Coal Combustion Waste Impoundment
Round 5 - Dam Assessment Report

Plant Wansley (Site # 006)
Ash Pond Separation Dike

Georgia Power
Carrolton, Georgia

Prepared for:

United States Environmental Protection Agency
Office of Resource Conservation and Recovery

Prepared by:

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INTRODUCTION, SUMMARY, CONCLUSION AND RECOMMENDATIONS

The release of over five million cubic yards of coal ash from the Tennessee Valley Authority's Kingston, Tennessee facility in December 2008, which flooded more than 300 acres of land, damaging homes and property, is a wake-up call for diligence on coal combustion waste disposal units. . A first step to prevent such catastrophic failure and damage is to assess the stability and functionality of ash impoundments and other units, then quickly take any needed corrective measures.

This assessment of the stability and functionality of the Plant Wansley fly ash management unit is based on a review of available documents and on the site assessment conducted by Dewberry personnel on June 30, 2010. We found the supporting technical information adequate (Section 1.1.3). As detailed in Section 1.2.6 there are recommendations that may help to maintain a safe and trouble-free operation,

In summary, the Wansley Plant ash ponds are SATISFACTORY for continued safe and reliable operation, with no apparent existing or potential management unit safety deficiencies.

PURPOSE AND SCOPE

The U. S. Environmental Protection Agency (EPA) is investigating the potential for catastrophic failure of Coal Combustion Surface Impoundments (i.e. management unit) at electric utilities in an effort to protect lives and property from the consequences of a dam failure or the improper release of impoundment slurry. The EPA initiative is intended to identify conditions that may adversely affect the structural stability and functionality of a management unit and its appurtenant structures (if present); to note the extent of deterioration (if present); status of maintenance and/or a need for immediate repair; to evaluate conformity with current design and construction practices, and to determine the hazard potential classification for units not currently classified by the management unit owner or by a state or federal agency. The initiative addresses power plant management units that have a classification of Less-than-Low, Low, Significant or High Hazard Potential ranking. (For Classification, see pp. 3-8 of the 2004 Federal Guidelines for Dam Safety)

In December 2009, the EPA sent letters to coal-fired electric utilities seeking information on the safety of surface impoundments and similar facilities that receive liquid-borne material that store or dispose if coal combustion waste. This letter was issued under the authority of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section 104(e), to assist the Agency in assessing the structural stability and functionality of such management units, including which facilities should be visited to perform a safety assessment of the berms, dikes, and dams used in the construction of these impoundments.

EPA asked utility companies to identify all management units: surface impoundments or similar diked or bermed structures; and; landfills receiving liquid-borne materials that store or dispose of coal-combustion residuals or by-products, including, but not limited to, fly ash, bottom ash, boiler slag, and flue gas emission control residuals. Utility companies responded with information on the size, design, age, and the amount of material placed in the units so that EPA could gauge which management units had or potential could rank as having High Hazard Potential. The USEPA and its contractors used the following definitions for this study:

> "Surface Impoundment or impoundment means a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling and aeration pits, ponds, and lagoons."
>
> For this study, the earthen materials could include coal combustion residuals. EPA did not provide an exclusion for small units based on whether the placement was temporary or permanent. Furthermore, the study covers not only waste units designated as surface impoundments, but also other units designated as landfills which receive free liquids.
>
> EPA is addressing any land-based units that receive fly ash, bottom ash, boiler slag, or flue gas emission control waster along with free liquids. If the landfill is receiving coal combustion wastes with liquids limited to that for proper compaction, then there should not be free liquids present and the EPA did not seek information on such units which are appropriately designated a landfill.
>
> In some cases coal combustion wastes are separated from the water, and the water containing de minimum levels of fly ash, bottom ash, boiler slag, or flue gas emission control wastes are sent to an impoundment. EPA is including such impoundments in this study, because chemicals of concern may have leached from the solid coal combustion wastes into the waster waters, and the suspended solids from the coal combustion wastes remain.

The purpose of this report is to **evaluate the condition and potential of waste release from management units that have not been rated for hazard potential classification**. A two-person team reviewed the information submitted to EPA, reviewed any relevant publicly available information from state or federal agencies regarding the unit potential hazard classification (if any) and accepted information provided via telephone communication with a management unit representative.

This evaluation included a site visit. EPA sent two engineers, one licensed in the State of Georgia, for a one-day visit. The two-person team met with the owner of the management unit as well as technical and several technical representative and management unit supervisors to discuss the engineering characteristics of the unit as part of the site visit. During the site visit the team collected additional information about the management unit to be used in determining the hazard potential classifications of the management unit(s). Subsequent to the site visit the management unit owner provided additional engineering data pertaining to the management unit(s).

Factors considered in determining the hazard potential classification of the management unit(s) included the age and size of the impoundment, the quantity of coal combustion residuals or by-products that were stored or disposed in these impoundments, its past operating history, and its geographic location relative to down gradient population centers and/or sensitive environmental systems.

This report presents the opinion of the assessment team as to the potential of catastrophic failure and reports on the condition of the management units(s). The team considered criteria in evaluating the dams under the National Inventory of Dams in making these determinations.

LIMITATIONS

The assessment of dam safety reported herein is based on field observations and review of readily available information provided by the owner/operator of the subject coal combustion waste management unit(s). Qualified Dewberry engineering personnel performed the field observations and review and made the assessment in conformance with the required scope of work and in accordance with reasonable and acceptable engineering practices. No other warranty, either written or implied, is made with regard to our assessment of dam safety.

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Reserved

1.0CONCLUSIONS AND RECOMMENDATIONS

1.1 CONCLUSIONS

Conclusions are based on visual observations from the one-day site visit, review of technical documentation provided by Georgia Power, and review of state inspection reports.

1.1.1 Conclusions Regarding the Structural Soundness of the Management Unit(s)

The structural stability of the Ash Pond embankments appears to be in S**atisfactory** condition. Slope stability analyses were not provided for the western dike; however, foundation preparation, embankment soils and geometry are consistent. Performance of a separate slope stability analysis is not deemed critical.

1.1.2 Conclusions Regarding the Hydrologic/Hydraulic Safety of the Management Unit(s)

Adequate capacity and freeboard exist to safely pass the design storm.

1.1.3 Conclusions Regarding the Adequacy of Supporting Technical Documentation

Supporting technical documentation was adequate.

1.1.4 Conclusions Regarding the Description of the Management Unit(s)

Descriptions provided are appropriate.

1.1.5 Conclusions Regarding the Field Observations

The emergency overflow concrete channel was cracking and showed a potential to be undermined in future rain events. This is not a safety issue at this time, but needs to be monitored.

1.1.6 Conclusions Regarding the Adequacy of Maintenance and Methods of Operation

Maintenance and methods of operation are adequate.

1.1.7 Conclusions Regarding the Adequacy of the Surveillance and Monitoring Program

Existing surveillance and monitoring programs are adequate.

1.1.8 Classification Regarding Suitability for Continued Safe and Reliable Operation

Facility is SATISFACTORY for continued safe and reliable operation. A classification of "satisfactory" is appropriate when 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.

1.2 RECOMMENDATIONS

1.2.1 Recommendations Regarding the Structural Stability

Continue with the current maintenance and inspection programs set in place.

1.2.2 Recommendations Regarding the Hydrologic/Hydraulic Safety

None appear warranted at this time.

1.2.3 Recommendations Regarding the Supporting Technical Documentation

Although not deemed a critical analysis, additional documentation is needed to assess the slope stability analysis of the western dike.

1.2.4 Recommendations Regarding the Description of the Management Unit(s)

None appear warranted at this time.

1.2.5 Recommendations Regarding the Field Observations

None appear warranted at this time.

1.2.6 Recommendations Regarding the Maintenance and Methods of Operation

None appear warranted at this time.

1.2.7 Recommendations Regarding the Surveillance and Monitoring Program

Continue current program. Begin monitoring erosion at concrete channel to avoid channel being undermined. Monitor cracking along the concrete channel.

1.2.8 Recommendations Regarding Continued Safe and Reliable Operation

- Perform slope stability analyses with seismic loading conditions for western dike.

1.3 PARTICIPANTS AND ACKNOWLEDGEMENT

1.3.1 List of Participants

Jim Heibron – Georgia Power
Michelle Kroh – Georgia Power
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Bradley J. Adams – Troutman Sanders LLP
Hollister A. Hill – Troutman Sanders LLP
Frederic Shmurak, P.E. – Dewberry & Davis, Inc.
Justin Story, E.I. – Dewberry & Davis, Inc.

1.3.2 Acknowledgement and Signature

We acknowledge that the management unit referenced herein has been assessed on June 30, 2010.

Frederic M. Shmurak, PE, Civil Engineer

Justin R. Story, E.I., Civil Designer

2.0DESCRIPTION OF THE COAL COMBUSTION WASTE MANAGEMENT UNIT(S)

2.1 LOCATION

Plant Wansley's ash pond facility is located just south of Carrolton, Georgia. The ash pond dike is approximately 0.5 miles from the Chattahoochee River. The Town of Centralhatchee is approximately 4 miles downstream of the ash pond embankments. Figure 2.1a depicts a vicinity map around Plant Wansley, while Figure 2.1b depicts an aerial view of Plant Wansley.

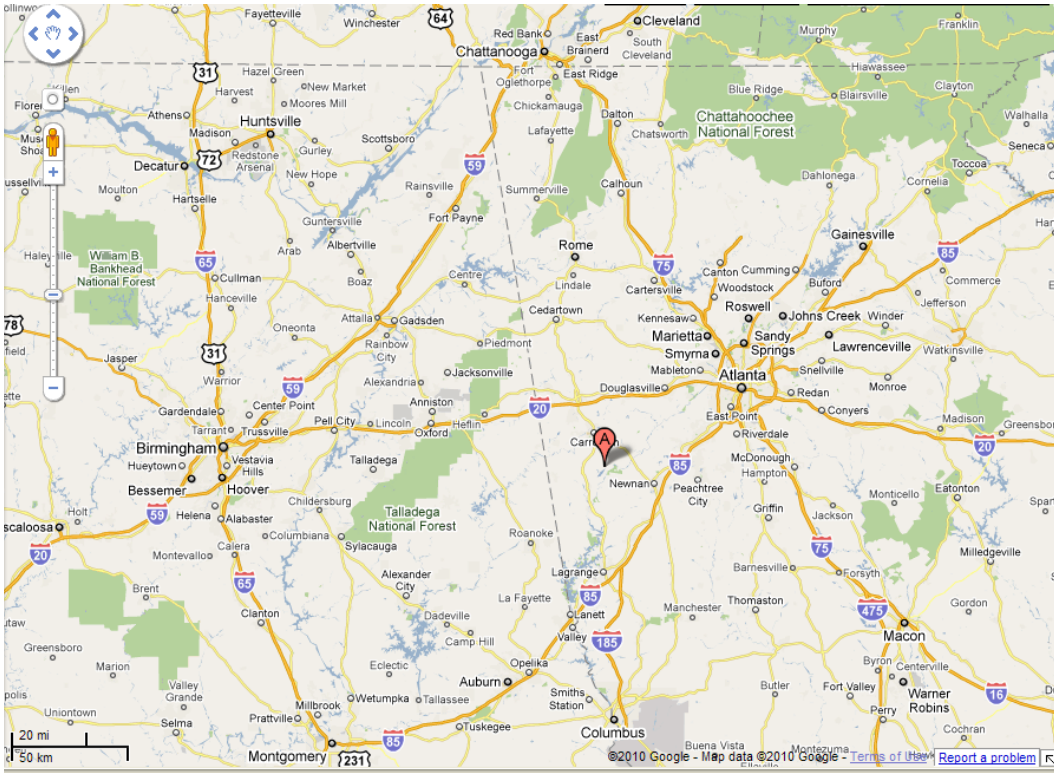


Figure 2.1 a: Plant Wansley Vicinity Map

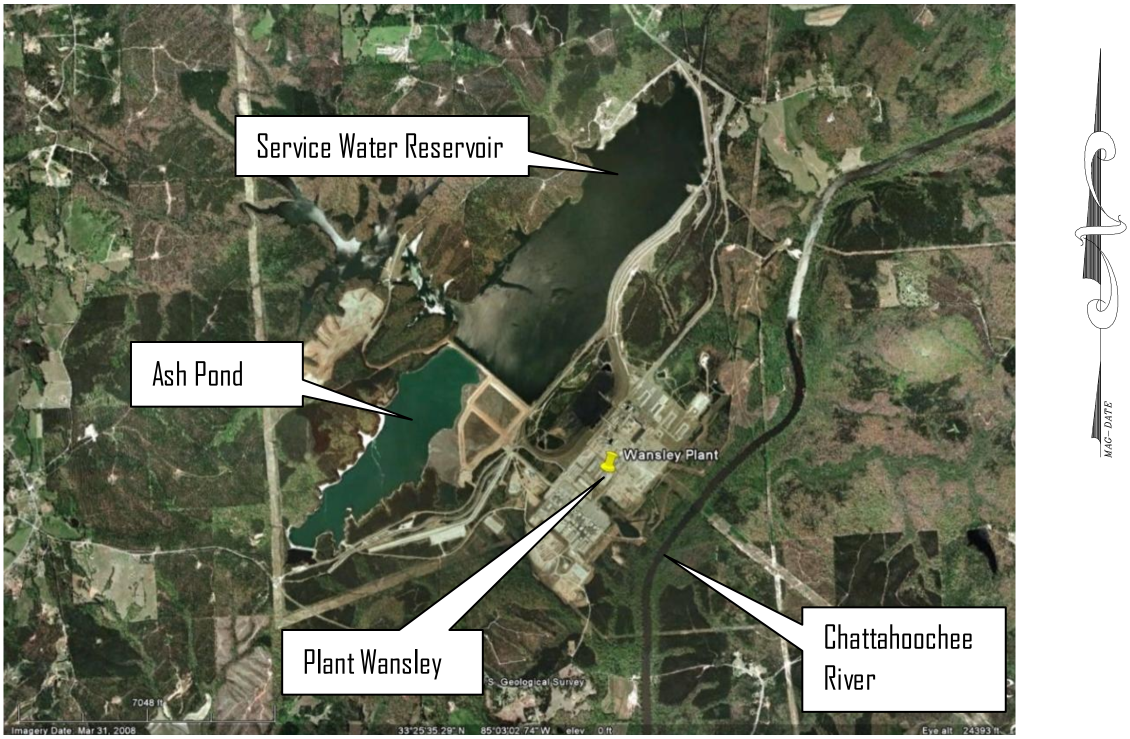


Figure 2.1 b: Plant Wansley Aerial View

2.2 SIZE AND HAZARD CLASSIFICATION

The ash pond is impounded by an earthen embankment system consisting of a dike (hereby referred to as the separation dike) that separates the pond from a large reservoir. A smaller dike (hereby referred to as the western dike) existing near the emergency spillway and outlet of the ash pond was also observed. Based on data provided by Georgia Power, Inc. the ash pond embankment system was constructed to a maximum height of 110 feet with a crest width of 35.4 feet, side slopes of 3(H):1(V) to 2.5(H):1(V) and a length just under 3,000 feet. The maximum storage volume corresponding to the top of the embankment is 16,920 acre-feet or 27,297,333 cubic yards (see Table 2.2b). The water elevation ranges from 795 to 799' and at 799' there is approximately 1,001 acre-feet of storage remaining. The classification for size, based on the height of the dam and storage capacity, is Intermediate in accordance with the USACE Recommended Guidelines for Safety Inspection of Dams ER 1110-2-106 criteria (see Table 2.2a for size classification criteria).

Table 2.2a USACE ER 1110-2-106
Size Classification

	Impoundment	
Category	**Storage (Ac-ft)**	**Height (ft)**
Small	< 1,000	< 40
Intermediate	1,000 to < 50,000	40 to < 100
Large	> 50,000	> 100

Table 2.2b: Summary of Dam Dimensions and Size

	Ash Pond
Dam Height (ft)	110
Crest Width (ft)	35.4
Length (ft)	≈3,000
Side Slopes (upstream) H:V	3 to 2.5:1
Side Slopes (downstream) H:V	3 to 2.5:1
Hazard Classification	Low

The ash pond embankment system has been assigned a Hazard Classification of Low by the Georgia Safe Dams Program (GSDP). The low hazard classification was assigned by the state due to the minimal economic damage that would result from improper operation or dam failure. Per the Federal Guidelines for Dam Safety dated April 2004, a low hazard potential classification applies to those 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. Considering the low probability of loss of life as well as the low economic and/or environmental impacts, a Federal Hazard Classification of **Low** is appropriate for this facility (see Table 2.2c Federal Guidelines for Hazard Classification criteria).

*** GSDP assigned a hazard classification of Low due to potential minimal economic loss due to failure.**

Table 2.2c FEMA Federal Guidelines for Dam Safety
Hazard Classification

Hazard Potential Classification	**Loss of Human Life**	**Economic, Environmental, Lifeline Losses**
Low	None Expected	Low and generally limited to owner
Significant	None Expected	Yes
High	Probable. One or more expected	Yes (but not necessary for this classification)

2.3 AMOUNT AND TYPE OF RESIDUALS CURRENTLY CONTAINED IN THE UNIT(S) AND MAXIMUM CAPACITY

Per Georgia Power, the ash pond primarily contains fly, bottom ash, boiler slag, flue gas emission control residues, pyrites and other low volume waste. Other materials that the pond may contain are ash sluice water, categorical low volume wastewater, coal pile storm water runoff and other storm water. The drainage area for the ash pond is approximately 711 acres while the surface area of the pond is approximately 343 acres. The maximum design storage capacity is approximately 16,920 acre-feet or 27,297,333 cubic yards.

Table 2.3: Amount of Residuals and Maximum Capacity of Unit*

	Ash Pond
Surface Area (acre)	711
Current Storage Volume (acre-feet)	8,321
Max. Design Storage Capacity (acre-feet)	16,920

2.4 PRINCIPAL PROJECT STRUCTURES

2.4.1 Earth Embankment Dam

The dam embankment generally consists of lean clays and silts obtained from borrow areas. Some sandy material was found in the borrow areas, but was tested and reported to be satisfactory per the design standards. A plan view of the Ash Pond is depicted in Figure 2.4.1 a. (Figures 2.4.1 a and b reflect conditions of the Ash Pond, per the Design Drawings prepared in 1976 and 1973 respectively. Additional drawings of the ash pond are included within Appendix A (Doc 07: Plant Wansley Unit No. 1 Ash Pond.pdf, Doc 13: Ash Pond Construction Drawing, Doc 14: Separation Dam Plan View.pdf and Doc 15: Ash Pond Overall).

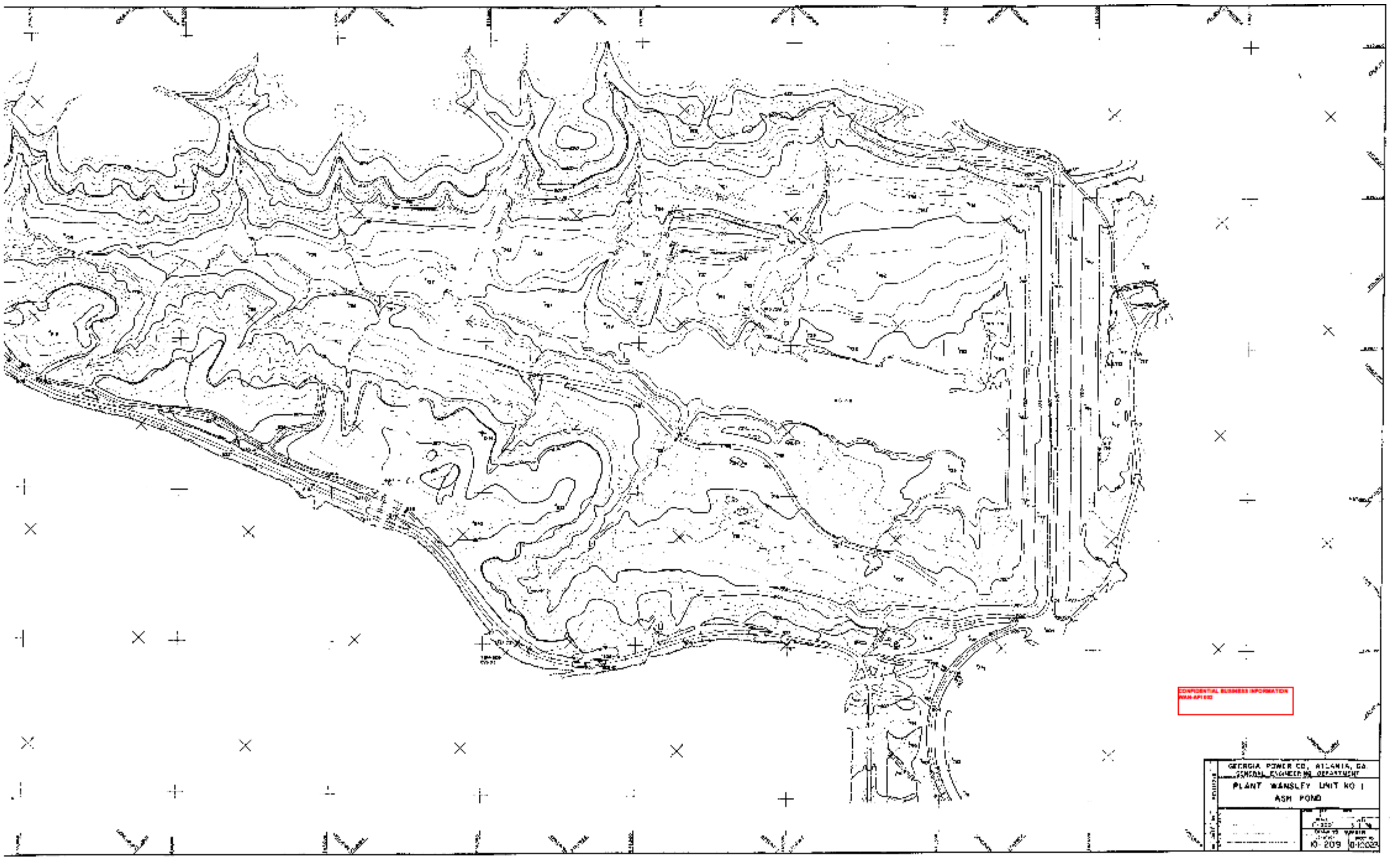


Figure 2.4.1 a: Plant Wansley Unit No 1 – Ash Pond

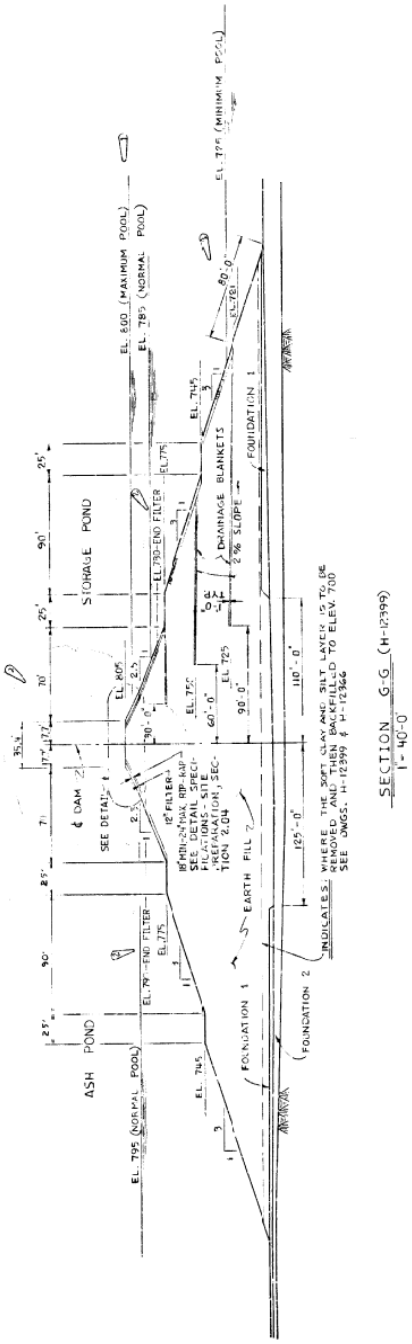


Figure 2.4.1 b: Ash Pond Separation Dike

2.4.2 Outlet Structures

The outlet works consist of a broad crested weir and an open channel emergency spillway. Due to circulation and re-use of sluice water, the plant regulates the ash pond water surface elevation below the invert of the outlet works and has no record of the skimmer weir or the spillway ever being used. During the design of the ash pond unit, some late changes were made to divert storm water flow away from the pond which eliminates a majority of the elevation fluctuation due to storm events. Once the skimmer weir elevation is breached the flow travels through a Corrugated Metal Pipe (CMP) to the downstream storm water pond.

2.5 CRITICAL INFRASTRUCTURE WITHIN FIVE MILES DOWN GRADIENT

All critical infrastructures were located using aerial photography and might not accurately represent what currently exists down-gradient of the site. Figure 2.5 shows Plant Wansley and associated critical infrastructure, listed in Table 2.5.

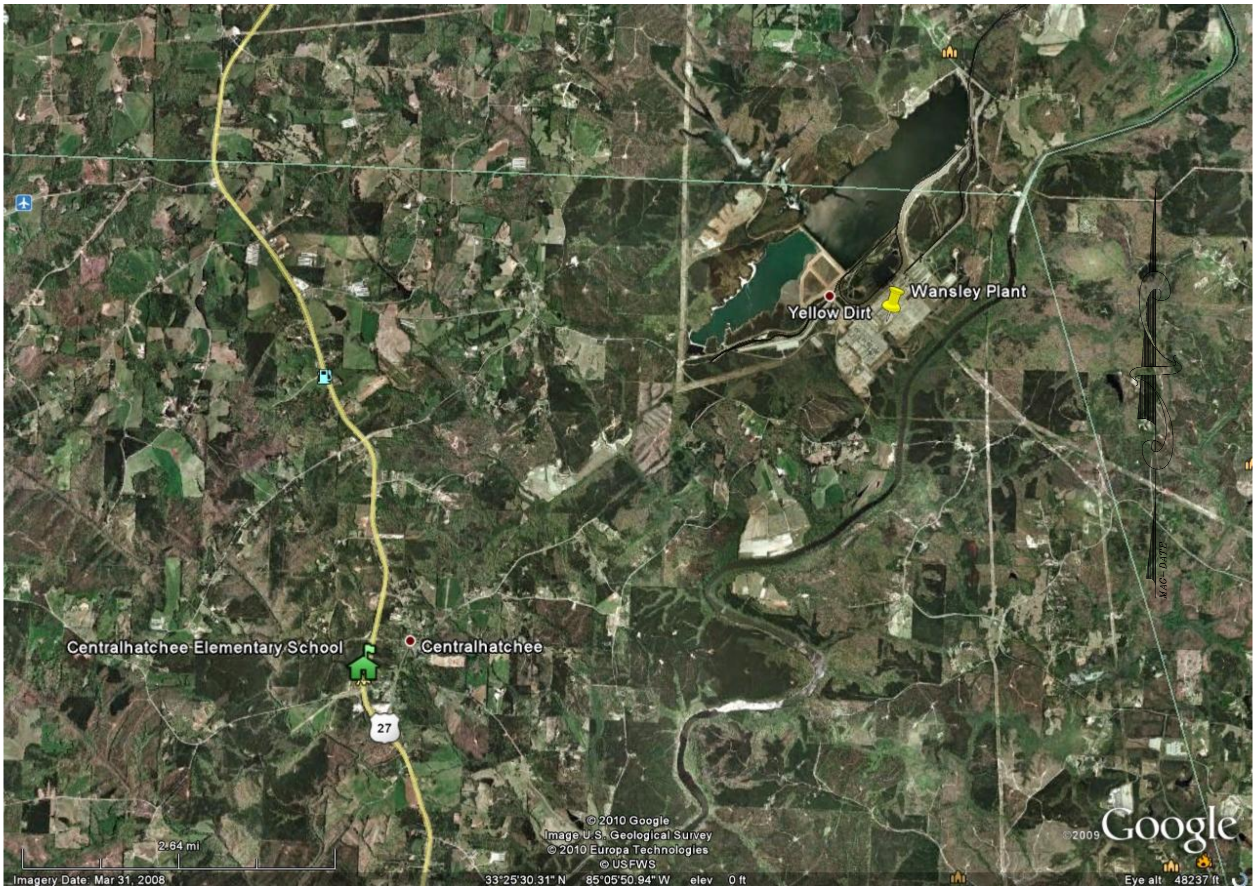


Figure 2.5: Plant Wansley Critical Infrastructure Map

Table 2.5: Plant Wansley Critical Infrastructure Within 5 Miles

Schools	Transportation	Nursing Homes
Central Hatchee Elementary School 315 Central Hatchee Parkway Franklin, GA 30217	Martha Berry Hwy (US Hwy 27)	None
		Fire Stations
		None

3.0 SUMMARY OF RELEVANT REPORTS, PERMITS AND INCIDENTS

3.1 SUMMARY OF REPORTS ON THE SAFETY OF THE MANAGEMENT UNIT(S)

Approximately thirteen (13) quarterly safety inspection reports were provided by Georgia Power dating back to 2005. Information pertaining to the separation dike of the most recent reports is summarized below.

Southern Company Generation 2009 Inspection Report for Plant Wansley Ash Pond Complex, REA # WN-08900, December 9, 2009 (Appendix A, Doc 1: 2009 4th Quarter Dam Safety Inspection Report):

- The piezometers on the separation dike are generally registering within their historical ranges. Piezometer BB is registering an elevated water level and has generally followed the change in the ash pond elevation. This piezometer was repaired after being damaged in 2008.

Southern Company Generation 2009 Inspection Report for Plant Wansley Ash Pond Complex, REA # WN-08900, January 12, 2009 (Appendix A, Doc 3: 2008 4th Quarter Dam Safety Inspection Report):

- It was noticed the piezometer BB had been broken off and buried during the recent gypsum storage facility construction activities. Water levels in the piezometer appear to be higher, but this may be caused by inspectors using a different reference point to measure the water levels with the pipe being broken off. Plant personnel are inspecting and will advise Hydro Services.
- Current Recommendations: Cracks in concrete lined ditches should be cleaned out and caulked. **Pending completion - open.**
- Status of Previous Recommendations: Upstream and Downstream slopes - Localized erosion rills/gullies need to be repaired to mitigate further erosion. **Fixed – closed.**
- Status of Previous Recommendations: Runoff erosion at crest of upstream slope repaired. **Closed.**

Southern Company Generation 2008 Inspection Report for Plant Wansley Ash Pond Complex, REA # WN-08900, September 9, 2008 (Appendix A, Doc 4: 2008 3rd Quarter Dam Safety Inspection Report):

- The piezometers are registering in their historic ranges. They exhibit a muted relationship to the storage pond elevation, but little relationship to the ash pond elevation.
- Current Recommendations: Upstream and Downstream slopes - Localized erosion rills/gullies need to be repaired to mitigate further erosion

- Status of Previous Recommendations: Runoff erosion at crest of upstream slope repaired. **Pending completion - open.**

Southern Company Generation 2008 Inspection Report for Plant Wansley Ash Pond Complex, REA # WN-08900, May 28, 2008 (Appendix A, Doc 5: 2008 1st Quarter Dam Safety Inspection Report):

- The piezometers are registering in their historic ranges. They exhibit a muted relationship to the storage pond elevation, but little relationship to the ash pond elevation.
- Current Recommendations: Upstream and Downstream slopes - Localized erosion rills/gullies need to be repaired to mitigate further erosion
- Status of Previous Recommendations: Runoff erosion at crest of upstream slope repaired. **Pending completion - open.**

3.2 SUMMARY OF LOCAL, STATE AND FEDERAL ENVIRONMENTAL PERMITS

The ash pond facility is under regulation by the Georgia Department of Natural Resources (GDNR), Environmental Protection Division Safe Dams Program (EPDSDP). The discharges of the ash pond are permitted under the Federal National Pollutant Discharge Elimination Program. (NPDES Permit # GA0026778)

3.3 SUMMARY OF SPILL/RELEASE INCIDENTS (IF ANY)

No spills or releases from the Ash Pond facilities have been noted by Georgia Power for this site.

4.0SUMMARY OF HISTORY OF CONSTRUCTION AND OPERATION

4.1 SUMMARY OF CONSTRUCTION HISTORY

4.1.1 Original Construction

Construction was started on the ash pond separation dike in 1973. The original designer for the ash pond management unit was Southern Services, Inc. Plant Wansley has disposed of coal combustion by-products (ash) in one main storage impoundment since 1976. The Plant Wansley ash pond was commissioned in 1975.

The dam assessor did not meet with, or receive information from, the design engineer of record regarding foundation preparation for the ash pond. However, the dam assessor did receive documentation from Georgia Power regarding impoundment materials for the ash pond. Information in the report from Georgia Power Company in May of 1975 and the Drawings for the ash pond (1973) provide documentation on the impoundment material (see Appendix A (Doc 06: Earth Embankment Report.pdf, Doc 13: Ash Pond Construction Dwg.pdf and Doc 08: Plant Wansley Separation Dam Stability Analysis, 1 of 3.pdf)). These drawings include soil descriptions for the separation dike. The dike was constructed over a core area that was undercut to weathered rock and then fill was compacted onto the inspected rock.

Gypsum dewatering cells from drawings dated in 2007 were recently added on to the existing ash pond (see Appendix A (Doc 12: Gypsum Overall Plan View)).

4.1.2 Significant Changes/Modifications in Design since Original Construction

No significant changes/modifications were noted for the Ash Pond before 2007.

Plans and specifications dated 2007 show new construction of gypsum dewatering cells that were installed on the existing ash pond facility. These dewatering cells were assumed to have been built to local codes and standards. Upon visual observation of the four dikes for this facility, everything appeared to be well maintained. See Appendix A Doc 12: Gypsum Overall Plan View for a drawing of the dewatering cells.

4.1.3 Significant Repairs/Rehabilitation since Original Construction

No significant repairs or rehabilitation had been noted other than typical maintenance items described in the quarterly reports.

4.2 SUMMARY OF OPERATIONAL HISTORY

4.2.1 Original Operational Procedures

The ash pond was designed and operated for reservoir sedimentation and sediment storage of fly ash, bottom ash and boiler slag. Plant process waste water, coal combustion waste, coal pile stormwater runoff, and minimal stormwater runoff around the Ash Pond facility are pumped into the reservoir. Inflow water is treated through gravity settling and deposition. The ash sluice water is re-circulated through the system by a combination of a gravity fed system and pumps.

4.2.2 Significant Changes in Operational Procedures since Original Startup

No significant operating procedures for the ash pond have changed since the original start-up.

4.2.3 Current Operational Procedures

The ash pond was designed and operated for reservoir sedimentation and sediment storage of fly ash, bottom ash and boiler slag. Plant process waste water, coal combustion waste, coal pile stormwater runoff, and minimal stormwater runoff around the Ash Pond facility are pumped into the reservoir. Inflow water is treated through gravity settling and deposition. The ash sluice water is re-circulated through the system by a combination of a gravity fed system and pumps.

4.2.4 Other Notable Events since Original Startup

No additional information was provided.

5.0FIELD OBSERVATIONS

5.1 PROJECT OVERVIEW AND ASSESSMENT

Dewberry personnel Frederic Shmurak, PE and Justin Story, EI performed a site visit on Wednesday, June 30, 2010. The site visit began at 8:00 AM. Weather was hot and cloudy. The overall visual assessment of the Ash Pond was that it is in satisfactory condition and no significant findings were noted. Coal Combustion Dam Inspection Checklists created on June 30, 2030, by the two engineers for the Plant Wansley Ash Pond are provided in Appendix B, Doc 1: 2010.06.28 – Ash Pond Checklist. Photographs from the site visit are provided in Appendix B, Doc 4: Photographs.

5.2 EARTH EMBANKMENT DAM

5.2.1 Crest

The crest was covered by graded aggregate base material and had no signs of any rutting, depressions, tension cracks or other indications of settlement or shear failure, and appeared to be in satisfactory condition.

5.2.2 Upstream Slope

The upstream slope of the separation dike is mostly lined with rip rap and stone. Scarps, sloughs, depressions, bulging or other indications of slope instability or signs of erosion were not observed.

Figure 5.2.2a: Crest and Upstream Slope of ash pond's separation dike.

The upstream slope of the western dike is mostly lined with rip rap and stone. Scarps, sloughs, depressions, bulging or other indications of slope instability or signs of erosion were not observed.

Figure 5.2.2b: Upstream side of western dike

5.2.3 Downstream Slope and Toe

The downstream slope is mostly lined with rip rap and stone. Scarps, sloughs, depressions, bulging or other indications of slope instability or signs of erosion were not observed. Gravel had been placed at a few locations along the embankment as some regular maintenance. The toe of this slope is below the normal pool of the cooling water pond; therefore, visual assessment of seepage could not be performed.

Figure 5.2.3a: Crest and Downstream Slope of ash pond’s separation dike.

Figure 5.2.3b: Gravel placed along downstream embankment which appeared to be routine maintenance

Figure 5.2.3c: Crest and Downstream Slope of ash pond’s western dike.

5.2.4 Abutments and Groin Areas

The embankment consists of a raised dike system; therefore the earthen embankment does not abut existing hillsides, rock outcrops or other raised topographic features.

5.3 OUTLET STRUCTURES

5.3.1 Overflow Structure

The outlet structure was not in use; however, it visually appeared to be in good condition. Due to circulation and re-use of sluice water, the plant regulates the ash pond water surface elevation below the invert of the outlet works and has no record of the skimmer weir or the spillway ever being used.

5.3.2 Outlet Conduit

The spillway system was not in use at the time of the assessment; however, the visible portion of the outlet conduit had no apparent deterioration.

5.3.3 Emergency Spillway (If Present)

The emergency overflow spillway visually appeared to be in good condition.

5.3.4 Low Level Outlet

No low level outlet is present.

6.0HYDROLOGIC/HYDRAULIC SAFETY

6.1 SUPPORTING TECHNICAL DOCUMENTATION

6.1.1 Floods of Record

No flood of record analysis was provided; however, design flow analyses described below indicate there would be no overtopping during floods. This is supported by the fact that the dikes were not reported to have been overtopped during past hurricanes, tropical storms and depressions.

6.1.2 Inflow Design Flood

According to FEMA Federal Guidelines for Dam Safety, current practice in the design of dams is to use the Inflow Design Flood (IDF) that is deemed appropriate for the hazard potential of the dam and reservoir, and to design spillways and outlet works that are capable of safely accommodating the flood flow without risking the loss of the dam or endangering areas downstream from the dam to flows greater than the inflow. The recommended IDF or spillway design flood for a significant hazard intermediate sized structure (See section 2.2), in accordance with the USACE Recommended Guidelines for Safety Inspection of Dams ER 1110-2-106 criteria is the 100-yr to ½ PMF (See Table 6.1.2).

Table 6.1.2: USACE Hydrologic Evaluation Guidelines
Recommended Spillway Design floods

Hazard	Size	Spillway Design Flood
Low	Small	50 to 100-yr frequency
	Intermediate	100-yr to ½ PMF
	Large	½ PMF to PMF
Significant	Small	100-yr to ½ PMF
	Intermediate	½ PMF to PMF
	Large	PMF
High	Small	½ PMF to PMF
	Intermediate	PMF
	Large	PMF

The Probable Maximum Precipitation (PMP) is defined by American Meteorological Society as the theoretically greatest depth of precipitation for a given duration that is physically possible over a particular drainage area at a certain time of year. The National Weather Service (NWS) further states that in consideration of our limited knowledge of the complicated processes and interrelationships in storms, PMP values are identified as estimates. The NWS has published application procedures that can be used with PMP estimates to develop spatial and temporal characteristics of a Probable Maximum Storm (PMS). A PMS thus developed can be used with a precipitation-runoff simulation model to calculate a probable maximum flood (PMF) hydrograph.

In a stormwater capacity report provided by Southern Company (See Appendix A, Doc 19: Stormwater Capacity.pdf) the authors determined the Wansley Ash Pond can handle the following:

" *A 24 hour rainfall runoff of : 1) 16.9 inches of rainfall runoff, which is 2.13 times the 100 year storm, at the level of the emergency spillway crest, and 2) 23.5 inches of rain which is 2.96 times the 100 year storm, at a level one foot below the crest of the dike*."

The Ash Pond is designed to safely pass the design storm corresponding to the ½ PMP and is therefore in compliance with recommended federal guidelines. The 6-hour, 10 square mile PMP is 30.5 inches. Adequate freeboard exists to store the ½ PMP event.

6.1.3 Spillway Rating

No spillway rating was provided. The outlet structure type is unregulated and given little change in the normal pool elevation the resulting discharge rate is expected to be relatively constant.

6.1.4 Downstream Flood Analysis

No downstream flood analysis was provided.

6.2 ADEQUACY OF SUPPORTING TECHNICAL DOCUMENTATION

Supporting technical documentation provided is sufficient.

6.3 ASSESSMENT OF HYDROLOGIC/HYDRAULIC SAFETY

Adequate capacity and freeboard exists to safely pass the design storm.

7.0STRUCTURAL STABILITY

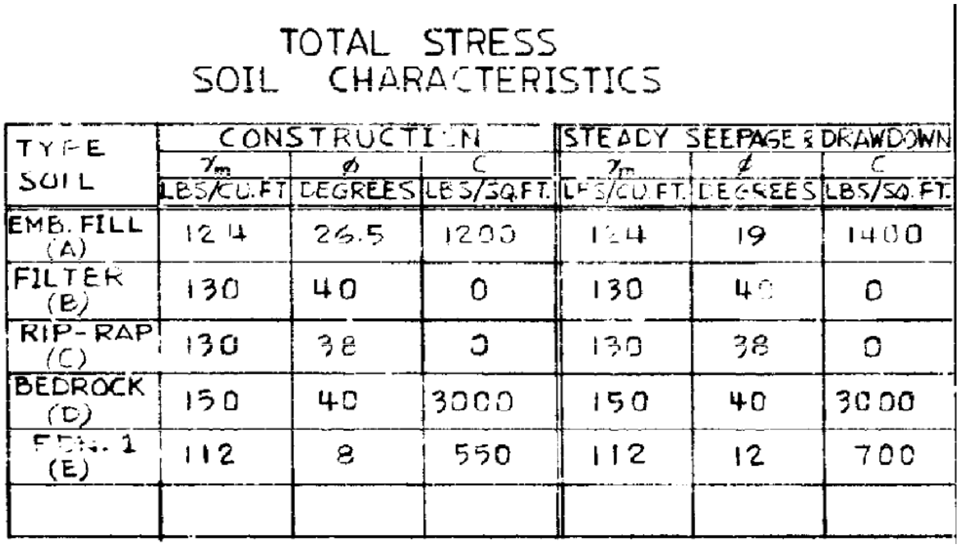
7.1 SUPPORTING TECHNICAL DOCUMENTATION

7.1.1 Stability Analyses and Load Cases Analyzed

A stability analysis report for the Fly Ash Pond, prepared in 1973, by Southern Services, Inc., with Geotechnical Testing performed by Law Engineering Testing Company, provides information on the stability analysis results and is presented in Section 7.1.4 Factors of Safety and Base Stresses. Drawings provided by Georgia Power dated 1973 also contains the critical data for the slop stability analysis. Both steady state (normal) loading and drawdown loading conditions were analyzed. See Appendix A (Doc 08: Separation Dike Analysis (1 of 3).pdf) for the drawing.

7.1.2 Design Properties and Parameters of Materials

Construction drawings for Plant Wansley's separation dike were prepared by the Georgia Power in conjunction with Southern Services, Inc. from 1973. The drawings include documentation of the shear strength design properties for the Fly Ash Pond, which is included in this report and is presented in the following section; see Appendix A (Doc 08: Separation Dike Analysis (1 of 3).pdf) for the drawing.



TOTAL STRESS
SOIL CHARACTERISTICS

TYPE SOIL	CONSTRUCTION			STEADY SEEPAGE & DRAWDOWN		
	γ_m	ϕ	C	γ_m	ϕ	C
	LBS/CU.FT	DEGREES	LBS/SQ.FT.	LBS/CU.FT.	DEGREES	LBS/SQ.FT.
EMB. FILL (A)	124	26.5	1200	124	19	1400
FILTER (B)	130	40	0	130	40	0
RIP-RAP (C)	130	38	0	130	38	0
BEDROCK (D)	150	40	3000	150	40	3000
FDN. 1 (E)	112	8	550	112	12	700

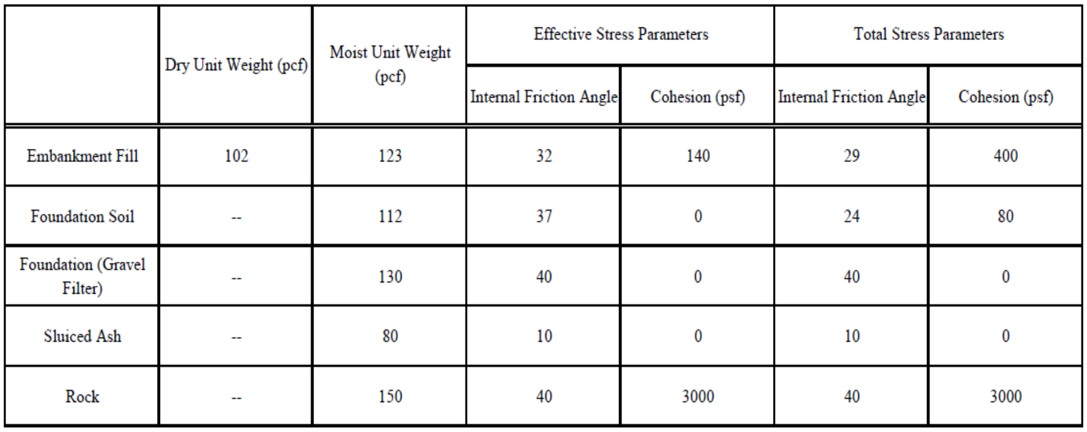
Design Shear Strength

The following items were noted on the Separation Dike Stability Analysis drawings:

- *Safety factors shown are the minimum for each condition. Complete computer results available from Southern Services, Inc.*
- *Safety factors do not include benefit from deposit of ash.*
- *Soil characteristics from Law Engineering and Testing Co. through Georgia Power.*
- *Materials recommended by LETCO for embankment fills are: a. Fine to medium sandy silt (west borrow); b. stiff to hard fine to medium sandy micaeous silt (north borrow); partially weathered rock (LETCO report No. 40 1972).*
- *Embankment fills shall be compacted to at least secure the design strength characteristics used in the analysis of slopes. Field control should ensure the design strength of the materials used in the design.*

The above referenced document is provided in Appendix A (Doc 08: Separation Dike Analysis (1 of 3).pdf).

A more recent study was performed in the 2010 and the results are found below. The soil weight and strength parameters used in the study are consistent with soils found in the Piedmont geological province. For the complete report see Appendix A, Doc 17: Slope Stability Analysis.pdf. There is no evidence that the dikes were built of or upon wet ash, slab, or other unsuitable materials.



	Dry Unit Weight (pcf)	Moist Unit Weight (pcf)	Effective Stress Parameters		Total Stress Parameters	
			Internal Friction Angle	Cohesion (psf)	Internal Friction Angle	Cohesion (psf)
Embankment Fill	102	123	32	140	29	400
Foundation Soil	--	112	37	0	24	80
Foundation (Gravel Filter)	--	130	40	0	40	0
Sluiced Ash	--	80	10	0	10	0
Rock	--	150	40	3000	40	3000

7.1.3 Uplift and/or Phreatic Surface Assumptions

The 1973 Separation Dike Stability Analysis drawings, prepared by Georgia Power and Southern Services, Inc., provides information on the phreatic surface as shown in Figure 7.1.3A and the drawings can be found in Appendix A (Doc 08: Separation Dike Analysis (1of3).pdf). A 2010 slope stability analysis was provided that shows the phreatic surface profiles (See Figure 7.1.3B through D). For the complete report and drawings showing the phreatic surfaces see Appendix A, Doc 17: Slope Stability Analysis.pdf. Piezometric readings indicate that the phreatic surface has overall been stable and is consistent with the assumptions made in the slope stability models.

“The most recent levels for each pond along with the piezometer readings are summarized in the table below.

