
	PROJECTION:	SCALE:	PAGE NO. B-29

SP-1

CREST OF SETTLING POND, LOOKING EAST AT LEFT ABUTMENT TIE-IN

SP-2

CREST OF SETTLING POND, LOOKING EAST AT RIGHT ABUTMENT TIE-IN

AMEC Earth & Environmental
600 Commonwealth Center
11003 Bluegrass Parkway
Louisville, Ky 40299
(502) 267-0700

CLIENT LOGO

CLIENT: ENVIRONMENTAL PROTECTION AGENCY

PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS

TITLE: GEORGIA POWER
PLANT SCHERER JULIETTE, GA.
SETTLING POND SITE PHOTOS

DWN BY: CAE	DATUM:	DATE: 6/9/10
CHK'D BY: MS	REV. NO.:	PROJECT NO: 3-2106-0174.0200
PROJECTION:	SCALE:	PAGE NO. B-30

SP-3

CREST OF SETTLING POND, LOOKING SOUTHWEST AT SETTLEMENT MONUMENT ON CREST AND PZ'S AT DOWNSTREAM TOE (LAKE JULIETTE)

SP-4

CREST OF SETTLING POND, LOOKING SOUTH AT RIP RAP ON DOWNSTREAM TOE OF RIGHT ABUTMENT

AMEC Earth & Environmental
800 Commonwealth Center
11003 Bluegrass Parkway
Louisville, Ky 40299
(502) 267-0700

CLIENT LOGO

CLIENT: ENVIRONMENTAL PROTECTION AGENCY

PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS

TITLE: GEORGIA POWER
PLANT SCHERER JULIETTE, GA.
SETTLING POND SITE PHOTOS

DWN BY:	DATUM:	DATE:
CAE		6/9/10
CHK'D BY:	REV. NO.:	PROJECT NO:
MS		3-2106-0174.0200
PROJECTION:	SCALE:	PAGE NO.
		B-31

SP-5

CREST OF SETTLING POND, LOOKING SOUTHWEST AT BLANKET DRAIN AND GROIN AREA OF RIGHT ABUTMENT

SP-6

CREST OF SETTLING POND, LOOKING WEST AT RIGHT ABUTMENT TIE-IN

AMEC Earth & Environmental
600 Commonwealth Center
11003 Bluegrass Parkway
Louisville, Ky 40299
(502) 267-0700

CLIENT LOGO	CLIENT: ENVIRONMENTAL PROTECTION AGENCY		
PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS	DWN BY: CAE	DATUM:	DATE: 6/9/10
TITLE: GEORGIA POWER PLANT SCHERER JULIETTE, GA. SETTLING POND SITE PHOTOS	CHK'D BY: MS	REV. NO.:	PROJECT NO: 3-2106-0174.0200
	PROJECTION:	SCALE:	PAGE NO. B-32

SP-7

CREST OF SETTLING POND, LOOKING NORTHEAST AT SADDLE BERM

SP-8

CREST OF SETTLING POND, LOOKING SOUTH AT TOE OF GROIN AREA AT LEFT ABUTMENT, OBSERVED LARGE ANIMAL BURROW AT TOE OF DOWNSTREAM SLOPE IN THIS AREA

AMEC Earth & Environmental
600 Commonwealth Center
11003 Bluegrass Parkway
Louisville, Ky 40299
(502) 267-0700

CLIENT LOGO

CLIENT: ENVIRONMENTAL PROTECTION AGENCY

PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS	DWN BY: CAE	DATUM:	DATE: 6/9/10
TITLE: GEORGIA POWER PLANT SCHERER JULIETTE, GA. SETTLING POND SITE PHOTOS	CHK'D BY: MS	REV. NO.:	PROJECT NO: 3-2106-0174.0200
	PROJECTION:	SCALE:	PAGE NO. B-33

SP-9

SETTLING POND, LOOKING NORTH AT UPSTREAM FABRIFORM SLOPE AND CREST OF SADDLE BERM

SP-10

SETTLING POND, LOOKING NORTH AT CREST AND DOWNSTREAM SLOPE OF SADDLE BERM

AMEC Earth & Environmental 690 Commonwealth Center 11003 Bluegrass Parkway Louisville, Ky 40299 (502) 267-0700	amec	CLIENT LOGO	CLIENT ENVIRONMENTAL PROTECTION AGENCY	
PROJECT ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS		DWN BY: CAE	DATUM:	DATE: 6/9/10
TITLE GEORGIA POWER PLANT SCHERER JULIETTE, GA. SETTLING POND SITE PHOTOS		CHK'D BY: MS	REV. NO.:	PROJECT NO: 3-2106-0174.0200
		PROJECTION:	SCALE:	PAGE NO. B-34

SP-11

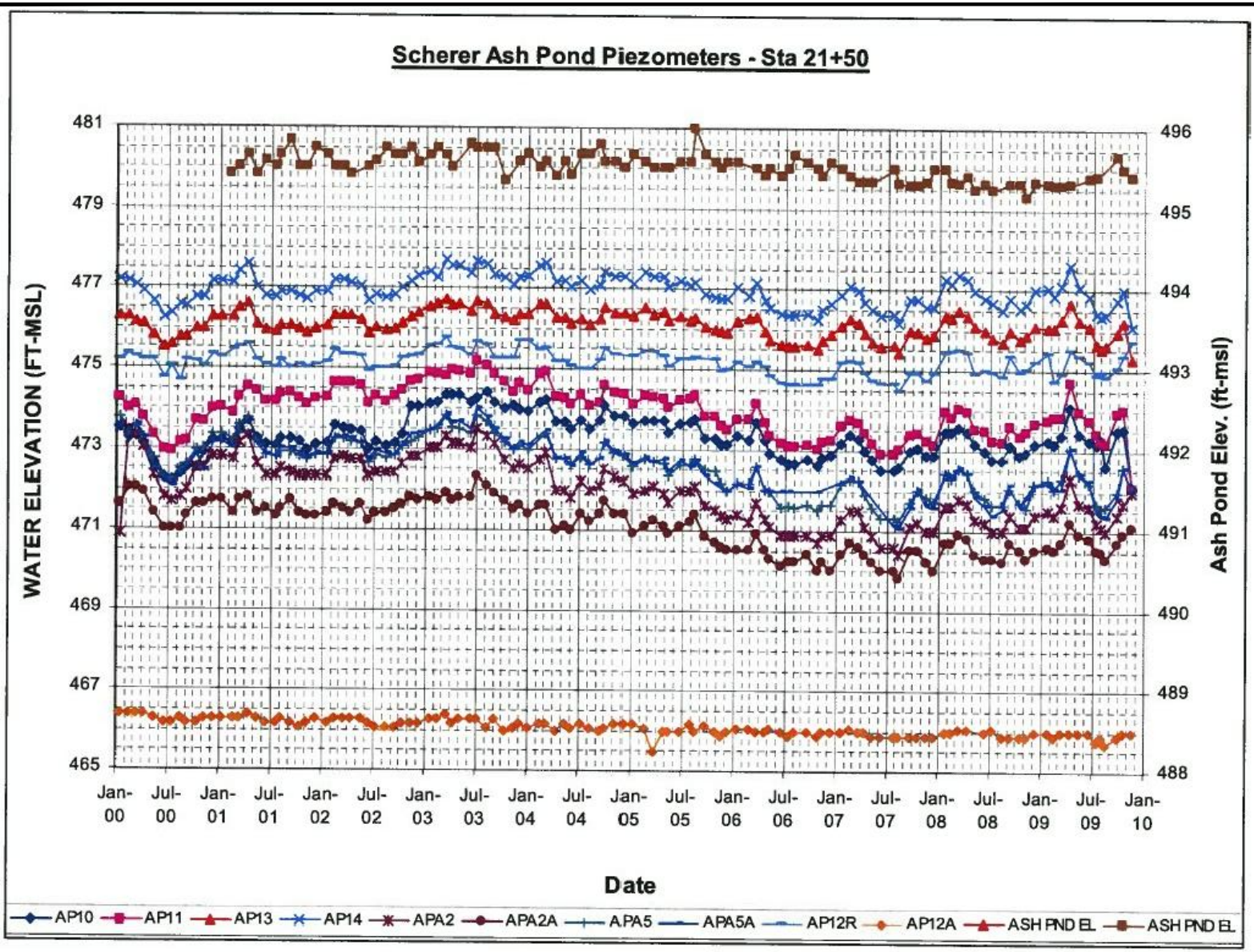
SETTLING POND, LOOKING NORTH AT CREST OF SADDLE BERM

AMEC Earth & Environmental
690 Commonwealth Center
11003 Bluegrass Parkway
Louisville, Ky 40299
(502) 267-0700

CLIENT LOGO		CLIENT: ENVIRONMENTAL PROTECTION AGENCY	
PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS	DWN BY: CAE	DATUM:	DATE: 6/9/10
TITLE: GEORGIA POWER PLANT SCHERER JULIETTE, GA. SETTLING POND SITE PHOTOS	CHK'D BY: MS	REV. NO.:	PROJECT NO: 3-2106-0174.0200
	PROJECTION:	SCALE:	PAGE NO. B-35

APPENDIX C

ASH POND PIEZOMETER, WEIR, AND BLANKET DRAIN FLOW DATA GRAPHS



CLIENT LOGO	CLIENT ENVIRONMENTAL PROTECTION AGENCY	DWN BY: CAE CHK'D BY: MS	PROJECT ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS	REV. NO.: A DATE: 6/8/10	
AMEC Earth & Environmental 690 Commonwealth Center 11003 Bluegrass Parkway Louisville, Ky 40299 (502) 267-0700	amec	DATUM: PROJECTION: SCALE: NTS	TITLE GEORGIA POWER PLANT SCHERER JULIETTE, GA. ASH POND PIEZOMETER DATA GRAPH STATION 21+50	PROJECT NO: 3-2106-0174.0200 PAGE NO. C-1	

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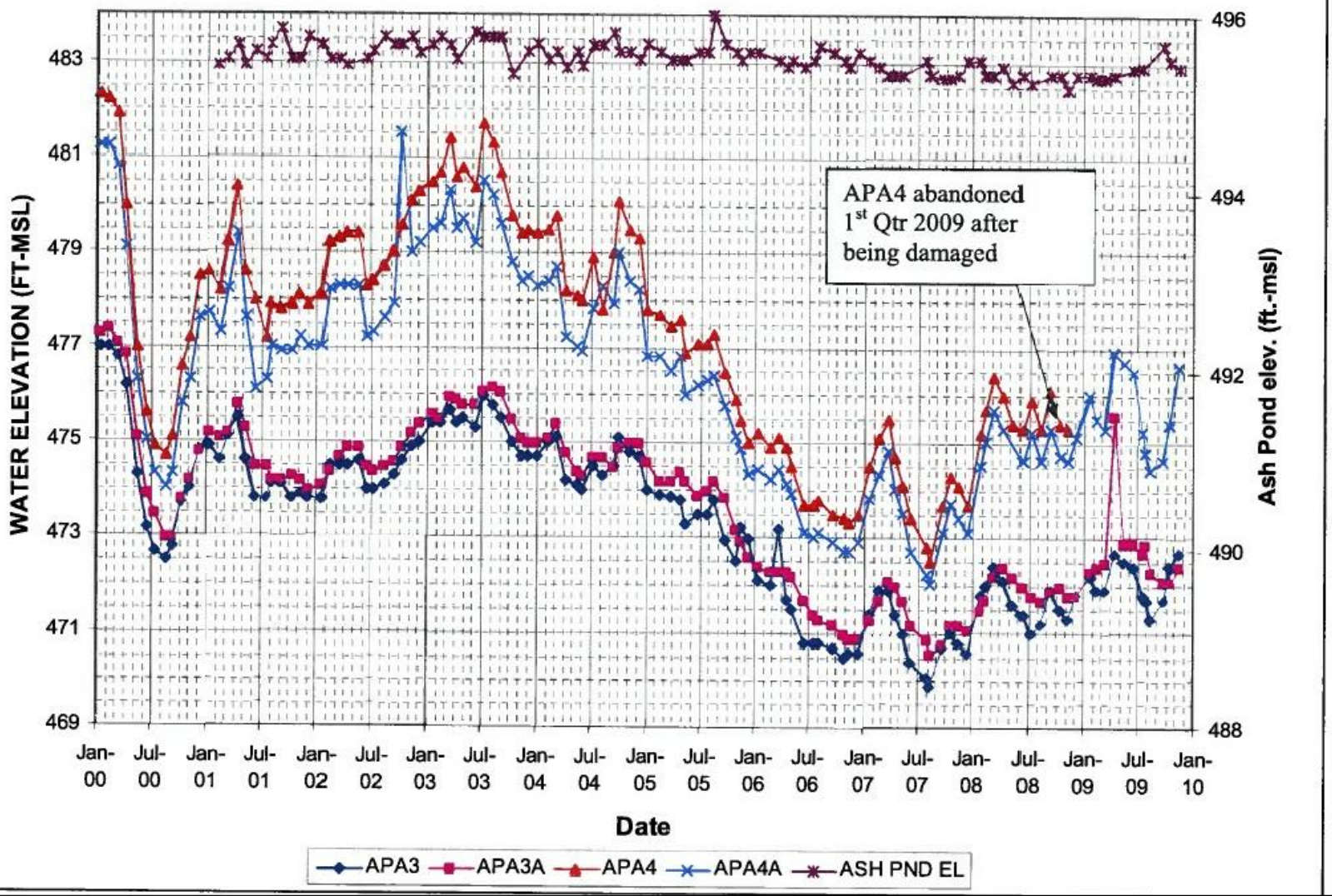
Scherer Ash Pond Piezometers - Sta 21+50



CLIENT LOGO	CLIENT ENVIRONMENTAL PROTECTION AGENCY	DWN BY: CAE CHK'D BY: MS	PROJECT ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS	REV. NO.: A DATE: 6/8/10	
AMEC Earth & Environmental 690 Commonwealth Center 11003 Bluegrass Parkway Louisville, Ky 40299 (502) 267-0700	amec	DATUM: PROJECTION: SCALE: NTS	TITLE GEORGIA POWER PLANT SCHERER JULIETTE, GA. ASH POND PIEZOMETER DATA GRAPH STATION 21+50	PROJECT NO: 3-2106-0174.0200 PAGE NO. C-2	

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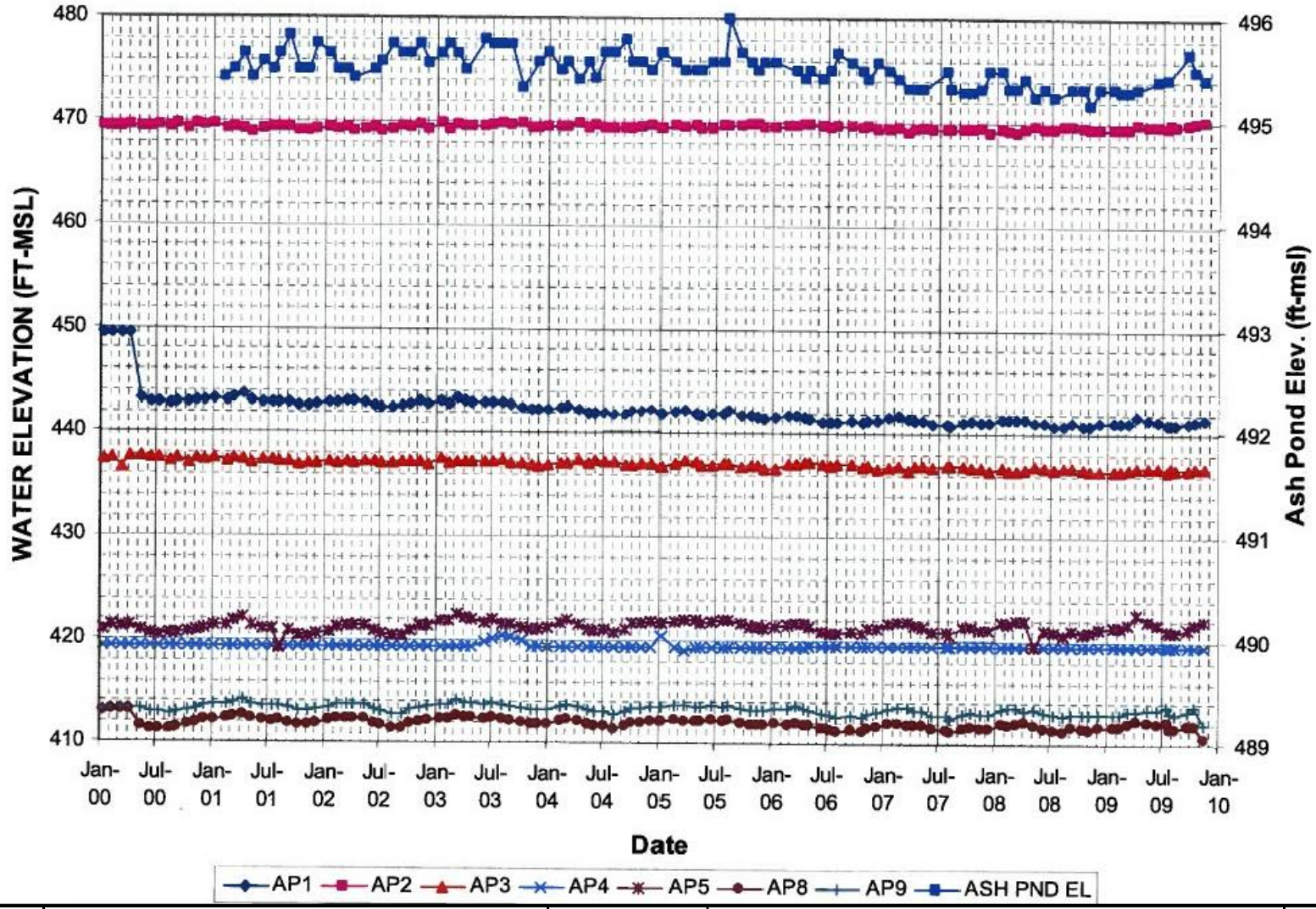
Scherer Ash Pond Piezometers - Sta 42+00