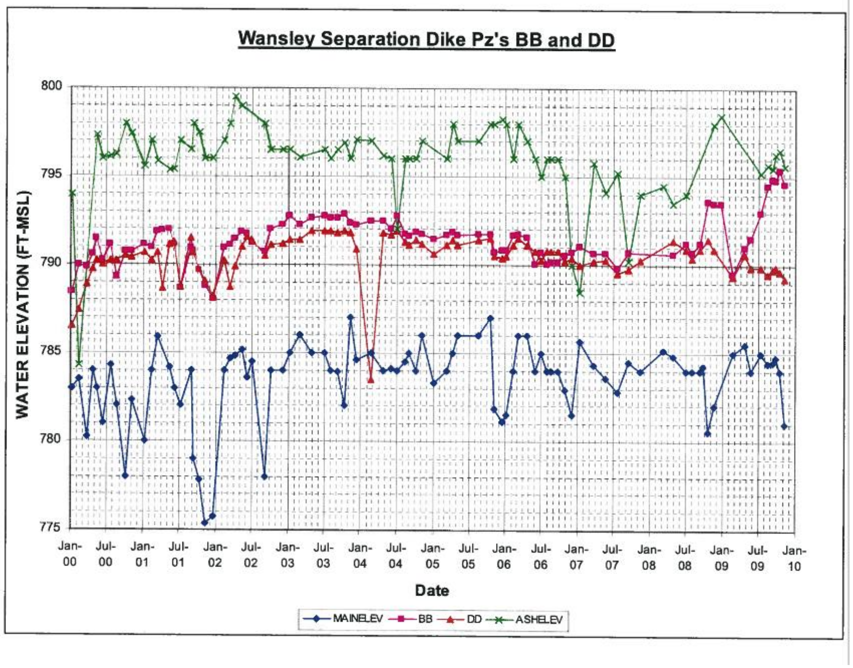


Figure 7.1.3a: Historic Piezometer Readings

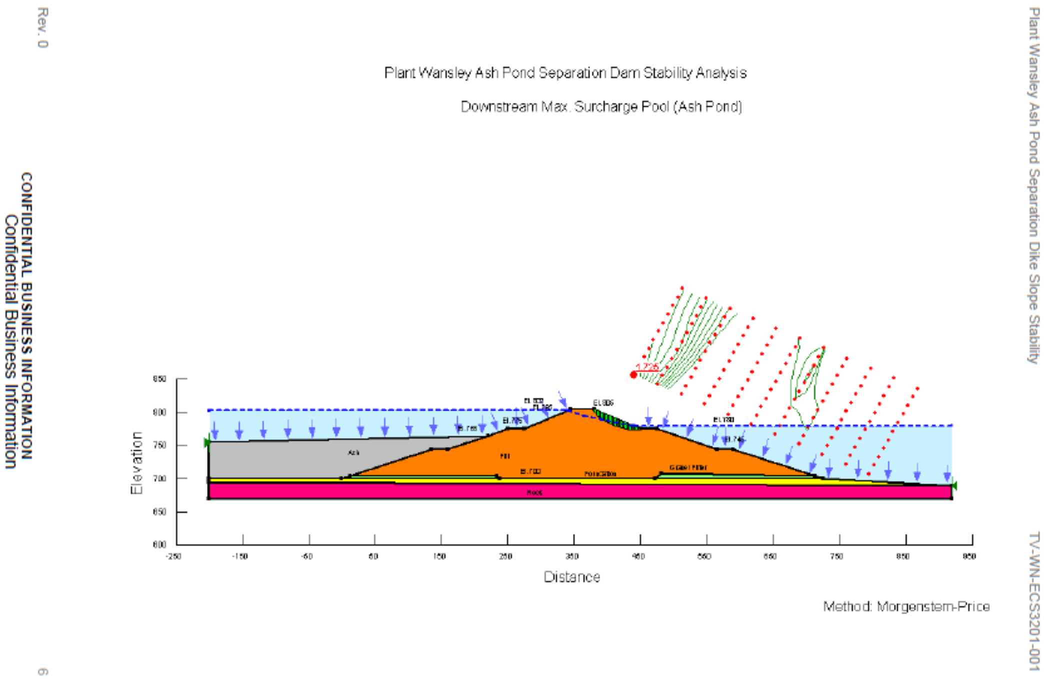


Figure 7.1.3b: Phreatic Surface Profile (Steady State)

The locations of the piezometers are depicted in Figure 9.2.1, within the Instrumentation Plan Section. (See Appendix A Doc 1 through 5 for inspection reports showing historical piezometer data). Piezometer BB was damaged in 2008 and Georgia Power stated it was recently repaired.

The piezometer reading information generally indicates a steady and consistent trend. There appears to be a major drop in piezometer DD reading in 2004 which is unexplained.

The increased elevated readings of piezometer BB starting in 2008 were potentially caused from measurements being made from different reference points when the top of the pipe was broken off.

Internal drainage collection and discharge piping was not located by the dam assessors during the visual site inspection. However, Georgia Power provided documentation on internal drainage collection (drainage blankets) and discharge piping. See Appendix C (Doc 07: Ash Pond Profile.pdf) for the drawing.

7.1.4 Factors of Safety and Base Stresses

A stability analysis drawing for the separation dike prepared in 1973, by Georgia Power, with Southern Services, Inc. provides information on the factors of safety and is presented below. See Appendix A (Doc 08: Separation Dike Analysis (1of3).pdf) for the complete report.

The results of the stability analysis are summarized in the drawings below. The stability analyses were performed on the downstream slope of the separation dike, however, no information was provided for the western dike.

The safety factors presented in the drawings (Steady State = 1.56; Drawdown = 1.27) show that the slopes of the fly ash facility at Plant Wansley have satisfactory safety factors under static and drawdown conditions.

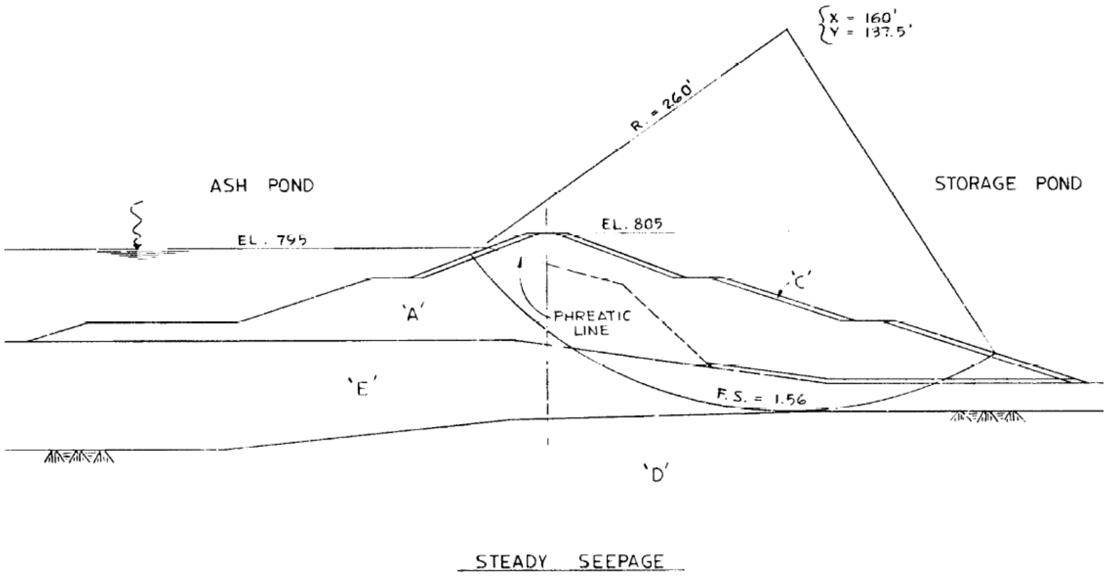


Figure 7.1.4a: Steady Seepage Profile

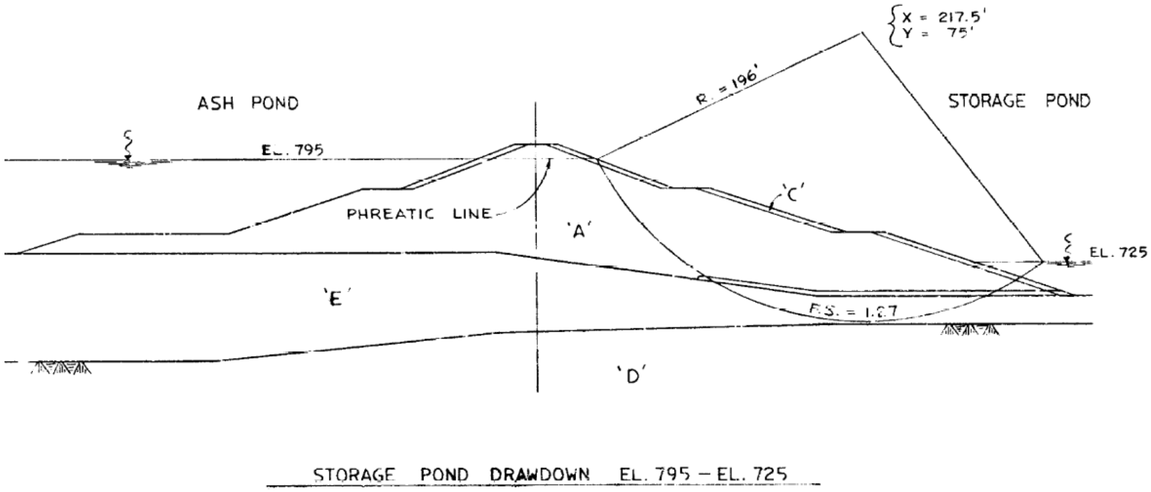
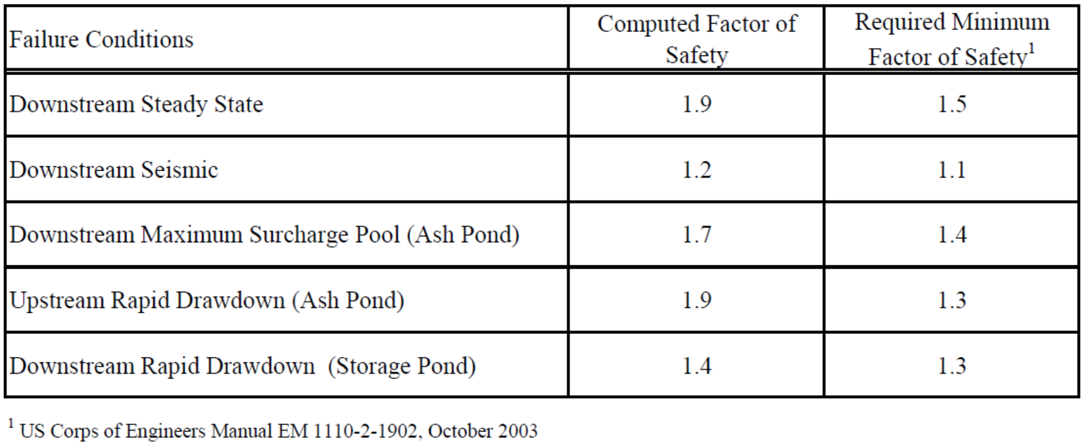


Figure 7.1.4b: Drawdown Profile

A slope stability analysis was performed in 2010 and the results are below. For the complete report please see Appendix A, Doc 17: Slope Stability Analysis.pdf.

Table 7.1.4: Factors of Safety



Failure Conditions	Computed Factor of Safety	Required Minimum Factor of Safety[1]
Downstream Steady State	1.9	1.5
Downstream Seismic	1.2	1.1
Downstream Maximum Surcharge Pool (Ash Pond)	1.7	1.4
Upstream Rapid Drawdown (Ash Pond)	1.9	1.3
Downstream Rapid Drawdown (Storage Pond)	1.4	1.3

[1] US Corps of Engineers Manual EM 1110-2-1902, October 2003

Based on the results of the analyses presented in this report, all the dams and dikes that form the fly ash disposal facility at Plant Wansley were found to have stability safety factors at or above the minimum recommended values. Slope stability analysis were not provided for the western dike; however, foundation preparation, embankment soils and geometry are consistent. Performance of a separate slope stability analysis is not deemed critical.

On this basis, it is believed that the facility is performing as intended in its design. Routine maintenance and inspections should continue to enable the facility to perform as found in this evaluation.

7.1.5 Liquefaction Potential

A 2010 study was provided that showed the soils have a factor of safety of 1.4 against liquefaction. It was stated that from liquefaction potential analysis, that "*the separation dike soils are not subject to appreciable strength loss due to earthquake shaking.*" (See Appendix A, Doc 18: Liquefaction Potential.pdf).

A separate soil report stated the fill material came from native borrow sites and the typical soil in the surrounding area does not have liquefaction problems.

Original foundation soil conditions do not appear susceptible to support liquefaction.

7.1.6 Critical Geological Conditions and Seismicity

No critical geological conditions were noted.

An engineering report for Plant Wansley titled “Earth Embankments Final Report and Appendices” references the geological conditions of the site as follows:

“ The site geology and soil profile are typical of much of the Southeastern Piedmont. The plant area and embankments are within the Brevard Zone which is a pronounced geological lineament of deformed rocks extending from Alabama northeastward into North Carolina. The rocks at the site are biotite gneiss and schists, typically striking northeast with a southeast dip. Where sound and unweathered, they are highly competent, but because of the pronounced foliation, they break into flat particles when excavated and crushed. However, this characteristic is not sufficiently detrimental to prevent the rock from being entirely adequate for riprap, bedding material, sub-ballast, and road base. It was not used for concrete aggregate.

Upland soils throughout the site are residual from in-place weathering of underlying parent rock. These soils were used in the construction of dikes and dams, and are generally sandy, micaceous, silts and silty, micaceous, fine sand. The upper layer, however, was more clayey because of advanced weathering of the minerals, and is generally described as red-brown, sandy, silty, clay, sandy, clayey silts.

In the valleys of streams and smaller drainages features, alluvial soils cover the valley floors. These are primarily silts and fine sands, with pockets of soft, organic much soils which required removal before placing embankment. They were not used for embankment fills.”

See Appendix A (Doc 06: Earth Embankment Report.pdf) for the complete document.

Based on USGS Seismic-Hazard Maps for the Conterminous United States, dated 2005, the facility is located in an area anticipated to experience a 0.10g acceleration with a 2-percent probability of exceedance in 50-years.

7.2 ADEQUACY OF SUPPORTING TECHNICAL DOCUMENTATION

Structural stability documentation is adequate.

7.3 ASSESSMENT OF STRUCTURAL STABILITY

The structural stability of the ash pond appears to be satisfactory.

Based on the previous assessment reports/inspections provided by Georgia Safe Dams Program and Georgia Power, this assessment of the fly ash pond is generally consistent with historical observations.

8.0MAINTENANCE AND METHODS OF OPERATION

8.1 OPERATIONAL PROCEDURES

Operational procedures are adequate. The facility is operated for reservoir sedimentation and sediment storage; specifically, fly ash, bottom ash, pyrites, boiler slag and flue emission control residuals. Coal combustion process waste water and stormwater runoff from the facility are discharged into the reservoir, inflow water is treated through gravity settling and deposition. The sluice water is re-circulated through the plant.

8.2 MAINTENANCE OF THE DAM AND PROJECT FACILITIES

Maintenance procedures are adequate. Grassed areas are routinely mowed and vegetation is removed from the rip-rap slopes. Spillways and outlets are maintained and debris is removed as needed. Deficiencies as noted in the surveillance & monitoring program are corrected and documented.

8.3 ASSESSMENT OF MAINTENANCE AND METHODS OF OPERATION

8.3.1 Adequacy of Operational Procedures

Operational procedures are adequate.

8.3.2 Adequacy of Maintenance

The maintenance program is adequate.

9.0SURVEILLANCE AND MONITORING PROGRAM

9.1 SURVEILLANCE PROCEDURES

Georgia Power stated they have daily, weekly, monthly, quarterly and annual inspections for the ash pond. Only documentation was provided on the quarterly inspections.

Quarterly Inspections:

A quarterly inspection is conducted by plant personnel and at least one representative of Hydro Services. See Appendix A (Doc 01 through Doc 05) for copies of the 2008 & 2009 quarterly inspection reports.

9.2 INSTRUMENTATION MONITORING

9.2.1 Instrumentation Plan

The following data is based on inspection reports provided by American Electric Power:

An instrumentation plan was not provided, however piezometers have been installed to collect instrumental data. The peizometers are located around the separation dike. For piezometer readings, a water level indicator probe is used, which is lowered within the monitoring well until water is reached, and the distance is recorded. Profiles of the monitoring wells and piezometers are depicted in Figure 9.2.1. Please refer to Appendix A (Doc 11: Separation Dike Profiles.pdf) for piezometer profile drawings.

9.2.2Instrumentation Monitoring Results

Instrumentation monitoring data has been provided and is discussed in Section 7.1.3 Uplift and/or Phreatic Surface Assumptions.

9.2.3Evaluation

The historical data indicates that the embankment dams are performing adequately.

9.3 ASSESSMENT OF SURVEILLANCE AND MONITORING PROGRAM

9.3.1 Adequacy of Inspection Program

Inspection program is adequate.

9.3.2Adequacy of Instrumentation Monitoring Program

The surveillance and monitoring programs should include additional monitoring of the emergency overflow spillway. As indicated previously, the overflow spillway is not in use; however, minor cracking is occurring and the potential for water to undermine the spillway slab exists.

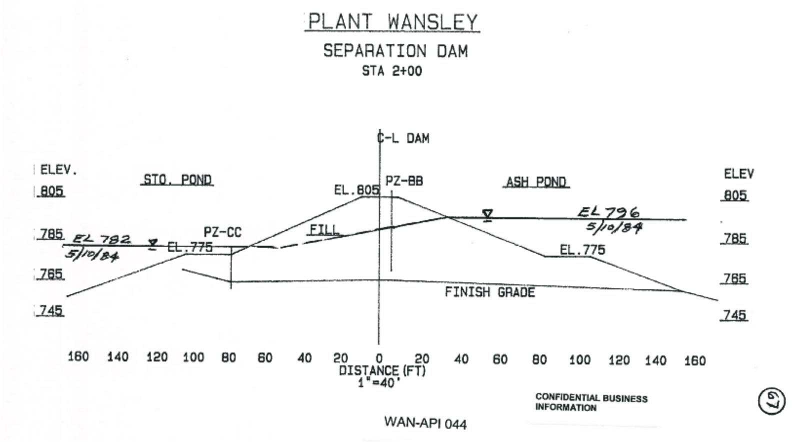


Figure 9.2.1a: Separation Dam Cross Section

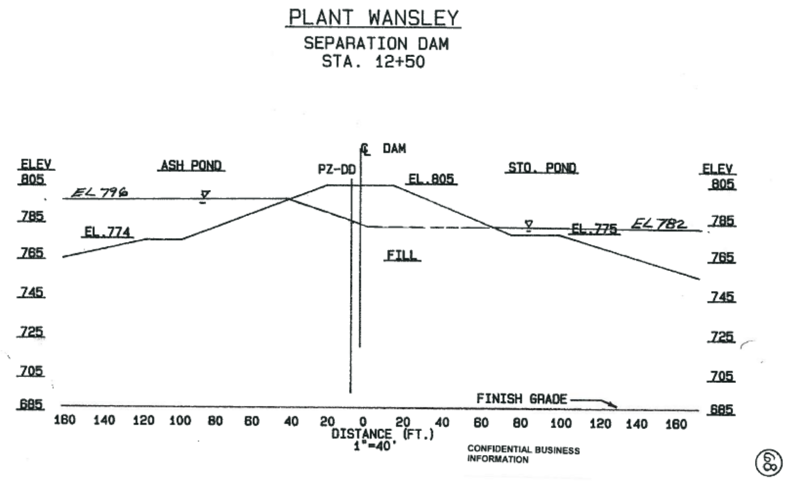


Figure 9.2.1b: Separation Dam Cross Section

Southern Company Generation
Bin 10193
241 Ralph McGill Boulevard NE
Atlanta, Georgia 30308-3374

Tel 404.506.7033

SOUTHERN COMPANY
Energy to Serve Your World™

December 9, 2009

PLANT WANSLEY
Dam Safety Surveillance
Quarterly Report
REA No. WN-08900

Mr. J. P. Heilbron
Plant Manager
Georgia Power Co.
Plant Wansley

Dear Mr. Heilbron:

Attached is the 4th Quarter - 2009 report on Dam Safety Surveillance for Plant Wansley. The inspection of the dikes at the Main Storage Pond, Ash Pond, Separator Dike, Potable Water Pond, Detention Pond and Gypsum Storage Pond was performed on October 16, 2009 by Hugh Armitage of the SCG Hydro Services Group. A representative from Plant Wansley accompanied Mr. Armitage on the inspections.

This report includes:

a) A review of the current instrumentation data;
b) The *4th Quarter – 2009 Dam Safety Inspection Report* summarizing the current and previous recommendations, field observations, comments. and photographs made during the October 16, 2009, inspections;
c) A copy of the current instrumentation plots;
d) A copy of the finalized 1st Qtr report. This report was issued in Draft to plant personnel in April 2009.

The current recommendations from this 4th Quarter Inspection are described on the first page of the attached report. The description and status of recommendations from the previous quarterly inspection are also described on pages 1 and 2 of the attached report.

Should you have any questions, please contact Hugh Armitage at extension 8-506-7109.

Sincerely,

Larry B. Wills

Larry B. Wills
Principal Engineer, Hydro Services

WAN-API 058

/hha

Attachments

CONFIDENTIAL BUSINESS
INFORMATION

xc: **Georgia Power Company**

M. A. Leason	(w/ attachment)
N. I. Dean	(w/ attachment)
T. S. Lovvorn	(w/ attachment)
G. C. Moncus	(w/ attachment)
B. Harcrow	(w/ attachment)

Southern Company Services

D. E. Jones	(w/attachment)
E. B. Allison	(w/ attachment)
J. H. Crisler	(w/ attachment)
B. J. Peterson	(w/attachments)
K. Furman	(w/ attachments)

Hydro Service Wansley Notebook
Master File: WN-09900

Hydro Services Correspondence Notebook (w/attachments)

T:\Quarterly Reports\Fossil Plants\2009\WANSLEY\09-4th Qtr\1 - 09-Qtr 4 - Cover Letter.DOC

CONFIDENTIAL BUSINESS
INFORMATION

Instrumentation Data Review
4th Quarter – 2009

In the 3rd quarter of 2009, it was agreed that the level of the storage pond would be gradually reduced by usage to elevation 780 ft. in an effort to reduce the extent of the wet area on the lower downstream slope at Sta. 37+50. This issue has been discussed since the early 1980's. The pond level taken during the November instrumentation readings was reported to be elevation 781.0 feet.

A current assessment of instrumentation data reviewed up to the most recent readings at Plant Wansley is as follows.

Storage Pond:

Sta. 20+00: Piezometers are generally within their historic range and seem to be tracking the pond level.

Sta 37+50-1: Piezometers PP and TT3 experienced a significant drop in elevation in the spring. It is not known exactly why this occurred but may have been related to a delayed response to a decrease in the pond level late in 2008. The readings since July have returned to their historic levels.

Sta 37+50-2: All of these piezometers appear to be in their historic range. They generally are tracking the pond level.

Sta 37+50 Pipe Flows: These flows appear to be in their historic ranges. These flow rates will continue to be monitored to assess if any trends develop. They seem to be tracking the pond level. The flow rate is decreasing at most of the drains as the pond level is being lowered to elevation 780 ft.

Sta 47+50: The piezometers are within their historic range of measurement.

It is recommended that the flow rate at the toe drain at Station 39+00 be obtained at monthly intervals rather than the current 6 month schedule. This information will be useful when modifications to the drains at 37+50 are carried out.

Sta 58+00: The piezometer levels are Sta. 58+00 are within their historic range. The piezometer LLL was repaired this past summer when the drain valve was observed leaking earlier in the year.

Relief Wells: The relief wells appear to be discharging in their historic range, but also in response to the lower pond level. Dip in flow seems to have occurred when the seep was discovered in July.

Sta 65+00: Piezometric levels at C, E and MM are within their historic ranges.

Sta 70+00: All of these piezometers are reading in their historic ranges.

Weir and Pipe Flows: Weir measurements at Sta. 11+20 and 49+00 indicate a continuing trend to their historic range.

Separation Dike:

These piezometers are generally registering in their historic ranges. Although Piezometer BB continues to exhibit has recently exhibited an elevated water level and generally has followed the change in level of the ash pond. The piezometer was repaired after being damaged in 2008.

Potable Water Pond Dike:

These piezometers were registering in their historic ranges and appear to respond to the water level in the main pond level.

Plant Wansley

2009 - 4th Quarter Dam Safety Inspection Summary

Date of Inspection: October 16, 2009
Weather: Overcast, windy
Temperature: ~56° F
Rainfall (past 24 hrs): 0

Inspection by: H. Armitage - SCG Hydro Services
Daryl Clayton - Plant Security Officer

SUMMARY

1. No major dam safety issues that would impact the safety of the structures were observed during this inspection. Recommendations to address current and previous inspection observations are summarized below. Many of the current recommendations are routine, on-going maintenance type activities.

ADDITIONAL COMMENTS

1. Plant personnel did a very good job in completing many of the recommendations from previous quarterly inspections.
2. A copy of the Plant Wansley instrumentation data and review comments are attached.

CURRENT RECOMMENDATIONS

No.	Description	Location	Status - Open/Closed
1	Sign at Station 0-00 needs to be repaired & reinstalled.	Storage Pond - East Dike	**Open**
2	Weeds and grass need to be cut at toe of slope.	Storage Pond - East Dike	**Open**
3	Localized bare spots on slopes need to be re-grassed to prevent further erosion and silt washing into ditches. A manufactured grass matting product would be preferable to minimize erosion/wash-out during initial grass growth.	Storage Pond - Various locations along East and Southeast dikes (downstream slopes)	**Open**
4	Numerous rodent/animal burrow holes observed on downstream slopes. All require filling in. (Excerpt from FEMA Publication 473 - "Impact of Animals on Earthen Dams" . Copy prev. forwarded to plant personnel, provides options for repair).	Storage Pond - Various locations along East & Southeast dikes (downstream slopes)	**Open**
5	Numerous ant mounds observed on downstream slopes. Treatment required for ant mounds by fumigants or chemical methods as described in FEMA Publication 473 - "Impact of Animals on Earthen Dams". Copy prev. forwarded to plant personnel, provides options for repair).	Storage Pond - Various locations along East & Southeast dike (downstream slopes)	**Open**
6	Clean out debris and dirt in concrete lined toe ditches	Storage Pond - East and Southeast Dikes - Various locations	**Open**
7	Localized holes in concrete need to be repaired (i.e. pressure grout) to prevent undermining of concrete. Water flowing out of holes .	Storage Pond - East Dike, Ash Pond Overflow Channel	**Open**
8	Mud and debris needs to be removed from behind weir.	Storage Pond - Sta 37+50 - Southeast Dike	**Open**
9	Truckload of #57 stone required at Emergency Aggregate stockpiles	Storage Pond - Southeast Dike	**Open**
10	Portion of rip rap spillway washed away should be repaired by replacing with a concrete slab or alternatively use Type 1 rip rap placed on a 16ounce/sq. yard non-woven geotextile. Some excavation will be required with rip-rap option so elevation of existing concrete and rip-rap match existing rip rap.	Ash Pond - Emergency Spillway	**Open**
11	Repair downstream end of channel using Type #1 rip-rap placed over a 16 oz/sy non-woven geotextile. Area of scour beside the channel should be repaired using type 1 rip rap placed on a 16 oz./sy non-woven geotextile. Alternatively, a concrete slab could be extended from the edge of the concrete channel to prevent future scour.	Ash Pond - Outflow Channel	**Open**
12	Eroded area of upstream (west side) to be repaired. Recommended repair procedure provided by SCG Hydro Services to Plant personnel. All vegetation and large rocks/boulders need to be removed from upstream approach channel to prevent future blockage of spillway during high flow conditions.	Potable Water Pond	**Open**
13	Fill in several potholes on road at crest of East Dike.	Storage Pond	**Open**
14	The measurement of flow from the toe drain at **Sta. 39+00** should be done monthly and added to monthly instrumentation report that is sent to Hydro Services.	Storage Pond	**Open**
15	The measurement of flow from the new drain installed in July 2009 near the service water pump house should be done monthly and added to the monthly instrumentation report that is sent to Hydro Services.	Storage Pond	**Open**

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2009 - 4th Quarter Dam Safety Inspection Summary

STATUS OF PREVIOUS RECOMMENDATIONS

No.	Location, Description & Action Required	Status - Open/Closed
1	**Storage/Potable Water and Detention Pond** -Grassed areas on slope should be fertilized to promote healthy & more robust grass growth.	**Ongoing**
2	**Storage Pond** - Localized rutting on east dike from grass cutting equipment. Ruts to be filled in with soil and compacted and re-grassed	**Closed - Repaired**
3	**Storage Pond** - Localized bare spots on slopes need to be re-grassed to prevent further erosion and silt washing into ditches	**Closed - Repaired -** However new areas observed. See Current Recommendation 3
4	**Storage Pond - Various locations along east dike (downstream)** - Numerous rodent/animal burrow holes observed on downstream slopes. All require filling in. (Excerpt from FEMA Publication 473 - "Impact of Animals on Earthen Dams" . Copy forwarded to plant personnel, provides options for repair).	**Closed-Repaired** (New ones since 1st Qtr - See Current Recommendation 4)
5	**Storage Pond** - Numerous ant mounds observed on downstream slopes. Treatment required for ant mounds by fumigants or chemical methods as described in FEMA Publication 473 - "Impact of Animals on Earthen Dams". Copy forwarded to plant personnel, provides options for repair)	**Closed- Repaired** (New ones since 1st Qtr - See Current Recommendation 5)
6	**Storage Pond** - A truckload of (a) GDOT #10 washed sand and (b) washed #89 stone is required to replace depleted stockpiles.	**6(a) - Closed 6(b) - Open**
7	**Storage Pond - East Dike - Various locations** - Clean out debris and dirt in concrete lined toe ditches	**Closed-** New debris observed in Ditches (See Current Recommendation 6)
8	**Storage Pond - East Dike -Lower Slope** - Storage Pond - Sta 37+00 - Repair undermining at end of concrete lined ditch	**Closed - Repaired** (See Photo 10)
9	**Storage Pond- East Dike** - Sta 45+00 & 49+00, 54+00 and Sta 57+00. Clean out ditch behind weirs and inside of the ends of drainage pipes.	**Closed - Completed**
10	**Ash Pond Emergency Overflow** -Several holes observed in bottom of concrete lined ditch and water spouting out. Repair required to mitigate undermining of slab.	**Closed** - Replaced by Current Recommendation 7
11	**Ash Pond Emergency Overflow** - End of concrete llined ditch is undermined. Needs to be repaired per recommendation in 5-28-08 inspection report (page 11 of 20).	**Closed - Repaired** (Undermined again during recent heavy rains - See Current Recommendation 11)
12	**Storage Pond** -Cracks in concrete lined ditches should be cleaned out and caulked - **Pending completion**	**Open**
13	**Storage Pond - Downstream Slopes - Sta 19+00 & 22+00 and 37+50D -** Drain pipes need to be cleaned out and repaired. **- Pending Completion**	**Open**
14	**Storage Pond - Downstream Slope - Sta 37+50 -** Hydro Services investigated wet area 1/29/09 and further options to address will be investigated. Plant personnel needs to monitor this area DAILY for any evidence of distress or unusual events, or movement of slope and contact Hydro Services immediately particularly when pool elev. 782-785 ft. **Pending SCG Hydro Services continued monitoring and review. Hydro Services contacted Georgia Safe Dams Program for an extension of time to review possible repair options.**	**Open - Pending Further Review and Monitoring.** Pond level being reduced to elev. 780 ft. to see if this reduces the extent of wet area. Area being monitored daily.
15	**Storage Pond - Downstream Slope - approx. Sta 56+00 -** Damaged marker pole for toe drain needs to be repaired.	**Open**
16	**Storage Pond - Downstream Slope - approx. Sta 62+00 -** Damaged concrete ditch needs to be fixed and accumulated silt removed.	**Closed - Repaired**
17	**Storage Pond - Downstream Slope - Piezometer LLL -** Piezometer leak at spigot connection needs to be repaired. Ground surface is wet around piezometer	**Closed - Repaired**

OBSERVATIONS FOR 4th QUARTER INSPECTION

I - Storage Pond - North Dike - (Road to Recreational Area)		**Storage Pond Elev. 782' (10-18-09)**
	Observations - Comments	**Photograph No.**
1. Upstream Slope		
a. Condition	*Grass covered - Overall condition is good. No evidence of instability. Several ant mounds near crest that need to be treated with approved pesticide.* ***(See Current Recommendation 5).***	*n/a*
b. Erosion/Sloughing	*Yes (X) No ( )- Minor localized bare spots. Need to be re-grassed.* ***(See Current Recommendation 3).***	*n/a*
2. Crest		
a. Condition	*Gravel surfaced - No distress or potholes in road surface observed.*	*n/a*
3. Downstream Slope		
a. Condition	*Good - Grass covered and length that permits good observation.*	*n/a*
b. Seepage/Wet Spots	*Yes ( ) No (X)*	*n/a*
c. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*

Plant Wansley

2009 - 4th Quarter Dam Safety Inspection Summary

II - Storage Pond - East Dike (from North Dike to Spillway)

	Observations - Comments	Photograph No.
1. Upstream Slope		
a. Condition	*Rip-rap on upstream face looks satisfactory and no dam safety issues observed.*	n/a
b. Erosion/Sloughing	*Yes ( ) No (X)*	n/a
2. Crest		
a. Condition	*Good - Gravel surfaced. Several depressions on road need to be filled potholes in road surface observed. **(See Current Recommendation 13)***	1
3. Downstream Slope		
a. Condition	*Good - Grass covered and at a length that permitted a good visual inspection. See other comments below.*	
	*1. Station marker at 0-00 needs to be replaced. **(See Current Recommendation 1)**.*	2
	*2. Weeds and grass near toe of slope needs to be cut down **(See Current Recommendation 2)**.*	3
	*3. Numerous bare spots on slopes and areas adjacent to concrete lined ditch need to be re-grassed (i.e. grass matting product) to prevent further erosion and silt from washing into ditch (i.e. see Photo 4 @ ~Sta 6+10) - **(See Current Recommendation 3)**.*	4
	*4. Rodent holes observed at Sta. 7+00, 17+40. Need to be treated. **(See Current Recommendation 4)***	n/a
	*5. Localized ant mounds observed on slopes. Need to be treated. **(See Current Recommendations 5)***	n/a
b.Seepage/Wet Spots	*Yes ( ) No (X) - No seepage or wet spots observed on slope.*	n/a
c. Erosion/Sloughing	*Yes ( ) No (X) - No evidence of instability.*	n/a
d. Concrete-Lined Drainage Ditch	*Concrete in good condition. See other comments below.*	5, 6 & 7
	*1. Debris in drain pipe at Sta. 19+00 need to be cleaned out and new sections of pipe required at drains at Sta 19+00 and 22+00 to repair damaged/crushed outlets ends. **(See Previous Recommendation 13)**.*	n/a
	*2. Ditch needs to be cleaned out of debris between Sta 2+00 and Sta 19+00. **(See Current Recommendation 6)**.*	5 & 6
	*3. Hole in concrete ditch needs to be repaired (i.e. pressure grouted). **(See Current Recommendation 7)**.*	7
e. Emergency Aggregate Stockpiles	*Yes (X) No ( ) - Needs tandem truckload of GDOT #89 stone. **(See Previous Recommendation 6 (b)**.*	n/a

III - Storage Pond - Spillway

	Observations - Comments	Photograph No.
1. Spillway Abutment/Deck		
a. Condition	*Concrete condition is satisfactory.*	n/a
2. Spillway Floor		
a. Condition	*Concrete satisfactory. Localized areas where caulking required to fill open joints. **(See Previous Recommendation 12)**.*	n/a
3. Spillway Walls		
a. Condition	*Concrete satisfactory*	n/a
4. Spillway Gates		
a. Condition	*Looked satisfactory. Gate seals appear okay.*	n/a
5. Downstream of Spillway (Channel)		
a. Condition	*Satisfactory.*	n/a

IV - Storage Pond - Southeast Dike (Spillway to Separator Dike)

	Observations - Comments	Photograph No.
1. Upstream Slope		
a. Condition	*Rip-rap is satisfactory. No instability or beaching evident.*	n/a
b. Erosion/Sloughing	*Yes ( ) No (X)*	n/a
2. Crest		
a. Condition	*Satisfactory - Gravel surfaced/Railway tracks - No distress observed along road surface .*	n/a
3. Downstream Slope		
3a - Upper Slope		
a. Condition	*Satisfactory - Grass covered. Rodent hole observed above concrete ditch. Near Sta. 41+00. **(See Current Recommendation 4)**.*	8
b.Seepage/Wet Spots	*Yes ( ) No (X)*	n/a
c. Erosion/Sloughing	*Yes ( ) No (X) - No evidence of instability.*	n/a

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2009 - 4th Quarter Dam Safety Inspection Summary

3b - Mid-Slope Road & Drainage Ditch		
a. Road Condition	*Gravel surfaced - looks good. No distress or potholes in road surface observed.*	*n/a*
b. Concrete-Lined Drainage Ditch	*Concrete in good condition. Cleanout debris in concrete lined ditches.* ***(See Current Recommendation 6).***	*n/a*
3c - Middle Slope		
a. Condition	*Satisfactory. Grass covered. Recent rodent holes observed, near Sta 40+00 at edge of concrete ditch.* ***(See Current Recommendation 4).***	*n/a*
b.Seepage/Wet Spots	*Yes ( ) No (X)*	*n/a*
c. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*
3d. Lower Road & Drainage Ditch		
a. Road Condition	*Gravel surfaced - looks good. No distress or potholes in road surface observed.*	*n/a*
b. Concrete-Lined Drainage Ditch	*Concrete condition is acceptable*	*n/a*
3e - Lower Slope		
a. Condition	*Satisfactory - Grass covered - Grass at a length that permitted a good visual examination. See other comments below.*	*n/a*
	1 *. Several bare areas require repair.* ***(See Current Recommendation 3)***	*n/a*
	2. *Treat ant mounds and rodent holes at various locations.* ***(See Current Recommendations 4 and 5).***	*n/a*
b.Seepage/Wet Spots	*Yes (X) No ( ) - See other comments below.*	*n/a*
	1. *Ground surface in the area of Sta 37+50 is wet. Operating level of pond is at 782 ft. and is gradually being lowered to Elev. 780 ft. in an effort to "dry up" this area.This area will continued to be monitored.*	*n/a*
	2 *. Sta 37+50 - Mud and debris needs to be cleaned out from behind weir* ***(See Current Recommendation 8)*** *.*	**9**
	3. *Large area of ground subsidence/loss was observed near the downslope concrete drainage ditch. This ground loss occurred presumably because of water migrating beside/beneath the concrete ditch as a result of water flowing into a hole in the bottom of a road crossing culvert that discharges into the concrete drainage ditch (Photo 10). Plant personnel mobilized contractor during the inspection to repair the area per instructions provided by Hydro Services. Hole was backfilled with #89 stone and then covered with clayey soil and grass seed and hay mulch placed at ground surface. Plant subsequently mobilized Civil Field Servivces to grout the holes in the corroded culvert and also grout in the area of the repair.*	**11**
	4. *Flow measurement at the toe drain at* ***Station 39+00*** *should be made monthly and sent to Hydro Services* ***(See Current Recommendation 14)***	*n/a*
c. Erosion/Sloughing	*Yes ( ) No (X) - No evidence of instability. Some recent bare on slope areas require re-seeding.* ***(See Current Recommendation 3).***	*n/a*
d. Concrete Drainage Ditch	*Concrete condition is good. Ditches need to be cleaned out of mud and other debris.* ***(See Current Recommendation 6).***	*n/a*
e. Concrete Drainage Channel at 37+50	*Concrete condition is good. Rip-rap has been replaced satisfactorily at end on concrete channel.*	**10**
f. Emergency Aggregate Stockpiles	*Yes (X) No ( ) - Need one truckload of GDOT washed # 57 stone* ***(See Current Recommendation 9)***	*n/a*
3f - Lower Concrete-Lined Drainage Ditch		
a. Condition	*Acceptable*	*n/a*
V - Storage Pond/Ash Pond - Separator Dike		**Ash Pond Elev. 795 ft**
	Observations- Comments	**Photograph No.**
1. Upstream Slope (Storage Pond)		
a. Condition	*Rip-Rap - Looks satisfactory. No evidence of instability.*	*n/a*
b. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced and in good condition.*	*n/a*
3. Downstream Slope (Ash Pond)		
3a. North End		
a. Condition	*Rip-Rap - Looks satisfactory. No evidence of instability*	*n/a*
b. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*
3b. South End - (No longer applicable due to Gypsum Pond/berm construction)		

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Plant Wansley

2009 - 4th Quarter Dam Safety Inspection Summary

V - Ash Pond Emergency Overflow & Spillway		**Ash Pond Elev. 795 ft**
	Observations- Comments	**Photograph No.**
1. Upstream Slope		
a. Condition	*Rip-Rap - Looks satisfactory. Grass portion of slope generally looks satisfactory.*	n/a
b. Erosion/Sloughing	*Yes (X) No ( ) - Minor erosion at toe of grassed portion of slope. Not serious at this time but condition should be monitored to assess whether condition deteriorate which will require repair.*	n/a
2. Crest		
a. Condition	*Gravel surfaced and in good condition.*	n/a
3. Downstream Slope		
a. Condition	*Rip-Rap - Looks satisfactory. No evidence of instability*	n/a
b. Erosion/Sloughing	*Yes ( ) No (X)*	n/a
4. Concrete Lined Emergency Spillway		
a. Condition	*Concrete in good condition. Part of the rip rap of spillway was washed away during heavy rainstorms in September. This area should be repaired. . **(See Current Recommendation 10)***	n/a
5. Concrete Lined Overflow Channel		
a. Condition	*Concrete in good condition. See other comments below.*	15 & 16
	*1. Several localized areas where hole in concrete have water spouting out. **Repair option - pressure grouting. (See Current Recommendation 7)**.*	n/a
	*2. Downstream outlet end of concrete lined ditch is undermined following heavy September rains. Needs to be repaired. (photo 15). **(See Current Recommendation 11).***	15
	*3. Area adjacent to channel (photo 16), was scoured during heavy September rains and overflow of channel. Area needs to be repaired to prevent further erosion/scour. **(See Current Recommendation 11)**.*	16

VII- Potable Water Pond		**Potable Water Pond Elev. 801'**
	Observations - Comments	**Photograph No.**
1. Upstream Dike Slope (Potable Water)		
a. Condition	*Rip-rap on upstream face looks good.*	n/a
b. Erosion/Sloughing	*Yes (X) No ( ) - Localized, minor surface erosion.*	n/a
c. Concrete Drainage Ditch	*Concrete in good condition. No obstructions in channel observed.*	n/a
2. Crest		
a. Condition	*Satisfactory - Gravel surfaced. No distress or potholes in road surface observed.*	n/a
3. Downstream Dike Slope (Storage Pond)		
a. Condition	*Grass covered portion- Satisfactory. Rip Rap covered portion - Satisfactory*	n/a
b.Seepage/Wet Spots	*Yes ( ) No (X) - No seepage or wet spots observed on slope.*	n/a
c. Erosion/Sloughing	*Yes (X) No ( ) - Localized, minor surface erosion. Re-seeding and mulching done and grass starting to grow.*	n/a
d. Concrete Drainage Ditch	*Yes ( ) No (X) - Condition of concrete satisfactory.*	n/a
4. Spillway Approach Channel		
a. Condition-General	*Portion of the upstream approach embankment washed out during heavy rains in September. SCG Hydro Services provided plant with written repair options. Remaining weeds and large rocks/boulders in approach channel need to be removed. **(See Current Recommendation 12).***	17 & 18
b. Condition-Rip-Rap	*Good. No evidence of instability.*	n/a
c.Condition-Concrete	*Good.*	n/a
5. Spillway Structure - Abutments/Deck		
a. Condition	*Concrete in good condition.*	n/a
6 . Spillway Structure - Floor		
a. Condition	*Concrete in good condition*	n/a
7 . Spillway Structure - Walls		
a. Condition	*Concrete - Good*	n/a

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Plant Wansley

2009 - 4th Quarter Dam Safety Inspection Summary

VIII - Detention Pond

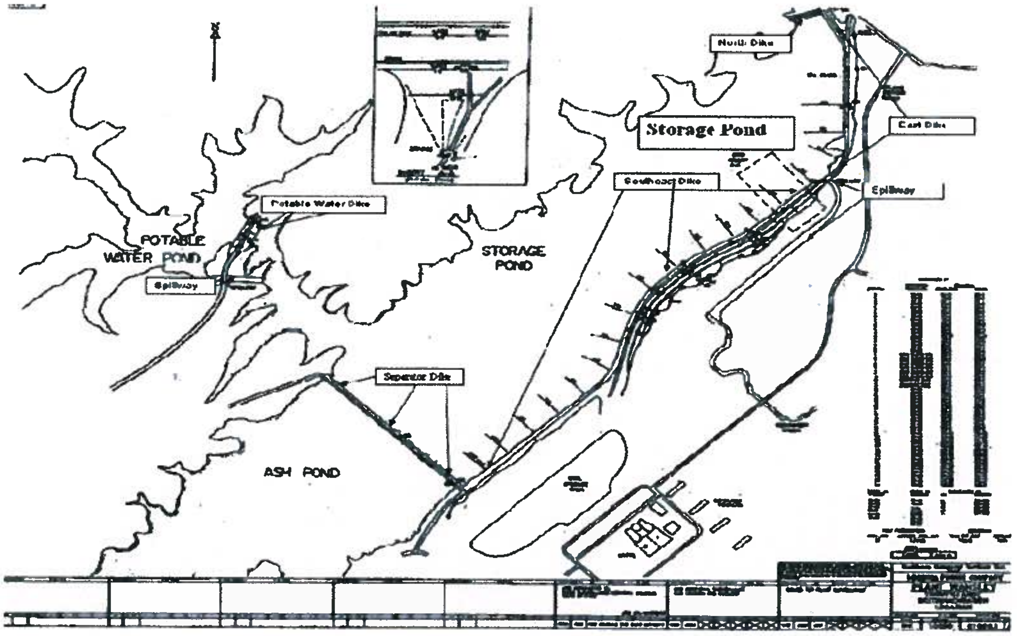
	Observations- Comments	Photograph No.
1. Upstream Dike Slope		
a. Condition	*Rip-rap in good condition.*	*n/a*
b. Erosion/Sloughing	*Yes ( ) No (X) - Slope looks satisfactory, no visible instability observed*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced and in good condition. No distress or potholes observed.*	*n/a*
3. Downstream Dike Slope		
a. Condition	*Satisfactory Grass-covered. Needs cutting. No visible evidence of instability observed*	*n/a*
b.Seepage/Wet Spots	*Yes (X) No ( ) - Localized, minor wet water beyond toe of slope. Will continue to be monitored*	*n/a*
c. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*
4. Concrete Spillway Channel		
a. Concrete Condition	*Concrete is in good condition*	*n/a*
5.Spillway Outlet Channel		
a. Condition	*Rip-rap at outfall and outlet channel is in good condition. No issues observed.*	*n/a*

VIII - Gypsum Pond Dikes (No fluid in ponds)

	Observations- Comments	Photograph No.
1. Upstream Dike Slopes		
a. Condition	*Good.*	*n/a*
b. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced and in good condition.*	*n/a*
3. Downstream Dike Slope		
a. Condition	*Grass-covered. Good condition.*	*n/a*
b.Seepage/Wet Spots	*Yes ( ) No (X)*	*n/a*
c. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*

Hugh H. Armitage - Sr. Engineer
SCG - Hydro Services

Location Plan
Storage Pond and Potable Water Pond



CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2009 - 4th Quarter Inspection Photographs - October 16, 2009

(See accompanying report attached)

Photo No.	Description	
1	**Storage Pond - East Dike** - Crest - Localized depressions at crest should be filled with Graded Aggregate Base (GAB).	
2	**Storage Pond - East Dike** - Marker pole at Sta 0-00 needs to be re-installed. Has been broken off at ground level	
3	**Storage Pond - East Dike** - Cut grass/brush down along toe of dike.	
4	**Storage Pond - East Dike** - Bare areas need to be re-grassed. (Use of a grass mat type product will minimize erosion/wash out during initial growth of grass)	

Plant Wansley

2009 - 4th Quarter Inspection Photographs - October 16, 2009

(See accompanying report attached)

Photo No.	Description	
5	**Storage Pond - East Dike** - Remove mud/debris from drainage ditches, along east dike.	
6	**Storage Pond - East Dike -Toe Ditch** - Remove overgrowth from drainage ditch	
7	**Storage Pond - East Dike -Toe Ditch** - Localized holes in concrete ditch need to be grouted to prevent water flow beneath concrete and potential ground loss	
8	**Storage Pond- Southeast Dike - Rodent holes on slope need to be filled in.**	

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Plant Wansley

2009 - 4th Quarter Inspection Photographs - October 16, 2009

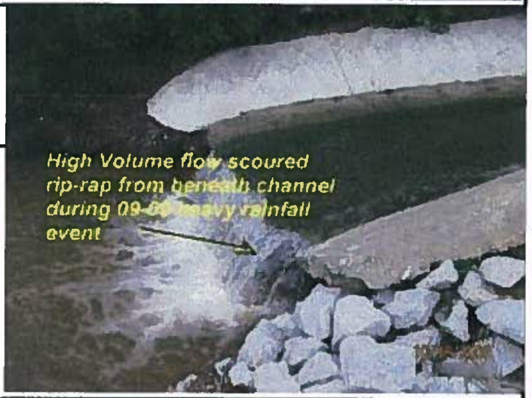
(See accompanying report attached)

Photo No.	Description	
9	**Storage Pond - Southeast Dike - Lower Slope -** Sta 37+50. Clear mud/rocks from behind weir.	
10	**Storage Pond - Southeast Dike - Lower Slope - Sta 37+00 -** Undermined area at end of concrete lined ditch fixed satisfactorily.	
11	**Storage Pond - Southeast Dike-Downstream-Lower Slope -Sta 37+50 -** Ground loss resulting from defective/leaking (corroded) culvert allowing water to flow beneath and beside concrete ditch. Both items have been repaired since inspection on 10-16-09.	
12	**Storage Pond- Southeast Dike - Mid-slope Ditch -** Mud and vegetation needs to be removed from ditches.	