CLIENT LOGO	CLIENT: ENVIRONMENTAL PROTECTION AGENCY	DWN BY: CAE	PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS	REV. NO.: A	
		CHK'D BY: MS		DATE: 6/8/10	
AMEC Earth & Environmental 690 Commonwealth Center 11003 Bluegrass Parkway Louisville, Ky 40299 (502) 267-0700	amec	DATUM:	TITLE: GEORGIA POWER PLANT SCHERER JULIETTE, GA. ASH POND PIEZOMETER DATA GRAPH STATION 42+00	PROJECT NO: 3-2106-0174.0200	
		PROJECTION:		PAGE NO. C-3	
		SCALE: NTS			

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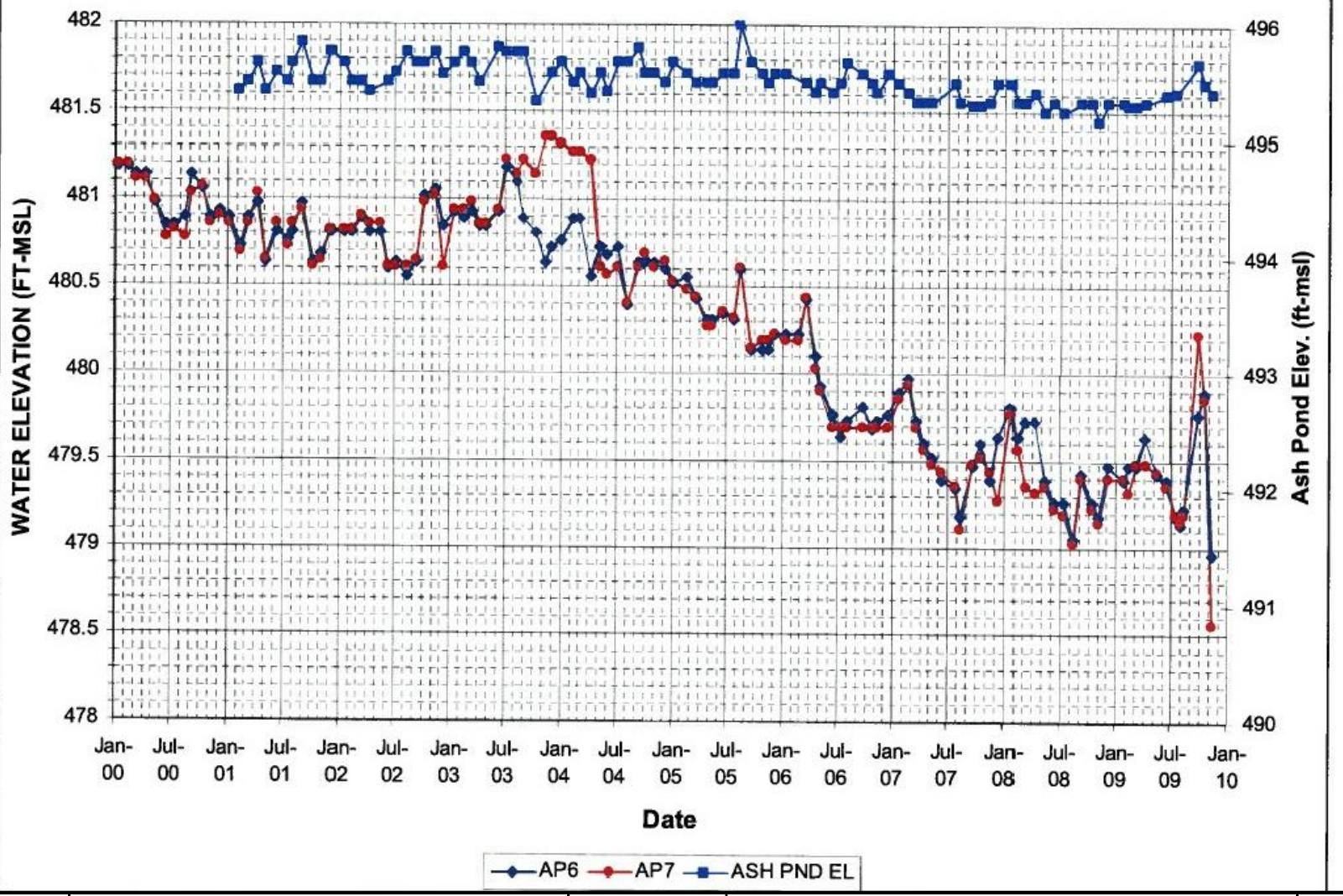
Scherer Ash Pond Piezometers - Sta 75+40



CLIENT LOGO	CLIENT: ENVIRONMENTAL PROTECTION AGENCY	DWN BY: CAE	PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS	REV. NO.: A	
		CHK'D BY: MS		DATE: 6/8/10	
AMEC Earth & Environmental 690 Commonwealth Center 11003 Bluegrass Parkway Louisville, Ky 40299 (502) 267-0700	amec	DATUM:	TITLE: GEORGIA POWER PLANT SCHERER JULIETTE, GA. ASH POND PIEZOMETER DATA GRAPH STATION 75+40	PROJECT NO: 3-2106-0174.0200	
		PROJECTION:		PAGE NO. C-4	
		SCALE: NTS			

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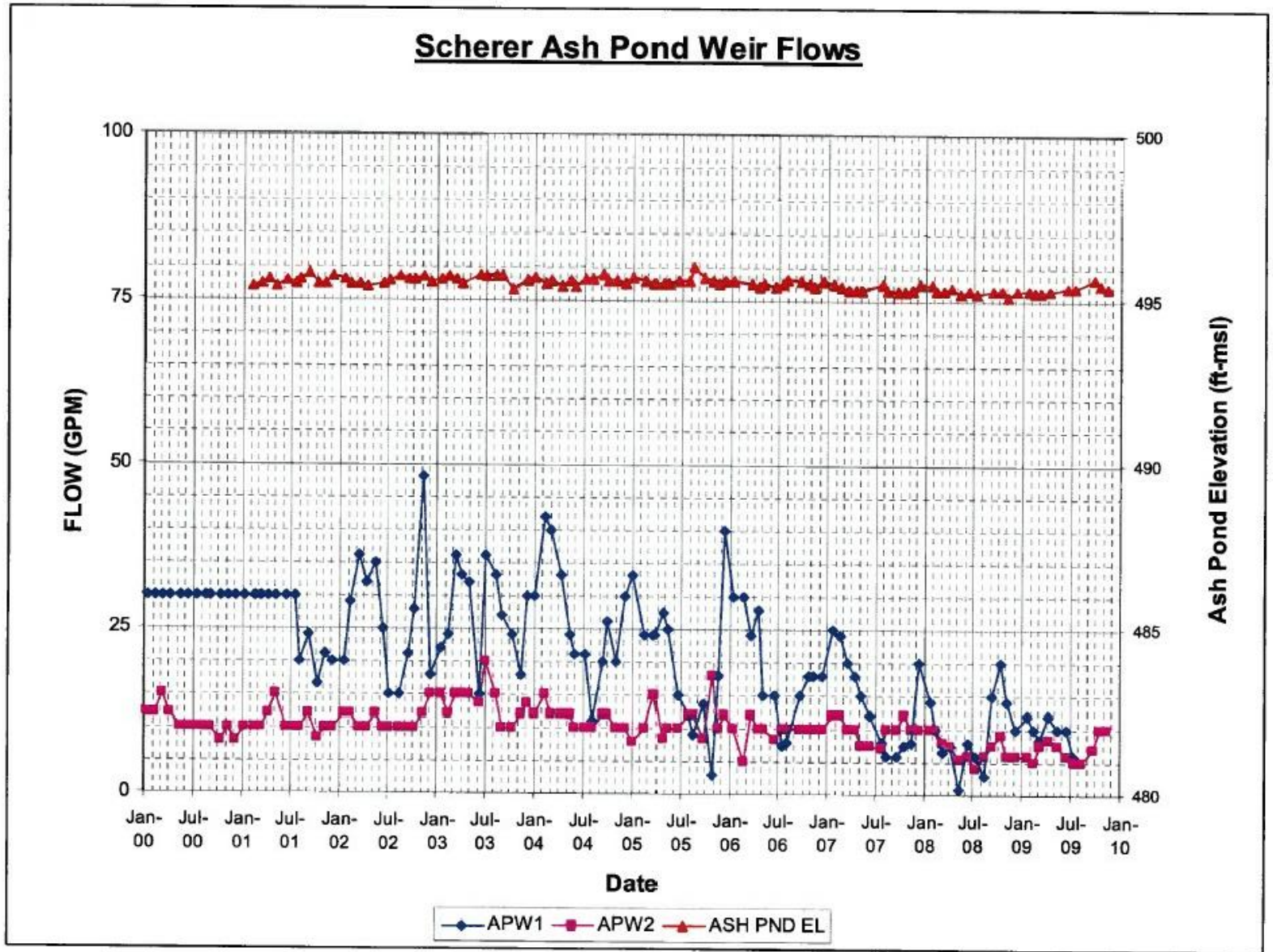
Scherer Ash Pond Weir Flows



CLIENT LOGO	CLIENT ENVIRONMENTAL PROTECTION AGENCY	DWN BY: CAE CHK'D BY: MS	PROJECT ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS	REV. NO.: A DATE: 6/9/10	
AMEC Earth & Environmental 690 Commonwealth Center 11003 Bluegrass Parkway Louisville, Ky 40299 (502) 267-0700	amec	DATUM: PROJECTION: SCALE: NTS	TITLE GEORGIA POWER PLANT SCHERER JULIETTE, GA. PIEZOMETER DATA GRAPH ASH POND WEIR FLOWS	PROJECT NO: 3-2106-0174.0200 PAGE NO. C-5	

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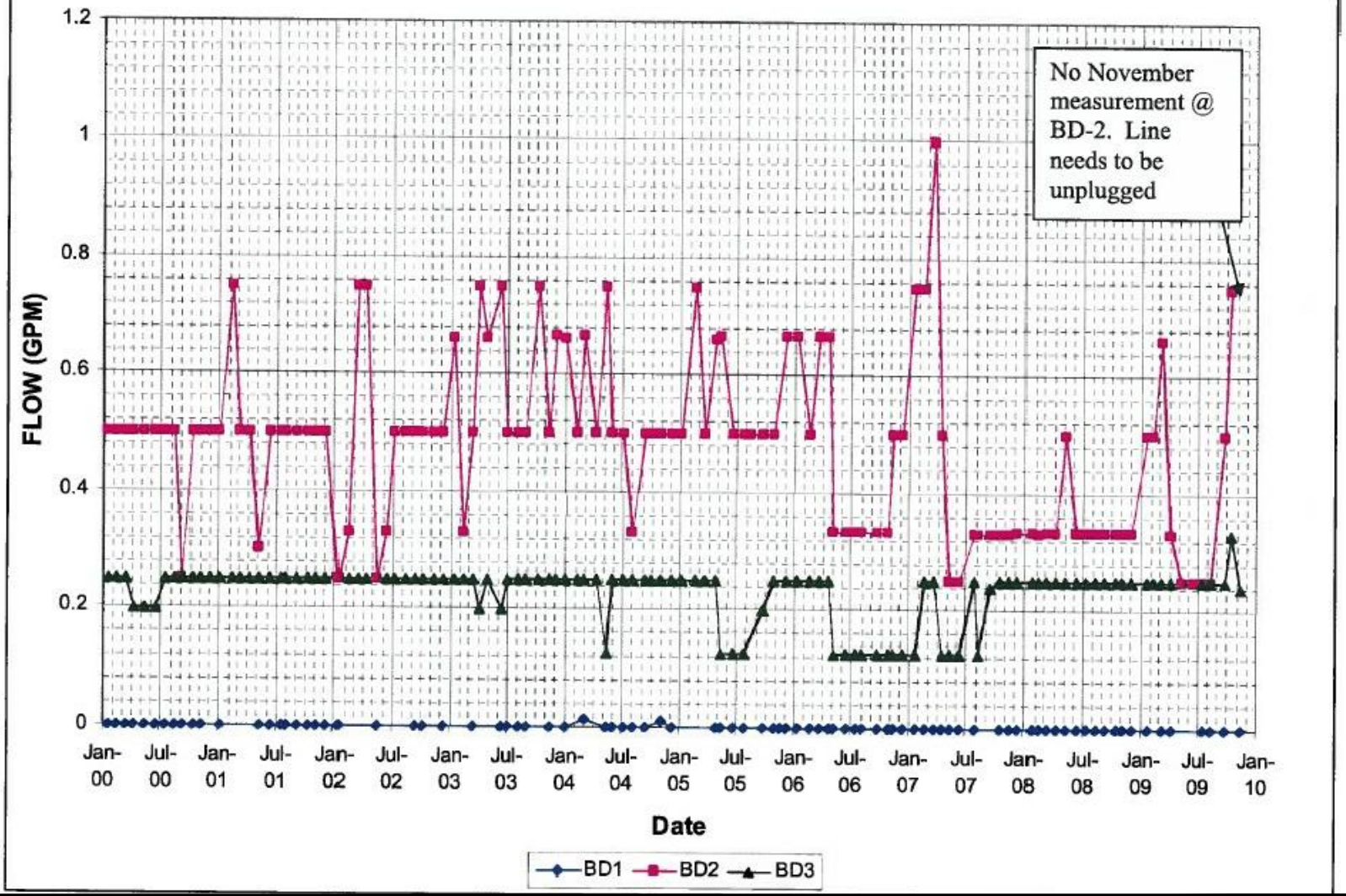
Scherer Ash Pond Blanket Drain Flows



CLIENT LOGO	CLIENT: ENVIRONMENTAL PROTECTION AGENCY	DWN BY: CAE	PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS	REV. NO.: A	
		CHK'D BY: MS		DATE: 6/9/10	
AMEC Earth & Environmental 690 Commonwealth Center 11003 Bluegrass Parkway Louisville, Ky 40299 (502) 267-0700	amec	DATUM:	TITLE: GEORGIA POWER PLANT SCHERER JULIETTE, GA. PIEZOMETER DATA GRAPH ASH POND BLANKET DRAIN FLOWS	PROJECT NO: 3-2106-0174.0200	
		PROJECTION:		PAGE NO. C-6	
		SCALE: NTS			

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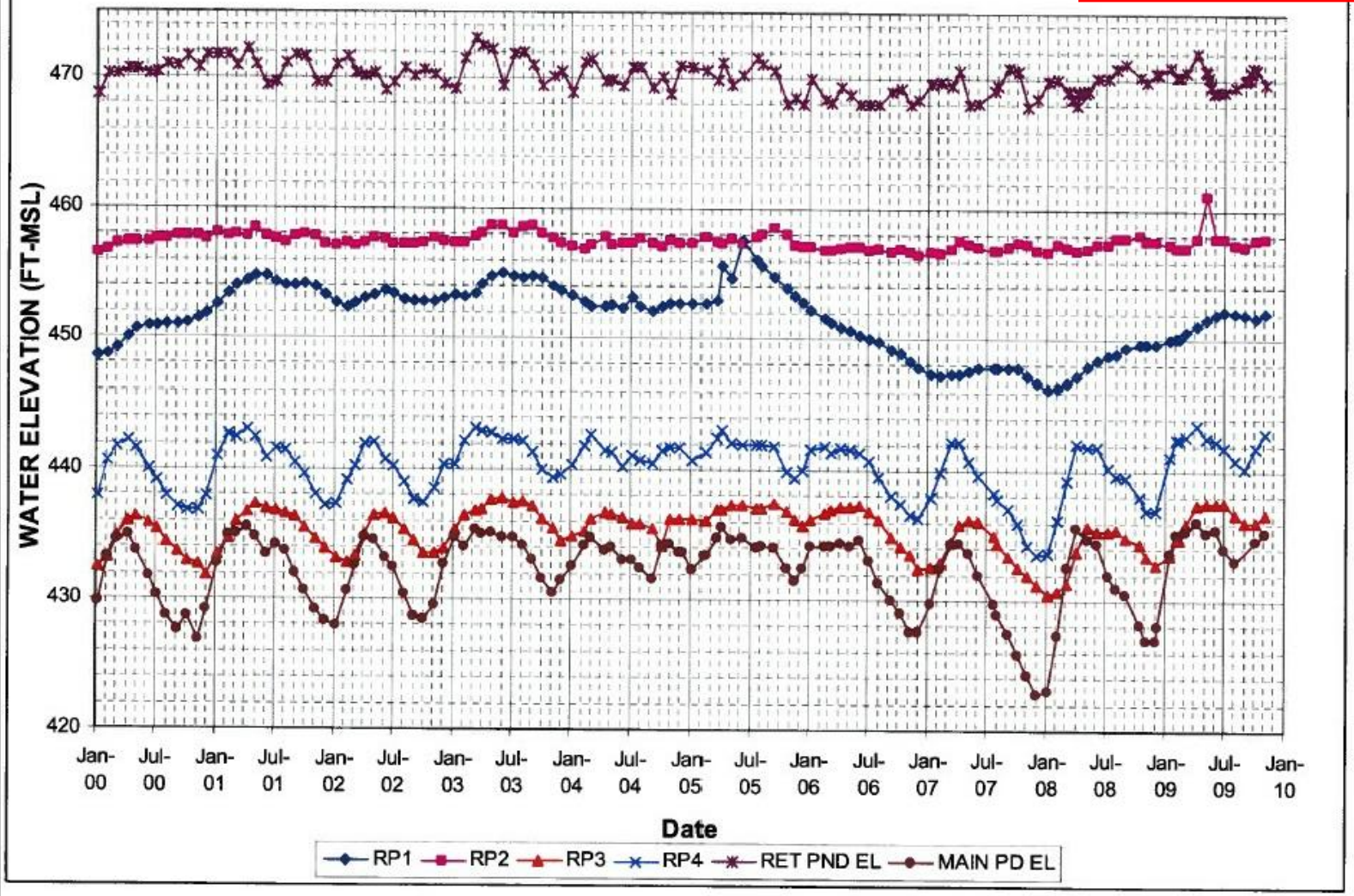
APPENDIX D