Plant Wansley

2009 - 4th Quarter Inspection Photographs - October 16, 2009

(See accompanying report attached)

Photo No.	Description	
13	**Storage Pond- Southeast Dike - Lower Slope - Toe Ditch** - Mud needs to be removed from ditches.	
14	**Ash Pond- Emergency Overflow - Downstream** - Scour adjacent to concrete channel which occurred during Sept-09 heavy rainfall at site. Requires repair.	
15	**Ash Pond- Emergency Overflow - End of Concrete Channel** - Rip-rap has been scoured from beneath end of concrete channel following 09-09 heavy rainfall at site.	
16	**Ash Pond- Emergency Overflow - Spillway -** Rip-rap was scoured due to high flows in adjacent concrete channel following 09-09 rain event	

Plant Wansley

2009 - 4th Quarter Inspection Photographs - October 16, 2009

(See accompanying report attached)

Photo No.	Description	
17	**Potable Water Pond- Spillway - Upstream -** Left, upstream spillway approach embankment needs to be repaired. Hydro Services has provided plant personnel with repair procedure.	
18	**Potable Water Pond - Spillway (Upstream) -** Rip-rap was scoured due to high flows in adjacent concrete channel following Sept-09 rain event.	

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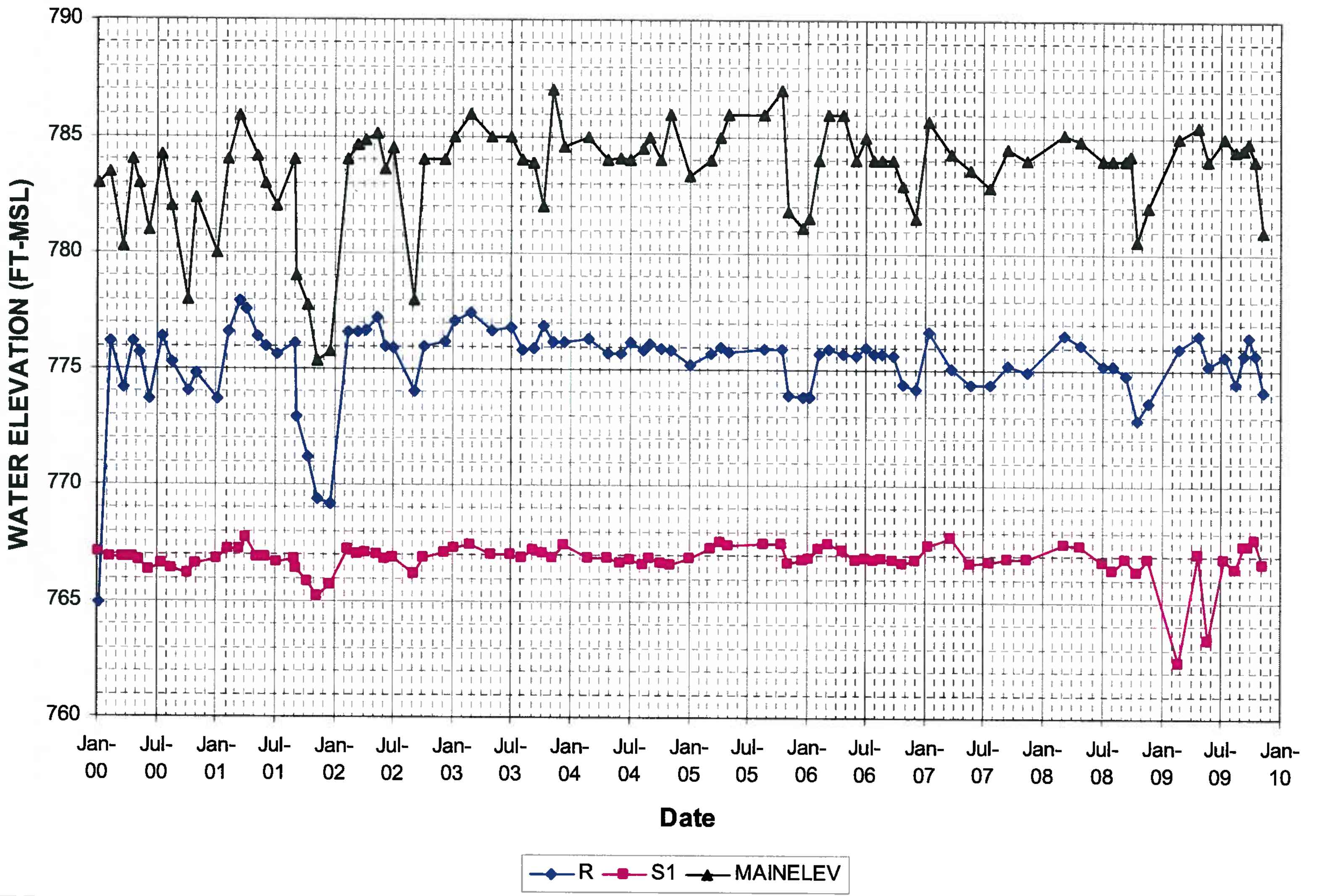
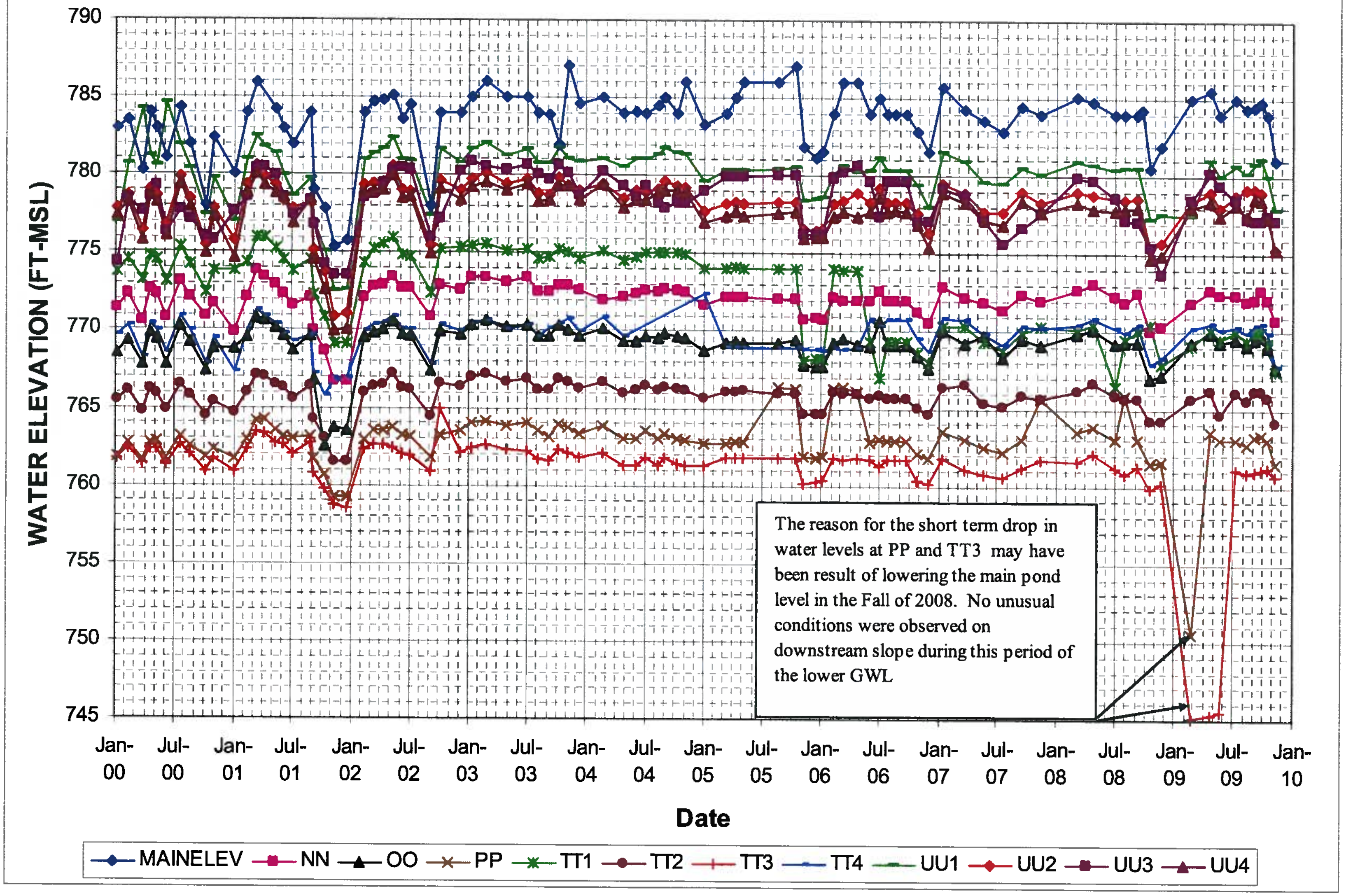
Wansley Storage Pond Pz's at Sta. 20+00



Plant Wansley Pz's at Sta. 37+50-1



The reason for the short term drop in water levels at PP and TT3 may have been result of lowering the main pond level in the Fall of 2008. No unusual conditions were observed on downstream slope during this period of the lower GWL

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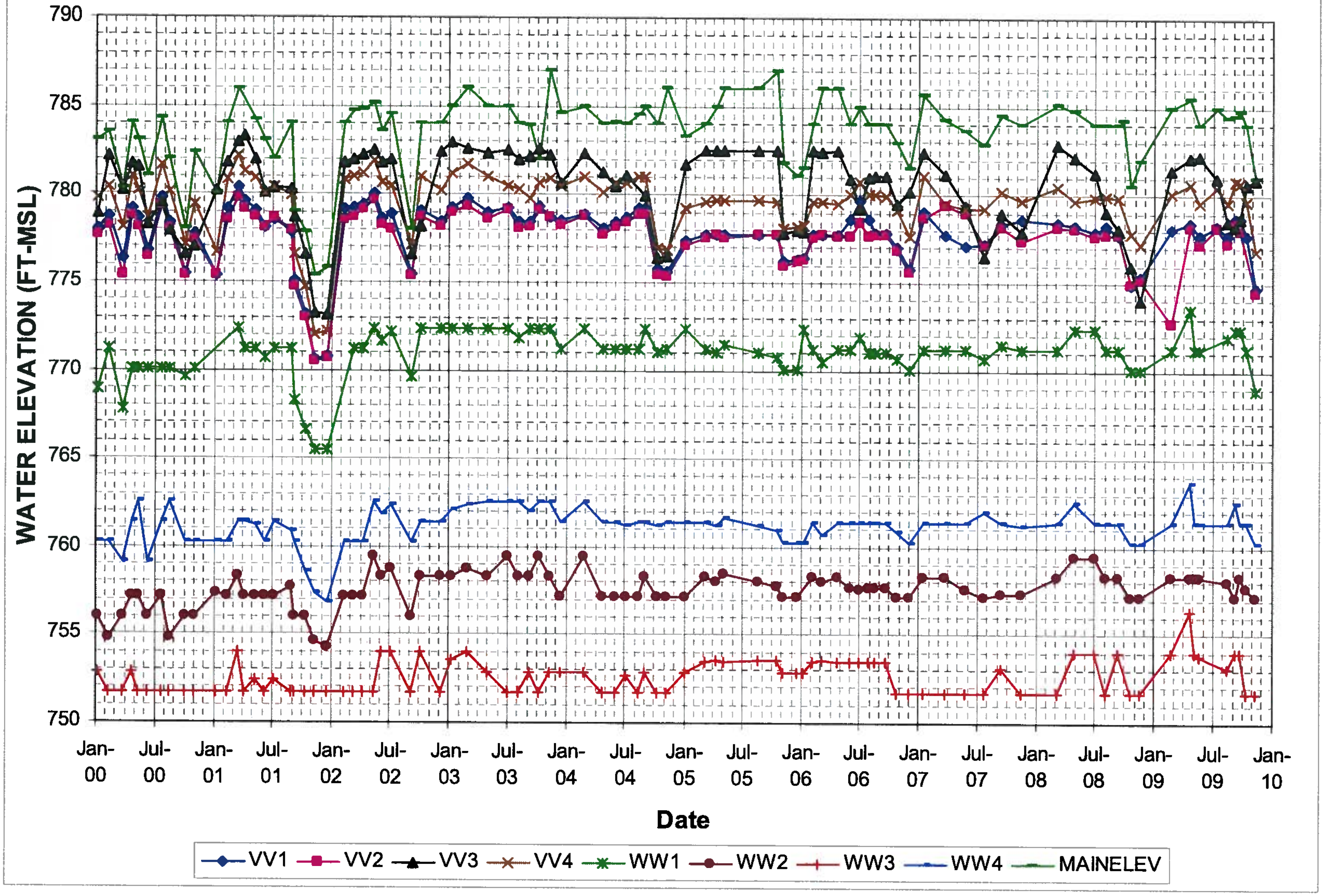
Plant Wansley Pz's at Sta. 37+50-2



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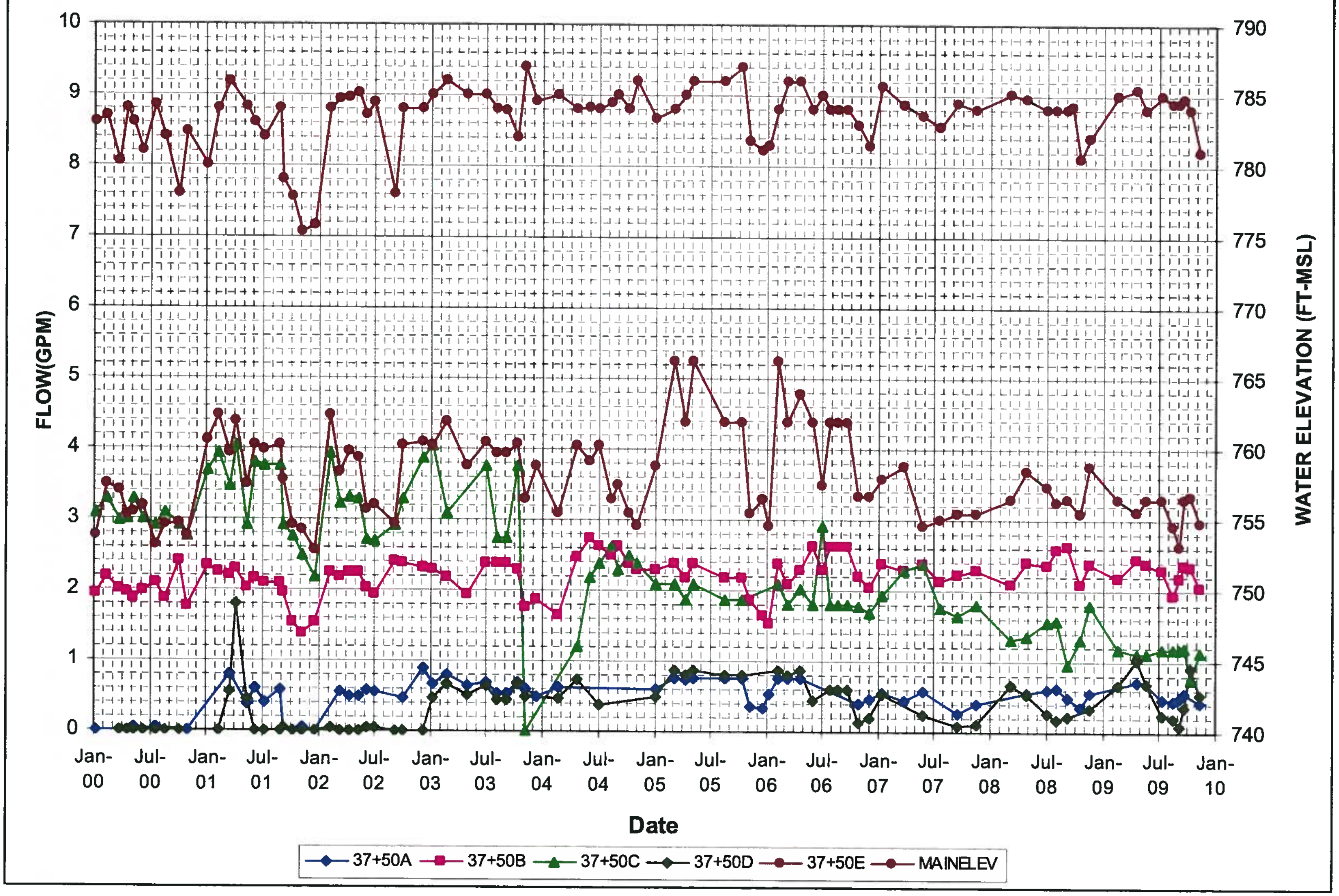
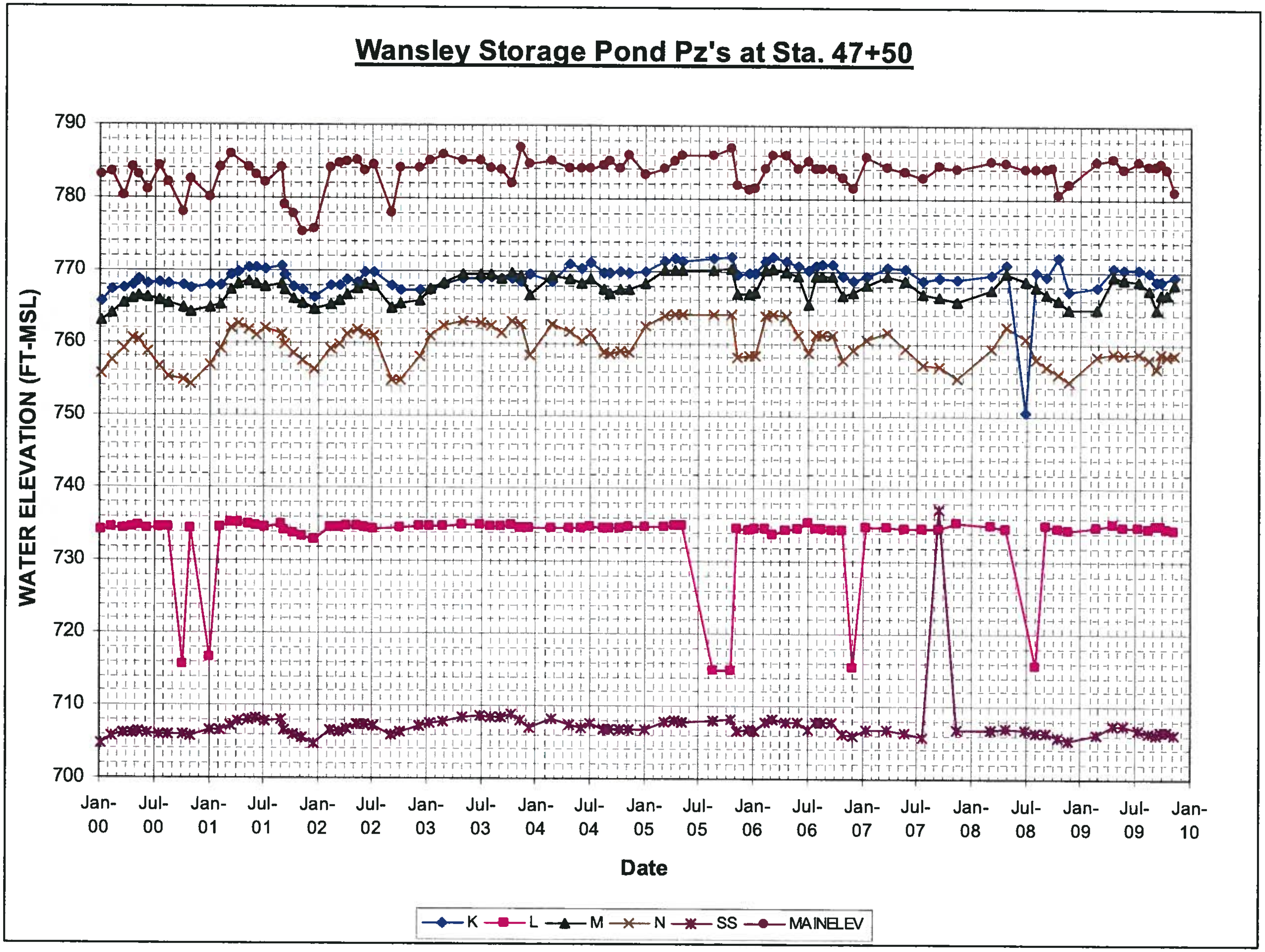
Plant Wansley Pipe Flows





Wansley Storage Pond Pz's at Sta. 47+50

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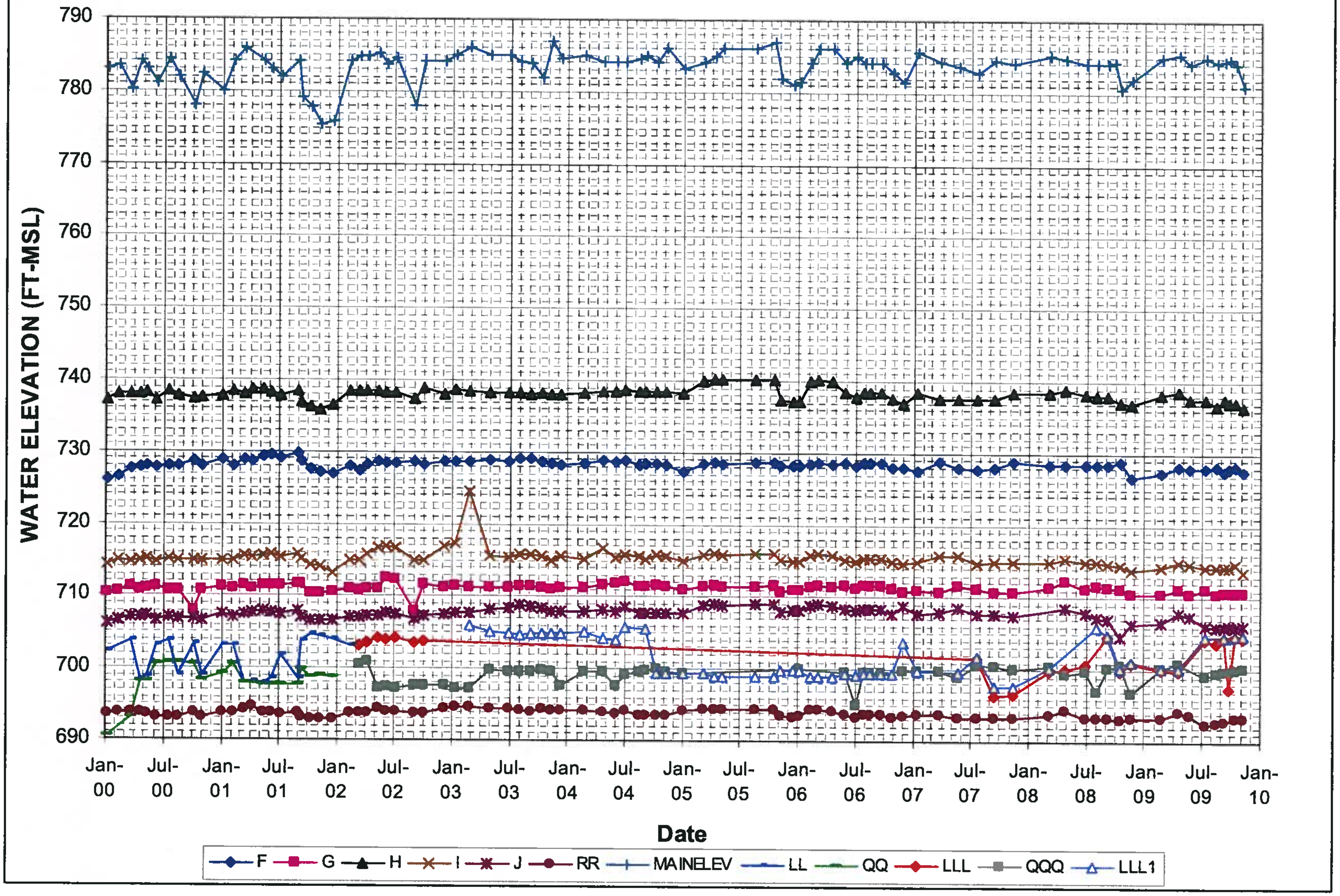
Wansley Storage Pond Pz's at Sta. 58+00



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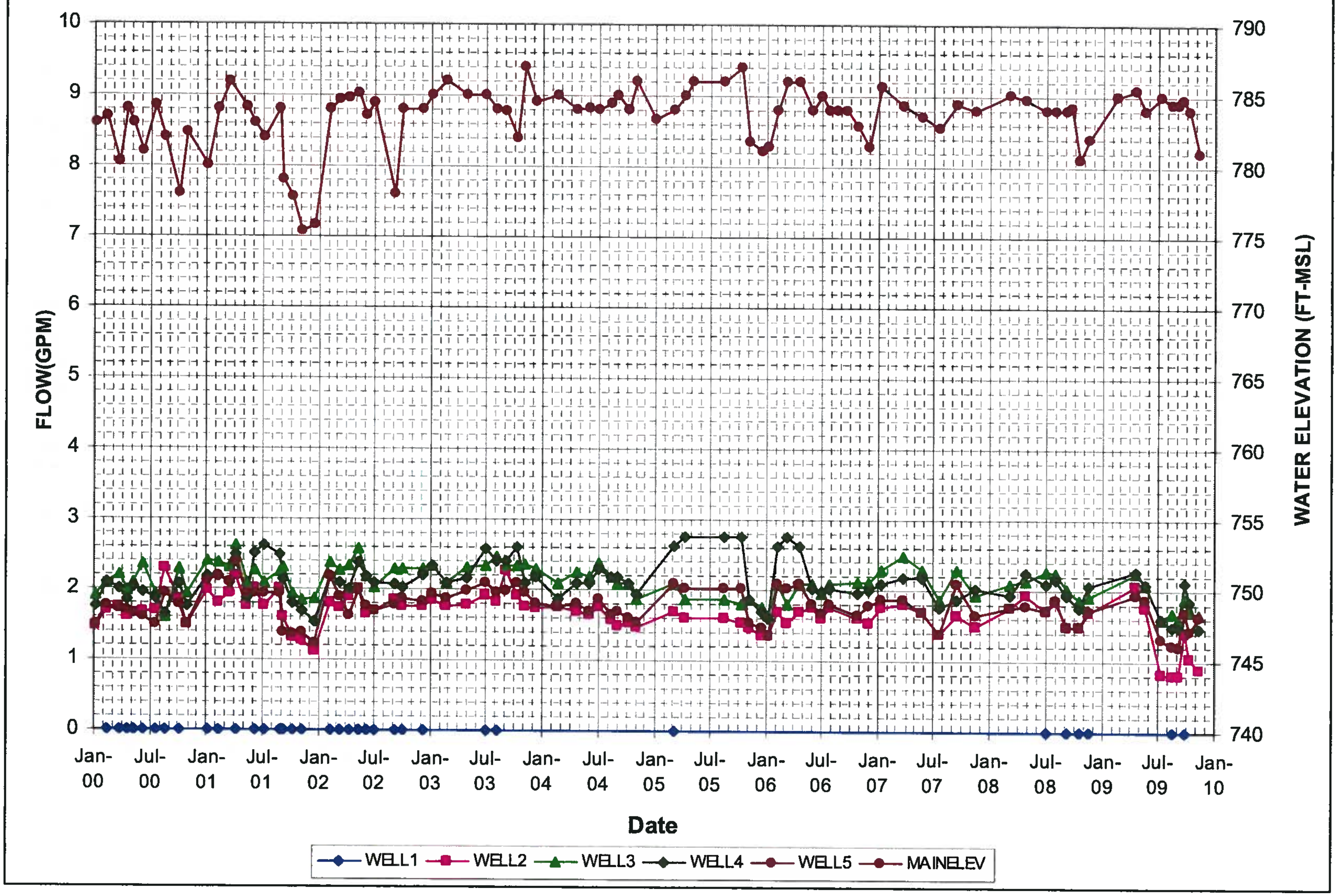
Plant Wansley Well Flows



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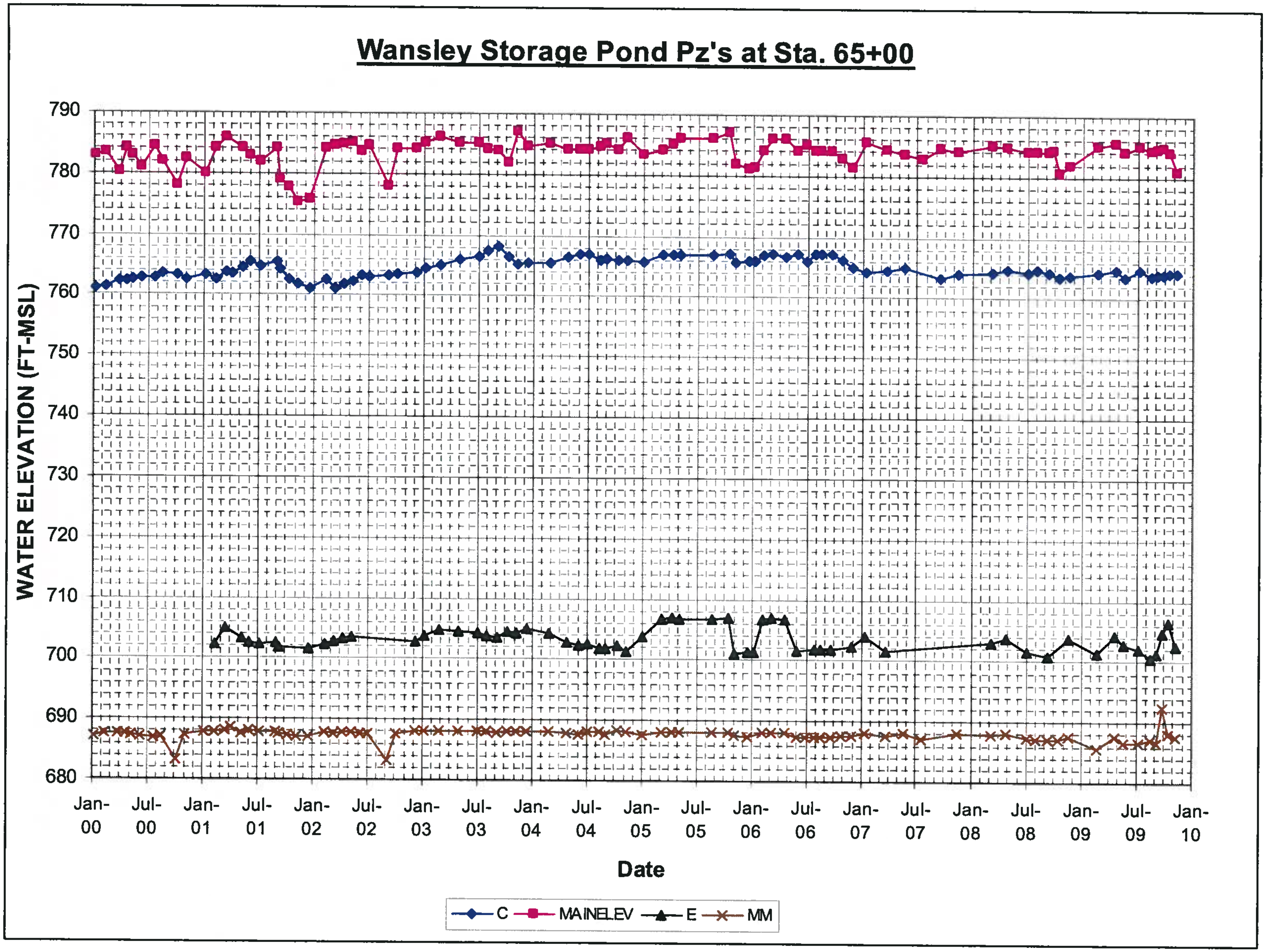
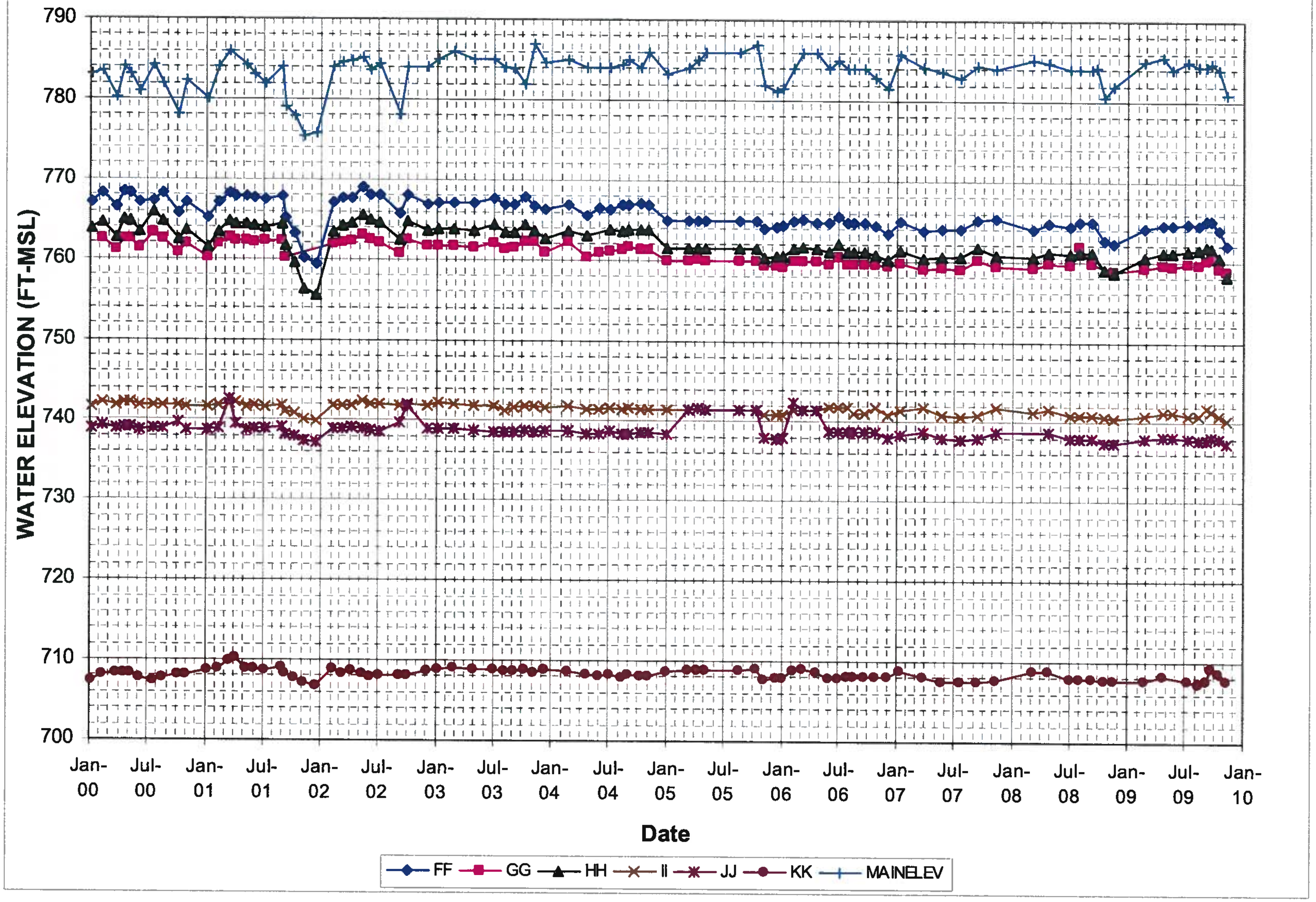


Wansley Storage Pond Pz's at Sta. 70+00



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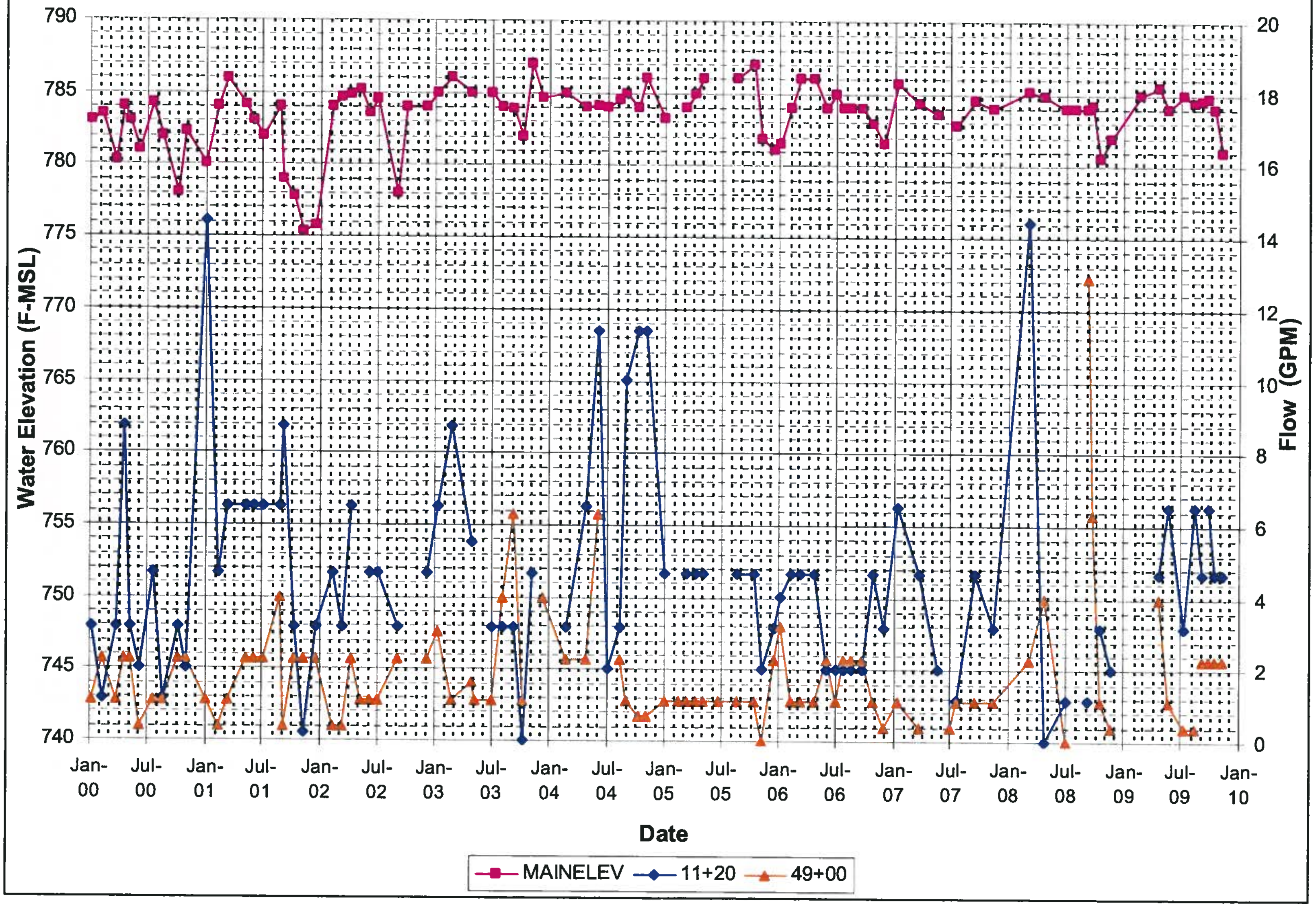
Plant Wansley Weir and Pipe Flows



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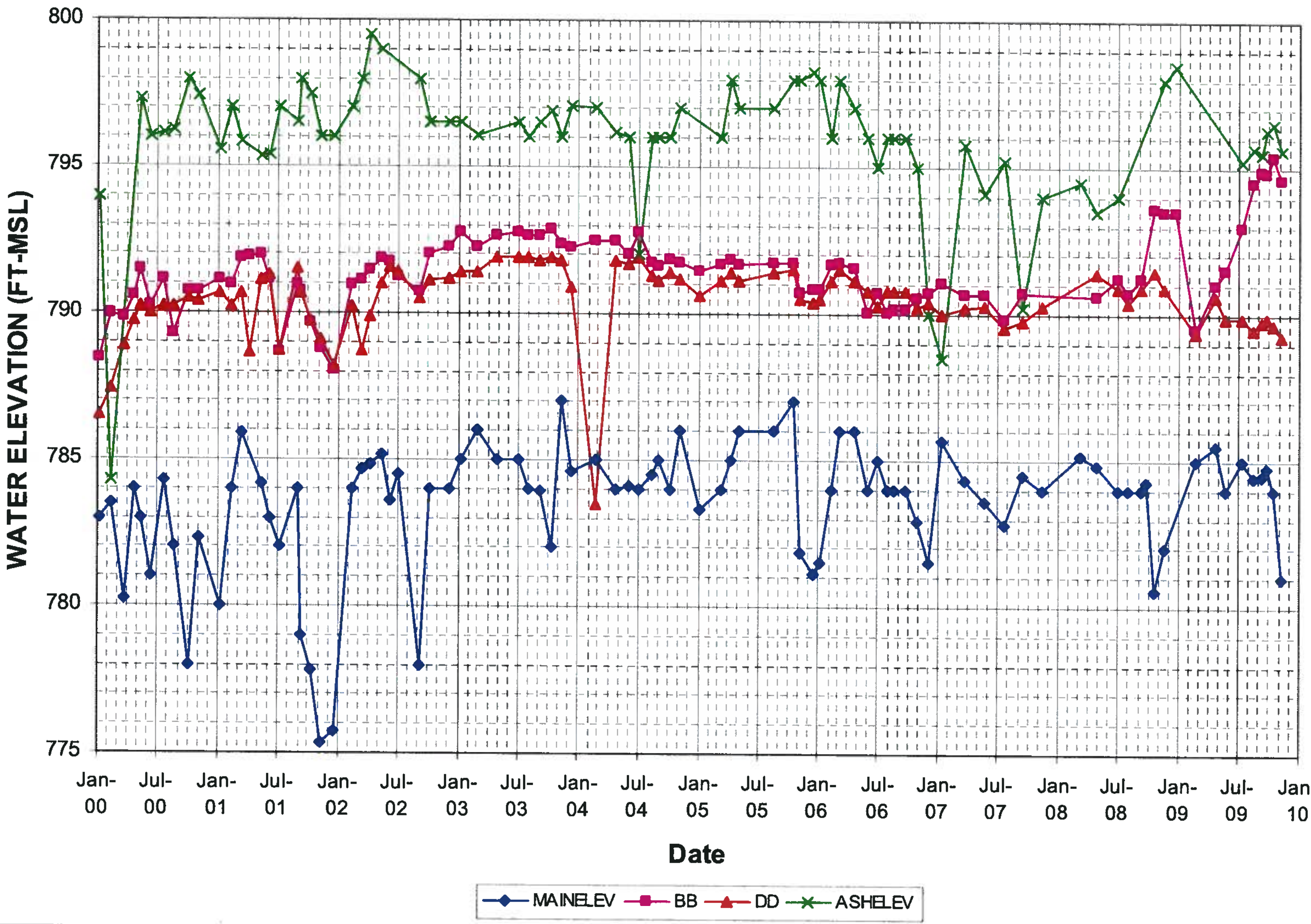
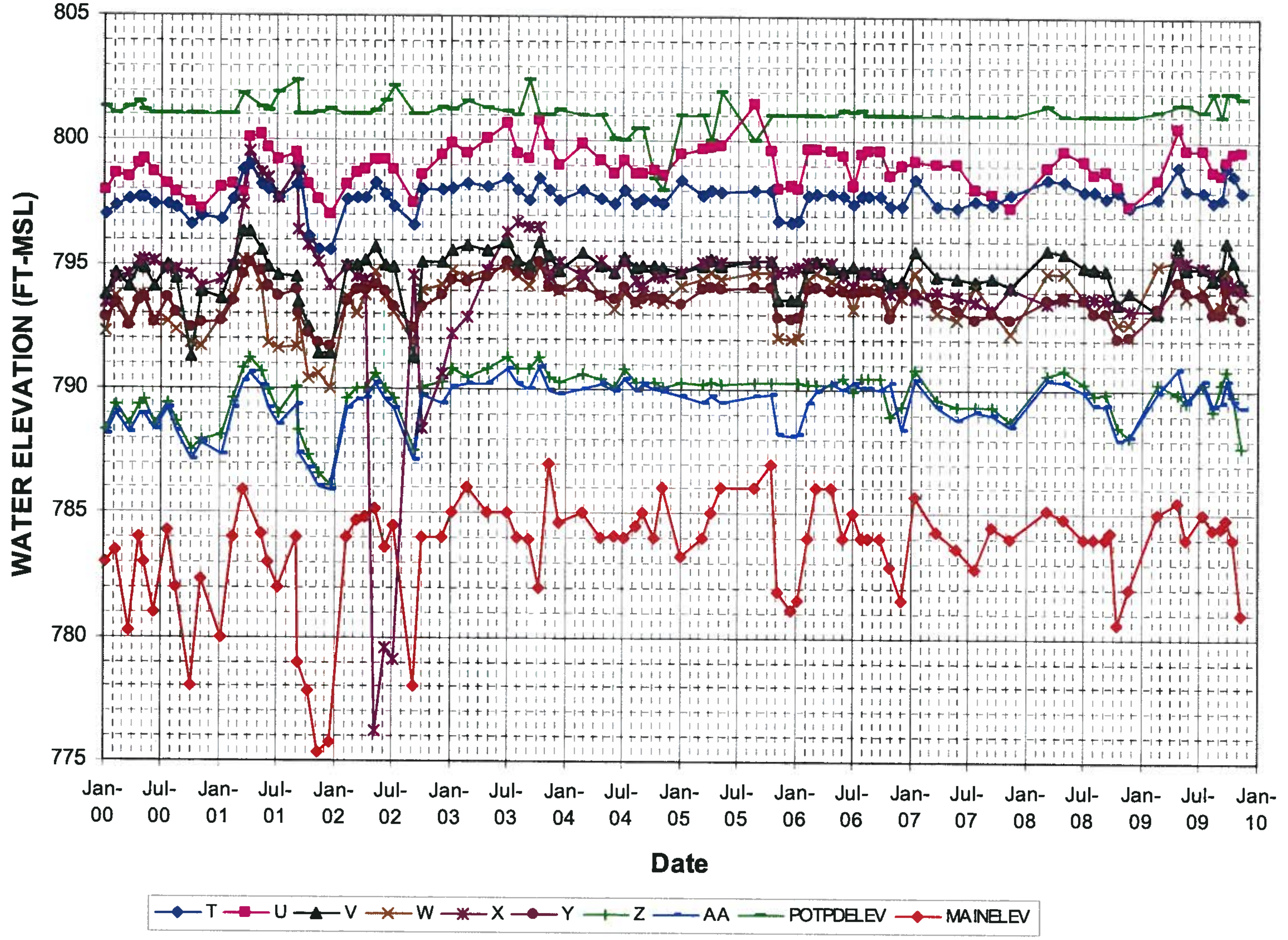
Wansley Separation Dike Pz's BB and DD



Plant Wansley Potable Pond Piezometers



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Southern Company Generation
Bin 10193
241 Ralph McGill Boulevard NE
Atlanta, Georgia 30308-3374

Tel 404.506.7033

SOUTHERN COMPANY
Energy to Serve Your World™

August 14, 2009

PLANT WANSLEY
Dam Safety Surveillance
Quarterly Report
REA No. WN-08900

Mr. J. P. Heilbron
Plant Manager
Georgia Power Co.
Plant Wansley

Dear Mr. Heilbron:

Attached is the 1st Quarter 2009 report on Dam Safety Surveillance for Plant Wansley. The inspection of the Main Storage Pond, Ash Pond Separator Dike, Potable Water Pond and Detention Pond was performed on March 17 and 30, 2009 by Hugh Armitage of the SCG Hydro Services Group. Representatives for Plant McDonough accompanied Mr. Armitage on the inspections.