SETTLING POND PIEZOMETER AND WEIR FLOW MONITORING DATA GRAPHS

Scherer Retention Pond Piezometers

FIGURE PROVIDED BY SOUTHERN COMPANY/ GEORGIA POWER



CLIENT LOGO	CLIENT: ENVIRONMENTAL PROTECTION AGENCY	DWN BY: CAE	PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS	REV. NO.: A	
		CHK'D BY: MS		DATE: 6/9/10	
AMEC Earth & Environmental 690 Commonwealth Center 11003 Bluegrass Parkway Louisville, Ky 40299 (502) 267-0700	amec	DATUM:	TITLE: GEORGIA POWER PLANT SCHERER JULIETTE, GA. SETTLING POND PIEZOMETERS REFERRED TO AS "RETENTION POND" IN ORIGINAL DOCUMENT	PROJECT NO: 3-2106-0174.0200	
		PROJECTION:		PAGE NO. D-1	
		SCALE: NTS			

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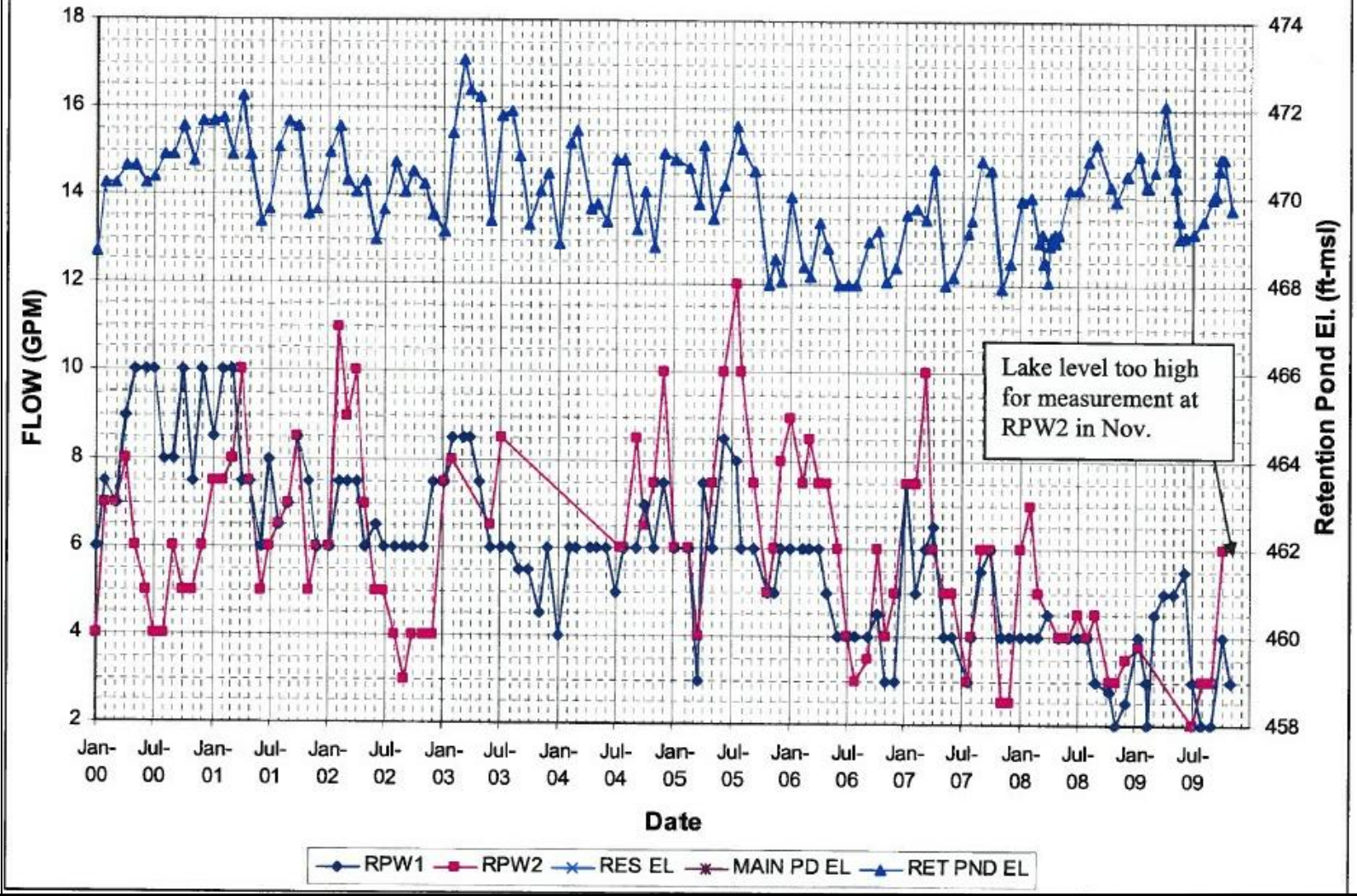
FIGURE PROVIDED BY SOUTHERN COMPANY/ GEORGIA POWER

Scherer Retention Pond Weir Flows



CLIENT LOGO	CLIENT: ENVIRONMENTAL PROTECTION AGENCY	DWN BY: CAE	PROJECT: ASSESSMENT OF DAM SAFETY OF COAL COMBUSTION SURFACE IMPOUNDMENTS	REV. NO.: A
		CHK'D BY: MS		DATE: 6/9/10
AMEC Earth & Environmental, 690 Commonwealth Center, 11003 Bluegrass Parkway, Louisville, Ky 40299, (502) 267-0700		DATUM:	TITLE: GEORGIA POWER PLANT SCHERER JULIETTE, GA. SETTLING POND WEIR FLOWS REFERRED TO AS "RETENTION POND" IN ORIGINAL DOCUMENT	PROJECT NO: 3-2106-0174.0200
		PROJECTION:		PAGE NO. D-2
		SCALE: NTS		

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APPENDIX E

INVENTORY OF PROVIDED MATERIALS

Plant Scherer
10986 Ga. Hwy 87
Juliette, Ga. 31046
478-994-0022

GEORGIA POWER
A SOUTHERN COMPANY

Confidential Business Information – Do Not Disclose

May 12, 2010

VIA E-MAIL

Stephen Hoffman
Office of Resource conservation and Recovery
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, D.C. 20460

Re: Documents Provided to EPA and Claims of Confidentiality

Dear Mr. Hoffman:

This letter confirms the documents provided by Georgia Power to the Environmental Protection Agency (EPA) during EPA's inspection of Plant Scherer Ash Pond on May 12, 2010. The following table lists the documents provided to EPA during the inspection. Georgia Power has provided some of the documents under a claim of confidentiality for purposes of Part 2, Subpart B of EPA's regulations. The documents claimed as confidential have been marked as such, and are noted as "Yes" under the column for CBI, which stands for Confidential Business Information. Georgia Power also claims this letter as confidential due to the information it conveys with respect to Georgia Power's facilities and management practices.

Bates	Date	Document Description	CBI
SCH-API 001	9/11/79	General Arrangement Drawing No. E1C3444	Yes
SCH-API 002	2/1/77	General Arrangement Drawing No. E1H1001	Yes
SCH-API 003	2/1/77	General Sections and Details Drawing No. E1H1002	Yes

Bates	Date	Document Description	CBI
SCH-API 004	2/1/77	Ash Pond Dam Drawing No. E1H1006	Yes
SCH-API 005	8/19/77	Ash Pond Drawing No. E1H1037	Yes
SCH-API 006	4/8/80	Ash Pond Dam Drawing No. E1H1058	Yes
SCH-API 007	6/30/83	Ash Pond Dam Drawing No. E1H1070	Yes
SCH-API 008	7/14/88	Ash Pond Drawing No. E1X1053	Yes
SCH-API 009	4/22/05	SCG Dam Safety Surveillance 1st Quarter 2005 Report	Yes
SCH-API 010	7/20/05	SCG Dam Safety Surveillance 2nd Quarter 2005 Report	Yes
SCH-API 011	10/28/05	SCG Dam Safety Surveillance 3rd Quarter 2005 Report	Yes
SCH-API 012	4/28/06	SCG Dam Safety Surveillance 1st Quarter 2006 Report	Yes
SCH-API 013	8/18/06	SCG Dam Safety Surveillance 2nd Quarter 2006 Report	Yes
SCH-API 014	11/28/06	SCG Dam Safety Surveillance 3rd Quarter 2006 Report	Yes
SCH-API 015	7/19/07	SCG Dam Safety Surveillance 2nd Quarter 2007 Report	Yes
SCH-API 016	5/9/08	SCG Dam Safety Surveillance 1st Quarter 2008 Report	Yes
SCH-API 017	7/24/08	SCG Dam Safety Surveillance 2nd Quarter 2008 Report	Yes

Bates	Date	Document Description	CBI
SCH-API 018	10/15/08	SCG Dam Safety Surveillance 3rd Quarter 2008 Report	Yes
SCH-API 019	1/12/09	SCG Dam Safety Surveillance 4th Quarter 2008 Report	Yes
SCH-API 020	5/19/09	SCG Dam Safety Surveillance 1st Quarter 2009 Report	Yes
SCH-API 021	9/16/09	SCG Dam Safety Surveillance 2nd Quarter Report	Yes
SCH-API 022	12/14/09	SCG Dam Safety Surveillance 4th Quarter 2009 Report	Yes
SCH-API 023	3/25/2009	GPC Responses to 104(e) Request	CBI denied
SCH-API 024	1974	Locations Plan and Boring Logs	Yes
SCH-API 025	1976	Plant Scherer Strength Properties FDN	Yes
SCH-API 026	5/30/86	Plant Scherer Ash Pond Dam Stability Analysis	Yes
SCH-API 027	1976	Plant Scherer Ash Pond Dam-Stability Analysis	Yes
SCH-API 028	1986	Plant Scherer Boring and Observation Well Logs	Yes
SCH-API 029	3/23/2010	Plant Scherer Dam Deformation Survey Analysis	Yes
SCH-API 030	5/2006	NPDES Flow Diagram	No
SCH-API 031	11/29/2006	NPDES Permit	No

Bates	Date	Document Description	CBI
SCH-API 032	**5/12/2010**	**Plant Scherer Aerial Photo**	**No**
SCH-API 033	**3/19/2007**	**Plant Scherer Pond Topographical Drawing**	**Yes**

I trust this list is consistent with your understanding of the documents we have provided to you today and is clear with respect to Georgia Power's claims of confidentiality. Please advise me immediately if you should become aware of any discrepancy with respect to the documents Georgia Power has provided, or if there is any question as to which documents are claimed as confidential.

Sincerely,

Daniel Morton
Plant Manager
Plant Scherer

cc: Douglas E. Tate, P.E.
James Black, P.E.
Charles H. Huling

GEORGIA POWER
A SOUTHERN COMPANY

Confidential Business Information – Do Not Disclose

May 20, 2010

VIA E-MAIL

Stephen Hoffman
Office of Resource Conservation and Recovery
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, D.C. 20460

Re: Documents Provided to EPA and Claims of Confidentiality

Dear Mr. Hoffman:

Dear Mr. Hoffman:

This letter confirms that additional documents were provided by Georgia Power to the consultants of the Environmental Protection Agency (EPA) in response to EPA's inspection of Plant Scherer held on May 12th which have been designated as Confidential Business Information. We have affixed a unique identifying number to the document. The table below identifies the documents provided to EPA in this supplemental production. Georgia Power has designated those documents provided to EPA as confidential with a Confidential Business Information stamp. The confidential documents have been identified below and marked as such.

Doc. Control No.	CBI
SCH-API 034	Yes
SCH-API 035	Yes
SCH-API 036	Yes
SCH-API 037	Yes
SCH-API 038	Yes
SCH-API 039	Yes

I trust this letter is consistent with your understanding of the documents Georgia Power has provided, including which documents are subject to a claim of confidentiality. Please advise me immediately if you should have any question about which documents have been provided and which are confidential.

Sincerely

Tanya Blalock
Environmental Affairs Manager

cc: Douglas E. Tate, P .E.
James Black, P.E.
Charles H. Huling

Titles for Scherer Documents Originally Provided Without Titles

SCH-API 034	Plant Scherer Retention (Settling) Pond Dam - Sections and Details
SCH-API 035	Plant Scherer Retention (Settling) Pond Dam – General Arrangement
SCH-API 036	Plant Scherer Retention (Settling) Pond Dam - Excavation
SCH-API 037	Plant Scherer Retention (Settling) Pond Spillway – Excavation, Arrangement, and Grading Details
SCH-API 038	Plant Scherer Retention (Settling) Pond Plan, Section, and Details of Instrumentation

Post Draft- Summary of Documents Provided on September 21, 2010 By Georgia Power

Document File Title	Description
GPC Plant Scherer CBI Designations AMEC Draft Report	
GPC Scherer Transmittal Letter and Comments 092110	
M 154-6 SCH-API 046	Plant Scherer Movement & Control Monument Location Map (Ash Pond)
SCH-API 041 & 042	Additional Photos
SCH-API 040	Scherer Slope Stability Calculation Report
SCH-API 043	SH-SH10911-01 Appendix 1 - PMP Routing Through Ash Pond and Settling Pond – Pondpack Input and Output
SCH-API 044	SH-SH10911-01 Appendix 2 – PMP Routing Through Lake Juliette (Calc SH-SH07239-01)
SCH-API 045	SH-Sh10911-01 – Evaluate Stormwater Capacity of Ash Pond & Settling Pond

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name: GEORGIA Power Plant Scherer Date: 12 MAY 2010

Unit Name: ASH POND #1 Operator's Name: GEORGIA Power

Unit I.D.: Hazard Potential Classification: High (Significant) Low

Inspector's Name: D. TATE, J. BLACK

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	4/YEAR		18. Sloughing or bulging on slopes?		X
2. Pool elevation (operator records)?	495		19. Major erosion or slope deterioration?		X
3. Decant inlet elevation (operator records)?	494.5		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	~~505~~ 498.6		Is water entering inlet, but not exiting outlet?		X
5. Lowest dam crest elevation (operator records)?	505		Is water exiting outlet, but not entering inlet?		X
6. If instrumentation is present, are readings recorded (operator records)?	X		Is water exiting outlet flowing clear?	X	
7. Is the embankment currently under construction?		X	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?	X		From underdrain?	X	
9. Trees growing on embankment? (If so, indicate largest diameter below)		X	At isolated points on embankment slopes?	X	
10. Cracks or scarps on crest?	X		At natural hillside in the embankment area?		X
11. Is there significant settlement along the crest?		X	Over widespread areas?		X
12. Are decant trashracks clear and in place?			From downstream foundation area?	X	\
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		X	"Boils" beneath stream or ponded water?		X
14. Clogged spillways, groin or diversion ditches?		X	Around the outside of the decant pipe?		X
15. Are spillway or ditch linings deteriorated?		X	22. Surface movements in valley bottom or on hillside?		X
16. Are outlets of decant or underdrains blocked?		X	23. Water against downstream toe?		X
17. Cracks or scarps on slopes?		X	24. Were Photos taken during the dam inspection?	X	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments
21	SMALL SEEPS AT ISOLATED LOCATIONS ALONG TOE OF DAM

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # GA0035564 INSPECTOR DTATE J. BLACK
Date 12 MAY 2010

Impoundment Name ASH POND
Impoundment Company GEORGIA POWER
EPA Region 4
State Agency (Field Office) Addresss 2 MARTIN LUTHER KING Jr. Dr, SUITE 1152 EAST TOWER
ATLANTA GA 30334-9000
Name of Impoundment ASH POND
(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New X Update _____

	Yes	No
Is impoundment currently under construction?	_____	X
Is water or ccw currently being pumped into the impoundment?	X	_____

IMPOUNDMENT FUNCTION: ASH POND

Nearest Downstream Town : Name MACON
Distance from the impoundment 15 miles
Impoundment Location:
Longitude 83 Degrees 48 Minutes 24 Seconds
Latitude 33 Degrees 04 Minutes 15 Seconds
State GA County MONROE