This report includes:

a) A review of the current instrumentation data;
b) The *1st Quarter – 2009 Dam Safety Inspection Report* summarizing the field observations and comments made during the March 17 and 30, 2009 inspections, and;
c) A copy of the current instrumentation plots.

The current recommendations from the 1st Quarter Inspection are described on the first page of the attached report. The description and status of recommendations from the previous quarterly inspection are also described on pages 1 and 2 of the attached report.

Should you have any questions, please contact Hugh Armitage at extension 8-506-7109.

Sincerely,

Joel Galt

Joel Galt
Hydro Services Supervisor

WAN-API 057

/hha

Attachments

CONFIDENTIAL BUSINESS
INFORMATION

xc: **Georgia Power Company**

S. J. Winston (w/ attachment)
N. I. Dean (w/ attachment)
B. Harcrow (w/ attachment)

Southern Company Services

D. E. Jones (w/attachment)
E. B. Allison (w/ attachment)
J. H. Crisler (w/ attachment)
B. J. Peterson (w/attachments)
K. Friedel (w/ attachments)

Hydro Service Wansley Notebook
Master File: WN-09900

Hydro Services Correspondence Notebook (w/attachments)

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Instrumentation Data Review
1st Quarter – 2009

A current assessment of instrumentation data reviewed up to the most recent readings of , at Plant Wansley is as follows.

Storage Pond:

Sta. 20+00: Piezometers are generally within their historic range and seem to be tracking the pond level.

Sta 37+50-1: Piezometers PP and TT3 experienced a significant drop in elevation in the spring. It is not known why this occurred, but the readings for July have returned to their historic levels. All of these piezometers appear to be in their historic range. All generally are tracking the pond level.

Sta 37+50-2: All of these piezometers appear to be in their historic range. They generally are tracking the pond level although most have not yet responded to the recent, modest (November, 2008) increase in elevation

Sta 37+50 Pipe Flows: These flows appear to be in their historic ranges. These flow rates will continue to be monitored to assess if any trends develop. They seem to be tracking the pond level.

Sta 47+50: The piezometers are within their historic range of measurement.

It is recommended that the flow rate at the toe drain at Station 39+00 be obtained at monthly intervals rather than the current 6 month schedule. This information will be useful when modifications to the drains at 37+50 are carried out.

Sta 58+00: The level at piezometer LLL has dropped to more a more consistent historic level, which may be in part related to the decrease in pond level. Repair of a leaking valve, as noted in the attached quarterly report, is required for piezometer LLL.

Relief Wells: The relief wells appear to be discharging in their historic range, but also in response to the lower pond level.

Sta 65+00: Piezometric levels at C, E and MM are within their historic ranges.

Sta 70+00: All of these piezometers are reading in their historic ranges.

Weir and Pipe Flows: Weir measurements at Sta. 11+20 and 49+00 indicate a return to their historic range since the last quarterly inspection report.

Separation Dike:

These piezometers are generally registering in their historic ranges. Piezometer BB has recently exhibited an elevated water level. In discussions with plant personnel, we understand that piezometer BB was covered over during construction of the gypsum ponds this year. The piezometer pipe appears to have been broken off at some point when it was uncovered. This may explain the "apparent" elevated water level, particularly if the measurements have been made from a lower reference elevation than previous measurements. Plant personnel are investigating and will advise Hydro Services.

<u>Potable Water Pond Dike</u>:
These piezometers were registering in their historic ranges and appear to respond to the decrease in the main pond level.

Plant Wansley

2009 - 1st Quarter Dam Safety Inspection Summary

Date of inspection: March 17 & March 30, 2009 **Inspection by:** H. Armitage

Weather: 3-17-09 - Sunny, light breeze 3-30-09 - Sunny

Tracy Duke (Fluor - 3-17-09)

Temperature: 3-17-09 - '50° F 3-30-09 - 40° F

Brandon Harcrow (GPC-3-30-09)

Russell Poole (Flour- 3-30-09)

Rainfall (past 24 hrs):

SUMMARY

1. No major dam safety issues that would impact the safety of the structures were observed during this inspection. Recommendations to address current and previous inspection observations are summarized below. Many of the current and previous recommendations are routine, on-going maintenance type activities.

ADDITIONAL COMMENTS

1. Plant personnel did a very good job in completing most of the recommendations from previous quarterly inspections.
2. A copy of the Plant Wansley instrumentation data and review comments are attached.

CURRENT RECOMMENDATIONS

No.	Description	Location	Status - Open/Closed
1	Grassed areas on slope should be fertilized to promote healthy & more robust grass growth.	Storage/Potable Water and Detention Pond	Open
2	Localized rutting on east dike from grass cutting equipment. Ruts to be filled in with soil and compacted and re-grassed	Storage Pond	Open
3	Localized bare spots on slopes need to be re-grassed to prevent further erosion and silt washing into ditches	Storage Pond	Open
4	Numerous rodent/animal burrow holes observed on downstream slopes (upstream slope at Detention Pond I). All require filling in. (Excerpt from FEMA Publication 473 - "Impact of Animals on Earthen Dams" . Copy forwarded to plant personnel, provides options for repair).	Storage Pond - Various locations along east dike (downstream)	Open
5	Numerous ant mounds observed on downstream slopes. Treatment required for ant mounds by fumigants or chemical methods as described in FEMA Publication 473 - "Impact of Animals on Earthen Dams". Copy forwarded to plant personnel, provides options for repair)	Storage Pond	Open
6	A truckload of a). GDOT #10 washed sand and b). washed #89 stone is required to replace depleted stockpiles.	Storage Pond	Open
7	Clean out debris and dirt in concrete lined toe ditches	Storage Pond - East Dike - Various locations	Open
8	Storage Pond - Sta 37+00 - Repair undermining at end of concrete lined ditch	Storage Pond - East Dike -Lower Slope	Open
9	Sta 45+00 & 49+00, 54+00 and Sta 57+00. Clean out ditch behind weirs and inside of the ends of drainage pipes.	Storage Pond- East Dike	Open
10	Several holes observed in bottom of concrete lined ditch and water spouting out. Should be investigated further. Repair may be required to mitigate undermining of slab.	Ash Pond Emergency Overflow	Open
11	End of concrete llined ditch is undermined. Needs to be repaired per recommendation in 5-28-08 inspection report (page 11 of 20).	Ash Pond Emergency Overflow	Open

STATUS OF PREVIOUS RECOMMENDATIONS

No.	Location, Description & Action Required	Status - Open/Closed
1	**Storage Pond - Spillway** - Downstream of end of spillway requires trees and bushes to be cut down so that flows are not restricted during flow. **Completed Satisfactorily**	Closed
2	**Detention Pond - Downstream Slope -** Small bushes and trees on downstream slope need to be cut down. Completed satisfactorily	Closed
3	**Storage Pond** -Cracks in concrete lined ditches should be cleaned out and caulked - **Pending completion**	Open
4	**Storage Pond - Downstream Slopes -** Rodent holes to be filled and fire ant mounds to be treated. **(See Current Recommendations 4 & 5)**	Closed
5	**Storage Pond - Downstream Slopes - Sta 19+00 & 22+00 and 37+50D** - Drain pipes need to be cleaned out and repaired. - **Pending Completion**	Open

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2009 - 1st Quarter Dam Safety Inspection Summary

STATUS OF PREVIOUS RECOMMENDATIONS (con't)

No.	Location, Description & Action Required	Status - Open/Closed
6	**Storage Pond - Downstream Slope - Sta 37+50 -** Hydro Services investigated wet area 1/29/09 and further options to address will be investigated. Plant personnel needs to monitor this area DAILY for any evidence of distress or unusual events, or movement of slope and contact Hydro Services immediately particularly when pool elev. 782-785 ft. **Pending Completion. Hydro Services has contacted Georgia Safe Dams Program to request an extension of time to review possible repair options.**	**Open**
7	**Storage Pond - Downstream Slope - approx. Sta 56+00 -** Damaged marker pole for toe drain needs to be repaired.	**Open**
8	**Storage Pond - Downstream Slope - approx. Sta 62+00 -** Damaged concrete ditch needs to be fixed and accumulated silt removed.	**Open**
9	**Storage Pond - Downstream Slope - Piezometer LLL -** Piezometer leak at spigot connection needs to be repaired. Ground surface is wet around piezometer - **Pending Completion.**	**Open**

OBSERVATIONS FOR 1st QUARTER INSPECTION

I - Storage Pond - North Dike - (Road to Recreational Area) — **Storage Pond Elev. 785' (3-30-09)**

	Observations - Comments	Photograph No.
1. Upstream Slope		
a. Condition	*Grass covered - Overall condition is good. No evidence of instability.*	*n/a*
b. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced - No distress or potholes in road surface observed.*	*n/a*
3. Downstream Slope		
a. Condition	*Grass covered - Overall condition is good. No evidence of instability.*	*n/a*
b. Seepage/Wet Spots	*Yes ( ) No (X) - No seepage or wet spots observed on slope.*	*n/a*
c. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*

II - Storage Pond - East Dike (North Dike to Spillway)

	Observations - Comments	Photograph No.
1. Upstream Slope		
a. Condition	*Rip-rap on upstream face looks satisfactory and no dam safety issues observed.*	*n/a*
b. Erosion/Sloughing	*Yes ( ) No (X) - No evidence of instability observed*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced - No distress or potholes in road surface observed.*	*n/a*
3. Downstream Slope		
a. Condition	*Grass covered and at a length that permitted a good visual inspection. Ruts from grass cutting equipment need to be repaired* ***i.e. see Photo 1 @ Sta 0+00)****. Numerous bare spots on slopes and areas adjacent to concrete lined ditch need to be re-grassed to prevent further erosion and silt from washing into ditch (i.e. see Photo 2 @ ~Sta 6+10). Place soil (where necessary), compact and re-establish grass. Rodent holes observed at Sta. 7+00, 17+40* ***(i.e. see Photo 3 @ Sta 7+00)****. Localized ant mounds observed on slopes. Need to be treated . All flagged for repair by plant personnel.* ***(See Recommendations 1, 2, 3, 4 and 5)***	1, 2 and 3
b. Seepage/Wet Spots	*Yes ( ) No (X) - No seepage or wet spots observed on slope.*	*n/a*
c. Erosion/Sloughing	*Yes ( ) No (X) - No evidence of instability.*	*n/a*
d. Concrete-Lined Drainage Ditch	*Concrete in good condition. Drain pipe at Sta. 19+00 need to be cleaned out still. New sections drain pipe required at drains at 19+00 and 22+00 to repair damaged/crushed outlets ends.* ***(See Previous Recommendation 7)***	*n/a*
e. Emergency Aggregate Stockpiles	*Yes (X) No ( ) - Needs tandem truckload of GDOT #10 washed sand and #89 stone.* ***(See Current Recommendations 6a) and 6b))***	*n/a*

III - Storage Pond - Spillway

	Observations - Comments	Photograph No.
1. Spillway Abutment/Deck		
a. Condition	*Concrete condition is satisfactory.*	*n/a*
2. Spillway Floor		
a. Condition	*Concrete satisfactory*	*n/a*
3. Spillway Walls		
a. Condition	*Concrete satisfactory*	*n/a*
4. Spillway Gates		
a. Condition	*Looked satisfactory. Slight water flow on RHS of RHS gate at bottom. Possible a leaky seal. Plant to investigate when gates opened.*	4
5. Downstream of Spillway (Channel)		
a. Condition	*Vegetation downstream of spillway has been cleaned out satisfactorily.*	*n/a*

Plant Wansley

2009 - 1st Quarter Dam Safety Inspection Summary

IV - Storage Pond - Southeast Dike (Spillway to Separator Dike)

Observations - Comments		Photograph No.
1. Upstream Slope		
a. Condition	*Rip-rap looks acceptable. No instability or beaching evident.*	*n/a*
b. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced/Railway tracks - No distress observed along road surface .*	*n/a*
3. Downstream Slope		
3a - Upper Slope		
a. Condition	*Grass covered - looks satisfactory.*	*n/a*
b. Seepage/Wet Spots	*Yes ( ) No (X)*	*n/a*
c. Erosion/Sloughing	*Yes ( ) No (X) - No evidence of instability.*	*n/a*
3b - Mid-Slope Road & Drainage Ditch		
a. Road Condition	*Gravel surfaced - looks good. No distress or potholes in road surface observed.*	*n/a*
b. Concrete-Lined Drainage Ditch	*Concrete in good condition. Cleanout debris in concrete lined ditches.*	**5**
3c - Middle Slope		
a. Condition	*Grass covered. Satisfactory. No visual evidence of instability. Rodent hole near head wall in 4th Qtr 2008 has been repaired.*	*n/a*
b. Seepage/Wet Spots	*Yes ( ) No (X)*	*n/a*
c. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*
3d. Lower Road & Drainage Ditch		
a. Road Condition	*Gravel surfaced - looks good. No distress or potholes in road surface observed.*	*n/a*
b. Concrete-Lined Drainage Ditch	*Concrete condition is acceptable*	*n/a*
3e - Lower Slope		
a. Condition	*Grass covered - Grass at a length that permitted a good visual examination. Several bare areas where require repair and treat ant mound and rodent holes at various locations.* ***(See Current Recommendations 1, 3, 4 and 5)***	**6**
b. Seepage/Wet Spots	*Yes (X) No ( )* ***1.*** *Ground surface in the area of Sta 37+50 is wet. No change from 4th Qtr visit. Safe Dams requested a report and repairs be done to address this area by 6-30-09. SCG Hydro Services to request extension to complete investigation and repairs* ***(See photo 7)****.* ***2.*** *Rodent hole flagged by plant personnel for repair near Sta 37+50.* ***3.*** *The area beneath Drain 37+50D was repaired - okay.* ***4****. The area beneath the end of the concrete drainage ditch was repaired but is undermined again. Needs to be repaired per recommendation in 5-28-08 inspection report (page 11 of 20)* ***(See photo 8).*** ***5.*** *The marker sign for the toe drain near approx Sta 56+00 needs to be fixed.* ***6.*** *Area around Piezometer LL is wet. Appears that the valve is leaking and needs to be fixed.* ***(See Previous Recommendations 6, 7 and 9 and Current Recommendations 7 and 8)***	**7 and 8**
c. Erosion or Sloughing	*Yes ( ) No (X) - No evidence of instability. Some of the localized bare spots in grass cover have been re-seeded, however several other bare areas require same repair.*	*n/a*
d. Concrete Drainage Ditch	*Concrete condition is good.* ***Sta 45+00, 49+00, 54+00 and 57+00*** *- Clean-out of debris/leaves in drain pipe, ditch and behind weir is required.* ***(See Current Recommendations 9)***	*n/a*
e. Emergency Aggregate Stockpiles	*Yes (X) No ( ) - Need one truckload of GDOT washed # 89 stone* ***(See Current Recommendation 6b).)***	*n/a*
3f - Lower Concrete-Lined Drainage Ditch		
a. Condition	***Sta 62+00*** *- Portion of concrete channel is broken and needs to be repaired. Localized portion of concrete ditch needs to be cleaned out of silt and sandy material -* ***(See photo 9 and Previous Recommendation 8)***	**9**

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Plant Wansley

2009 - 1st Quarter Dam Safety Inspection Summary

V - Storage Pond/Ash Pond - Separator Dike		**Ash Pond Elev.** Not measured
	Observations- Comments	**Photograph No.**
1. Upstream Slope (Storage Pond)		
a. Condition	*Rip-Rap - Looks satisfactory. No evidence of instability.*	*n/a*
b. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced and in good condition. A few minor ruts that should be monitored and repaired if condition worsens*	*n/a*
3. Downstream Slope (Ash Pond)		
3a. North End		
a. Condition	*Rip-Rap - Looks satisfactory. No evidence of instability*	*n/a*
b. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*
3b. South End - (No longer applicable due to Gypsum Pond/berm construction)		
a. Condition	*Concrete generally in good condition. Several localized areas where water flowing out of joints and holes in concrete.*	*n/a*

V - Ash Pond Emergency Overflow		**Ash Pond Elev. 799.5'**
	Observations- Comments	**Photograph No.**
1. Upstream Slope		
a. Condition	*Rip-Rap - Looks satisfactory. Grass portion of slope generally looks satisfactory,*	*n/a*
b. Erosion/Sloughing	*Yes (X) No ( ) - Minor erosion at toe of grassed portion of slope. Not serious at this time but condition should be monitored to assess whether condition deteriorate whiich will require repair.*	**10**
2. Crest		
a. Condition	*Gravel surfaced and in good condition.*	*n/a*
3. Downstream Slope		
a. Condition	*Rip-Rap - Looks satisfactory. No evidence of instability*	*n/a*
b. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*
4. Concrete Lined Emergency Spillway		
a. Condition	*Concrete in good condition.*	*n/a*
5. Concrete Lined Overflow Ditch		
a. Condition	*Concrete in good condition. Several localized areas where hole in concrete have water spouting out (See photo 11).* ***See Current Recommendation 10****. Downstream outlet end of concrete lined ditch is undermined. Needs to be repaired per recommendation in 5-28-08 inspection report (page 11 of 20) (See photo 12).* ***See Current Recommendation 11.***	**11 & 12**

VII- Potable Water Pond		**Potable Water Pond Elev. 801'**
	Observations - Comments	**Photograph No.**
1. Upstream Dike Slope (Potable Water)		
a. Condition	*Rip-rap on upstream face looks good.*	*n/a*
b. Erosion or Sloughing	*Yes (X) No ( ) - Localized, minor surface erosion. Re-seeding and mulching has been done tand grass is growing.*	*n/a*
c. Concrete Drainage Ditch	*Concrete in good condition. No obstructions in channel observed.*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced - looks good. No distress or potholes in road surface observed.*	*n/a*
3. Downstream Dike Slope (Storage Pond)		
a. Condition	*Grass covered - Overall - looks good. No evidence of instability*	*n/a*
b. Seepage/Wet Spots	*Yes ( ) No (X) - No seepage or wet spots observed on slope.*	*n/a*
c. Erosion or Sloughing	*Yes (X) No ( ) - Localized, minor surface erosion. Re-seeding and mulching done and grass starting to grow.*	*n/a*
d. Concrete Drainage Ditch	*Yes ( ) No (X) - Condition of concrete satisfactory.*	*n/a*
4. Spillway Approach Channel		
a. Condition - General	*Small bushes/trees removed.*	*n/a*
b. Condition - Rip-Rap	*Good. No evidence of instability.*	*n/a*
c. Condition - Concrete	*Good.*	*n/a*
5. Spillway Structure - Abutments/Deck		
a. Condition	*Concrete in good condition.*	*n/a*
6 . Spillway Structure - Floor		
a. Condition	*Concrete in good condition*	*n/a*
7 . Spillway Structure - Walls		
a. Condition	*Concrete - Good*	*n/a*

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Plant Wansley

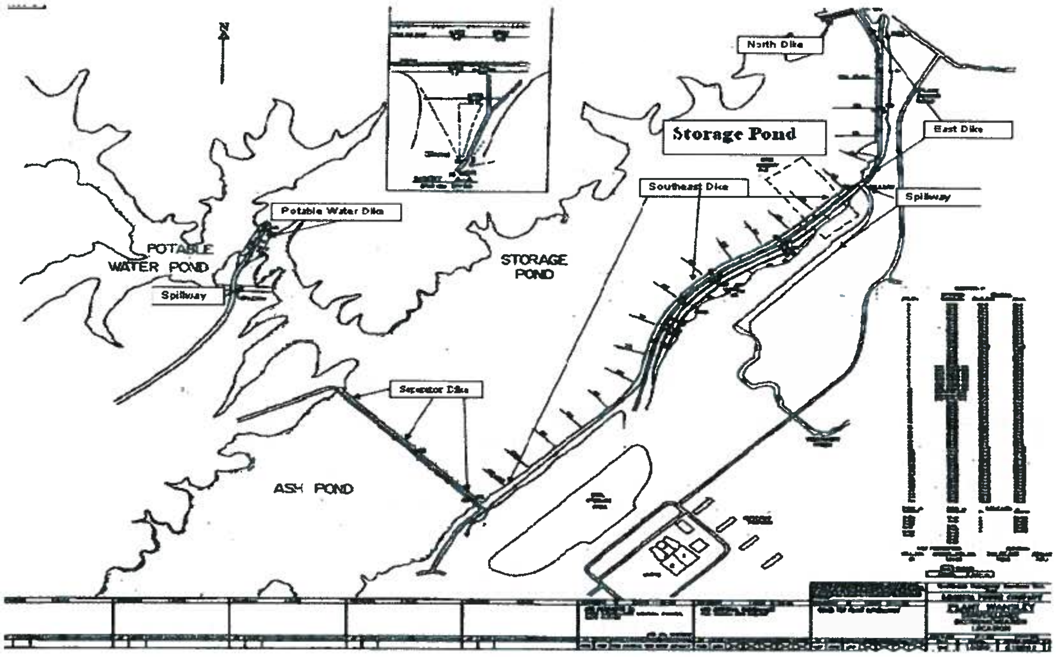
2009 - 1st Quarter Dam Safety Inspection Summary

VIII - Detention Pond

Observations- Comments		Photograph No.
1. Upstream Dike Slope		
a. Condition	*Rip-rap in good condition.*	*n/a*
b. Erosion/Sloughing	*Yes ( ) No (X) - Slope looks satisfactory, no visible instability observed*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced and in good condition. No distress or potholes observed.*	*n/a*
3. Downstream Dike Slope		
a. Condition	*Grass-covered. Small bushes/trees have been cut down and grass has been cut. Looks satisfactory. No visible evidence or instability observed*	*n/a*
b. Visible Seepage or Wet Spots	*Yes (X) No ( ) - Localized, minor ponded water beyond toe of slope*	*n/a*
c. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*
4. Concrete Spillway Channel		
a. Concrete Condition	*Concrete is in good condition*	*n/a*
5.Spillway Outlet Channel		
a. Condition	*Rip-rap at outfall and outlet channel is in good condition. No issues observed.*	*n/a*

Hugh H. Armitage - Sr. Engineer
SCG - Hydro Services

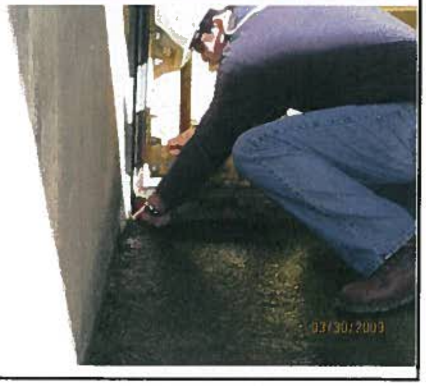
Location Plan
Storage Pond and Potable Water Pond



Plant Wansley

2009 - 1st Quarter Inspection Photographs - March 17 and 30, 2009

(See accompanying report attached)

Photo No.	Description	
1	**Storage Pond - East Dike** - Localized wheel ruts/erosion need to be repaired on slope.	
2	**Storage Pond - East Dike** - Localized eriosion and bare areas on dike slope and adjacent to toe ditch. Re-establish grass cover.	
3	**Storage Pond - East Dike** - Localized rodent holes observed on slope need to be filled in.	
4	**Storage Pond - Spillway Gates** - Slight gap between wall and edge of gate allowing water through. Plant to investigate.	

Plant Wansley

2009 - 1st Quarter Inspection Photographs - March 17 and 30, 2009

(See accompanying report attached)

Photo No.	Description	
5	**Storage Pond - East Dike -Toe Ditch - Mid-slope** - Bare spots on slope need to be re-graseed.	
6	**Storage Pond - East Dike -Lower Slope -** Bare spots on slope need to be re-graseed.	
7	**Storage Pond - East Dike - Lower Slope - Sta 37+50.** Condition unchanged from previous 4th Qtr visit.	
8	**Storage Pond - East Dike -Lower Slope -** Sta 37+00 - Repair undermining at end of concrete lined ditch	

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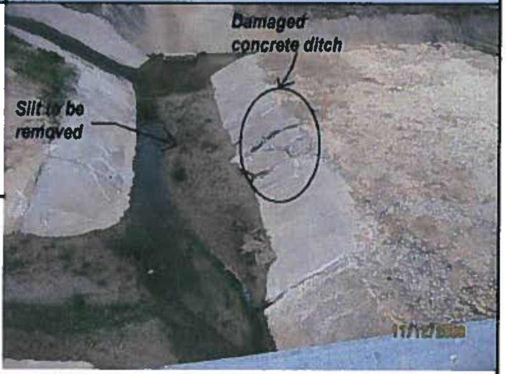
Plant Wansley

2009 - 1st Quarter Inspection Photographs - March 17 and 30, 2009

(See accompanying report attached)

Photo No.	Description	
9	**Storage Pond - Southeast Dike - Downstream-Lower Slope -Sta 62+00** - Damaged concrete needs repair and removal of silt removal at bottom of ditch.	
10	**Ash Pond- Emergency Overflow - Upstream** - Minor erosion at toe of slope at waterline. Shoud be monitored for further deterioration that will require repair	
11	**Ash Pond- Emergency Overflow - Bottom of Concrete Ditch** - Several holes in concrete and water spouting from hole. Needs to be investigated and repaired.	
12	**Ash Pond- Emergency Overflow - Downstream End** - Erosion at end of ditch resulting in underminig of concrete. Needs to be repaired.	

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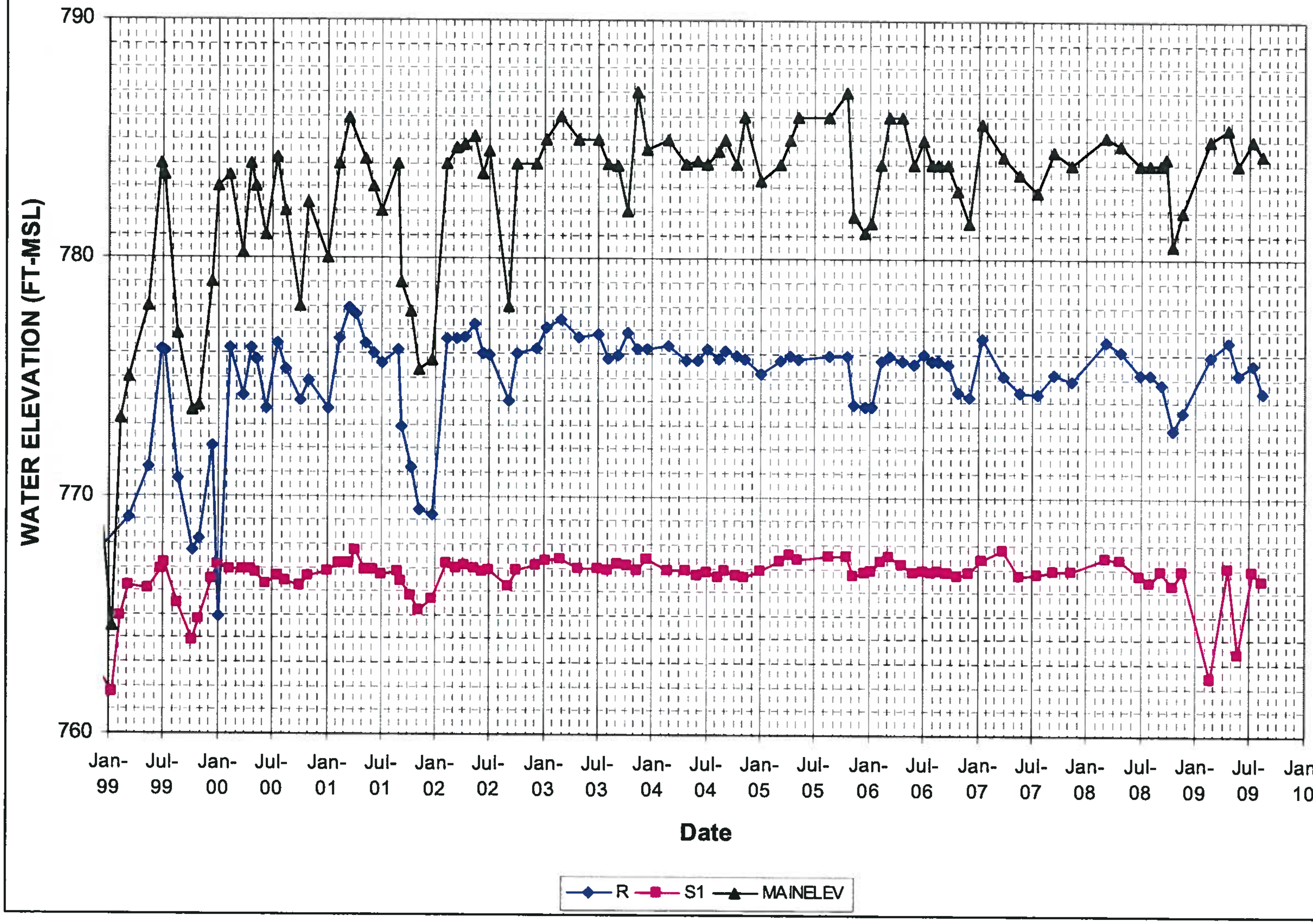
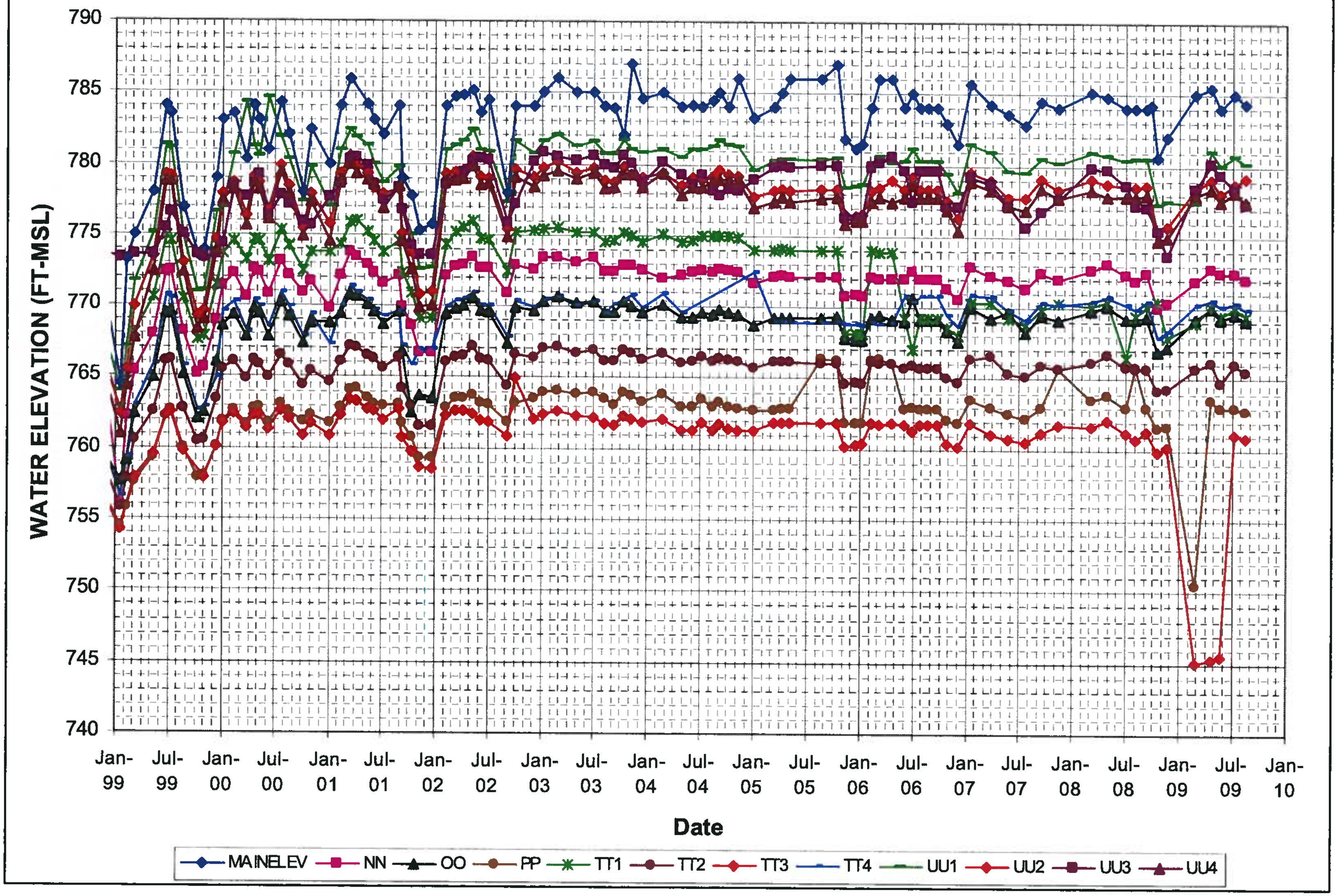
Wansley Storage Pond Pz's at Sta. 20+00



Plant Wansley Pz's at Sta. 37+50-1



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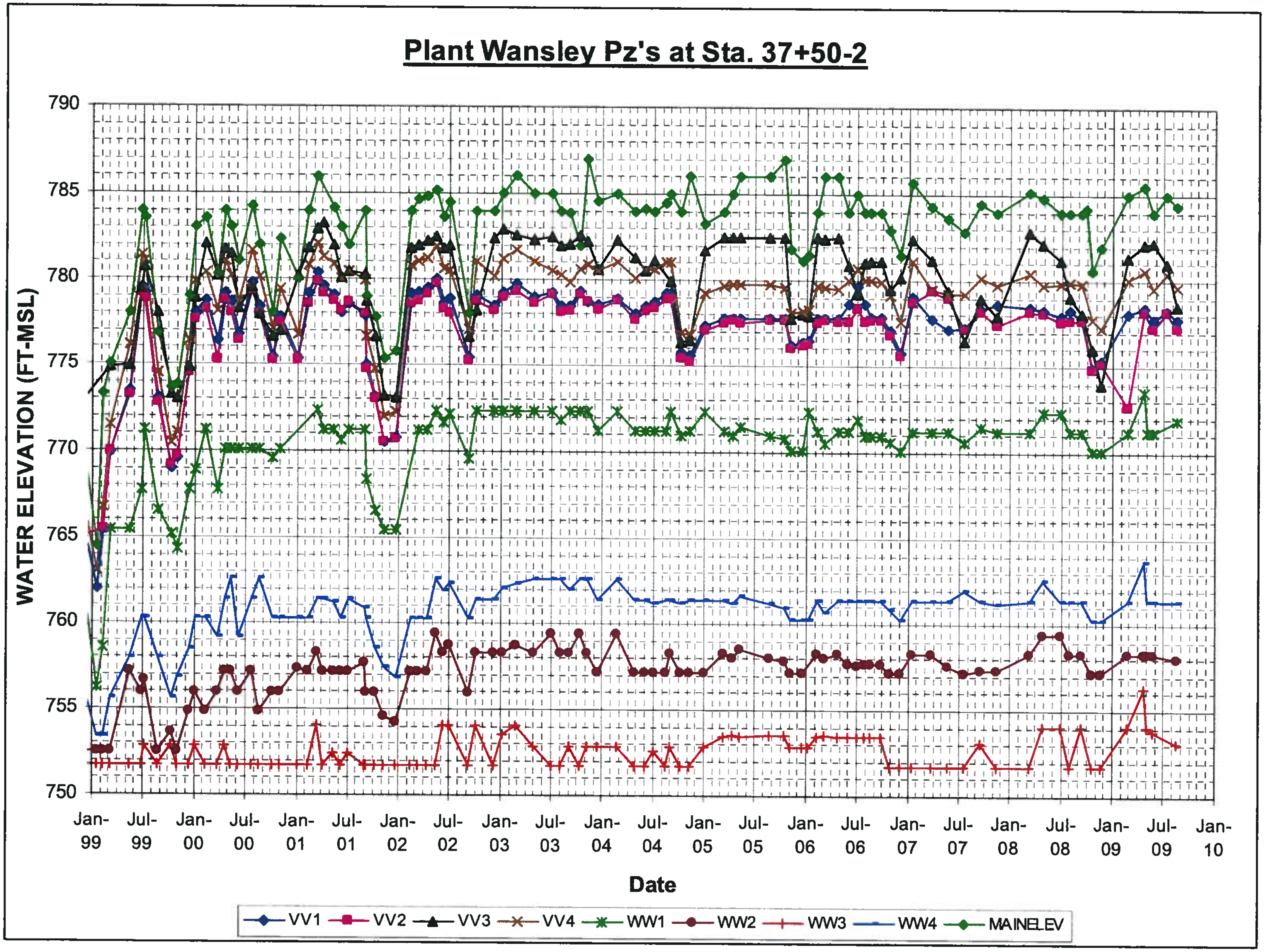

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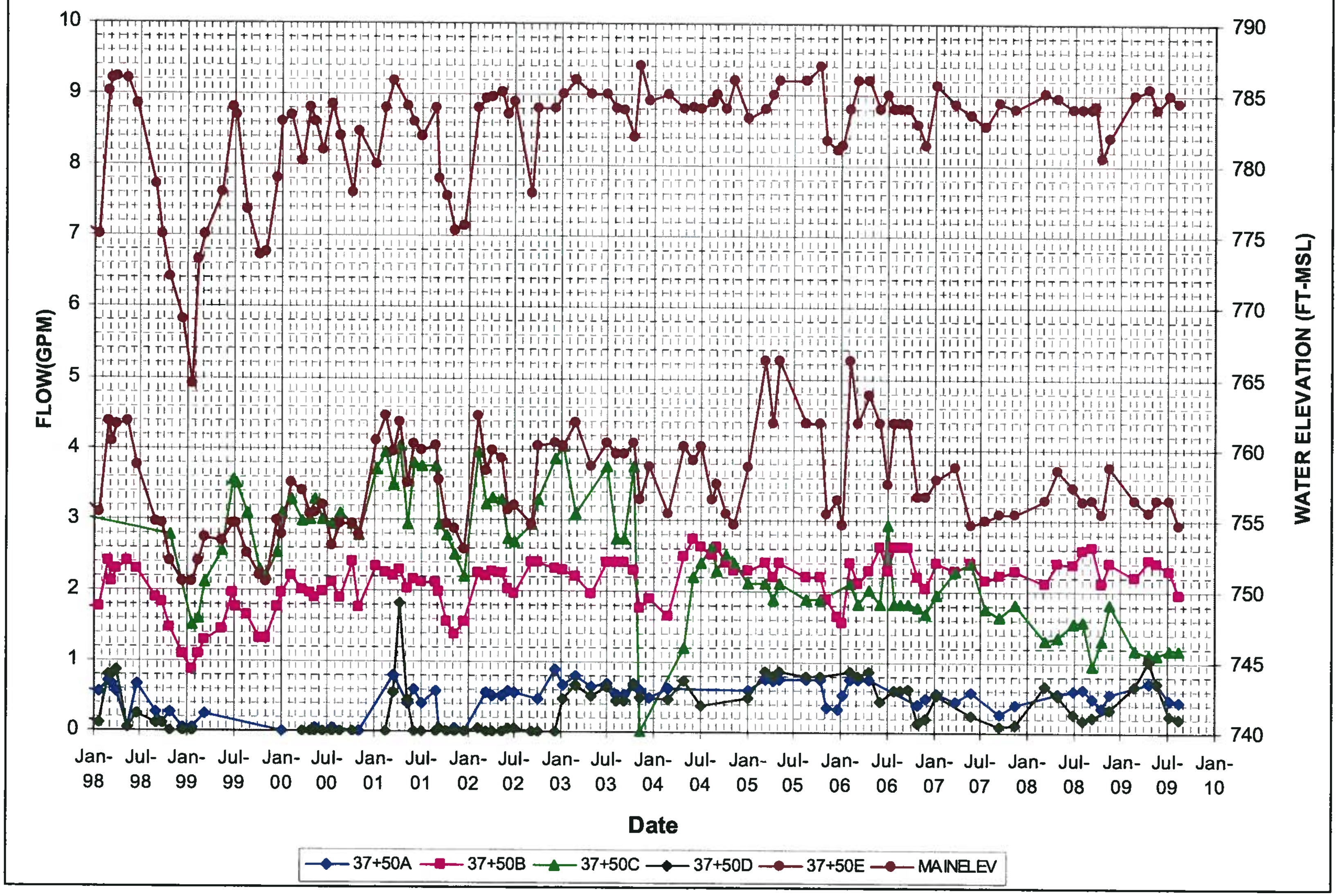
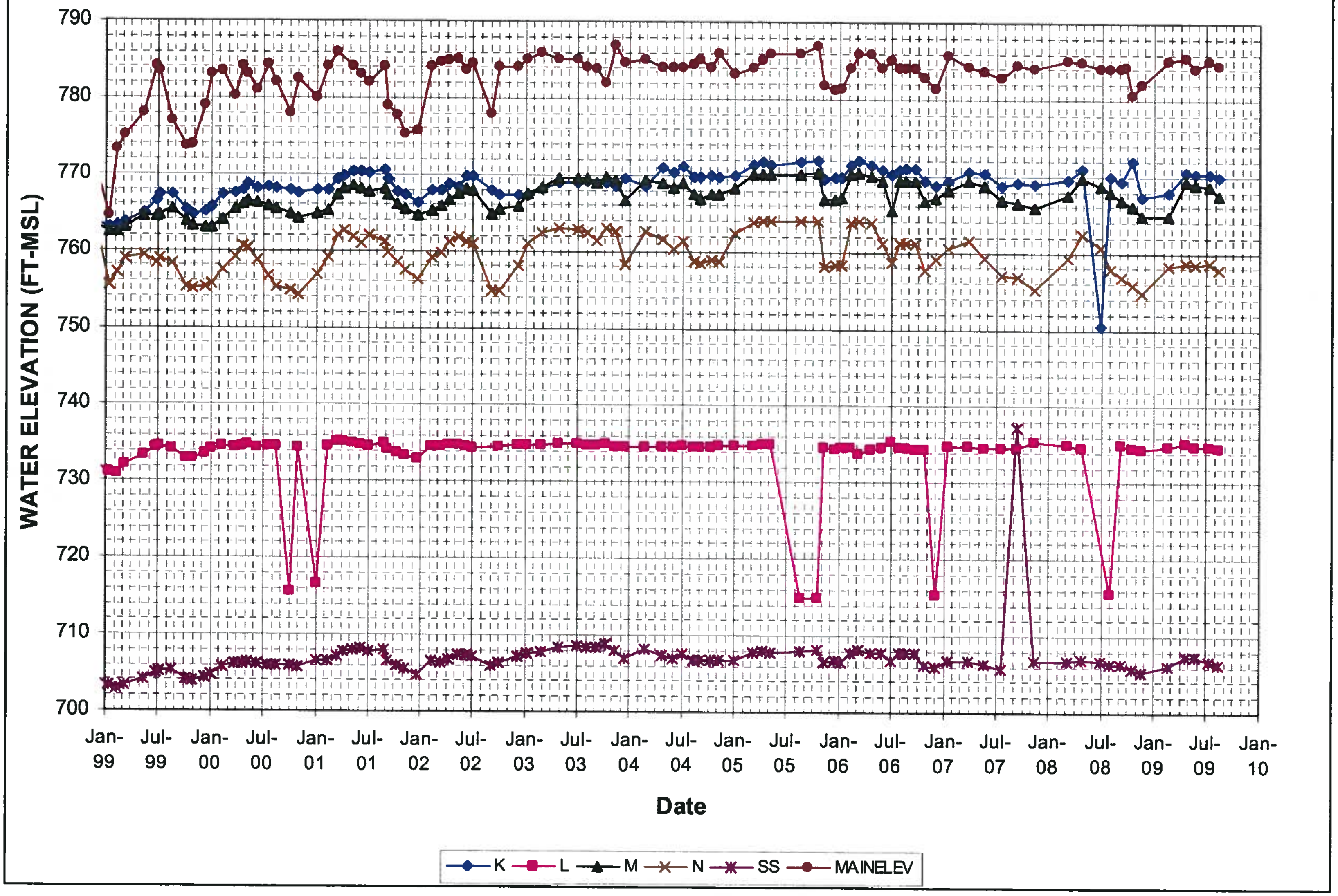
Plant Wansley Pipe Flows



Wansley Storage Pond Pz's at Sta. 47+50



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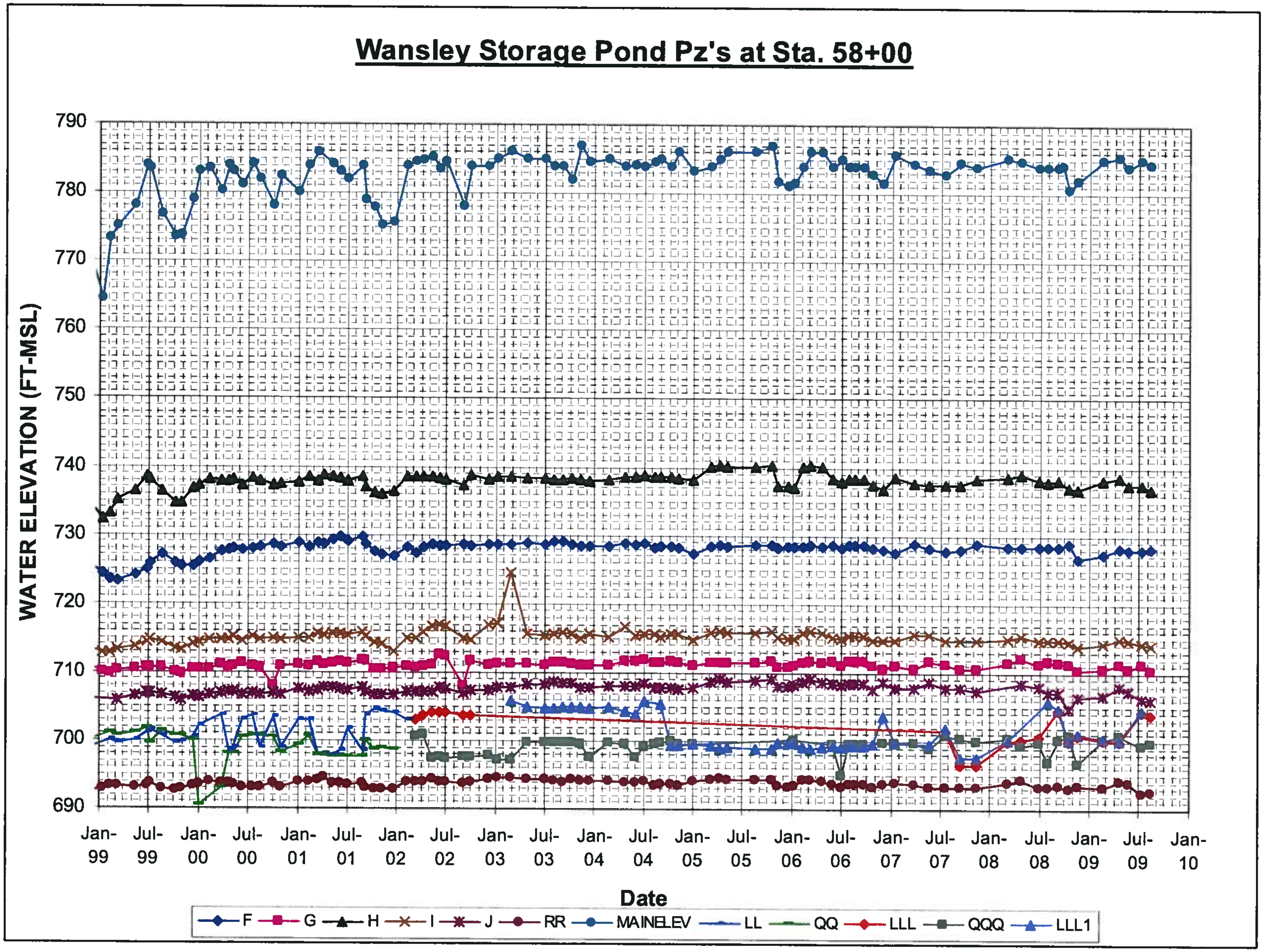