Does a state agency regulate this impoundment? YES _____ NO X

If So Which State Agency? _____

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

_____ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

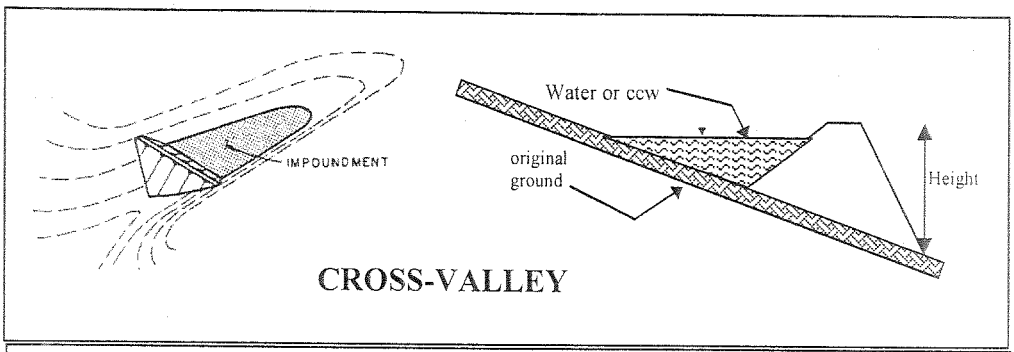
__X__ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

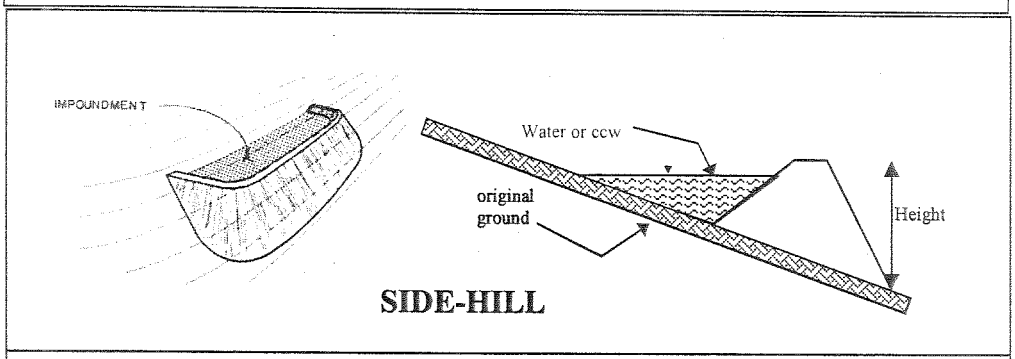
_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

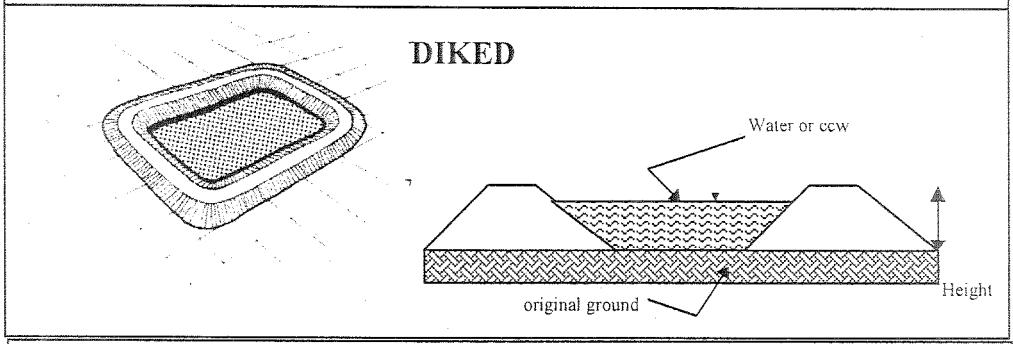
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

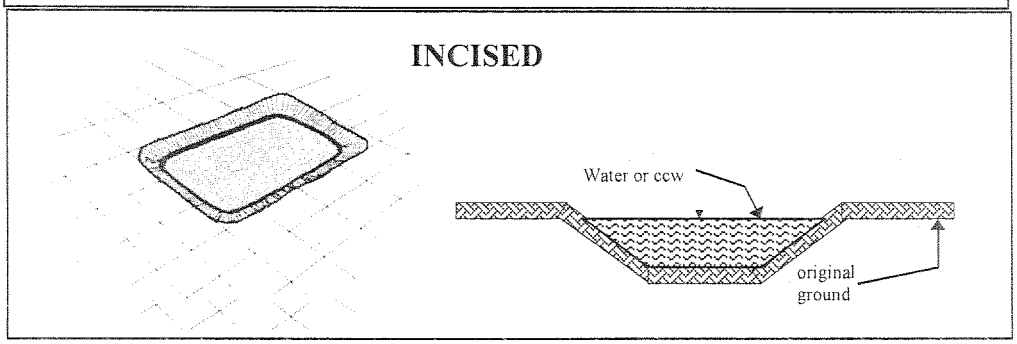
Failure of Dam could Damage Public Roads downstream but is unlikely to cause ~~Hom~~ loss of Human Life

CONFIGURATION:





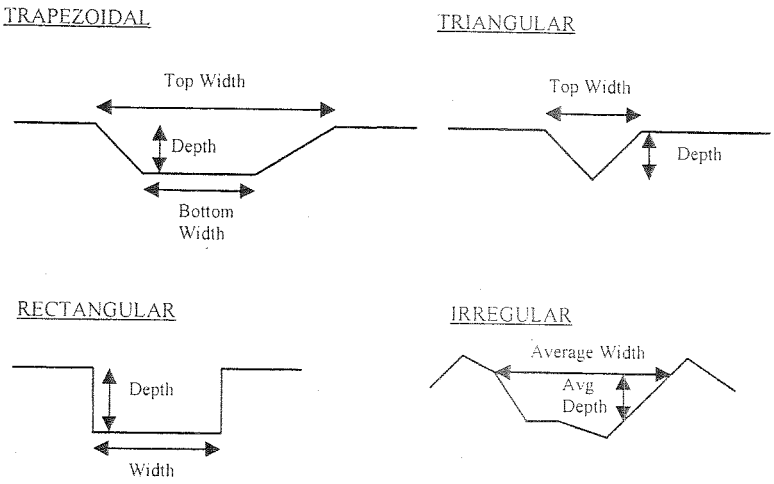




__X__ Cross-Valley
_____ Side-Hill
_____ Diked
_____ Incised (form completion optional)
_____ Combination Incised/Diked

Embankment Height 100 feet
Pool Area 552.5 acres
Current Freeboard 10 feet
Embankment Material EARTH FILL
Liner NONE
Liner Permeability N/A

TYPE OF OUTLET (Mark all that apply)

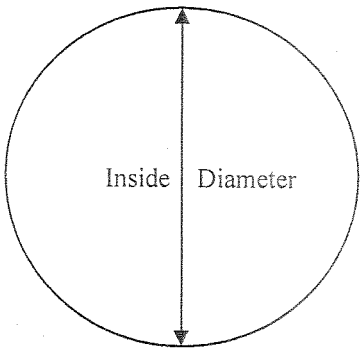


X **Open Channel Spillway**
X Trapezoidal
____ Triangular
____ Rectangular
____ Irregular

9' depth
85 bottom (or average) width
125± top width

X **Outlet**

72" inside diameter



Material
____ corrugated metal
____ welded steel
X concrete
____ plastic (hdpe, pvc, etc.)
____ other (specify) _____

Is water flowing through the outlet? YES _____ NO _____

____ **No Outlet**

____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By Southern Companies Chief Engineer

Has there ever been a failure at this site? YES X NO ~~X~~

If So When? 2010 MAR 23

If So Please Describe : SMALL SURFACE SLIDE ON DOWNSTREAM FACE OF ~~SOUTH~~ EAST PORTION OF SOUTH DIKE. SLIDE PLANE APPEARS TO BE LESS THAN 3' DEEP AND ABOUT 100' LONG AND EXTEND ABOUT 20' UP SLOPE FROM TOE. SLIDE IS LOCATED ABOVE PZ ~~AP-A1 & AP-A1A~~ AP-A3 AP-A3A.