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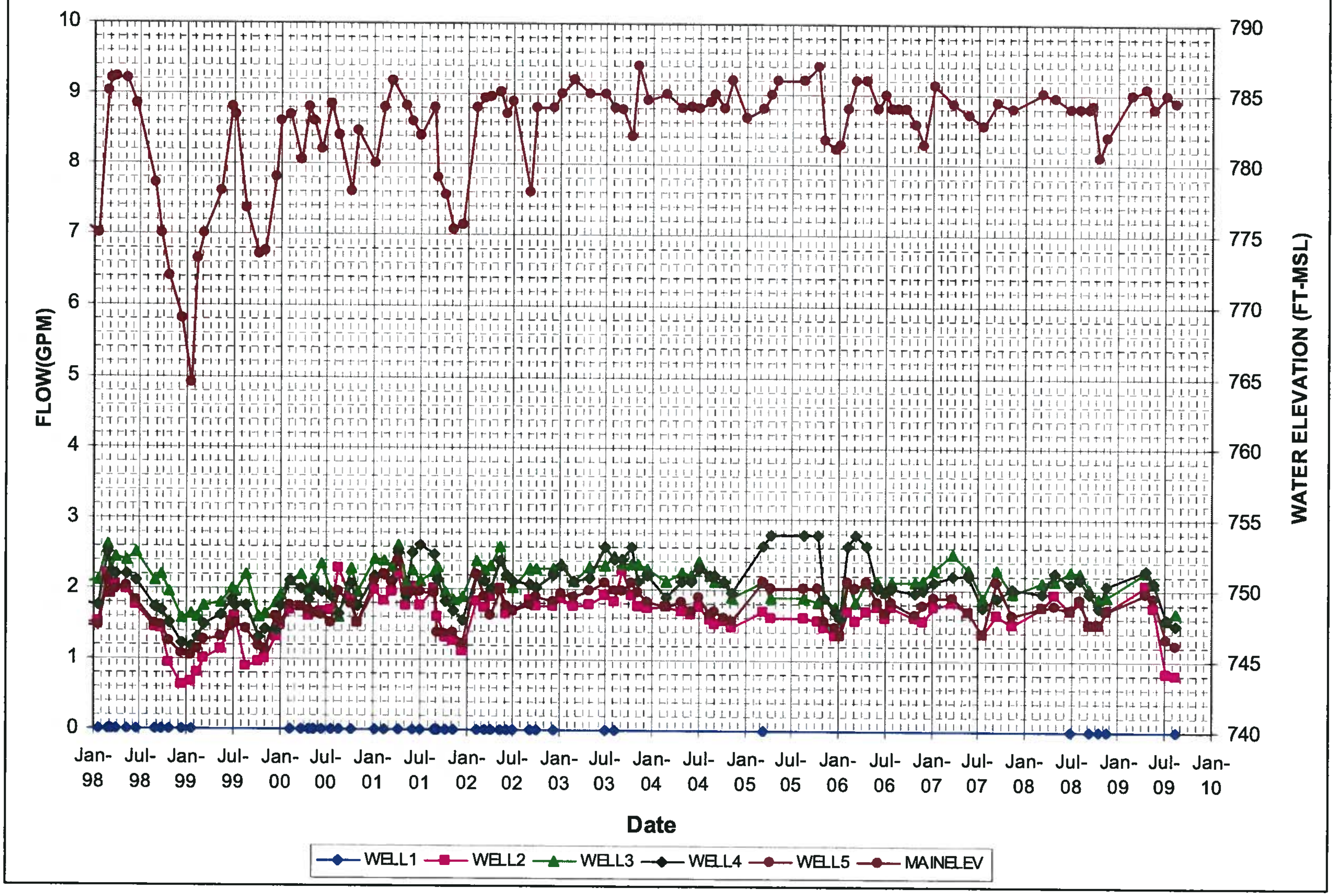
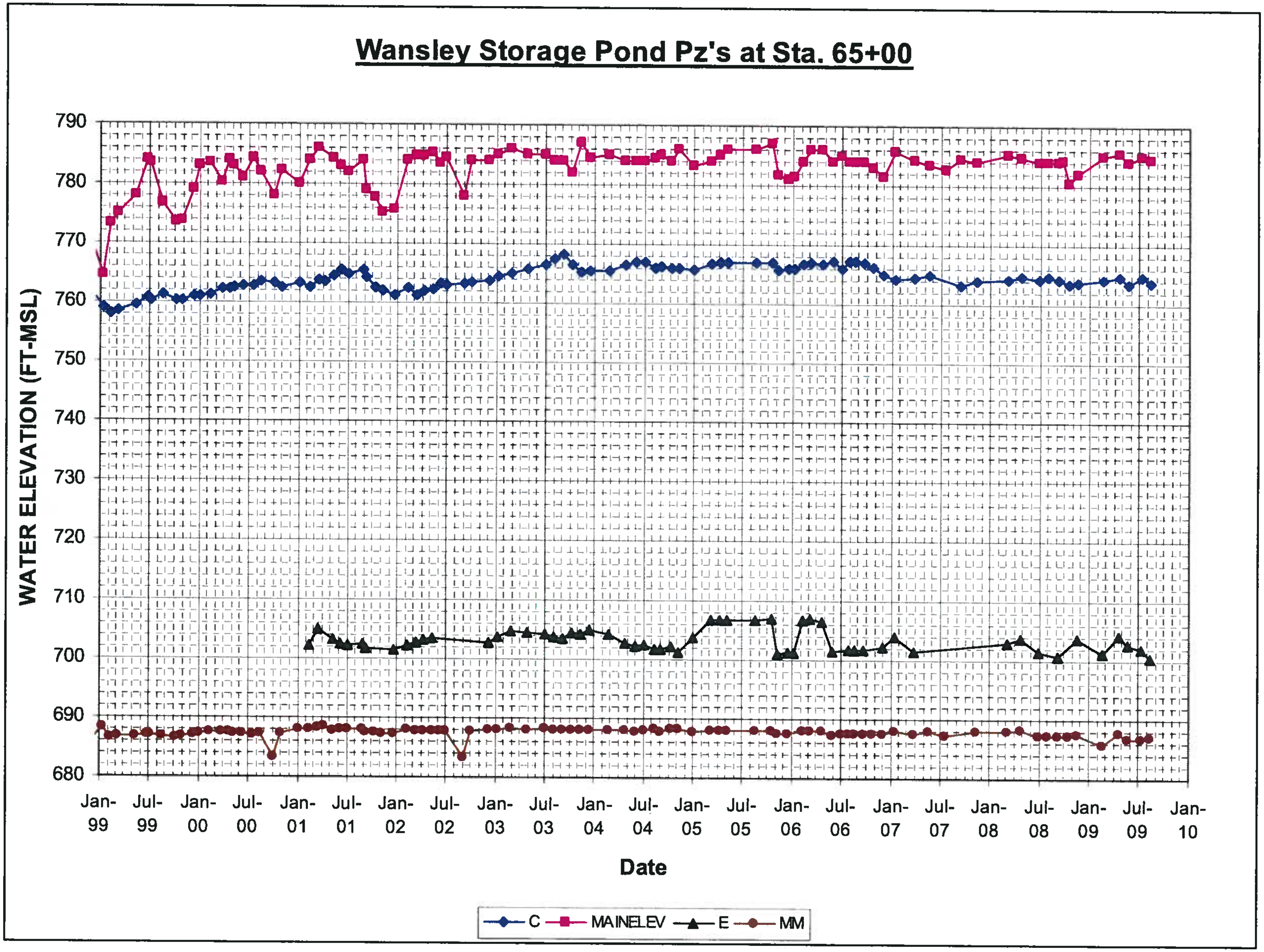
Plant Wansley Well Flows





Wansley Storage Pond Pz's at Sta. 65+00

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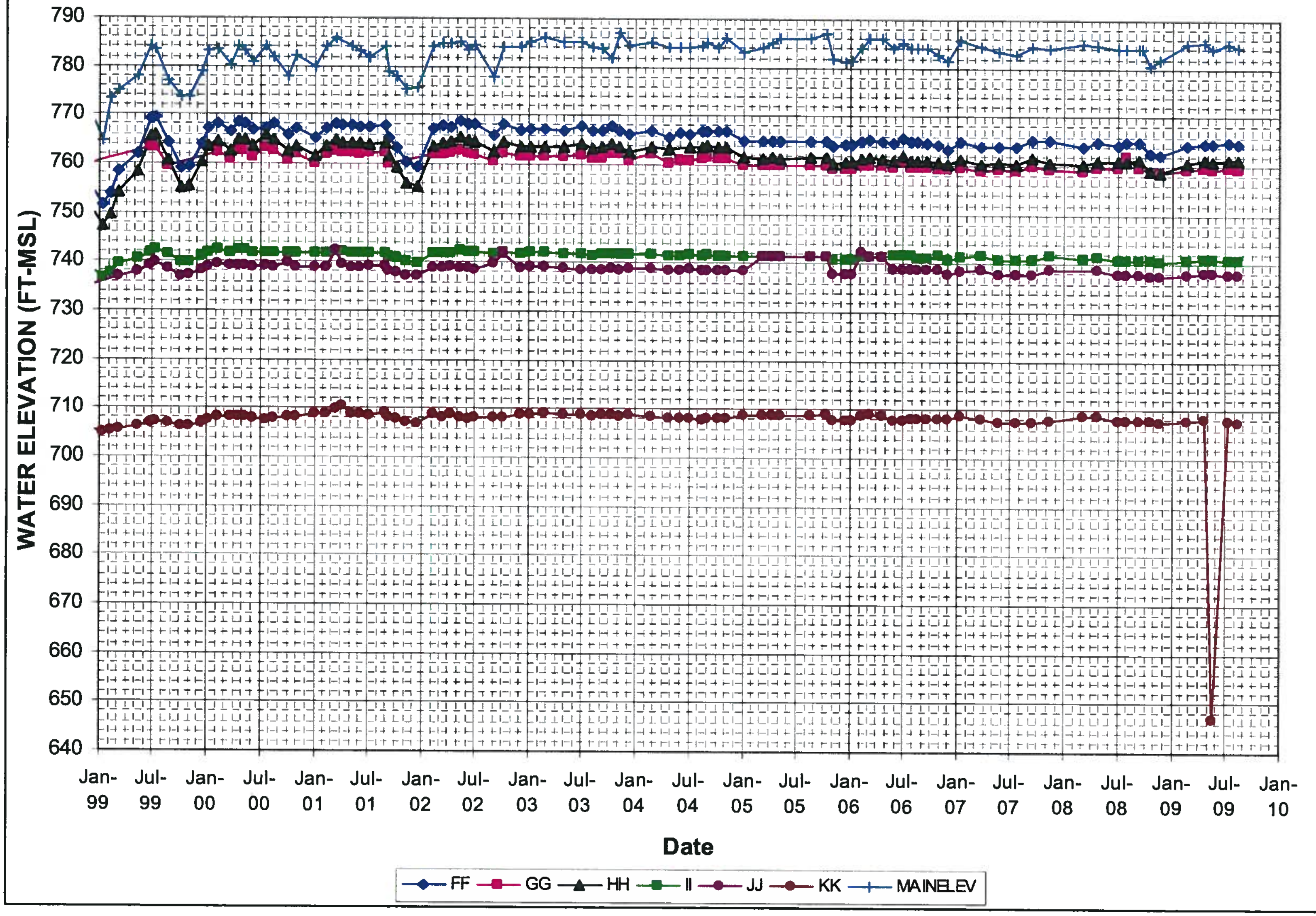
Wansley Storage Pond Pz's at Sta. 70+00



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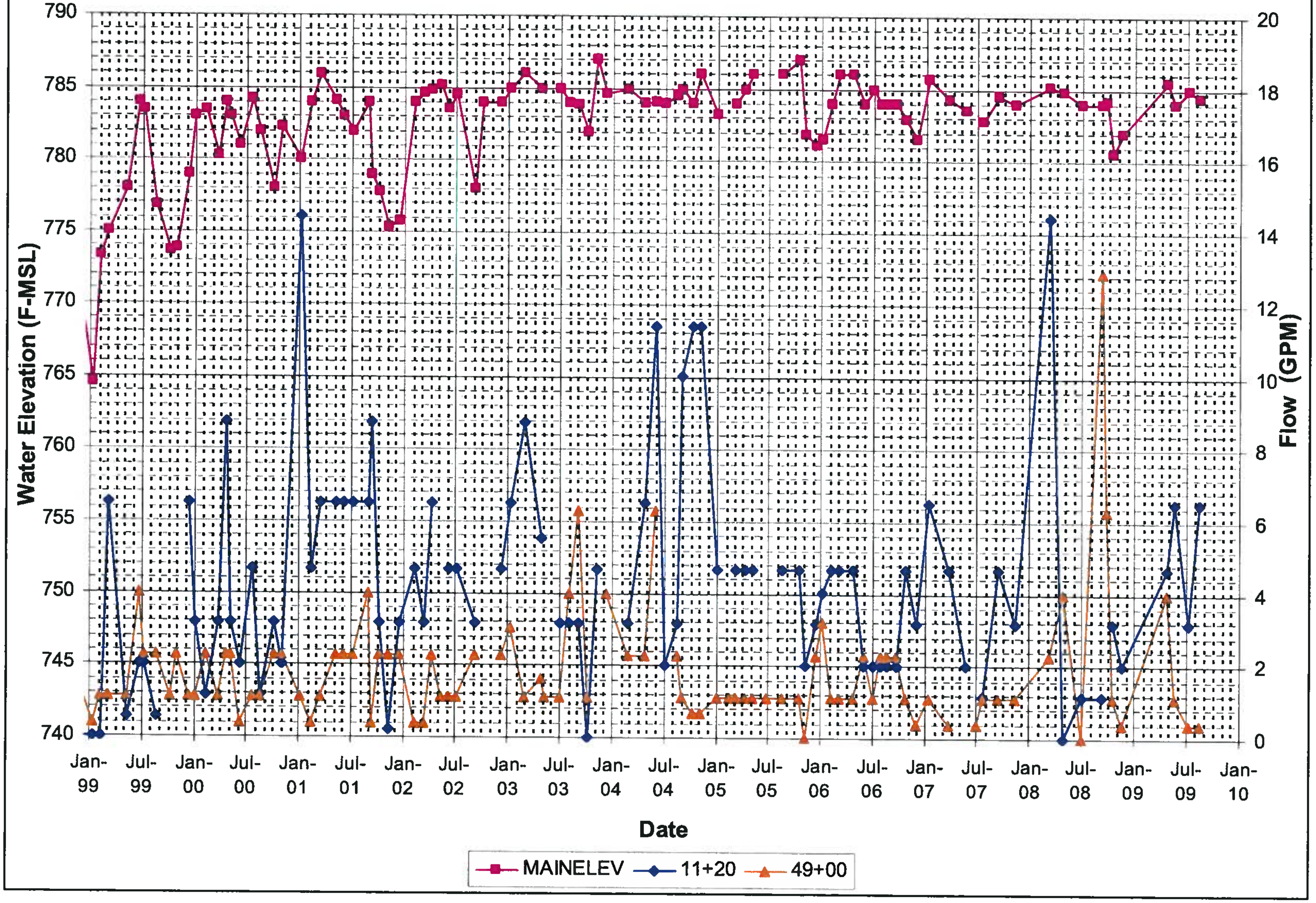
Plant Wansley Weir and Pipe Flows



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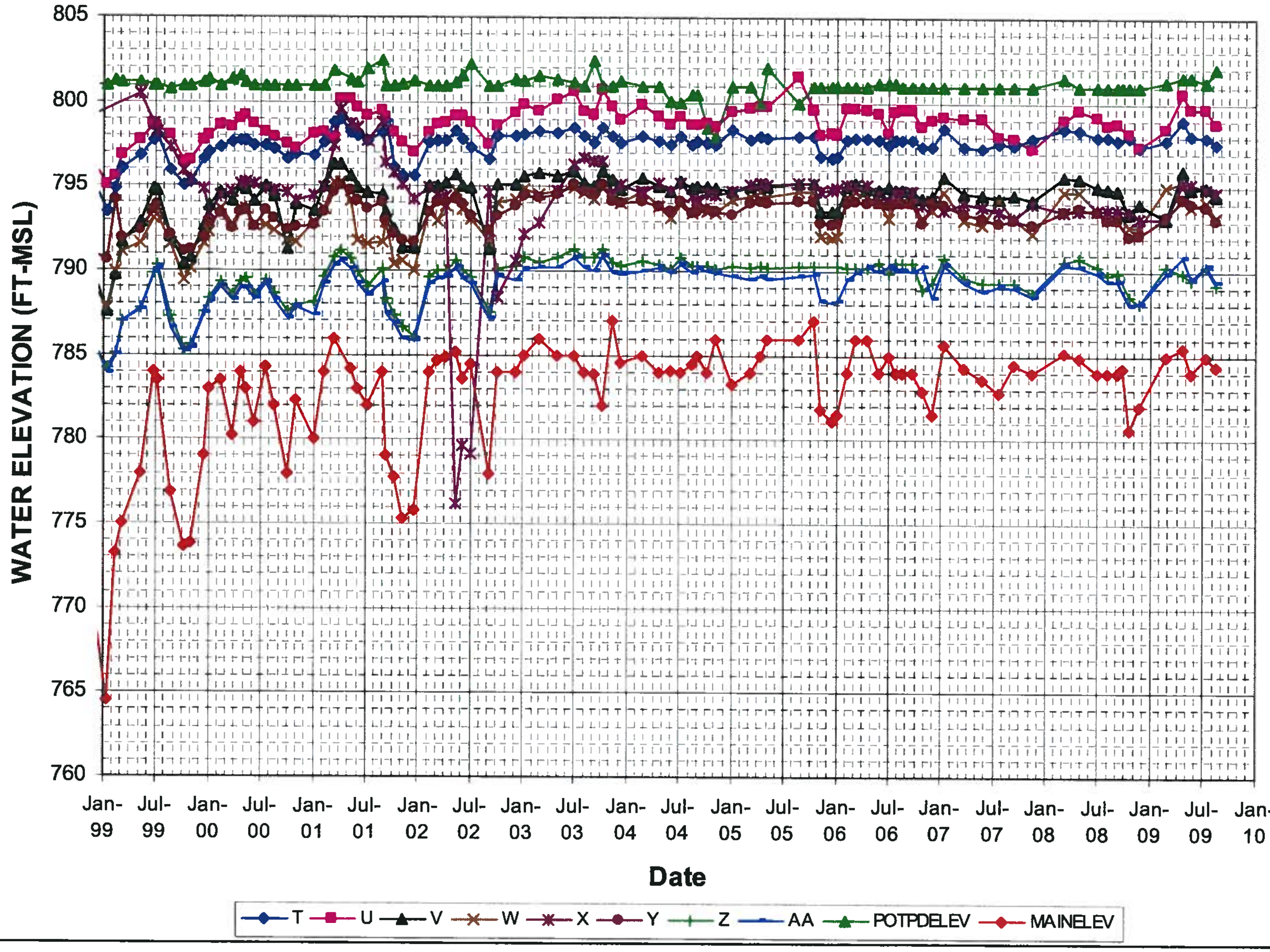
Plant Wansley Potable Pond Piezometers



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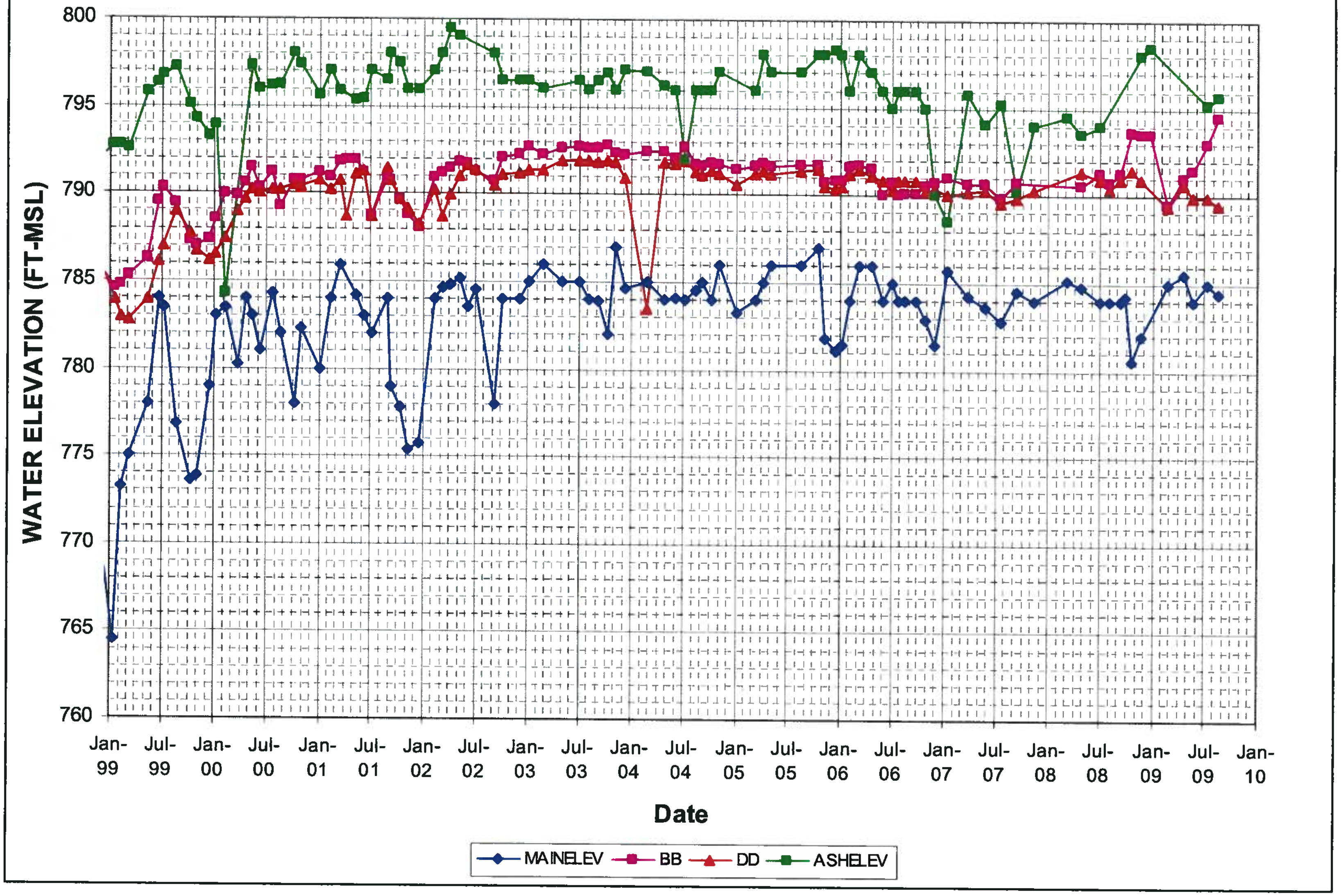
Wansley Separation Dike Pz's BB and DD



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Southern Company Generation
Bin 10193
241 Ralph McGill Boulevard NE
Atlanta, Georgia 30308-3374

Tel 404.506.7033

SOUTHERN COMPANY
Energy to Serve Your World™

January 12, 2009

PLANT WANSLEY
Dam Safety Surveillance
Quarterly Report
REA No. WN-08900

Mr. J. P. Heilbron
Plant Manager
Georgia Power Co.
Plant Wansley

Dear Mr. Heilbron:

Attached is the 4th Quarter 2008 report on Dam Safety Surveillance for Plant Wansley. The inspection of the Main Storage Pond, Ash Pond Separator Dike, Potable Water Pond and Detention Pond was performed on November 12, 2008 by Hugh Armitage of the SCG Hydro Services Group. This inspection coincided with the annual inspection of the Storage Pond Main Dike by the Georgia Department of Natural Resources, Environmental Protection Division, Safe Dams Program (SDP). The inspections were coordinated with Mr. T. E. Wilson of Plant Wansley.

This report includes:

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a) A review of the current instrumentation data;
b) A table summarizing visual observations made during the November 12, 2008 inspections. This report is supplemented with relevant site photographs; and
c) A copy of the current instrumentation data.

As a result of the 4th quarterly inspection, the following recommendations have been discussed with plant personnel and are shown in Table 1. The status for corrective action for previous 2008 recommendations are noted in Table 2.

WAN-API 056

TABLE -1 Recommendations from 4th Quarter Inspections

No.	Location and Description
1	**Storage Pond - Downstream Slopes -** Rodent holes to be filled and fire ant mounds to be treated. Locations flagged in field by plant personnel
2	**Storage Pond - Downstream Slopes - Sta 19+00 & 22+00 and 37+50D -** Drain pipes need to be cleaned out and repaired. Undermined concrete ditch to be repaired (per Hydro Services 5-28-08 letter).

No.	Location and Description
3	**Storage & Potable Water Ponds - Downstream Slopes - Sta 62+00 & other localized areas on slopes.** This is an on-going maintenance item.
4	**Storage Pond - Downstream Slope - Sta 37+50 -** Hydro Services to investigate wet area in 1st Qtr 2009. Plant personnel needs to monitor this area WEEKLY for any evidence of movement of slope and contact Hydro Services immediately if observed.
5	**Storage Pond - Downstream Slope - approx. Sta 56+00 -** Damaged marker pole for toe drain needs to be repaired.
6	**Storage Pond - Downstream Slope - approx. Sta 62+00 -** Damaged concrete ditch needs to be fixed and accumulated silt removed.
7	**Storage Pond - Downstream Slope - Piezometer LLL -** Piezometer leak at spigot connection needs to be repaired. Ground surface is wet around piezometer
9	**Detention Pond - Downstream Slope -** Small bushes and trees on downstream slope need to be cut down. Grass on slope needs to be cut. Source of ponded water downstream of toe needs to be investigated.

Table 2 - Recommendations from Previous 2008 Quarterly Inspections

No.	Location, Description & Action	Status Open/Closed
1	**Storage Pond - Spillway** - Downstream of end of spillway requires trees and bushes to be cut down so that flows are not restricted during flow. - **Pending Completion**	**Open**
2	**Detention Pond - Downstream Slope -** Small bushes and trees on downstream slope need to be cut down. Grass on slope needs to be cut - **Pending Completion**	**Open**
3	**Various Locations** -Cracks in concrete lined ditches should be cleaned out and caulked - **Pending completion**	**Open**

Should you have any questions, please contact Hugh Armitage at extension 8-506-7109.

Sincerely,

CONFIDENTIAL BUSINESS INFORMATION

Joel Galt

Joel Galt
Hydro Services Supervisor

/hha

Attachments

xc: **Georgia Power Company**

T. E. Wilson	(w/ attachment)
N. I. Dean	(w/ attachment)

Southern Company Services

E. B. Allison	(w/ attachment)
J. H. Crisler	(w/ attachment)
F. J. Pryor	(w/ attachment)

Hydro Service Wansley Notebook
Master File: WN-08900

Hydro Services Correspondence Notebook (w/attachments)

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CONFIDENTIAL BUSINESS INFORMATION

Instrumentation Data Review
4th Quarter – 2008

A current assessment of instrumentation data reviewed up to the most recent readings of November 18, 2008, at Plant Wansley is as follows.

Storage Pond:

Sta. 20+00: Piezometers are generally within their historic range and seem to be tracking the pond level.

Sta 37+50-1: All of these piezometers appear to be in their historic range. All generally are tracking the pond level.

Sta 37+50-2: All of these piezometers appear to be in their historic range. They generally are tracking the pond level although most have not yet responded to the recent, modest (November, 2008) increase in elevation

Sta 37+50 Pipe Flows: These flows appear to be in their historic ranges. These flow rates will continue to be monitored to assess if any trends develop. They seem to be tracking the pond level.

Sta 47+50: The piezometers are within their historic range of measurement.

It is recommended that the flow rate at the toe drain at Station 39+00 be obtained at monthly intervals rather than the current 6 month schedule. This information will be useful when modifications to the drains at 37+50 are carried out.

Sta 58+00: The level at piezometer LLL has dropped to more a more consistent historic level, which may be in part related to the decrease in pond level. Repair of a leaking valve, as noted in the attached quarterly report, is required for piezometer LLL.

Relief Wells: The relief wells appear to be discharging in their historic range, but also in response to the lower pond level.

Sta 65+00: Piezometric levels at C, E and MM are within their historic ranges.

Sta 70+00: All of these piezometers are reading in their historic ranges.

Weir and Pipe Flows: Weir measurements at Sta. 11+20 and 49+00 indicate a return to their historic range since the last quarterly inspection report.

CONFIDENTIAL BUSINESS
INFORMATION

Separation Dike:

These piezometers are generally registering in their historic ranges. Piezometer BB has recently exhibited an elevated water level. In discussions with plant personnel, we understand that piezometer BB was covered over during construction of the gypsum ponds this year. The piezometer pipe appears to have been broken off at some point when it was uncovered. This may explain the "apparent" elevated water level, particularly if the measurements have been made from a lower reference elevation than previous measurements. Plant personnel are investigating and will advise Hydro Services.

Potable Water Pond Dike:
These piezometers were registering in their historic ranges and appear to respond to the decrease in the main pond level.

Plant Wansley

2008 - 4th Quarter Inspection Summary
Dam Safety Surveillance

Date of Inspection: November 12, 2008

Weather: Cloudy

Temperature: ~48° to 64° F

Rainfall (past 24 hrs): 0

CONFIDENTIAL BUSINESS INFORMATION

Inspection by: H. Armitage
(Storage Pond Inspection) T. Wilson - GPC
T. Tucker - Fluor
A. Murray, S. Madichetty - Ga SDP

SUMMARY

1. No major dam safety issues that would impact the safety of the structures were observed during this inspection. Recommendations to address current and previous inspection observations are summarized below. Many of the current and previous recommendations are routine, on-going maintenance type activities.

ADDITIONAL COMMENTS

1. Plant personnel did a very good job in completing most of the recommendations from previous quarterly inspections.
2. 4th Quarter Inspection done in conjunction with GA EPD Safe Dams Program 2009 Annual Inspection
3. A representative from the plant accompanied the inspectors and Hydro Services on the Storage Pond surveillance. The representative placed small flags where items that need to be corrected.
4. A copy of the Plant Wansley instrumentation data and review comments are attached.

CURRENT RECOMMENDATIONS - 4th Quarter Inspection

No.	Location and Description	Photo No.
1	**Storage Pond - Downstream Slopes -** Rodent holes to be filled and fire ant mounds to be treated. Locations flagged in field by plant personnel	3, 9 & 13
2	**Storage Pond - Downstream Slopes - Sta 19+00 & 22+00 and 37+50D -** Drain pipes need to be cleaned out and repaired. Undermined concrete ditch to be repaired (per Hydro Services 5-28-08 letter)	5, 6, 14 & 15
3	**Storage & Potable Water Ponds - Downstream Slopes - Sta 62+00 & other localized areas on slopes**. This is an on-going maintenance item.	11 & 22
4	**Storage Pond - Downstream Slope - Sta 37+50 -** Hydro Services to investigate wet area in 1st Qtr 2009. Plant personnel needs to monitor this area WEEKLY for any evidence of movement of slope and contact Hydro Services immediately if observed.	12
5	**Storage Pond - Downstream Slope - approx. Sta 56+00 -** Damaged marker pole for toe drain needs to be repaired.	16
6	**Storage Pond - Downstream Slope - approx. Sta 62+00 -** Damaged concrete ditch needs to be fixed and accumulated silt removed.	17
7	**Storage Pond - Downstream Slope - Piezometer LLL -** Piezometer leak at spigot connection needs to be repaired. Ground surface is wet around piezometer	18
9	**Detention Pond - Downstream Slope -** Small bushes and trees on downstream slope need to be cut down. Grass on slope needs to be cut. Source of ponded water downstream of toe needs to be investigated.	23 & 24

STATUS OF PREVIOUS RECOMMENDATIONS

No.	Location, Description & Action	Status Open/Closed
1	**Storage Pond - Spillway** - Downstream of end of spillway requires trees and bushes to be cut down so that flows are not restricted during flow. - **Pending Completion**	Open
2	**Detention Pond - Downstream Slope -** Small bushes and trees on downstream slope need to be cut down. Grass on slope needs to be cut - **Pending Completion**	Open
3	**Various Locations** -Cracks in concrete lined ditches should be cleaned out and caulked - **Pending completion**	Open
4	**Storage Pond - North Dike** - Warning sign needs to be re-mounted on pole - **Fixed - Okay**	Closed

Plant Wansley

2008 - 4th Quarter Inspection Summary

STATUS OF PREVIOUS RECOMMENDATIONS (continued)

No.	Location, Description & Action	Status Open/Closed
5	**Storage Pond & Potable Water Pond - General** - Localized bare spots on grass covered slopes need repair. Re-seeding and mulching required to prevent further surface erosion. **Many areas have been reseeded. This is an on-going maintenance item.**	**Closed**
6	**Storage Pond - East and SE Dike - Concrete Lined Ditches & Toe Drains** - Localized vegetation growth and debris needs to be removed from ditches so that flow isn't restricted from approx. Sta.1+60 to 3+50 and Sta. 5+00 to 23+50. Drains at Sta 73+00 & 74+00 need to be cleaned of silt and debris. - **Completed**	**Closed**
7	**Storage Pond - SE Dike (Southwest End) and Potable Water Pond (U/S Slope)** - Trees and bushes need to be cut down at toe of slopes to mitigate root growth (seepage path) into embankment - **Corrected**	**Closed**
8	**Storage Pond - SE Dike- Lower Slope** - Rodent holes on lower slope near Sta. 67+60 and 68+40 need to be filled in.- **Repaired**	**Closed**
9	**Separator Dike - Upstream & Downstream Slopes** - Localized erosion rills/gullies need to be repaired to mitigate further erosion. - **Fixed**	**Closed**
10	**Potable Water Pond Spillway** - Upstream end of spillway. (Approach channel) requires trees and bushes to be cut down and cleared so that flows are not restricted - **Larger trees/bushes have been cut down**	**Closed**
11	**General Comment & Sta 1+00 to 8+00** - Remove accumulated vegetation from within concrete lined channels -Completed	**Closed**
12	**Sta. 75+00, 76+00 & 77+00** - Clean out end of finger drains - **Completed**	**Closed**
13	**Multiple Locations on slopes** -Fill in animal burrows - Rodent holes observed in 1st Qtr filled or could not be found during current inspection - **See Current Reco. 6 above**	**Closed**
14	Sta 73+00 & 74+00 - Bare spots on slope need to be re-seeded. - **Some area have become grown over with grass cover satisfactorily. See Current Reco. 2 above**	**Closed**
15	Sta. 66+00, 70+00 & 72+50 - Repair end of damaged toe drains - **The ends have been fixed.**	**Closed**
16	**Sta 62+00** - Clean Silt behind Weir - **Cleaned out**	**Closed**
17	**Separator Dike** - Runoff erosion at crest of upstream slope repaired	**Closed**
18	**Localized bare spots on slope** to be re-seeded (or covered with small rip-rap).	**Closed**
19	**Upstream Toe of Slope-** Vegetation needs to be cut down - **Bushes and trees cut down - ok**	**Closed**

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2008 - 4th Quarter Inspection Summary

OBSERVATIONS FOR 4th QUARTER INSPECTION

I - Storage Pond - North Dike - (Road to Recreational Area)		**Storage Pond Elev. 778.1'**
	Observations - Comments	**Photograph No.**
1. Upstream Slope		
a. Condition	*Grass covered - Overall condition is good. No evidence of instability.*	*n/a*
b. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced - No distress or potholes in road surface observed. Sign has been re-mounted on post*	**1**
3. Downstream Slope		
a. Condition	*Grass covered - Overall condition is good. No evidence of instability.*	*n/a*
b. Seepage/Wet Spots	*Yes ( ) No (X) - No seepage or wet spots observed on slope.*	*n/a*
c. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*

II - Storage Pond - East Dike (North Dike to Spillway)		
	Observations - Comments	**Photograph No.**
1. Upstream Slope		
a. Condition	*Rip-rap on upstream face looks satisfactory and no dam safety issues observed.*	*n/a*
b. Erosion/Sloughing	*Yes ( ) No (X) - No instability observed*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced - No distress or potholes in road surface observed.*	*n/a*
3. Downstream Slope		
a. Condition	*Grass covered - Overall - Grass has been cut. Localized bare spots noted on previous inspections have been re-seeded & straw placed over seed. Grass starting to grow in some places. (On-going maintenance issue). Rodent hole at Sta. 7+00 (photo 3), localized fire ant mounds. All flagged for repair by plant personnel.*	**2, 3**
b. Seepage/Wet Spots	*Yes ( ) No (X) - No seepage or wet spots observed on slope.*	*n/a*
c. Erosion/Sloughing	*Yes ( ) No (X) - No evidence of instability.*	*n/a*
d. Concrete-Lined Drainage Ditch	*Concrete in good condition. Localized vegetation growth and debris has been removed from ditches (photo 4). Good job done. Drain pipes at Sta. 19+00 and 22+00 need to be cleaned out and repaired (photos 4 and 5)*	**4, 5 & 6**
e. Emergency Aggregate Stockpiles	*Yes (X) No ( )*	

III - Storage Pond - Spillway		
	Observations - Comments	**Photograph No.**
1. Spillway Abutment/Deck		
a. Condition	*Concrete condition is satisfactory. Per Ga SDP letter 4-3-08, spall at left abutment has been repaired.*	**7**
2. Spillway Floor		
a. Condition	*Concrete satisfactory*	*n/a*
3. Spillway Walls		
a. Condition	*Concrete satisfactory*	*n/a*
4. Downstream of Spillway (Channel)		
a. Condition	*Vegetation downstream of spillway still needs to be cleared to prevent blockage/restriction of flow capacity of channel -* ***Pending activity.***	*n/a*

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2008 - 4th Quarter Inspection Summary

CONFIDENTIAL BUSINESS INFORMATION

IV - Storage Pond - Southeast Dike (Spillway to Separator Dike)

	Observations - Comments	**Photograph No.**
1. Upstream Slope		
a. Condition	*Rip-rap (size varies) on upstream slope looks acceptable. No instability or beaching evident. (SCG sent response to GA EPD-SDP letter 4/3/08. SCG will continue ongoing monitoring of rip-rap). Bushes and trees at toe of slope adjacent to separator dike have been cut down satisfactorily (See Photo 8).*	**8**
b. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced/Railway tracks - No distress observed along road surface .*	*n/a*
3. Downstream Slope		
3a - Upper Slope		
a. Condition	*Grass covered - looks satisfactory. Grass recently cut so good visual examination possible.*	*n/a*
b. Seepage/Wet Spots	*Yes ( ) No (X)*	*n/a*
c. Erosion/Sloughing	*Yes ( ) No (X) - No evidence of instability.*	*n/a*
3b - Mid-Slope Road & Drainage Ditch		
a. Road Condition	*Gravel surfaced - looks good. No distress or potholes in road surface observed.*	*n/a*
b. Concrete-Lined Drainage Ditch	*Concrete in good condition. Vegetation in ditch/around drain at Sta. 73+00 has been removed satisfactorily.*	*n/a*
3c - Middle Slope		
a. Condition	*Grass covered. Satisfactory. No visual evidence of instability. New rodent hole encountered near head wall and was flagged by plant personnel.*	**9**
b. Seepage/Wet Spots	*Yes ( ) No (X)*	*n/a*
c. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*
3d. Lower Road & Drainage Ditch		
a. Road Condition	*Gravel surfaced - looks good. No distress or potholes in road surface observed.*	*n/a*
b. Concrete-Lined Drainage Ditch	*Concrete condition is acceptable*	*n/a*
3e - Lower Slope		
a. Condition	*Grass covered - Grass has recently been cut. Overall good coverage. Localized re-seeding has been carried out to fix bare spots Several additional areas require repair.*	**10 & 11**
b. Seepage/Wet Spots	*Yes (X) No ( )* ***1.*** *Ground surface in the area of Sta 37+50 is wet. Minor and localized visible water ponded.* ***(photo 12).*** *EPD inspector stated that corrective action be taken to address wet area by 6-2009. This issue was addressed in response letter to EPD dated 10-28-08.* ***2.*** *Rodent hole flagged by plant personnel for repair near Sta 37+50* ***(photo 13).*** ***3.*** *The area beneath Drain D is undermined and needs to be repaired* ***(photo 14).*** ***4*** *. The area beneath the end of the concrete drainage ditch is undermined and needs to be repaired* ***(photo 15).*** ***5.*** *The marker sign for the toe drain near approx Sta 56+00 needs to be fixed. Has been damaged.* ***(photo 16).*** ***6.*** *Area around Piezometer LL is wet. Appears that the valve is leaking and needs to be fixed* ***(photo 17).***	**12, 13, 14 15, 16 and 17**
c. Erosion or Sloughing	*Yes ( ) No (X) - No evidence of instability. Some of the localized bare spots in grass cover have been re-seeded, however several other bare areas require same repair.*	*n/a*
d. Concrete Drainage Ditch	*Concrete condition is good.* ***Sta 49+00*** *- Clean-out of debris/leaves in drain pipe, ditch and behind weir is required.*	*n/a*
e. Emergency Aggregate Stockpiles	*Yes (X) No ( )*	*n/a*
3f - Lower Concrete-Lined Drainage Ditch		
a. Condition	***Sta 62+00*** *- Portion of concrete channel is broken and needs to be repaired. Localized portion of concrete ditch needs to be cleaned out of silt and sandy material*	**18**

Plant Wansley
2008 - 4th Quarter Inspection Summary

V - Storage Pond/Ash Pond - Separator Dike		**Ash Pond Elev. 799.5'**
	Observations- Comments	**Photograph No.**
1. Upstream Slope (Storage Pond)		
a. Condition	*Rip-Rap - Looks satisfactory. Size of stone on surface of slope varies. No evidence of instability.*	*n/a*
b. Erosion or Sloughing	*Yes (X) No ( ) - Localized, shallow erosion rills/gullies have been repaired (filled in with stone/rip-rap).*	**19**
2. Crest		
a. Condition	*Gravel surfaced and in good condition. New gravel has been placed on roadway.*	*n/a*
3. Downstream Slope (Ash Pond)		
3a. North End		
a. Condition	*Rip-Rap - Looks satisfactory. No evidence of instability*	*n/a*
b. Erosion or Sloughing	*Yes (X) No ( ) - Localized, shallow erosion rills/gullies have been repaired (filled in with stone/rip-rap).*	*n/a*
3b. South End - (No longer applicable due to Gypsum Pond/berm construction)		
a. Condition	*N/A - Recently constructed gypsum storage pond dike now abuts the south end of the separator dike.*	*n/a*

VII- Potable Water Pond		**Potable Water Pond Elev. 801'**
	Observations - Comments	**Photograph No.**
1. Upstream Dike Slope (Potable Water)		
a. Condition	*Rip-rap on upstream face looks good. Small trees and bushes at toe have been cut down.*	**20**
b. Erosion or Sloughing	*Yes (X) No ( ) - Localized, minor surface erosion. Re-seeding and mulching has been done to reestablish grass growth in bare areas.*	**21**
c. Concrete Drainage Ditch	*Concrete in good condition. No obstructions in channel observed.*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced - looks good. No distress or potholes in road surface observed.*	*n/a*
3. Downstream Dike Slope (Storage Pond)		
a. Condition	*Grass covered - Overall - looks good. No evidence of instability*	*n/a*
b. Seepage/Wet Spots	*Yes ( ) No (X) - No seepage or wet spots observed on slope.*	*n/a*
c. Erosion or Sloughing	*Yes (X) No ( ) - Localized, minor surface erosion. Re-seeding and mulching required to re-establish vegetative growth.*	**22**
d. Concrete Drainage Ditch	*Yes ( ) No (X) - Condition of concrete satisfactory.*	*n/a*
4. Spillway Approach Channel		
a. Condition - General	*Small bushes/trees removed.*	*n/a*
b. Condition - Rip-Rap	*Good. No evidence of instability.*	*n/a*
c. Condition - Concrete	*Good.*	*n/a*
5. Spillway Structure - Abutments/Deck		
a. Condition	*Concrete in good condition.*	*n/a*
6 . Spillway Structure - Floor		
a. Condition	*Concrete in good condition*	*n/a*
7 . Spillway Structure - Walls		
a. Condition	*Concrete - Good*	*n/a*

Plant Wansley

2008 - 4th Quarter Inspection Summary

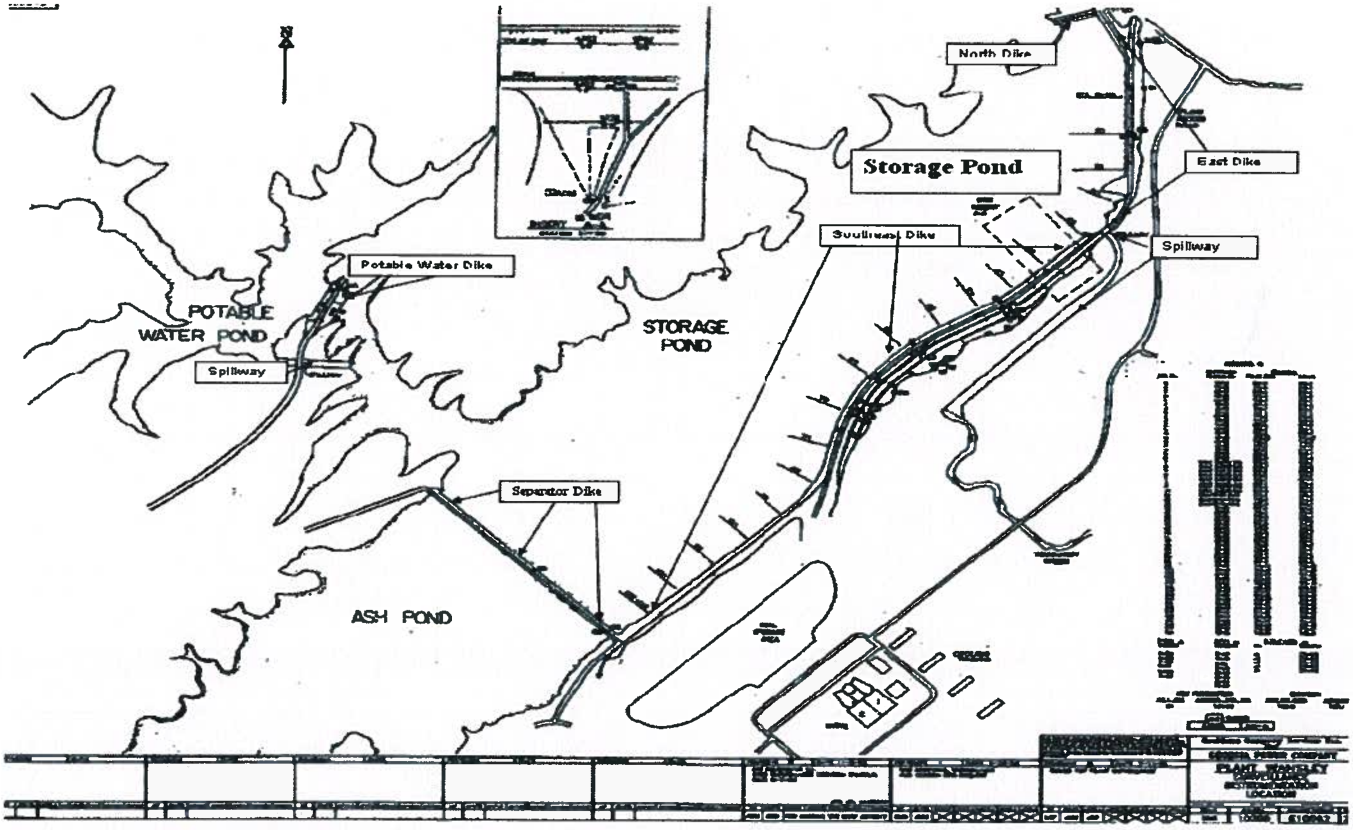
VIII - Detention Pond

	Observations- Comments	Photograph No.
1. Upstream Dike Slope		
a. Condition	*Rip-rap in good condition.*	*n/a*
b. Erosion/Sloughing	*Yes ( ) No (X) - Slope looks satisfactory, no visible instability observed*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced and in good condition. No distress or potholes observed.*	*n/a*
3. Downstream Dike Slope		
a. Condition	*Grass-covered. Central area of slope has small bushes/trees that need to be removed. Grass requires cutting. No visible evidence or instability observed*	23
b. Visible Seepage or Wet Spots	*Yes (X) No ( ) - Localized, minor ponded water beyond toe of slope*	24
c. Erosion or Sloughing	*Yes ( ) No (X)*	*n/a*
4. Concrete Spillway Channel		
a. Concrete Condition	*Concrete is in good condition*	*n/a*
5.Spillway Outlet Channel		
a. Condition	*Rip-rap at outfall and outlet channel is in good condition. No issues observed.*	*n/a*

CONFIDENTIAL BUSINESS INFORMATION

Hugh H. Armitage - Sr. Engineer
SCG - Hydro Services

Location Plan
Storage Pond and Potable Water Pond



Plant Wansley

2008 - 4th Quarter Inspection Photographs - November 12, 2008

(See accompanying report attached)

Photo No.	Description	
1	**Storage Pond - N Dike** - Near Rec. Center Entrance - Notice sign re-mounted on post	
2	**Storage Pond - East Dike** - Localized areas have been re-seeded to re-establish grass on former bare areas	
3	**Storage Pond - East Dike** - Localized rodent holes to be filled in and fire ant mounds to be treated. The rodent holes and fire ant mounds were flagged by plant personnel	
4	**Storage Pond - East Dike** - Ditches cleaned out of debris/silt	

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2008 - 4th Quarter Inspection Photographs - November 12, 2008

(See accompanying report attached)

Photo No.	Description	
5	**Storage Pond - East Dike** - Drain pipe at Station 19+00 needs to be cleaned out. Drain needs to be extended to prevent future clogging	
6	**Storage Pond - East Dike -** Drain pipe at Station 22+00 needs to be fixed. Crushed end to be replaced/repaired	
7	**Storage Pond - Spillway** - Concrete spall on downstream wall has been fixed.	
8	**Storage Pond - Southeast Dike - Upstream -** Bushes and trees have been removed at toe of slope.	