Has there ever been significant seepages at this site? YES _____ NO X

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO X

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name: GEORGIA Power PLANT Scherer Date: 12 - MAY 2010

Unit Name: Settlement - Recycle Pond Operator's Name: GEORGIA Power

Unit I.D.: Hazard Potential Classification: High Significant (Low)

Inspector's Name: D. TAPE J. BLACK

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	4 / YEAR		18. Sloughing or bulging on slopes?		X
2. Pool elevation (operator records)?	470.3		19. Major erosion or slope deterioration?		
3. Decant inlet elevation (operator records)?	NONE		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	See Comment		Is water entering inlet, but not exiting outlet?		NA
5. Lowest dam crest elevation (operator records)?	See Comment		Is water exiting outlet, but not entering inlet?		NA
6. If instrumentation is present, are readings recorded (operator records)?	X		Is water exiting outlet flowing clear?		NA
7. Is the embankment currently under construction?		X	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?	X		From underdrain?		X
9. Trees growing on embankment? (If so, indicate largest diameter below)		X	At isolated points on embankment slopes?		X
10. Cracks or scarps on crest?		X	At natural hillside in the embankment area?		X
11. Is there significant settlement along the crest?		X	Over widespread areas?		X
12. Are decant trashracks clear and in place?		NA	From downstream foundation area?		X
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		X	"Boils" beneath stream or ponded water?		X
14. Clogged spillways, groin or diversion ditches?		X	Around the outside of the decant pipe?		X
15. Are spillway or ditch linings deteriorated?		X	22. Surface movements in valley bottom or on hillside?		X
16. Are outlets of decant or underdrains blocked?		X	23. Water against downstream toe?	X	
17. Cracks or scarps on slopes?		X	24. Were Photos taken during the dam inspection?	X	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments
3, 20	No Decant, WATER Recycled
12	No TRASH RACK
23	Lake Juliette
4, 5	Not available at time of inspection (JAB 5220-10)

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # GA 0035564 INSPECTOR D. Tate, J. Black
Date 12-MAY 2010

Impoundment Name Settlement Recycle Pond
Impoundment Company Georgia Power
EPA Region 4
State Agency (Field Office) Addresss 2 MLK JR Dr Suite 1152 East Tower
Atlanta GA 30334-9000
Name of Impoundment Settlement - Recycle Pond
(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New X Update ____

	Yes	No
Is impoundment currently under construction?	____	X
Is water ~~or ccw~~ currently being pumped into the impoundment?	X	____

IMPOUNDMENT FUNCTION: Settlement & Recycle water
Does NOT Receive CCW

Nearest Downstream Town : Name MACON
Distance from the impoundment ± 15 miles
Impoundment Location: Longitude 83 Degrees 48 Minutes 24 Seconds
Latitude 33 Degrees 04 Minutes 15 Seconds
State GA County MONROE

Does a state agency regulate this impoundment? YES X NO ~~X~~

If So Which State Agency? Georgia EPD SAFE Dams

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

_____ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

__X__ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

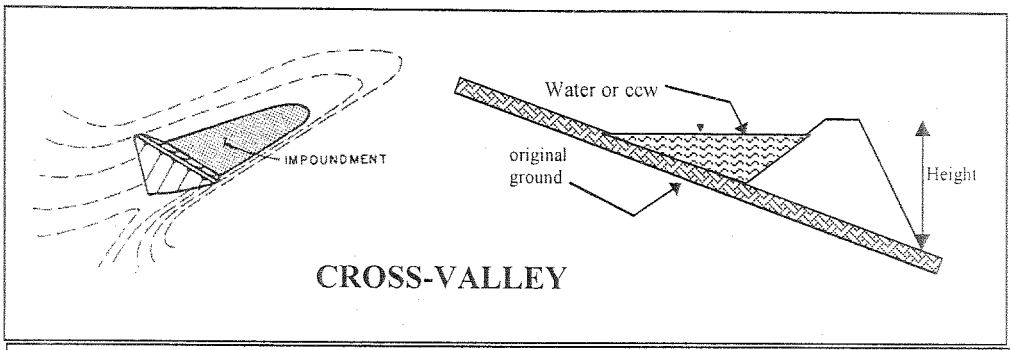
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

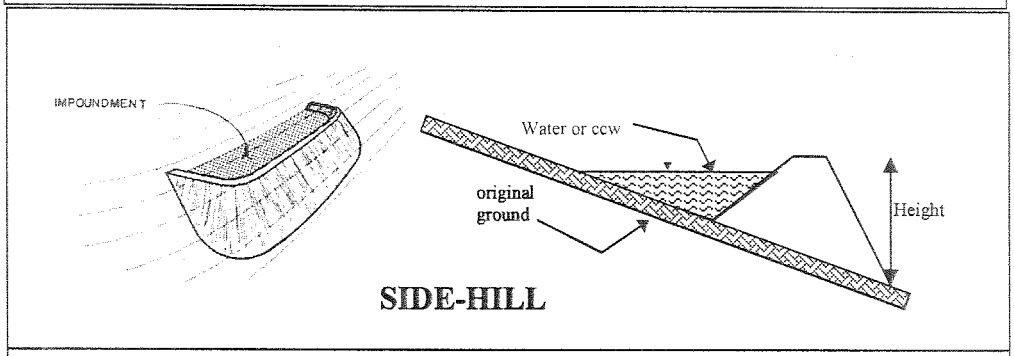
_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

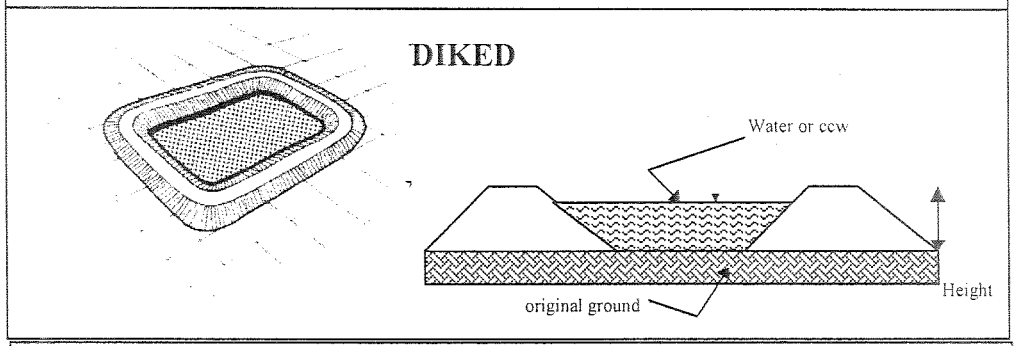
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

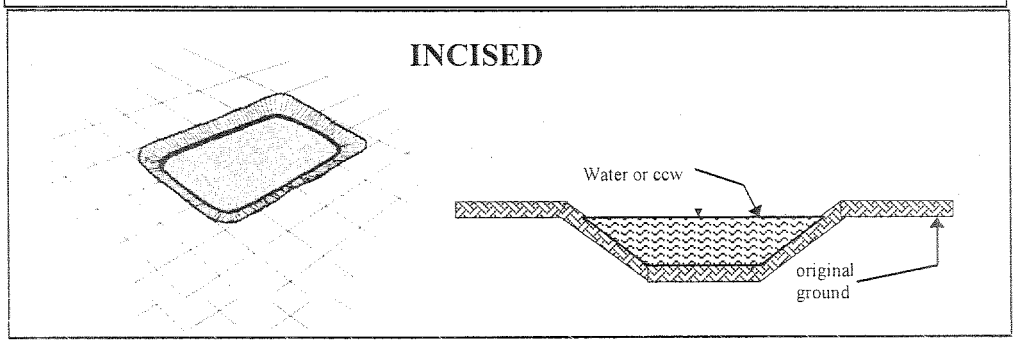
UNLIKELY TO RESULT IN LOSS OF HUMAN LIFE. LAKE JULIETTE, BELOW POND, WILL LIKELY ABSORB FLOW IF DAM WERE TO FAIL. DAMAGE WILL LIKELY BE LIMITED TO OWNER PROPERTY.

CONFIGURATION:









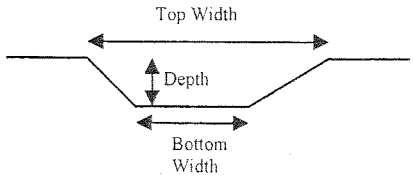
__X__ Cross-Valley
_____ Side-Hill
_____ Diked
_____ Incised (form completion optional)
_____ Combination Incised/Diked

Embankment Height xx feet Embankment Material Soil Fill
Pool Area 300 acres Liner NONE
Current Freeboard xx feet Liner Permeability _____
Not available at time of inspection

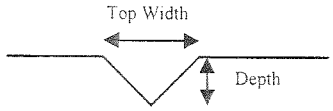
TYPE OF OUTLET (Mark all that apply)

X **Open Channel Spillway**
_____ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

TRAPEZOIDAL

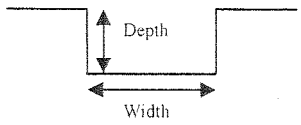


TRIANGULAR

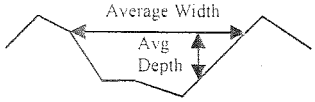


_____ depth
_____ bottom (or average) width
_____ top width
✓ not available at time of inspection (JHB 5-20-10)

RECTANGULAR

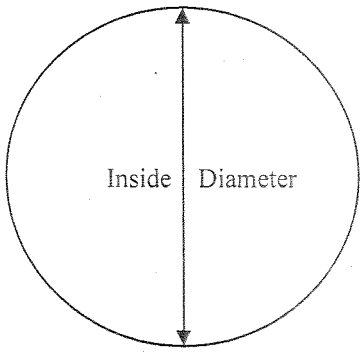


IRREGULAR



_____ **Outlet**

_____ inside diameter



Material
_____ corrugated metal
_____ welded steel
_____ concrete
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

_____

Is water flowing through the outlet? YES _____ NO _____

_____ **No Outlet**

_____

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By Southern Company Chief Engineer

_____

Has there ever been a failure at this site? YES _____ NO X

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO X

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO X

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____