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2008 - 4th Quarter Inspection Photographs - November 12, 2008

(See accompanying report attached)

Photo No.	Description	
9	**Storage Pond- Southeast Dike - Downstream -** Sta 64+00 - Rodent Hole to be repaired.	
10	**Storage Pond- Southeast Dike - Downstream -** Sta 64+00 - Areas of slope have been repaired by re-seeding to re-establish grass cover.	
11	**Storage Pond- Southeast Dike - Downstream -** Near Sta 62+00 - Bare area on slope to be seeded to re-establish grass cover.	
12	**Storage Pond - Southeast Dike - Downstream-** Lower Slope at Sta 37+ 50. - EPD Safe Dams Program stated that a repair of wet area required by June 2009	

CONFIDENTIAL BUSINESS
INFORMATION

Plant Wansley

2008 - 4th Quarter Inspection Photographs - November 12, 2008

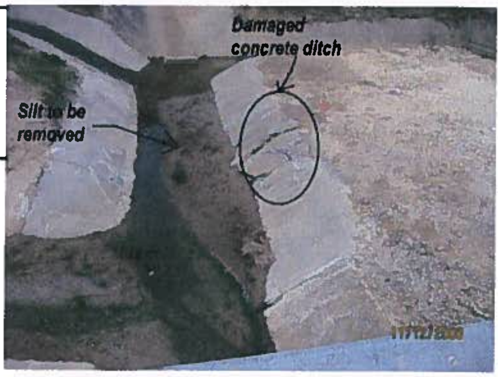
(See accompanying report attached)

Photo No.	Description	
13	**Storage Pond - Southeast Dike - Downstream-Lower Slope at Sta 37+ 50**. Rodent hole to be repaired. Flagged by field personnel.	
14	**Storage Pond - Southeast Dike - Downstream-Lower Slope at Sta 37+ 50 Drain D** - Undermining at end of concrete drainage pipe requires repair.	
15	**Storage Pond - Southeast Dike - Downstream-Lower Slope at Sta 37+ 50** - Undermining at end of concrete drainage ditch requires repair. (See repair procedure in letter of May 28, 2008)	
16	**Storage Pond - Southeast Dike - Downstream - Lower Slope at Sta 56+00** - Damaged drain marker to be replaced CONFIDENTIAL BUSINESS INFORMATION	

Plant Wansley

2008 - 4th Quarter Inspection Photographs - November 12, 2008

(See accompanying report attached)

Photo No.	Description	
17	**Storage Pond - Southeast Dike - Downstream - Lower Slope -** Wet area around Piezometer LLL. Appears that drain valve is leaking. Needs to be repaired.	
18	**Storage Pond - Southeast Dike - Downstream-Lower Slope -Sta 62+00** - Damaged concrete needs repair and removal of silt removal at bottom of ditch.	
19	**Storage Pond - Spearator Dike- Upstream and Downstream** - Erosion gullies have been repaired with stone/rip-rap	
20	**Potable Water Pond- Upstream Slope -** Small trees and bushes have been cut down at downstream toe.	

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

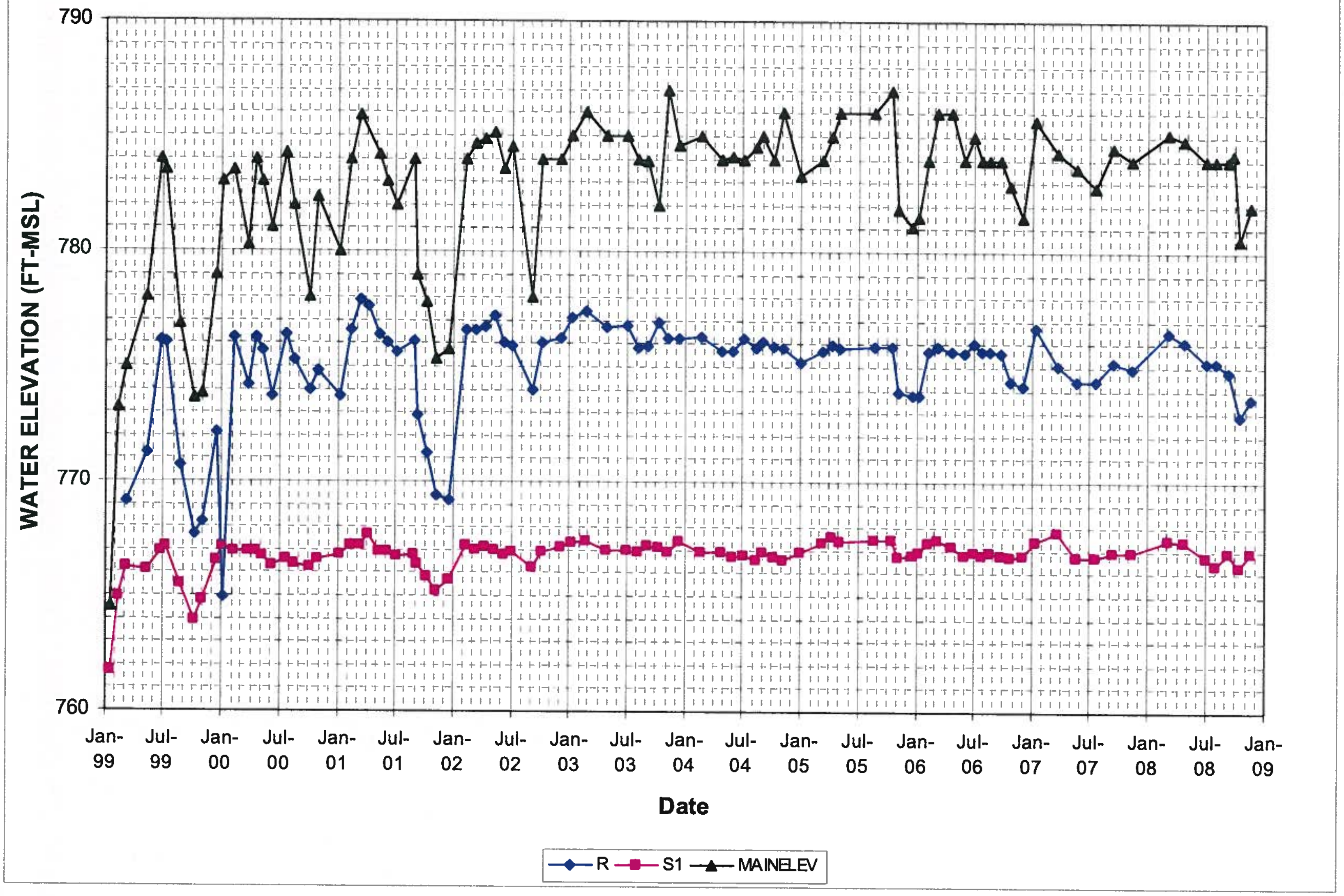
2008 - 4th Quarter Inspection Photographs - November 12, 2008

(See accompanying report attached)

Photo No.	Description	
21	**Potable Water Pond- Upstream Slope -** Localized bare areas have been re-seeded and grass is starting to grow.	
22	**Potable Water Pond- Downstream Slope -** Localized bare areas need to re-seeded and grass reestablished	
23	**Detention Pond - Downstream Slope**. Small trees to be removed. Grass and weeds to be cut.	
24	**Detention Pond**- Downstream - Localized wet areas downsteam of toe of slope. Need to investigate source of water. Plant to coordinate with Hydro Services.	

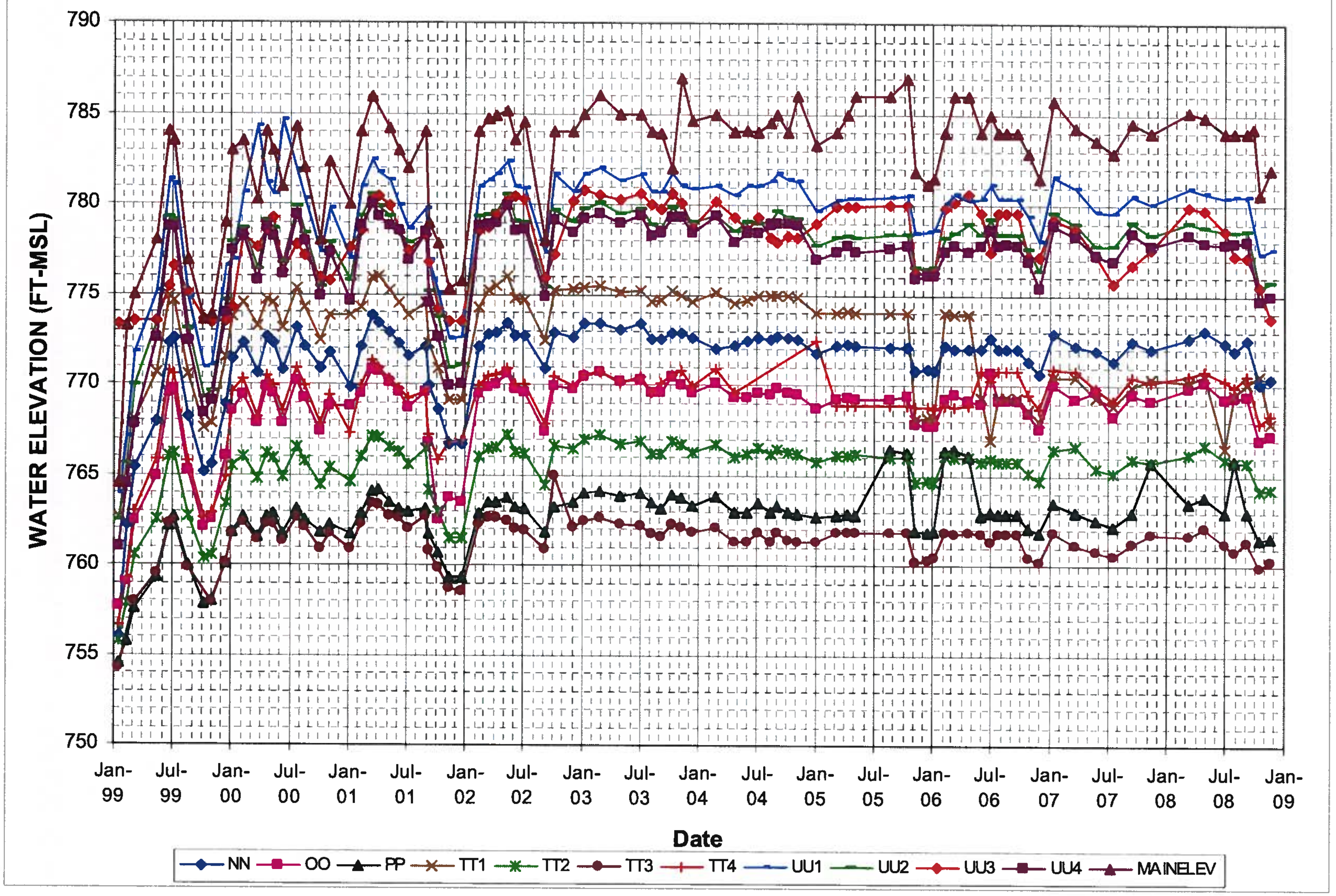
CONFIDENTIAL BUSINESS INFORMATION

Wansley Storage Pond Pz's at Sta. 20+00



CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley Pz's at Sta. 37+50-1



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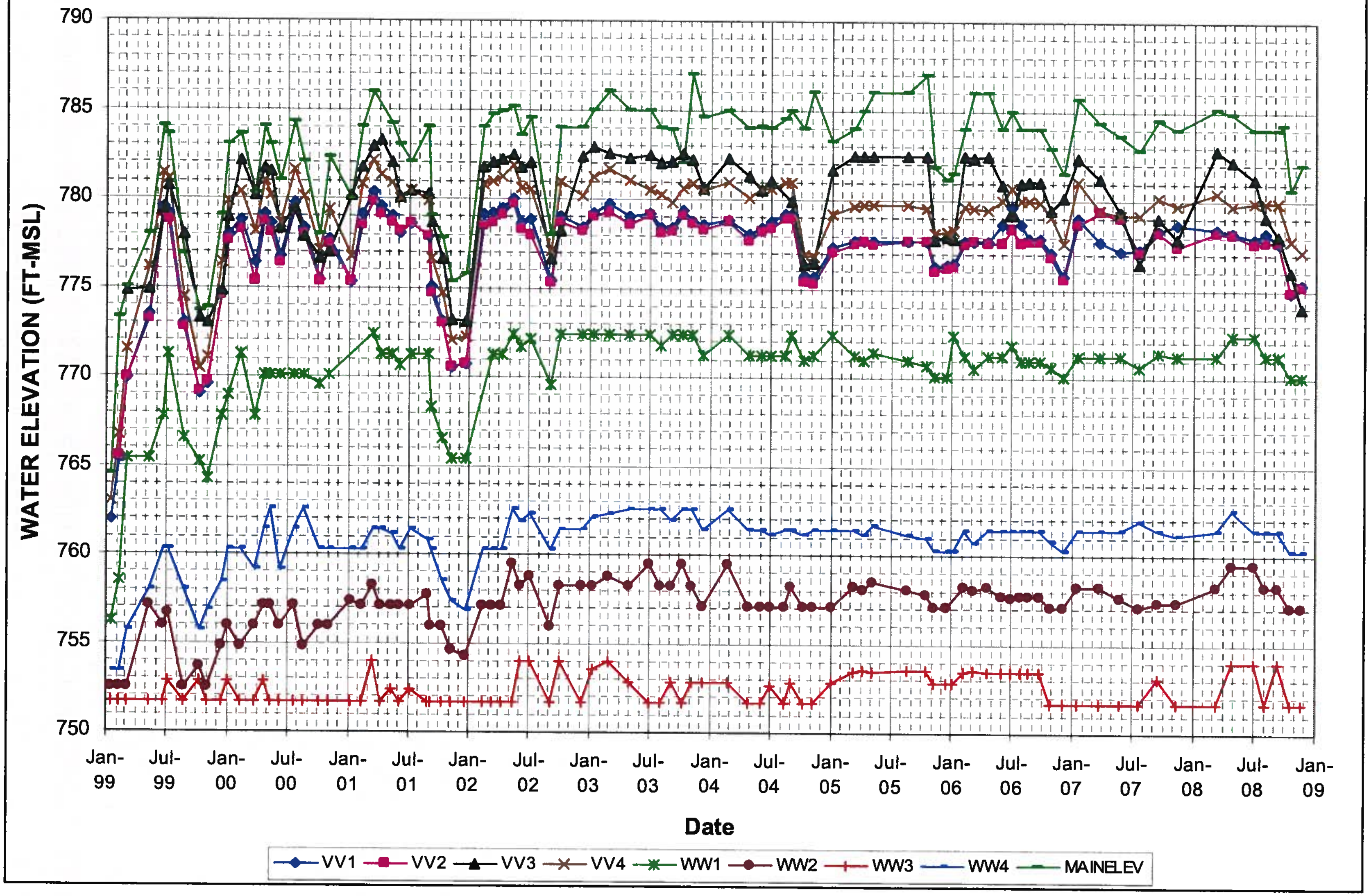
Plant Wansley Pz's at Sta. 37+50-2



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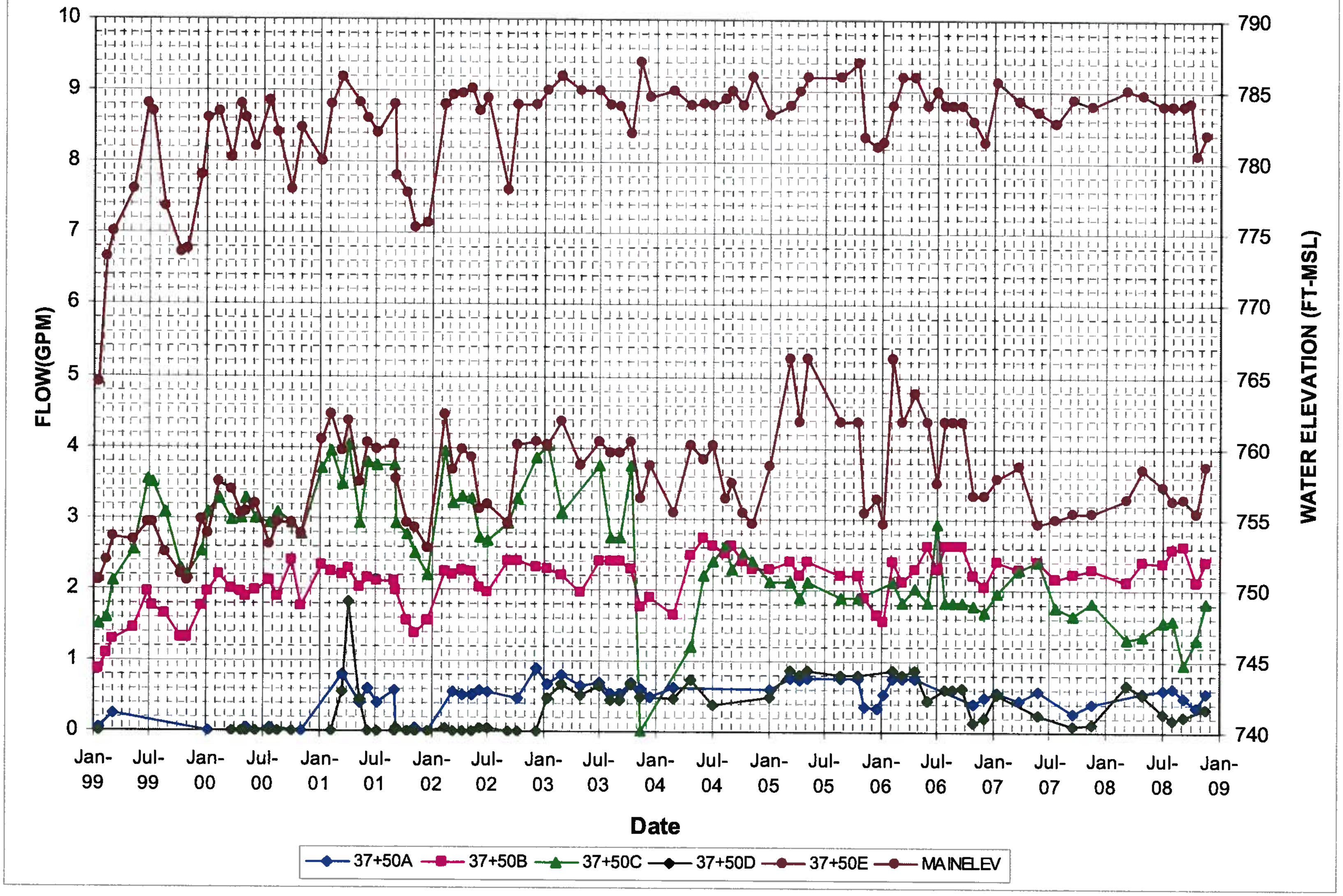
Plant Wansley Pipe Flows



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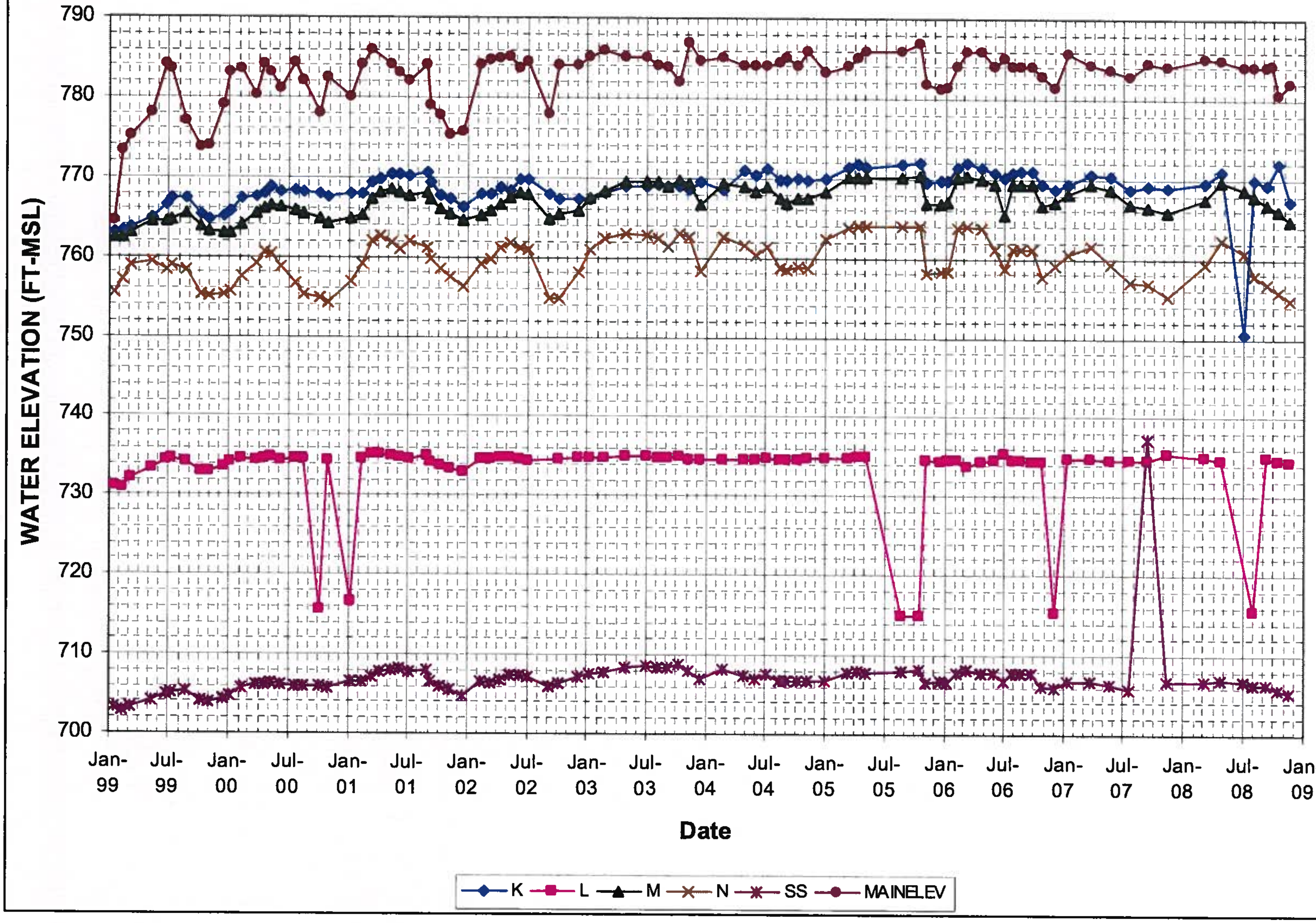
Wansley Storage Pond Pz's at Sta. 47+50



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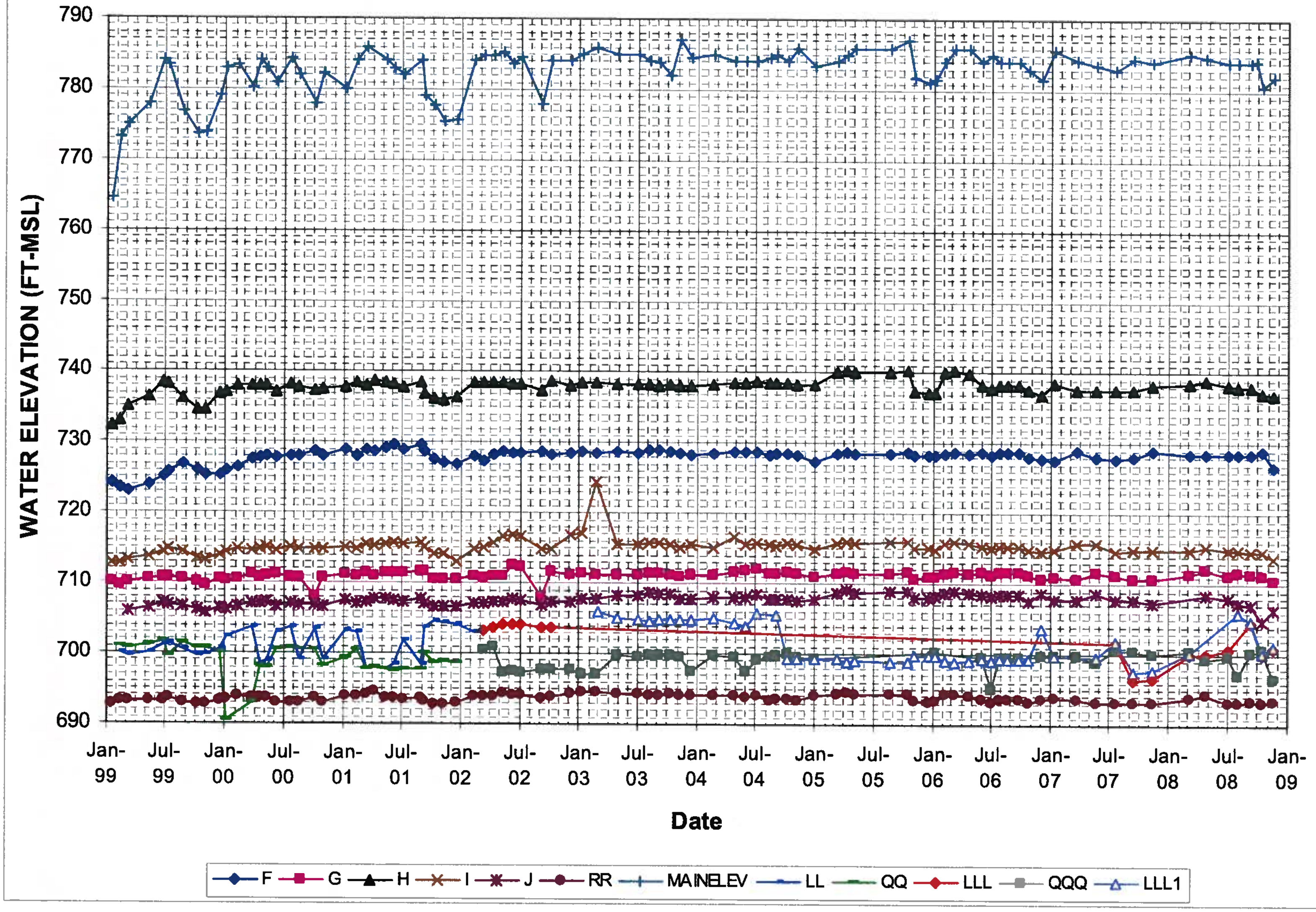
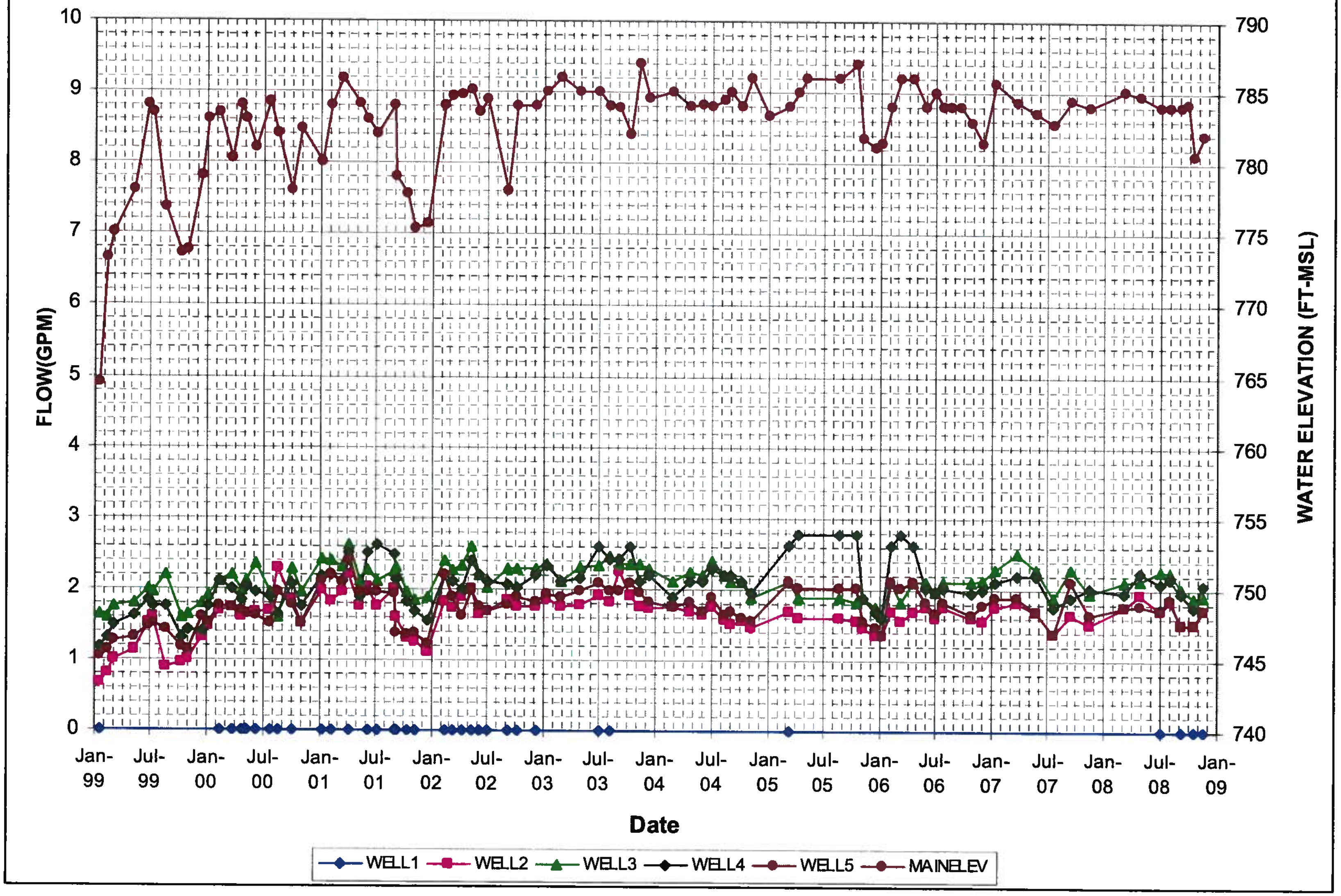
Wansley Storage Pond Pz's at Sta. 58+00



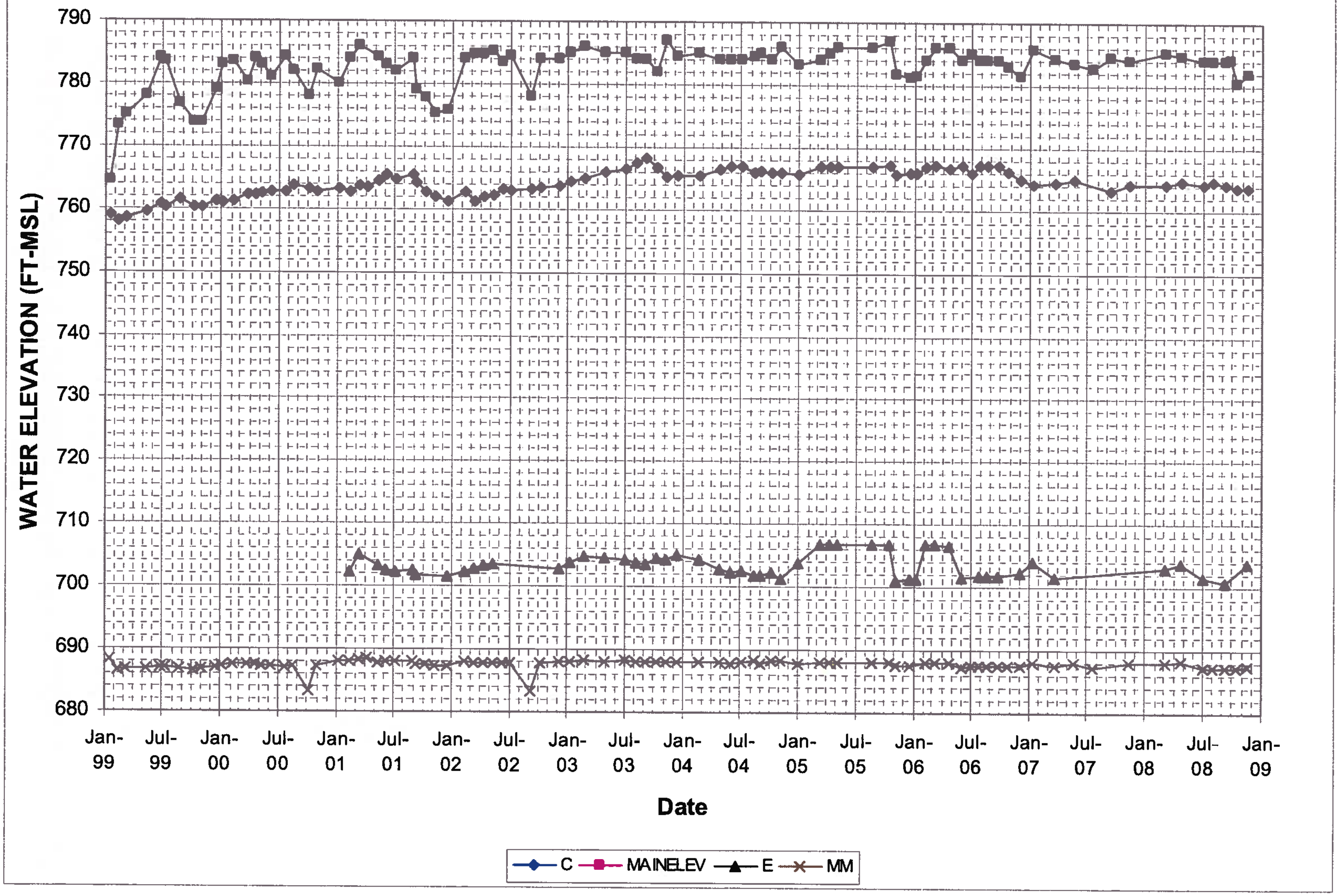
CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley Well Flows



CONFIDENTIAL BUSINESS INFORMATION

Wansley Storage Pond Pz's at Sta. 65+00



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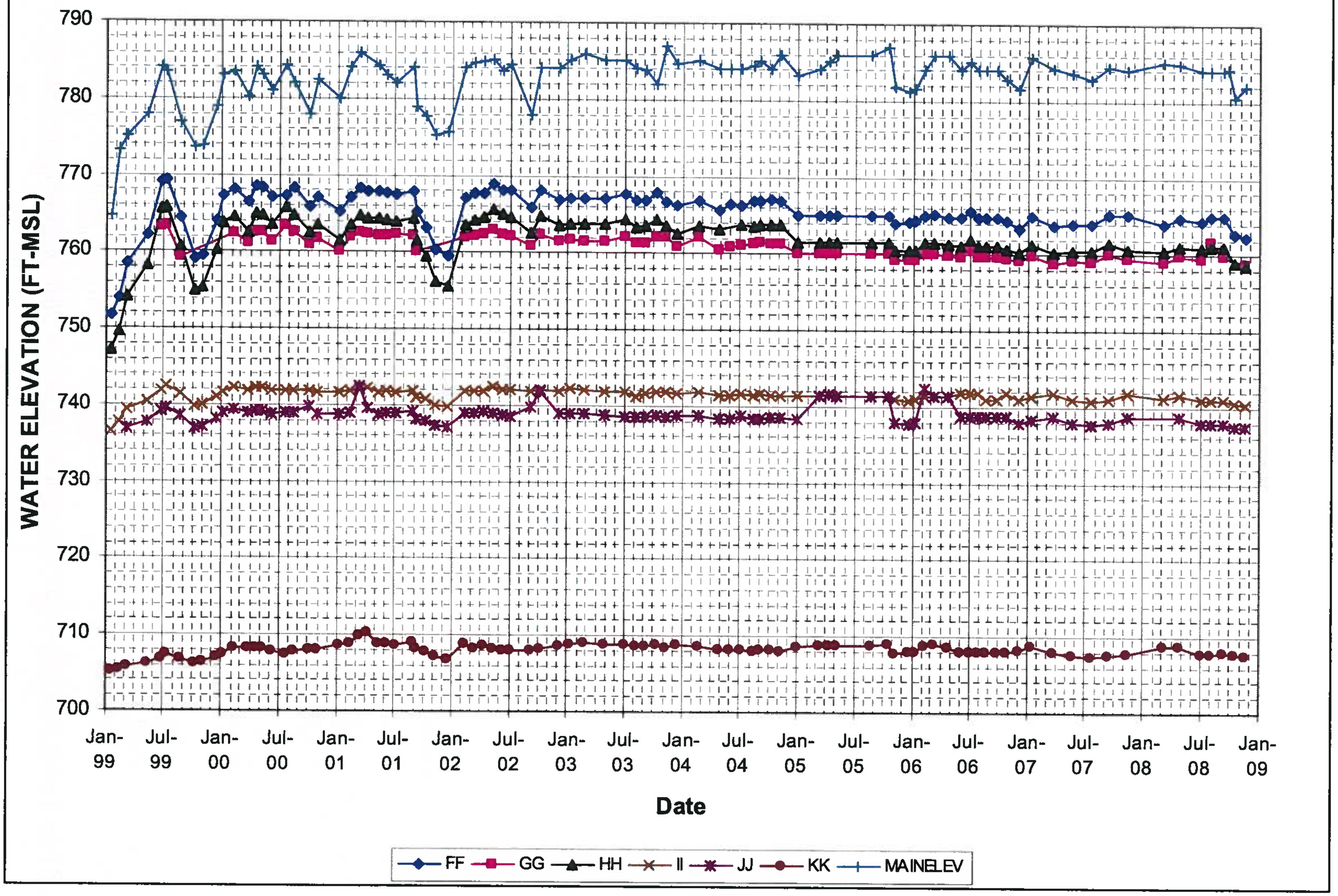
Wansley Storage Pond Pz's at Sta. 70+00



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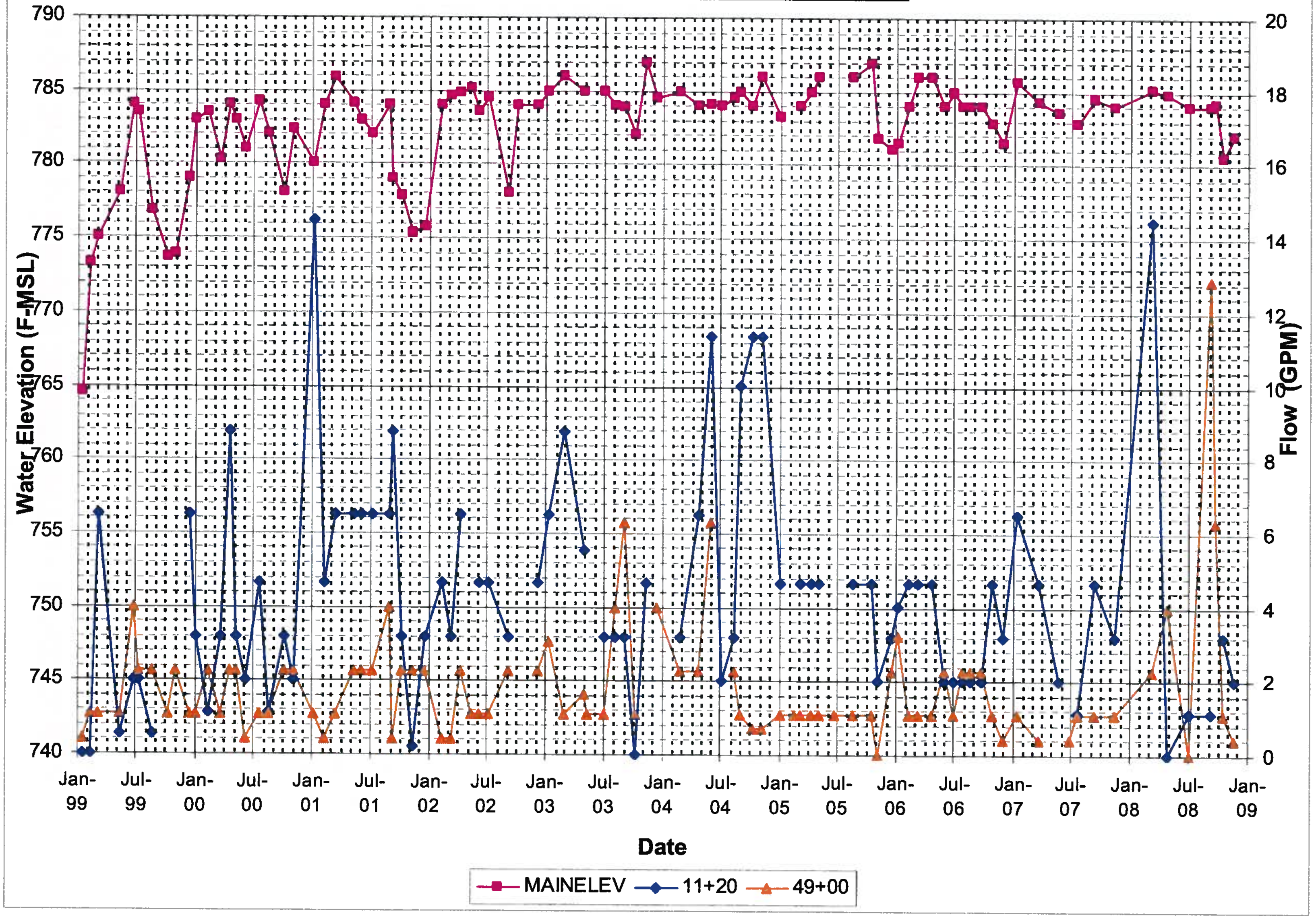
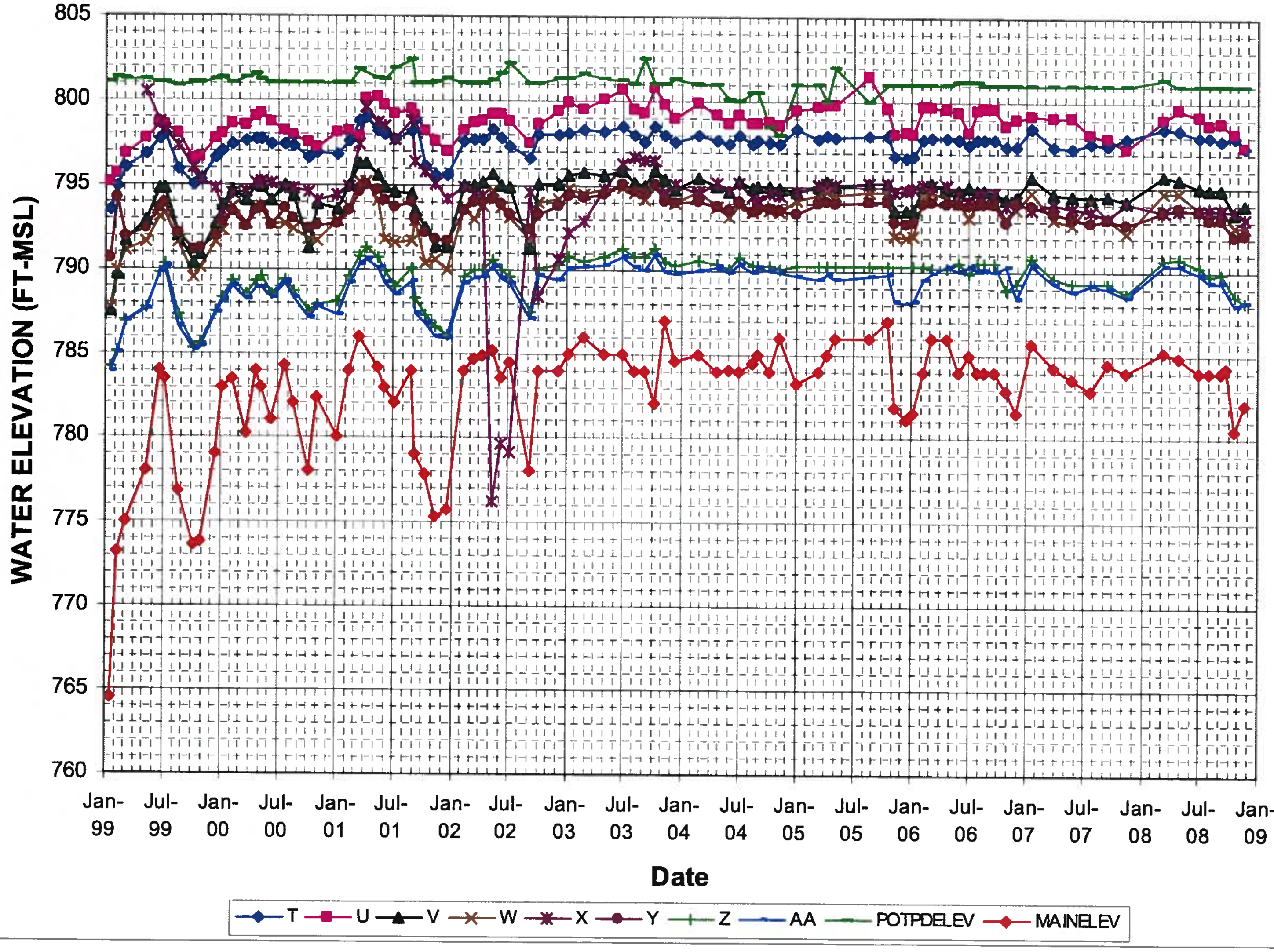
Plant Wansley Weir and Pipe Flows



CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley Potable Pond Piezometers



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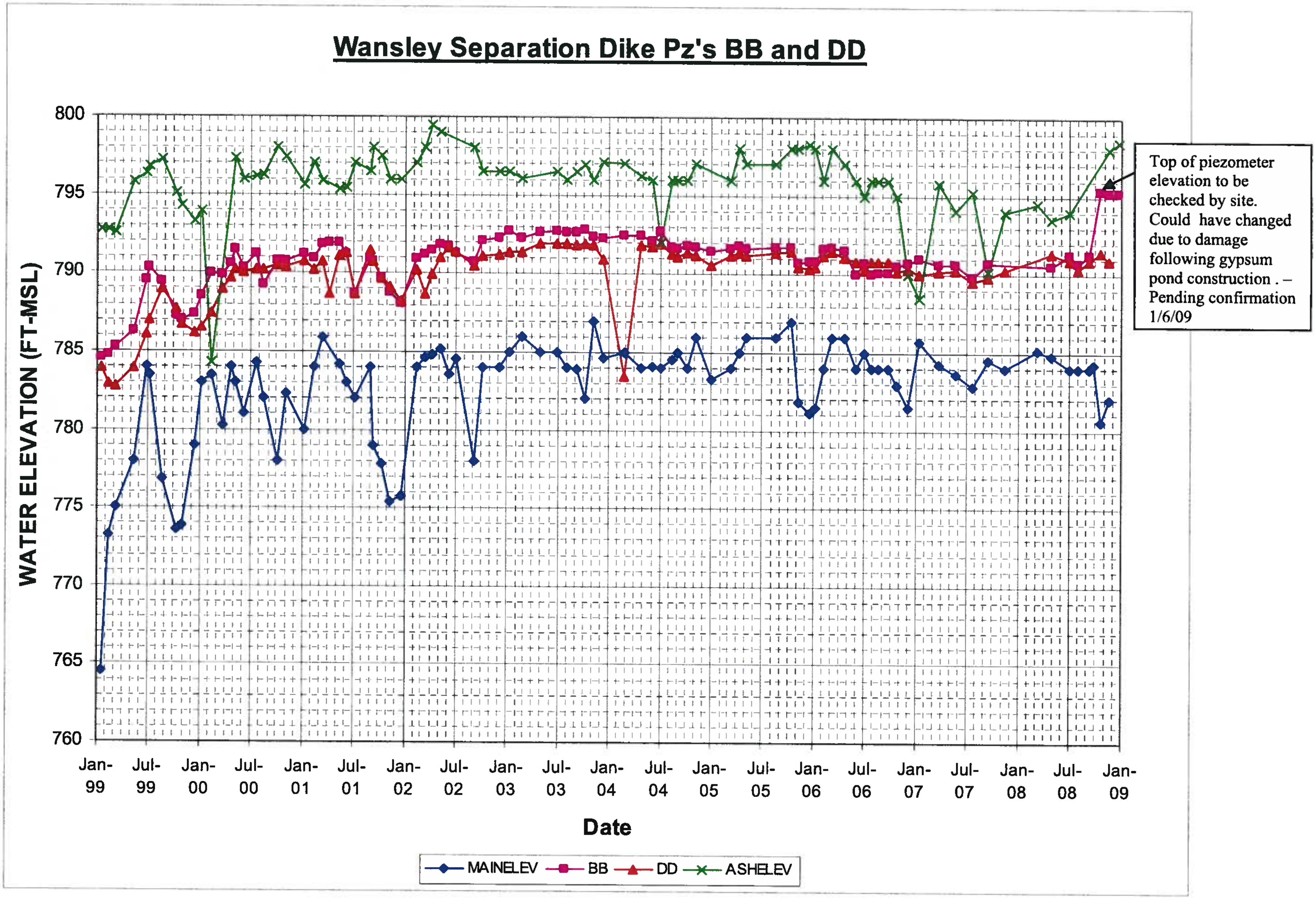

Top of piezometer elevation to be checked by site. Could have changed due to damage following gypsum pond construction . – Pending confirmation 1/6/09

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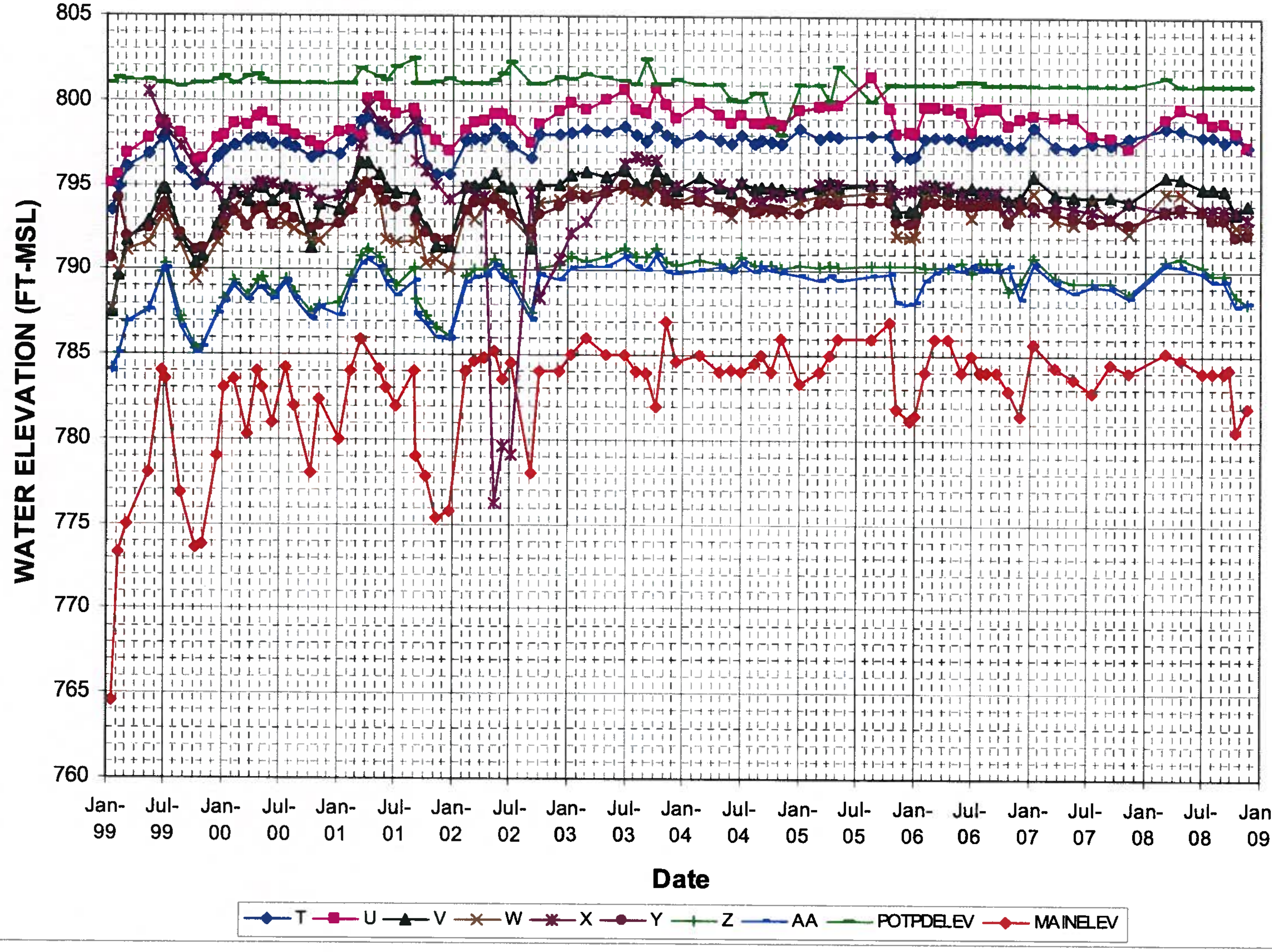
Plant Wansley Potable Pond Piezometers



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Southern Company Generation
Bin 10193
241 Ralph McGill Boulevard NE
Atlanta, Georgia 30308-3374

Tel 404.506.7033

SOUTHERN COMPANY
Energy to Serve Your World™

September 9, 2008

PLANT WANSLEY
Dam Safety Surveillance
Quarterly Report
REA No. WN-08900

Mr. J. P. Heilbron
Plant Manager
Georgia Power Co.
Plant Wansley

Dear Mr. Heilbron:

Attached is the 3rd quarter 2008 report on Dam Safety Surveillance for Plant Wansley. The inspection of the main Storage Pond, Ash Pond Separator Dike, Potable Water Pond and Detention Pond was performed on July 22, 2008 by Hugh Armitage of the SCG Hydro Services Group. The inspections were coordinated with Mr. T. E. Wilson and Mr. N. I. Dean of Plant Wansley.

This report includes:

a) A review of the current instrumentation data;
b) A table summarizing visual observations made during the July 22, 2008 inspections. The table includes current recommendations and a status update for recommendations contained in the previous quarterly report. This report is supplemented with relevant site photographs; and
c) A copy of the current instrumentation data.

Should you have any questions, please contact Hugh Armitage at extension 8-506-7109.

Sincerely,

Joel Galt

Joel Galt
Hydro Services Supervisor

WAN-API 055

CONFIDENTIAL BUSINESS
INFORMATION

/hha

Attachments

xc: **Georgia Power Company**
T. E. Wilson (w/ attachment)
N. I. Dean (w/ attachment)

Southern Company Services
D. E. Jones (w/attachment)
E. B. Allison (w/ attachment)
J. H. Crisler (w/ attachment)
F. J. Pryor (w/ attachment)

Hydro Service Wansley Notebook
Master File: WN-08900

Hydro Services Correspondence Notebook (w/attachments)

T:\Quarterly Reports\Fossil Plants\2008\Wansley\08-3rd Qtr\1- 08 Qtr 3 - Cover Letter .DOC

Instrumentation Data Review
3rd Quarter – 2008

A current assessment of instrumentation data reviewed up to the most recent readings of July 31, 2008 at Plant Wansley, is as follows.

Storage Pond:

Sta. 20+00: Piezometers are within their historic range. Both seem to track the pond level.

Sta 37+50: All of these piezometers appear to be in their historic range. All generally seem to track the pond level.

Sta 37+50 Pipe Flows: These flows appear to be in their historic ranges. These flow rates will continue to be monitored to assess if any trends develop.

Sta 47+50: With the exception of L, the other piezometers are within their historic range of measurement. Piezometer L experienced a sharp decline at the end of July 2008. However, a reading taken on September 8, 2008, indicated that the level is back to within it's historic range. Piezometer K re-bounded to its more historic value in July 2008.

It is recommended that the flow rate at the toe drain at Station 39+00 be obtained at monthly intervals rather than the current 6 month schedule. This information will be useful when modifications to the drains at 37+50 are carried out.

Sta 58+00: LLL1 has continued to display an increasing rise in the piezometric level in July 2008. This trend will continue to be monitored on a monthly basis. The other piezometers are generally within their historic range.

Relief Wells: The relief wells appear to be discharging in their historic range.

Sta 65+00: Piezometric levels at C, E and MM are within their historic ranges.

Sta 70+00: All of these piezometers are reading in their historic ranges.

Weir and Pipe Flows: Weir measurements at Sta. 49+00 have indicated a higher than normal flow the past two measurements (July 31 and September 8, 2008). It is recommended that site personnel continue to measure/monitor the flow rate at this weir on a weekly basis to see if this rate is sustained or reverts back to its historic range. Please keep SCG Hydro Services advised.

Separation Dike:

These piezometers are registering in their historic ranges. They exhibit a muted relationship with the storage pond elevation but little relationship to the ash pond elevation.

Potable Water Pond Dike:

These piezometers were registering in their historic ranges.

Plant Wansley
2008 - 3rd Quarter Inspection Summary
Dam Safety Surveillance

Date of Inspection: July 22, 2008
Weather: Sunny to Mostly Cloudy
Temperature: ~75° to 91° F
Rainfall (past 24 hrs): 0.74"

Inspection by: H. Armitage

CONFIDENTIAL BUSINESS INFORMATION

SUMMARY

1. No major dam safety issues that would impact the safety of the structures were observed during this inspection. Recommendations to address current and previous inspection observations are summarized below. Generally, these recommendations are routine, on-going maintenance type activities.

ADDITIONAL COMMENTS

1. Plant personnel do a very good job of maintaining the embankment slopes at the different ponds at the site.
2. A copy of the Plant Wansley instrumentation data and review comments are attached.

CURRENT RECOMMENDATIONS - 3rd Quarter Inspection

No.	Location and Description	Photo No.
1	**Storage Pond - North Dike** - Warning sign needs to be re-mounted on pole	1
2	**Storage Pond & Potable Water Pond - General** - Localized bare spots on grass covered slopes need repair. Re-seeding and mulching required to prevent further surface erosion.	2, 6,16, 21
3	**Storage Pond - East and SE Dike - Concrete Lined Ditches & Toe Drains** - Localized vegetation growth and debris needs to be removed from ditches so that flow isn't restricted from approx. Sta.1+60 to 3+50 and Sta. 5+00 to 23+50. Vegetation removal required at outlet of Drain at Sta. 19+00. Drains at Sta 73+00 & 74+00 need to be cleaned of silt and debris.	4, 5 & 12
4	**Storage Pond Spillway** - Downstream of end of spillway requires trees and bushes to be cut down and cleared so that flows are not restricted during flow.	8
5	**Storage Pond - SE Dike (South End) and Potable Water Pond (U/S Slope)** - Trees and bushes need to be cut down at toe of slopes to mitigate root growth (seepage path) into embankment.	10 & 20
6	**Storage Pond - SE Dike- Lower Slope** - Rodent holes on lower slope near Sta. 67+60 and 68+40 need to be filled in.	14
7	**Storage Pond - SE Dike- Lower Slope** - Sta 37+50 - Wet area and small scarp on slope needs to be monitored for any signs of movement on a weekly basis.	15
8	**Storage Pond - SE Dike- Lower Slope - Sta 39+00.** Increase the flow measurement frequency at the drain at Sta 39+00 **to monthly** rather than the current 6 month schedule. This information will be useful when modifications to the drains at 37+50 are carried out.	n/a
9	**Separator Dike - Upstream & Downstream Slopes -** Localized erosion rills/gullies need to be repaired to mitigate further erosion.	17 & 18
10	**Potable Water Pond Spillway** - Upstream end of spillway. Approach channel) requires trees and bushes to be cut down and cleared so that flows are not restricted.	22
11	**Detention Pond - Downstream Slope -** Small bushes and trees on slope need to be cut down. Grass on slope needs to be cut.	24

PREVIOUS RECOMMENDATIONS - 1st Quarter Inspection

No.	Description & Action	Location	Status Open/Closed
1	**General Comment & Sta 1+00 to 8+00** - Remove accumulated vegetation from within concrete lined channels - **Pending Completion - See Current Reco. 3 above - See photos 4, 5 & 12).**	Storage Pond	**Open**
2	**Various Locations** -Cracks in concrete lined ditches should be cleaned out and caulked - **Pending completion**	Storage Pond	**Open**
3	**Sta. 75+00, 76+00 & 77+00** - Clean out end of finger drains - **Completed.**	Storage Pond	**Closed**
4	**Multiple Locations on slopes** -Fill in animal burrows - Rodent holes observed in 1st Qtr filled or could not be found during current inspection - **See Current Reco. 6 above - See Photo 14).**	Storage Pond	**Closed**

Plant Wansley

2008 - 3rd Quarter Inspection Summary

PREVIOUS RECOMMENDATIONS - 1st Quarter Inspection - Continued

No.	Description & Action	Location	Status Open/Closed
5	Sta 73+00 & 74+00 - Bare spots on slope need to be re-seeded. - **Some area have become grown over with grass cover satisfactorily. See Current Reco. 2 above. (photos 2, 6 ,16 and 20)**	Storage Pond	**Closed**
6	Sta. 66+00, 70+00 & 72+50 - Repair end of damaged toe drains - **The ends have been fixed.**	Storage Pond	**Closed**
7	**Sta. 62+50 - near toe of slope** - Bare spots on slope need to be reseeded sand mulched. **See Current Reco. 2 above (Photos 2, 6, 16, & 20)**	Storage Pond	**Open**
8	**Sta 62+00** - Clean Silt behind Weir - **Cleaned out**	Storage Pond	**Closed**
9	**Sta 19+00** - Clean out vegetation of outlet of toe drain - **Pending completion**	Storage Pond	**Open**
10	**Sta 37+00** - Undermining at end of concrete channel - **Pending completion**	Storage Pond	**Open**
11	**Separator Dike** - Runoff erosion at crest of upstream slope. - **Pending completion - See Current Rec. 9 - See photos 17 & 18)**	Separator Dike	**Open**
12	**Localized bare spots on slope** to be re-seeded (or covered with small rip-rap). **Pending completion (See Current Reco. 2 above)**	Potable Water Pond	**Open**
13	**Upstream Toe of Slope-** Vegetation needs to be cut down - **Pending completion - See Current Reco. 5 above - See photos 5 &10)**	Potable Water Pond	**Open**

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2008 - 3rd Quarter Inspection Summary

OBSERVATIONS FOR 3rd QUARTER INSPECTION

I - Storage Pond - North Dike - (Road to Recreational Area)		**Storage Pond Elev. 783.6'**
	Observations - Comments	**Photograph No.**
1. Upstream Slope		
a. Condition	*Grass covered - Overall condition is good. No evidence of instability.*	*n/a*
b. Erosion/Sloughing	*Yes ( ) No (X) - No beaching observed.*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced - looks good. No distress or potholes in road surface observed. Warning sign needs to be re-mounted onto pole.*	**1**
3. Downstream Slope		
a. Condition	*Grass covered - Overall condition is good. No evidence of instability. Localized bare spots on slope where re-seeding/mulching required to prevent further erosion.*	**2**
b. Visible Seepage or Wet Spots	*Yes ( ) No (X) - No seepage or wet spots observed on slope.*	*n/a*
c. Erosion or Sloughing	*Yes ( ) No (X)*	*n/a*

II - Storage Pond - East Dike (North Dike to Spillway)		
	Observations - Comments	**Photograph No.**
1. Upstream Slope		
a. Condition	*Rip-rap on upstream face looks satisfactory and no dam safety issues observed. - No beaching observed. Rip Rap varies in size.*	*n/a*
b. Erosion/Sloughing	*Yes ( ) No (X)*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced - looks good. No distress or potholes in road surface observed.*	*n/a*
3. Downstream Slope		
a. Condition	*Grass covered - Overall - looks good. Grass cutting in progress. Localized bare spots need to be re-seeded & mulched (photo 6 - Sta 11+20)*	**3 & 6**
b. Visible Seepage or Wet Spots	*Yes ( ) No (X) - No seepage or wet spots observed on slope.*	*n/a*
c. Erosion or Sloughing	*Yes ( ) No (X)*	*n/a*
d. Concrete-Lined Drainage Ditch	*Concrete in good condition. Localized vegetation growth and debris needs to be removed from ditches so that flow isn't restricted from approx. Sta.1+60 to 3+50 and Sta. 5+00 to 23+50.*	**4 & 5**
e. Emergency Aggregate Stockpiles	*Yes (X) No ( )*	**7**

III - Storage Pond - Spillway		
	Observations - Comments	**Photograph No.**
1. Spillway Abutment/Deck		
a. Condition	*Concrete condition is satisfactory. Per Ga SDP letter 4-3-08, crack in left abutment needs to be repaired, just downstream of the gate needs to be fixed. SCG Hydro Services to review during next site inspection.*	*n/a*
2. Spillway Floor		
a. Condition	*Concrete condition is satisfactory*	*n/a*
3. Spillway Walls		
a. Condition	*Concrete condition is satisfactory*	*n/a*
4. Downstream of Spillway (Channel)		
a. Condition	*Vegetation downstream of spillway needs to be cleared to prevent blockage/restriction of flow capacity of channel*	**8**

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2008 - 3rd Quarter Inspection Summary

IV - Storage Pond - Southeast Dike (Spillway to Separator Dike)

	Observations - Comments	Photograph No.
1. Upstream Slope		
a. Condition	*Rip-rap (size varies) on upstream slope looks acceptable. No instability or beaching evident. (SCG to assess condition per GA EPD-SDP letter 4/3/08). Bushes and trees at toe of slope need to be cut down to prevent potential instability issues at toe of slope (see Photo 10)*	9, 10
b. Erosion or Sloughing	*Yes ( ) No (X)*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced/Railway tracks - No distress or potholes observed in road surface .*	*n/a*
3. Downstream Slope		
3a - Upper Slope		
a. Condition	*Grass covered - looks satisfactory. No evidence of instability observed.*	11
b. Visible Seepage or Wet Spots	*Yes ( ) No (X) - No seepage or wet spots observed on slope.*	*n/a*
c. Erosion or Sloughing	*Yes ( ) No (X) - No evidence of instability.*	*n/a*
3b - Mid-Slope Road & Drainage Ditch		
a. Road Condition	*Gravel surfaced - looks good. No distress or potholes in road surface observed.*	*n/a*
b. Concrete-Lined Drainage Ditch	*Concrete in good condition. Vegetation in ditch/around drain at Sta. 73+00 needs to be removed so that flow isn't restricted. Localized areas where grass growing and silt has built up on bottom of drainage ditch. Removal of vegetation and silt required*	12
3c - Middle Slope		
a. Condition	*Grass covered. Satisfactory. No visual evidence of instability. Previous rodent hole filled in.*	13
b. Visible Seepage or Wet Spots	*Yes ( ) No (X)*	*n/a*
c. Erosion or Sloughing	*Yes ( ) No (X)*	*n/a*
3d. Lower Road & Drainage Ditch		
a. Road Condition	*Gravel surfaced - looks good. No distress or potholes in road surface observed.*	*n/a*
b. Concrete-Lined Drainage Ditch	*Concrete condition is acceptable*	*n/a*
3e - Lower Slope		
a. Condition	*Grass covered - Overall - looks good. Grass requires cutting but this did not affect satisfactory visual assessment. Several rodent holes at Stations 67+60 (near headwall) and 68+40 - see photo 14.*	14
b. Visible Seepage or Wet Spots	*Yes (X) No ( ) - Wet spot observed at ground surface on lower slope at Sta 37+50. A localized area where a minor slough was observed. Plant personnel were advised of observation and they will routinely monitor condition.*	15
c. Erosion or Sloughing	*Yes ( ) No (X) - No evidence of instability. Localized bare spots in grass cover adjacent to drainage ditch and other localized other areas.*	16
d. Concrete Drainage Ditch	*Concrete condition is good. Vegetation in ditch at Sta. 73+00 needs to be removed so that flow ditch is not restricted.*	*n/a*
e. Emergency Aggregate Stockpiles	*Yes (X) No ( )*	*n/a*
3f - Lower Concrete-Lined Drainage Ditch		
a. Condition	*Condition is acceptable*	*n/a*

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2008 - 3rd Quarter Inspection Summary

V - Storage Pond/Ash Pond - Separator Dike		**Pond Elev. 783.6'**
	Observations- Comments	**Photograph No.**
1. Upstream Slope (Storage Pond)		
a. Condition	*Rip-Rap - Looks satisfactory. Size of stone on surface of slope varies. No evidence of instability.*	*n/a*
b. Erosion or Sloughing	*Yes (X) No ( ) - Localized, shallow erosion rills/gullies need to be repaired (filled in with stone/rip-rap).*	17
2. Crest		
a. Condition	*Gravel surfaced and in good condition. No distress or potholes observed on road surface. Clean up of mud on road from construction vehicles required.*	*n/a*
3. Downstream Slope (Ash Pond)		
3a. North End		
a. Condition	*Rip-Rap - Looks satisfactory. Size of stone on surface of slope varies. No evidence of instability*	*n/a*
b. Erosion or Sloughing	*Yes (X) No ( ) - Localized, shallow erosion rills/gullies need to be repaired (filled in with stone/rip-rap).*	18
3b. South End - (No longer applicable due to Gypsum Pond/berm construction)		
a. Condition	*N/A - Recently constructed gypsum storage pond dike now abuts the south end of the separator dike.*	19

VI- Potable Water Pond		**Potable Water Pond Elev. 806'**
	Observations - Comments	**Photograph No.**
1. Upstream Dike Slope (Potable Water)		
a. Condition	*Rip-rap on upstream face looks good. Small trees and bushes at toe need to be cut down to maintain integrity of embankment toe.*	20
b. Erosion or Sloughing	*Yes (X) No ( ) - Localized, minor surface erosion. Re-seeding and mulching to reestablish vegetative growth.*	21
c. Concrete Drainage Ditch	*Concrete in good condition. No obstructions in channel observed.*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced - looks good. No distress or potholes in road surface observed.*	*n/a*
3. Downstream Dike Slope (Storage Pond)		
a. Condition	*Grass covered - Overall - looks good. Localized, minor surface erosion. Re-seeding and mulching to reestablish vegetative growth.*	*n/a*
b. Visible Seepage or Wet Spots	*Yes ( ) No (X) - No seepage or wet spots observed on slope.*	*n/a*
c. Erosion or Sloughing	*Yes (X) No ( ) - Localized, minor surface erosion. Re-seeding and mulching to reestablish vegetative growth.*	*n/a*
d. Concrete Drainage Ditch	*Yes ( ) No (X) - Condition of concrete satisfactory. and no further erosion noticed & are stable at this time.*	*n/a*
4. Spillway Approach Channel		
a. Condition - General	*Small bushes/trees to be removed to prevent restriction of flow in channel.*	22
b. Condition - Rip-Rap	*Good. No evidence of instability.*	*n/a*
c. Condition - Concrete	*Good.*	*n/a*
5. Spillway Structure - Abutments/Deck		
a. Condition	*Concrete in good condition.*	*n/a*
6 . Spillway Structure - Floor		
a. Condition	*Concrete in good condition*	*n/a*
7 . Spillway Structure - Walls		
a. Condition	*Concrete - Good*	*n/a*

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2008 - 3rd Quarter Inspection Summary

VII - Detention Pond

	Observations- Comments	Photograph No.
1. Upstream Dike Slope		
a. Condition	*Rip-rap in good condition. Pond being dredged during visit. Pond level below normal level.*	23
b. Erosion or Sloughing	*Yes ( ) No (X) - Slope looks satisfactory, no visible instability observed*	*n/a*
2. Crest		
a. Condition	*Gravel surfaced and in good condition. No distress or potholes observed.*	*n/a*
3. Downstream Dike Slope		
a. Condition	*Well grass-covered. Needs cutting but this did not prevent good visual examination. Small bushes/trees need to be removed. No visible evidence or instability observed*	24
b. Visible Seepage or Wet Spots	*Yes ( ) No (X)*	*n/a*
c. Erosion or Sloughing	*Yes ( ) No (X)*	*n/a*
4. Concrete Spillway Channel		
a. Concrete Condition	*Concrete is in good condition*	*n/a*
5.Spillway Outlet Channel		
a. Condition	*Rip-rap at outfall and outlet channel is in good condition. No issues observed.*	25

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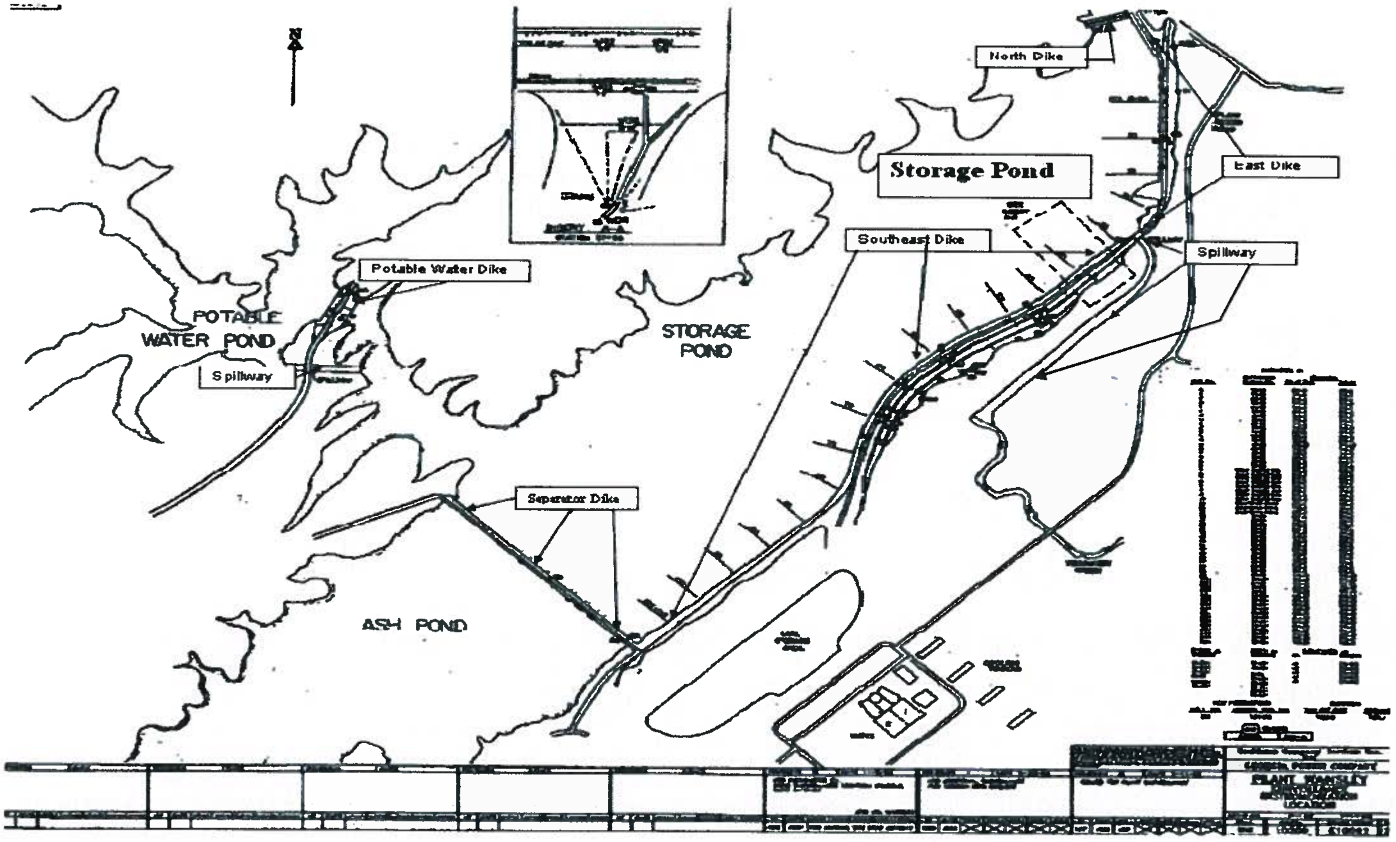
Hugh H. Armitage - Sr. Engineer
SCG - Hydro Services

Location Plan
Storage Pond and Potable Water Pond



Plant Wansley

2008 - 3rd Quarter Inspection Photographs - July 22, 2008

(See accompanying report attached)

Photo No.	Description	
1	Storage Pond - N Dike - Near Rec. Center Entrance - Warning sign needs to be re-mounted.	
2	Storage Pond - N. Dike -Localized bare spots in grass cover. Re-establish grass to prevent erosion.	
3	Storage Pond - E. Dike - Downstream slope in good condition	
4	Storage Pond - E. Dike - D/S slope - Toe Ditch - Localized vegetation and debris needs removal so that flow isn't restricted. (Sta.1+60 to 3+50).	

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2008 - 3rd Quarter Inspection Photographs - July 22, 2008

(See accompanying report attached)

Photo No.	Description	
5	Storage Pond - East Dike - Concrete lined toe ditches - Vegetation/Debris needs to be cleaned out of ditch (Approx Sta. 5+00 to 23+50)	
6	'Storage Pond - East Dike - Bare spots on slope to be re-seeded to prevent further erosion. Sta 11+20	
7	Storage Pond - East Dike - Emergency Stockpiles of coarse and fine aggregate	
8	Storage Pond -Spillway - Vegetation downstream of end of spillway needs to be cleared.	

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2008 - 3rd Quarter Inspection Photographs - July 22, 2008

(See accompanying report attached)

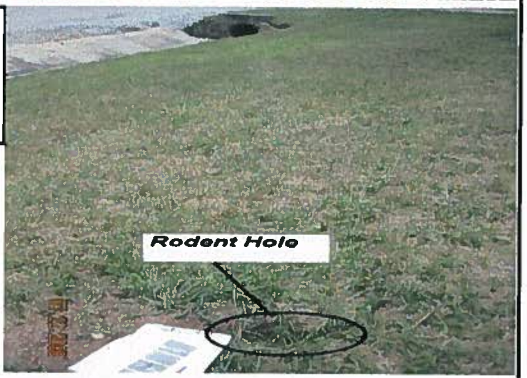
Photo No.	Description	
9	Storage Pond - Southeast Dike - Upstream Slope - Rip-rap varies in size from gravel size to 18"-24", occasional 24" to 36" nominal size. Per GA Safe Dams letter of 4-3-08, this will be addressed by SCG Hydro Services.	
10	Storage Pond - Southeast Dike - South end near Separator Dike. Bushes and trees need to be removed at toe of slope.	
11	Storage Pond - Southeast Dike - Downstream (D/S) - Upper Slope looks satisfactory	
12	Storage Pond - Southeast Dike- D/S -Silt and debris removal required at outlet of Drain at Sta. 73+00 and 74+00	

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2008 - 3rd Quarter Inspection Photographs - July 22, 2008

(See accompanying report attached)

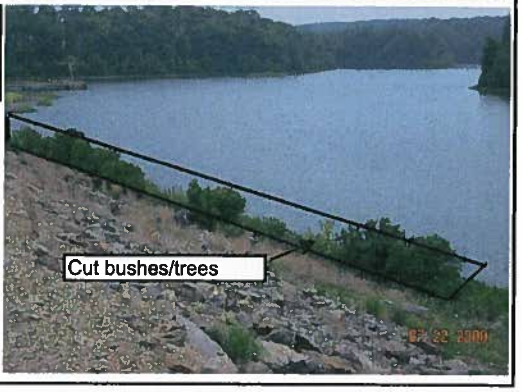
Photo No.	Description	
13	Storage Pond - Southeast Dike D/S - Previous rodent hole has been filled in.	
14	Storage Pond - Southeast Dike D/S - Rodent Holes on lower slope at approx. Sta 67+60 (near headwall) and Sta 68+40 need to be filled	
15	Storage Pond - Southeast Dike D/S - Sta. 37+50 - Ground surface was damp/wet. A localized area was observed where minor scarp indicating surface movement may have occurred. This area to be monitored routinely by plant for evident of on-going movement.	
16	Storage Pond - Southeast Dike D/S - Localized bare spots on lower slope that need to be reseeded/mulched to prevent further erosion.	

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2008 - 3rd Quarter Inspection Photographs - July 22, 2008

(See accompanying report attached)

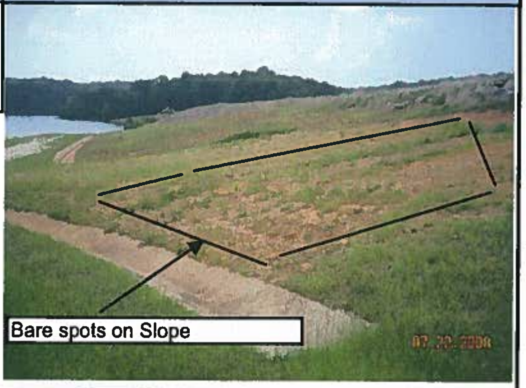
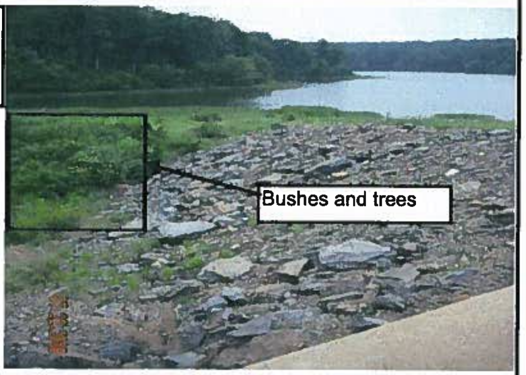
Photo No.	Description	
17	Storage/Ash Pond - Separator Dike - Upstream Slope. No evidence of instabilty or distress. Minor erosion rills/gullies need to be filled in.	
18	Storage/Ash Pond - Separator Dike - Downstream Slope - Localized erosion rills/gullies need to be repaired to prevent further erosion.	
19	Storage/Ash Pond - Separator Dike - South End. Gypsum Storage pond berm on right side of photo.	
20	Potable Water Pond- Upstream Slope. Small trees/bushes at toe need to be removed.	

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2008 - 3rd Quarter Inspection Photographs - July 22, 2008

(See accompanying report attached)

Photo No.	Description	
21	Potable Water Pond- Upstream Slope. Localized bare spots on slope. Re-establish vegetation to prevent further erosion	
22	Potable Water Pond-Spillway Approach Channel- Remove small trees/bushed within channel.	
23	Detention Pond - Upstream Slope - Rip-rap in good condition, no visible evidence of instabilty.	
24	Detention Pond - Downstream Slope - Good grass cover, but needs to be cut. Small trees/bushes on slope need to be cut down.	

CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley

2008 - 3rd Quarter Inspection Photographs - July 22, 2008

(See accompanying report attached)

Photo No.	Description	
25	Detention Pond - Outfall Channel - Rip-rap and channel are in good condition. No erosion or instability observed.	

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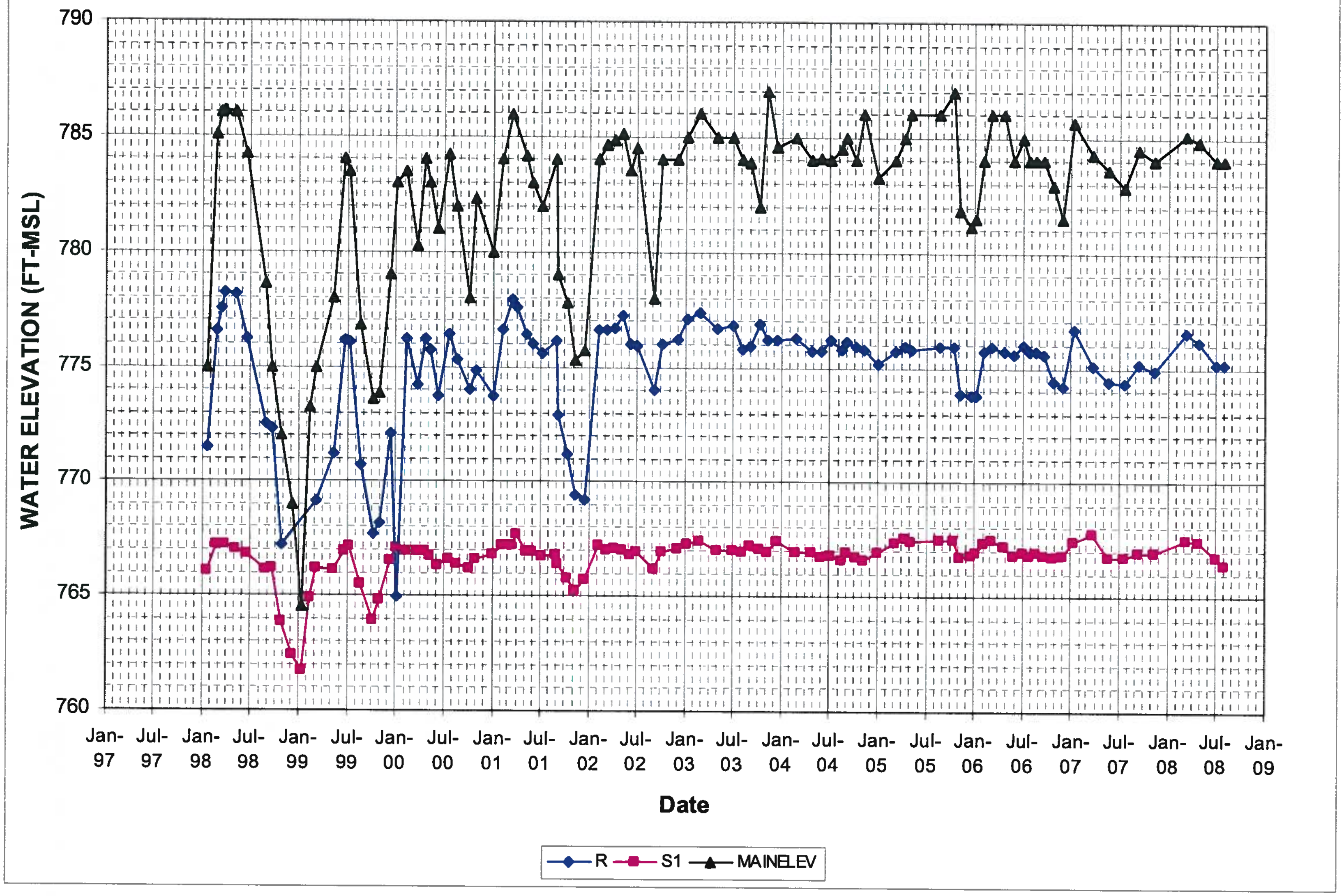
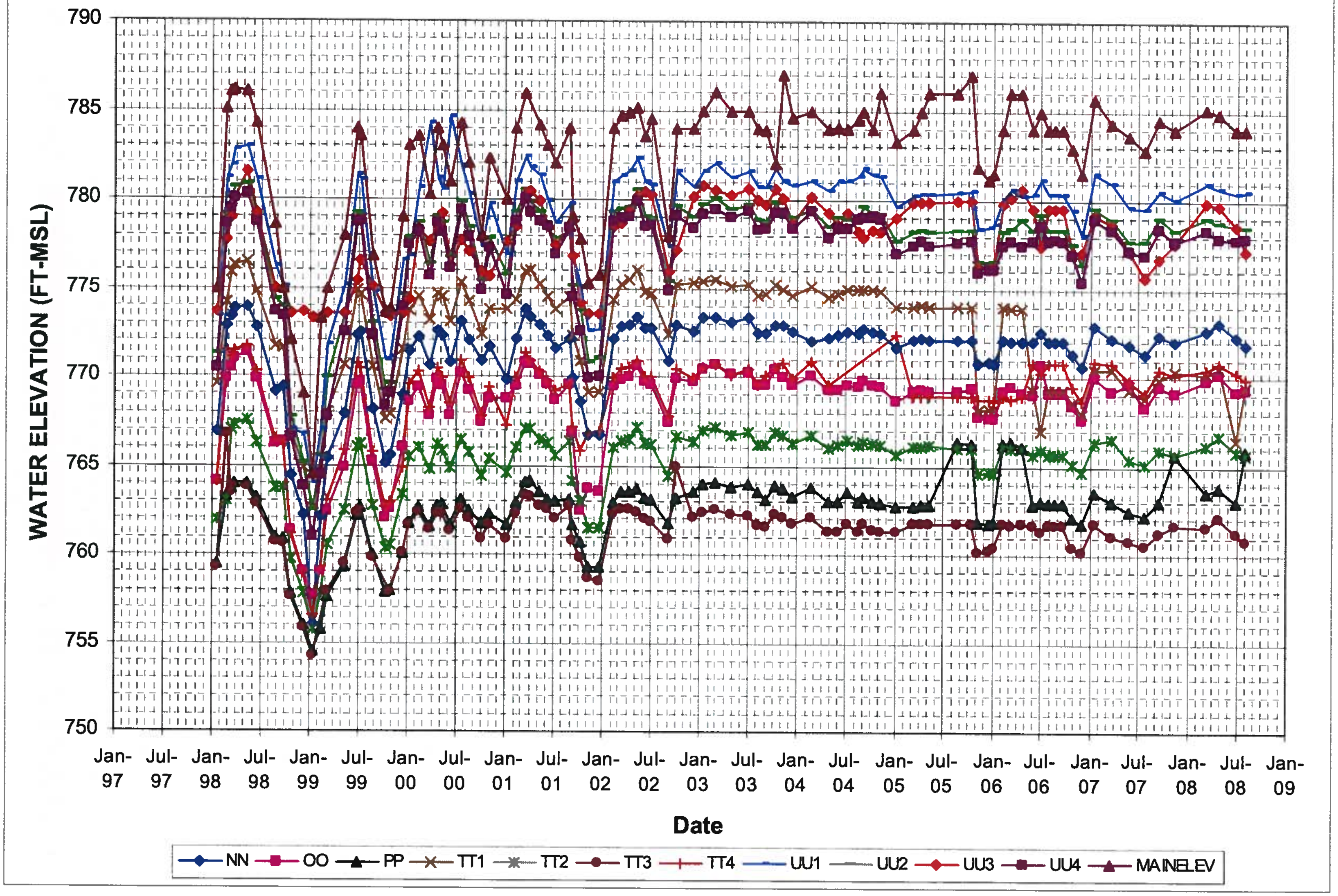
INFORMATION

Wansley Storage Pond Pz's at Sta. 20+00



CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley Pz's at Sta. 37+50-1



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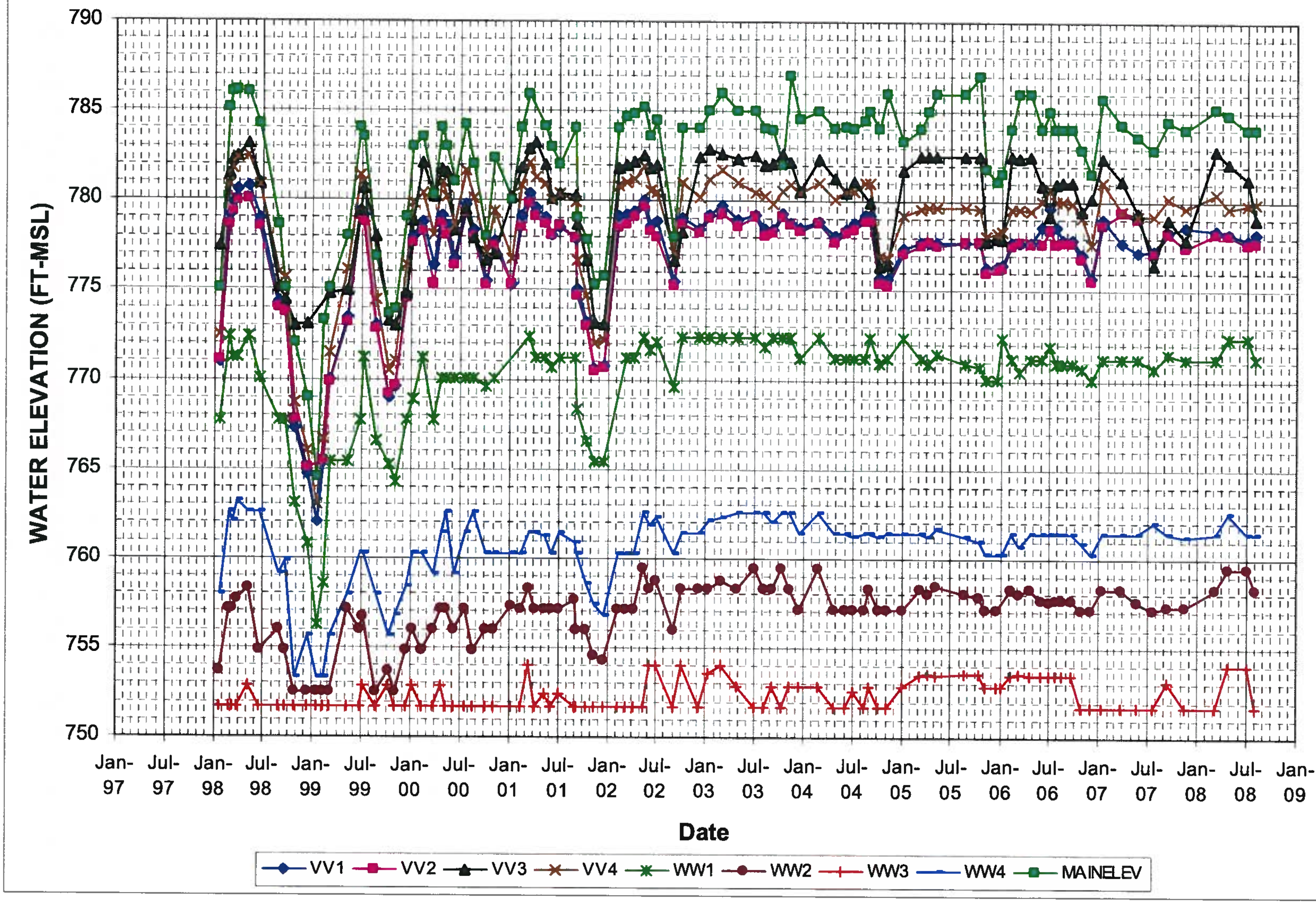
Plant Wansley Pz's at Sta. 37+50-2



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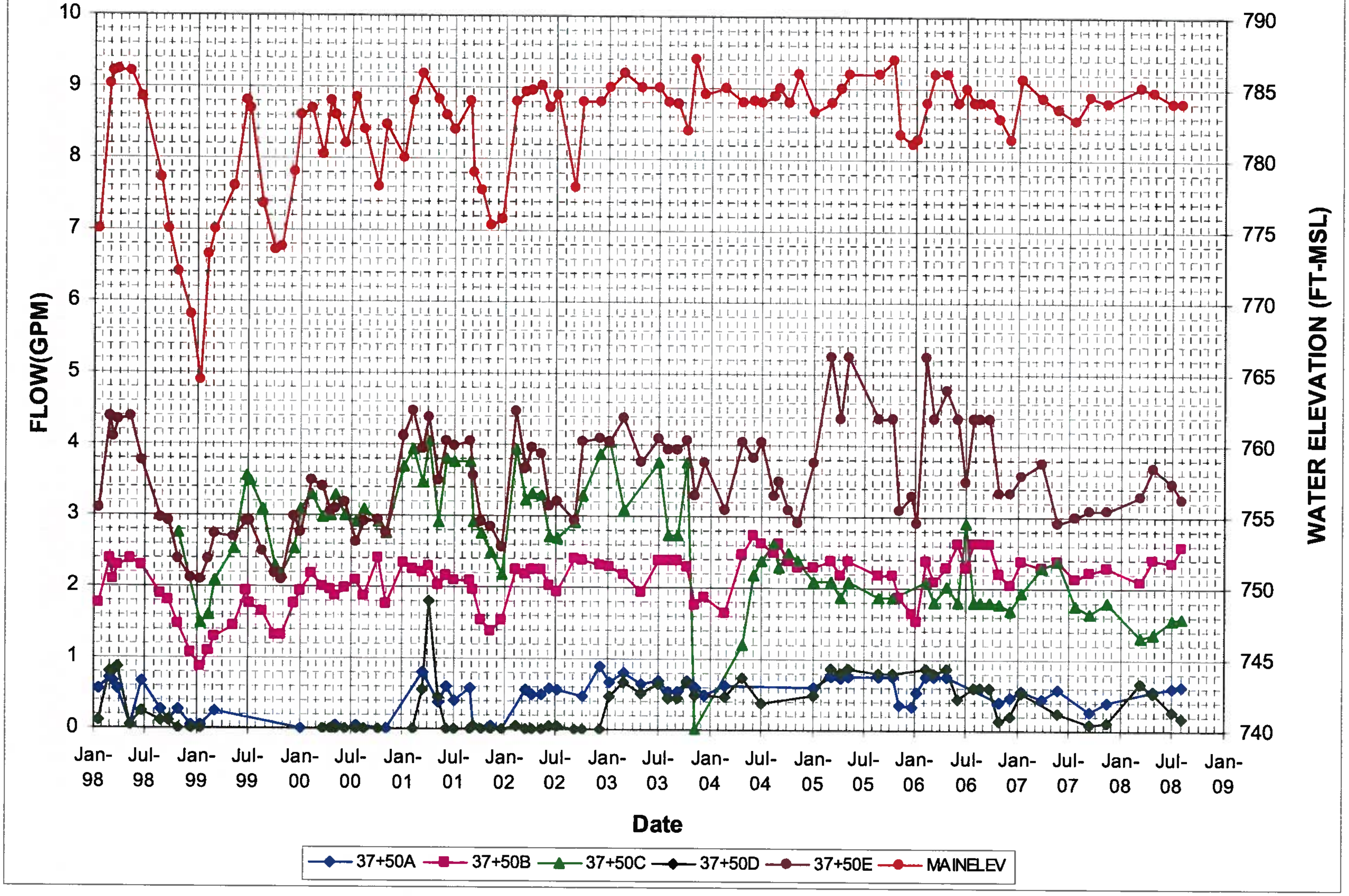
Plant Wansley Pipe Flows



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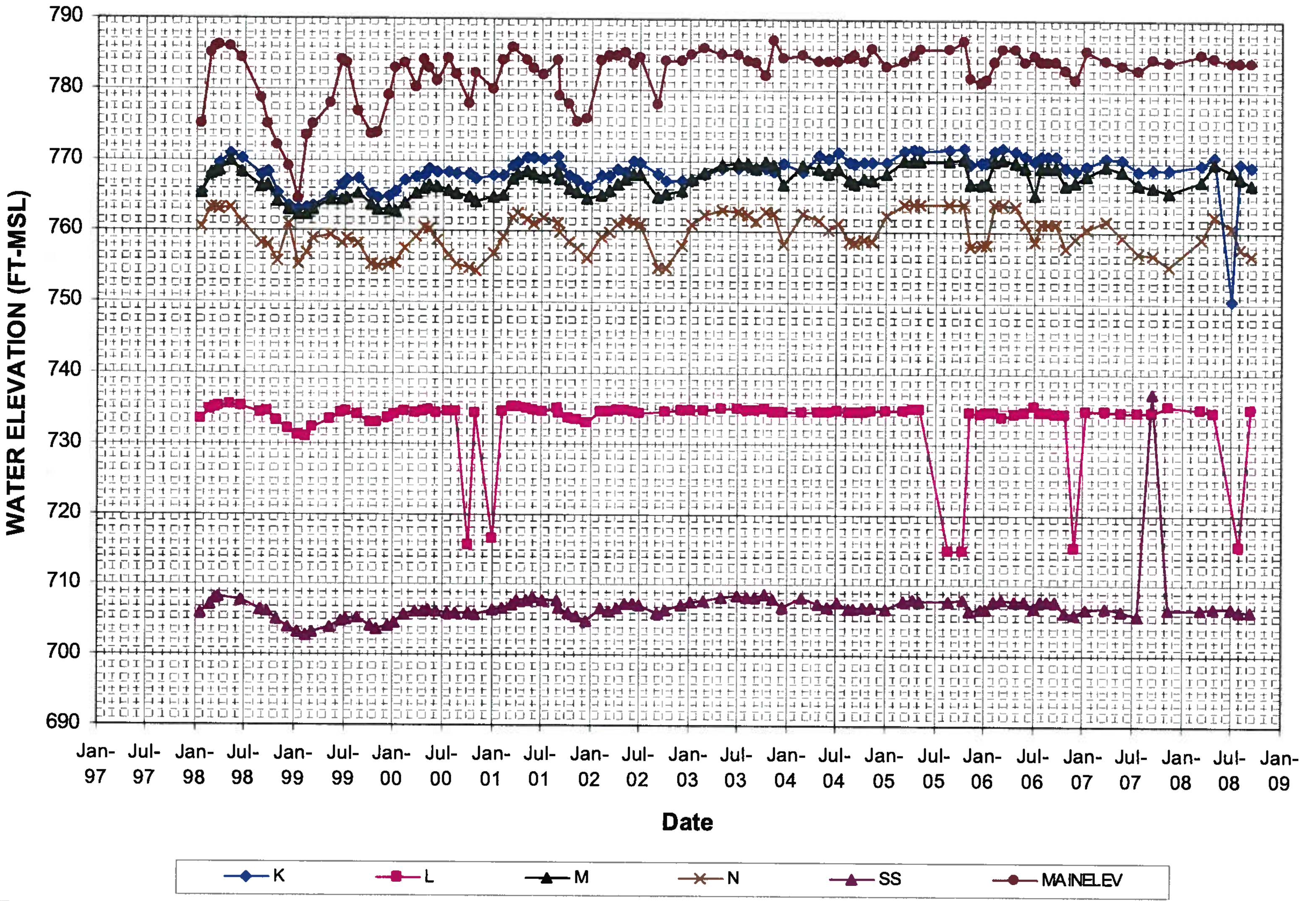
Wansley Storage Pond Pz's at Sta. 47+50



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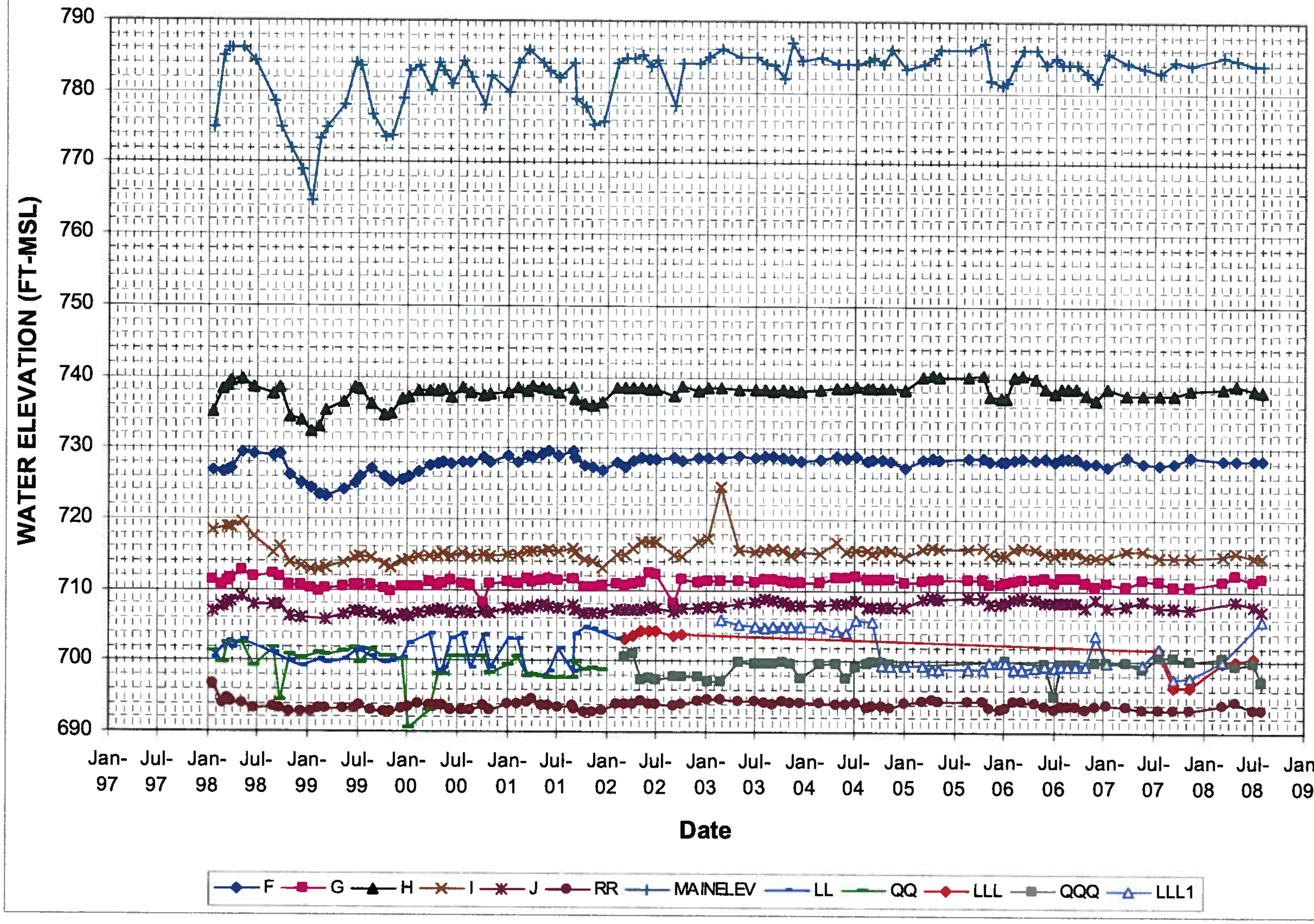
Wansley Storage Pond Pz's at Sta. 58+00



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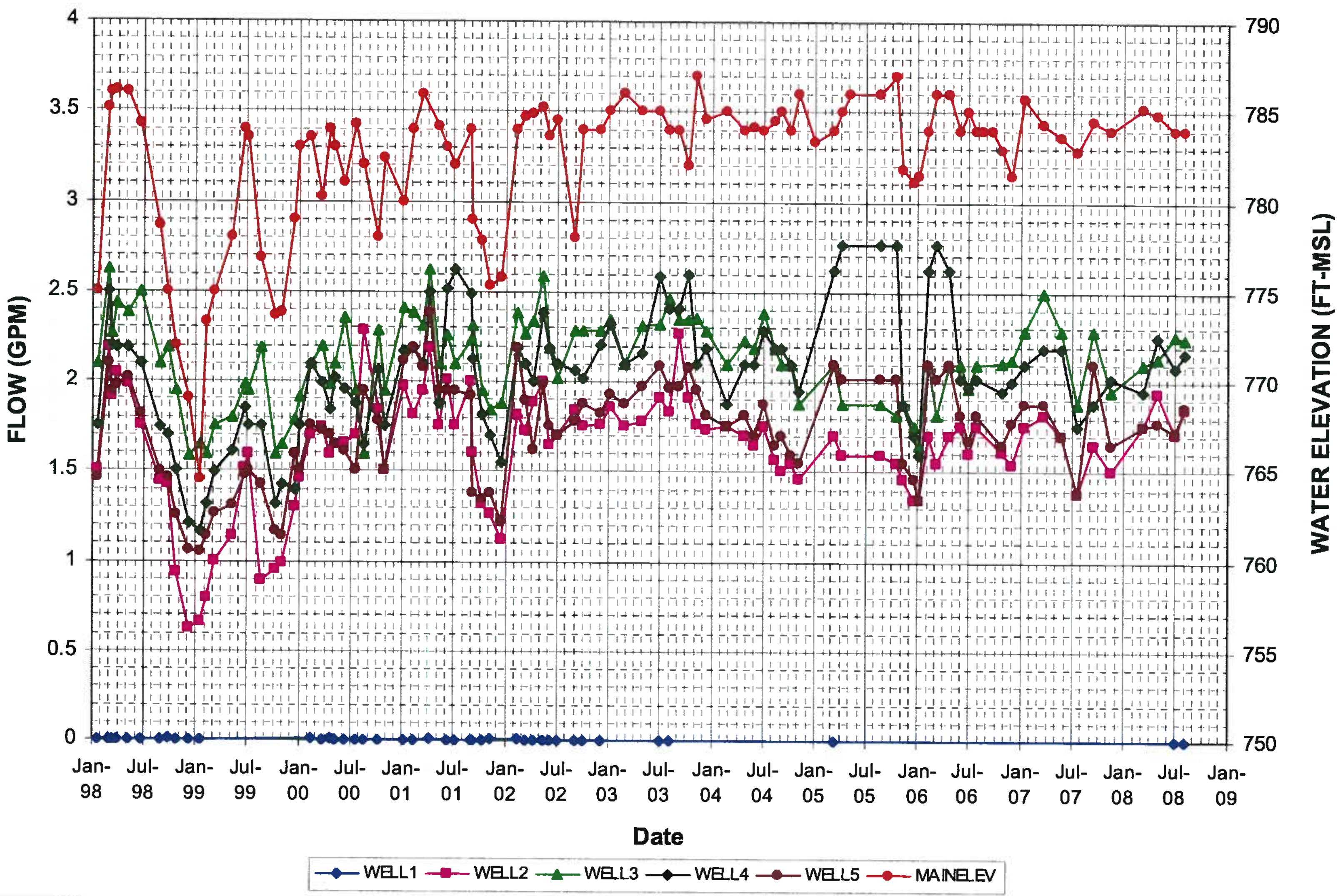
Plant Wansley Well Flows



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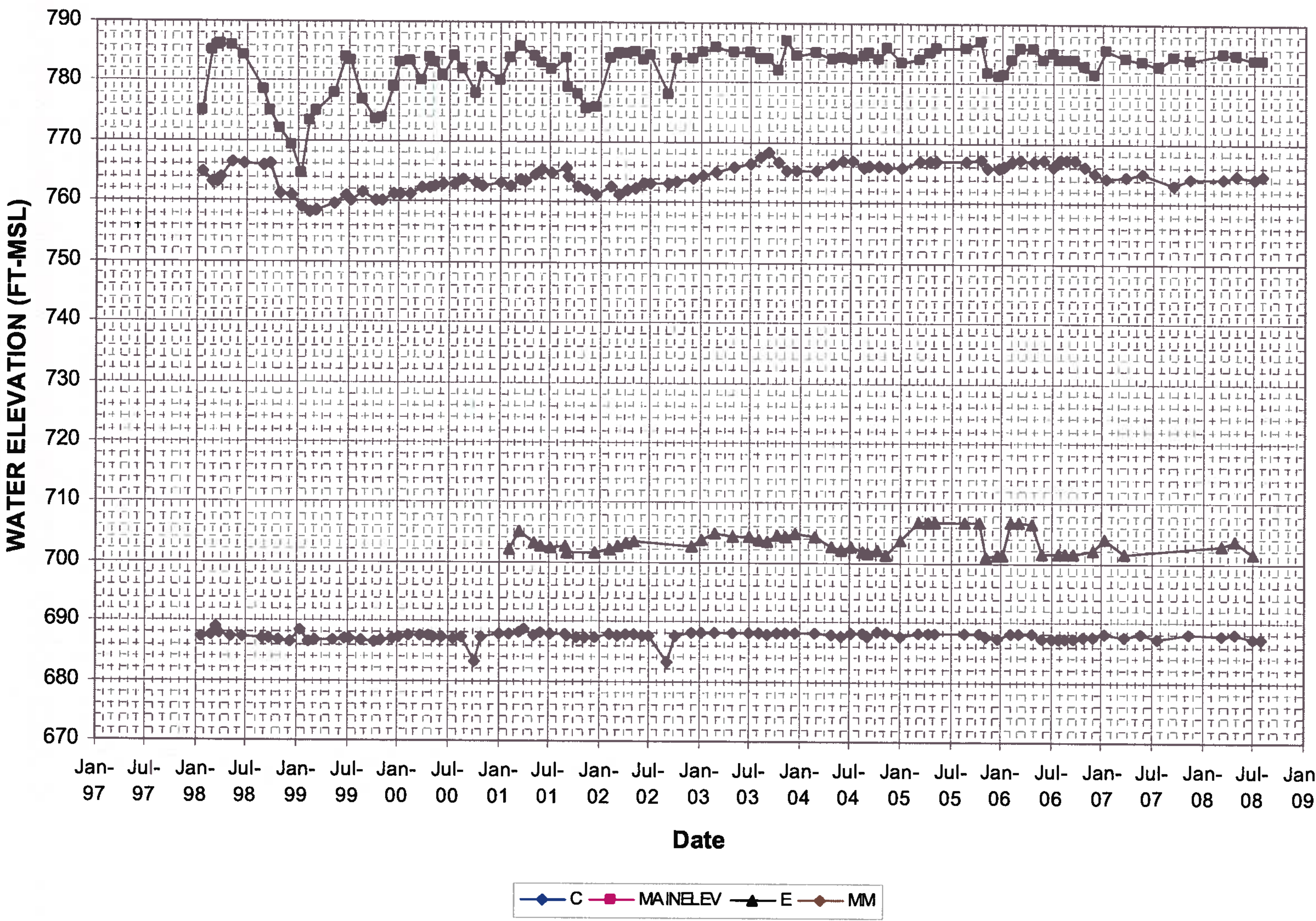
Wansley Storage Pond Pz's at Sta. 65+00



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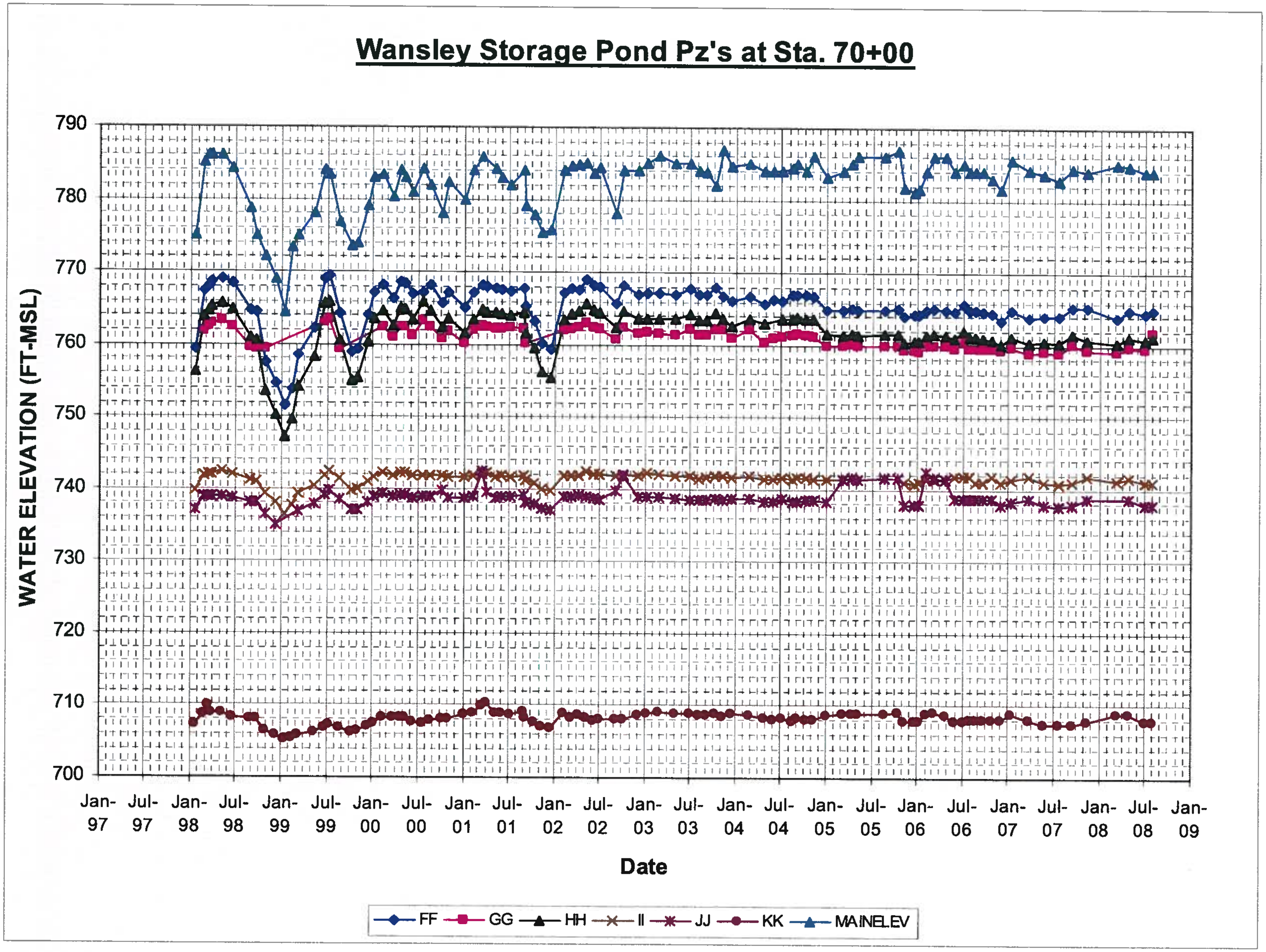

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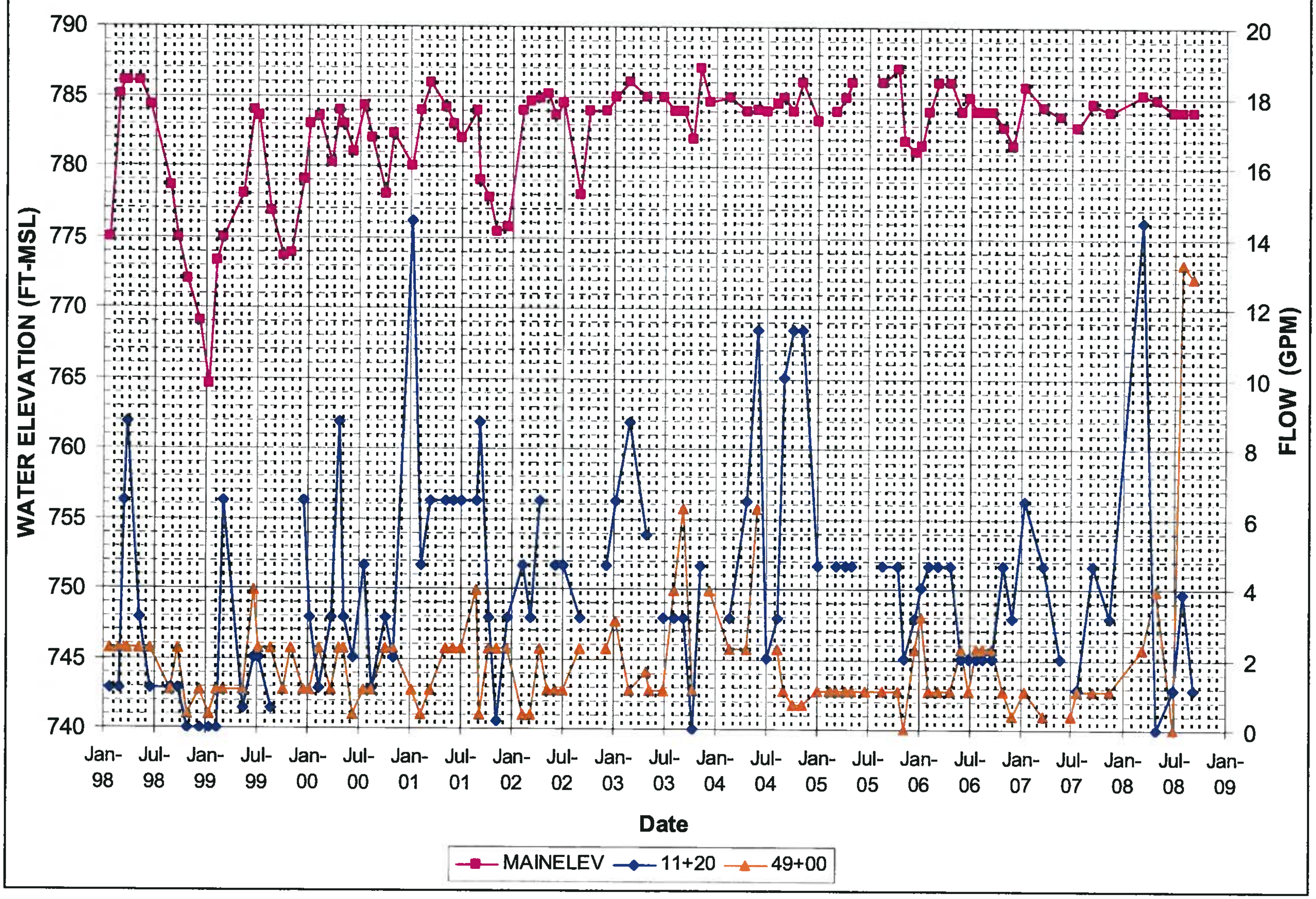
Plant Wansley Weir and Pipe Flows



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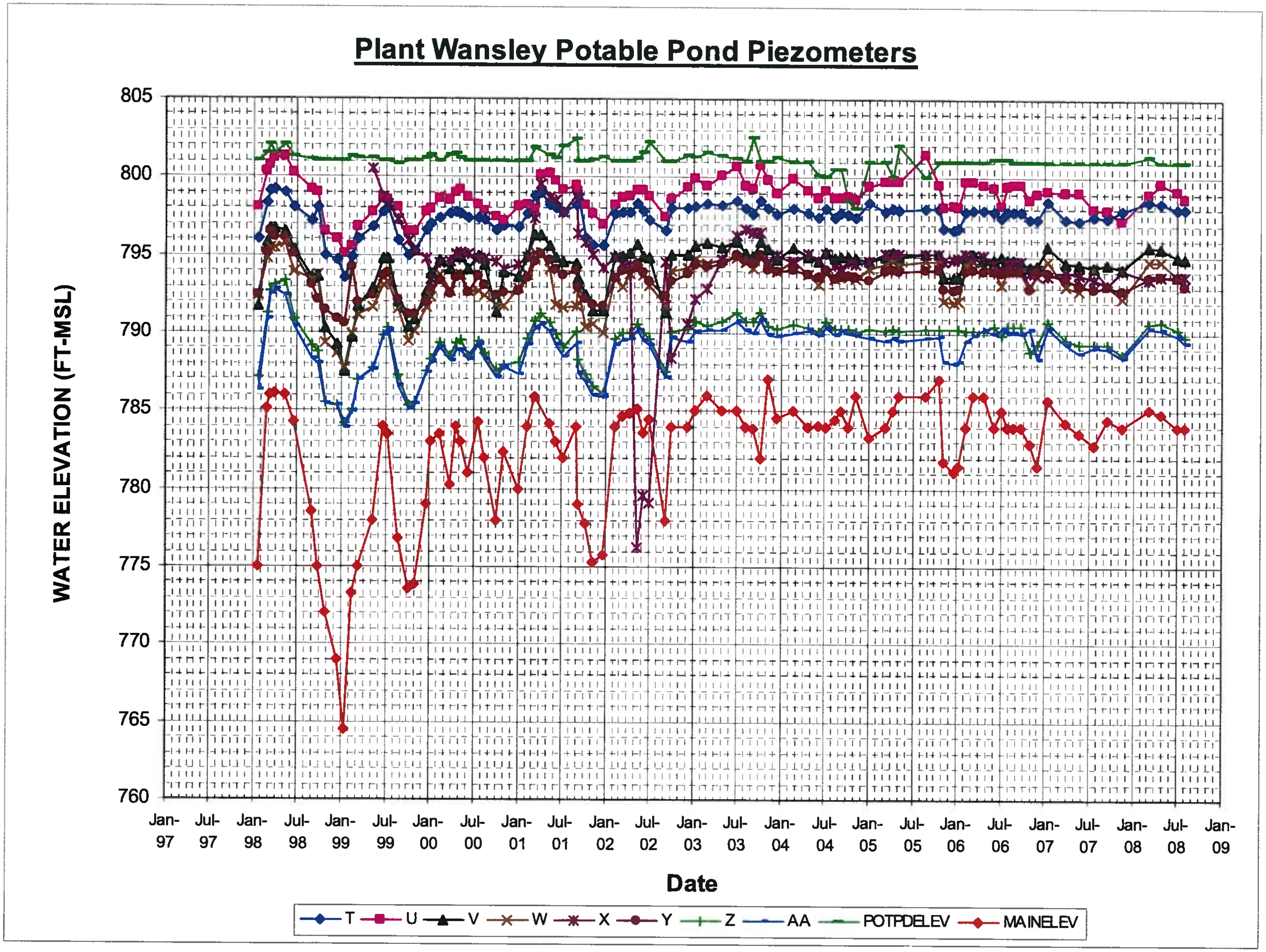

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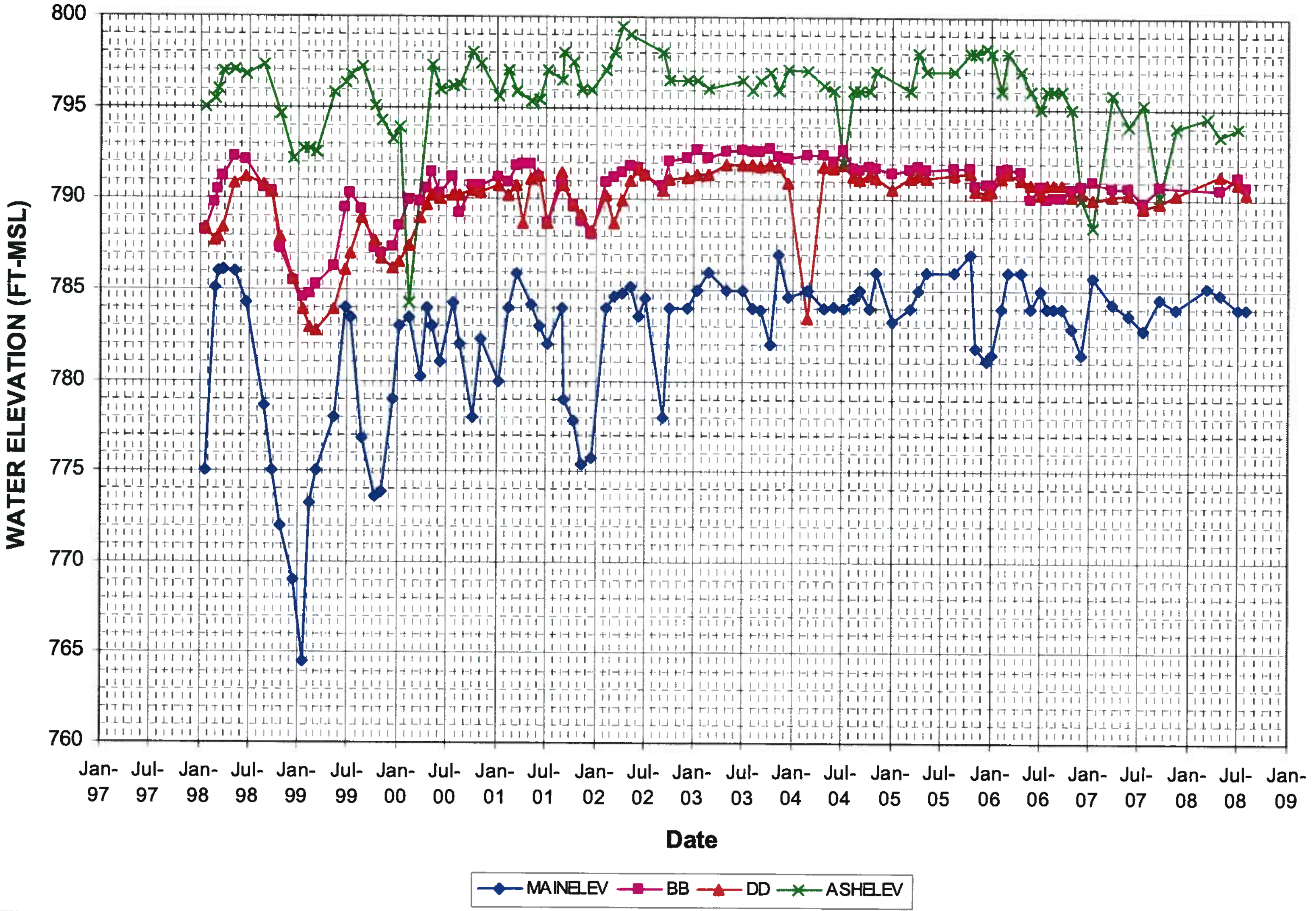
Wansley Separation Dike Pz's BB and DD



CONFIDENTIAL BUSINESS INFORMATION

Southern Company Generation
Bin 10193
241 Ralph McGill Boulevard NE
Atlanta, Georgia 30308-3374

Tel 404.506.7033

SOUTHERN COMPANY
Energy to Serve Your World™

May 28, 2008

Plant Wansley
Dam Safety Surveillance
Quarterly Report
REA No. WN-08900

Mr. J. P. Heilbron
Plant Manager
Georgia Power Co.
Plant Wansley

Dear Mr. Heilbron:

Attached is the first 2008 quarterly report on Dam Safety Surveillance for Plant Wansley, prepared by the SCG Hydro Services Group. The report includes observations of site conditions made during our inspection, plots of surveillance data, and our interpretation of this data. The inspection of the Storage Pond Main Dike was carried out on March 10, 2008 in conjunction with the Georgia Department of Natural Resources, Environmental Protection Division, Safe Dams Program (SDP) annual inspection.

No major dam safety issues that would immediately impact the safety of the structures were discovered during this inspection. However, there are a number of maintenance items that should be addressed soon to assure the continued safety and performance of the structures. These items are identified in the report.

Should you have any questions, please do not hesitate to contact me at extension 8-506-7033.

Sincerely,

Joel Galt

Joel Galt
Hydro Services Supervisor

WAN-API 054

Attachments

CONFIDENTIAL BUSINESS INFORMATION

/hha

xc: **Georgia Power Company**

T. E. Wilson	(w/ attachment)
N. I. Dean	(w/ attachment)

Southern Company Services

E. B. Allison	(w/ attachment)
J. H. Crisler	(w/ attachment)
F. J. Pryor	(w/ attachment)

Hydro Service Wansley Notebook
Master File: WN-08900

T:\Quarterly Reports\Fossil Plants\2008\Wansley\08 - Qtr 1 - Wansley Surveillance Report Transmittal.doc

CONFIDENTIAL BUSINESS INFORMATION

INSTRUMENTATION

Following are observations from the review of the dam safety instrumentation at Plant Wansley.

Storage Pond:

Sta. 20+00: Piezometers are within their historic range. Both seem to track the pond level.

Sta 37+50: All of these piezometers appear to be in their historic range. All seem to track pond level.

Sta 37+50 Pipe Flows: These flows appear to be in their historic ranges. The flow at 37+50C seems to be in a recent declining phase, and is at its lowest flow rate in the past four years. These flow rates will continue to be monitored to assess if any trends develop.

Sta 47+50: The relatively high reading measured in September 2007 on SS, appears to have been an anomaly since subsequent readings up to April 2008 have been within the historic range of past measurements. The other piezometers are within their historic range of measurement.

Sta 58+00: LLL1 and LLL have increased slightly since the 3rd quarter 2007 report and are generally within their historic range as is the case with the other piezometers.

Relief Wells: The relief wells appear to be discharging in their historic range. The flow appears to vary with the pond elevation with the exception of well 1.

Sta 65+00: Measurement of the piezometric level at E has resumed since the 3rd Quarter report. C, E and M are within their historic ranges.

Sta 70+00: All of these piezometers are reading in their historic ranges.

Weir and Pipe Flows: With the recent exception of the measurements weir at 49+00 and 11+20 (March/April 2008), both weirs appeared to be flowing in their historic ranges with the exception of the past 2 months During the inspection it was noted that the weirs at Sta. 62+00 and 57+00 were silted up. These weirs should be cleaned out and allowed to stabilize before each reading. Reading them when they are silted up produces bad data.

Separation Dike:
These piezometers are registering in their historic ranges. They exhibit a muted relationship with the storage pond elevation but little relationship to the ash pond elevation.

Potable Water Pond Dike:
These piezometers were registering in their historic ranges.

INSPECTIONS

On March 10, 2008, Joel Galt and Hugh Armitage of Southern Company Generation (SCG) Hydro Services conducted a dam safety inspection of the dikes at Plant Wansley. The inspection of the Storage Pond Main Dike was carried out in conjunction with the Georgia Department of Natural Resources, Environmental Protection Division, Safe Dams Program (SDP) annual inspection. Mr. Terry Wilson of Georgia Power Company accompanied SCG and SDP personnel on the inspection of the Storage Pond Main Dike. The weather was clear and warm. Approximately 2 to 3 inches of rain had fallen in the area the week preceding the inspection, but conditions were generally dry on the day of the inspection.

No major dam safety issues that would immediately impact the safety of the structures were discovered during this inspection. There are a number of maintenance items that should be addressed soon to assure the continued safety and performance of the structures. If not addressed in a timely manner, these things can become more costly to fix. The actions suggested are in **bold text**. These issues can be addressed as time and resources permit, but should be addressed within the next three months.

The site personnel that have the best opportunity to thoroughly inspect the dikes are the mowing crew. During the next mowing of the dikes, it would be a good idea to have the mowing crew flag any ant mounds and animal burrows that they come across. Then the mounds could be poisoned and the burrows filled in. However, safety considerations should be foremost.

The upstream slopes of the main dike, the east dike and separator dikes were examined from a boat. The downstream slopes and the remainder of the upstream slopes at the other ponds were inspected by traversing along the downstream slope and/or making observations from the crest of the dikes.

During this inspection at the Main Storage Dam, we made use of a GPS unit to capture the locations, using waypoints, of items described in the text. The waypoints are indicated by red flags and numbers on an aerial photo of the subject structure. The paragraph describing this location begins with the waypoint number. In some cases, these flags and numbers have tended to overlap, obscuring some of the numbers. Some waypoints were taken for reference, so that all flags on the aerial photos do not necessarily indicate the location of an item described in the text. With experience, we hope that the method can be refined and will result in a report that is more valuable to the user.

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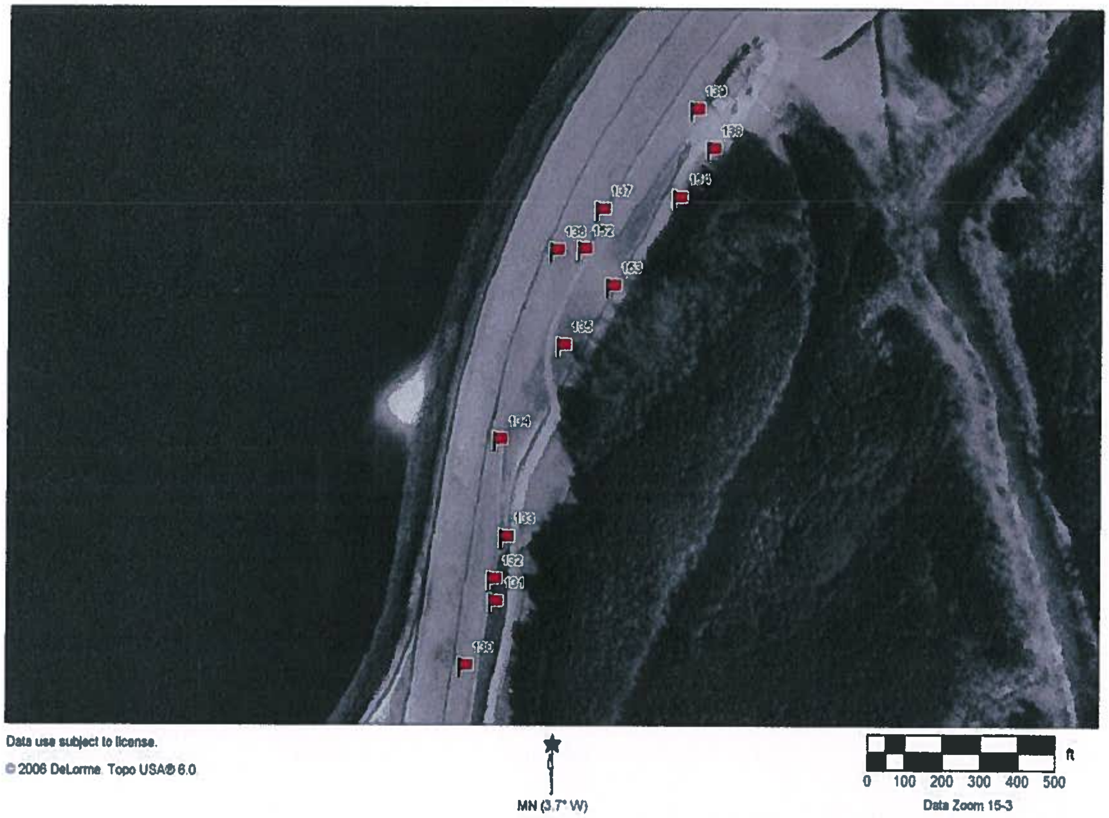
INFORMATION

Storage Pond - Main Dike

The text for this segment is arranged as if the reader is moving from southwest to northeast along the main storage dike and then to the spillway and then back along the toe of the slope towards the southwest.

LOWER MAIN DIKE



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General Comment – **Remove all accumulated vegetation within concrete lined channels**

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Pt. 130 – Cracks in concrete lined channel. **Cracks like this should be cleaned out of dirt and caulked (using a appropriate caulking material)**. This will prevent water infiltration and progressive undermining beneath the concrete,

Pt. 131 – Sta. 77+00 – Localized build-up of grass, silt and debris. **Requires clean out of the outlet end of the finger drain.**

Sta. 76+60 – **Animal Burrow needs to be filled in.**

Pt. 132 – Sta. 76+00 - Localized build-up of grass, silt and debris. **Requires clean out of the outlet end of the finger drain.**

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Sta. 75+00 – Localized build-up of grass, silt and debris. **Requires clean out of the outlet end of the toe drain.**

Sta. 73+00 to 74+00 – Bare spots on slope. **Re-seed and mulch areas to re-establish grass cover to mitigate surface erosion.**

Pt. 133 (Approx. 75+50)
Pt. 134 (Sta. 73+00)
Pt. 135, 136 (pictured at right) and 137
(~Sta 66+67)

Animal burrows need to be filled in.

Sta. 72+50 and 70+00 (pictured) and 66+00 – End of toe and finger drains damaged by mowers. **Repair ends of drains (i.e. add new section of pipe or beat back into shape). Provide markers to prevent re-occurrence**

Pt. 138 (Sta 62+00) – Silted up behind weir. **Clean out dirt from around weir**

Pt. 139 (~Sta. 62+50) – Bare spots on slope. **Re-seed and mulch areas to re-establish grass cover to mitigate surface erosion.**

UPPER MAIN DIKE

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Pt. 140 (~Sta. 57+00) – Build-up of silt at weir. **Clean out dirt around weir.**

Pt 141 (~Sta 53+00) – **Animal burrow needs to be filled in.**

Pt. 142 (~Sta. 45+00) – **Three animal burrows at headwall need to be filled in.**

Pt. 143 (approx Sta. 40+00) – Rip-Rap on upstream slope of main dike.

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Pt 144 – Rip-Rap on upstream slope of separator dike.

STORAGE POND - EAST DIKE

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Pt. 145 – Sta. 1+00 to 8+00 – **Clear debris from finger drains at Sta. 1+00 & Sta. 7+00 and clean out bottom of concrete lined channel of silt/sand and miscellaneous.**

(Note: Pt. 146 – not shown on plan – same comment as Pt. 147 below)

Pt. 147 – Minor seepage into concrete channel (~ Sta. 12+50).

Pt. 148 (~Sta. 15+00) Finger drain dry, but localized seepage into channel. **Localized grass in channel needs to be removed.**

Pt. 149 – (Sta 19+00) – **Finger drain blocked at this location and needs to be cleaned out.**

Pt. 150 – Build-up of grass and debris in channel, (restriction of flow through channel). **Debris/grass needs to be cleaned out of channel**

CONFIDENTIAL BUSINESS INFORMATION

Storage Pond Main Dike/Spillway

Pt. 151 – Localized minor vegetation observed at floor of spillway. **Remove vegetation from weephole and other various locations in the spillway floor.**

Sta. 37+50 – Progressive undermining of concrete paving. **Requires repair to mitigate further ground loss and future damage to pavement. (See attached Sketch No. 1 below for proposed repair option)**

Pt 152 (Sta. 68+00) –Bare spots in slope **Localized re-seeding to re-establish grass cover.**

Pt 153 – Animal burrow just upslope from concrete drainage channel (approx Sta. 68+00). **Requires repair/filled in.**

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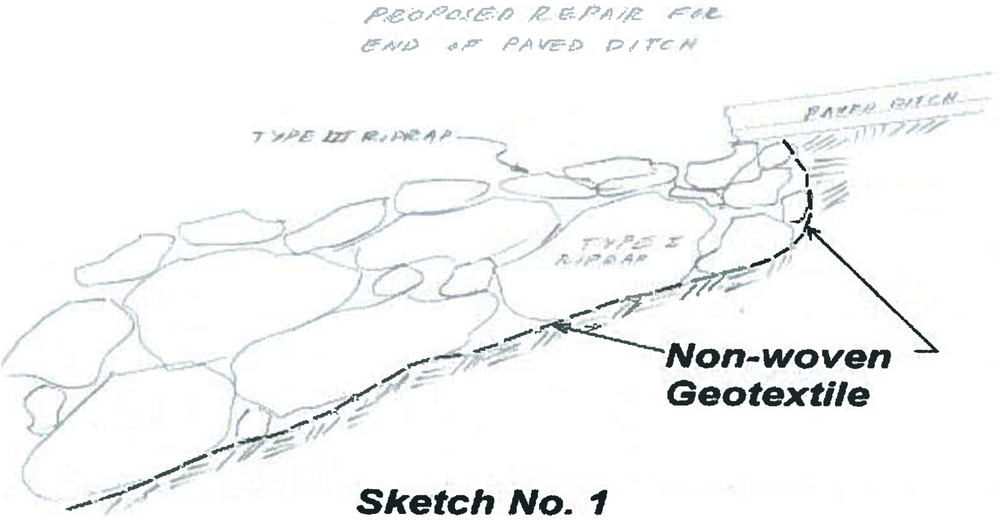
Pt 154 – Stockpiles of emergency coarse and fine aggregate drainage materials looks good



Sketch No. 1

Separator Dike

Upstream slope generally looks satisfactory although surface runoff is causing localized erosion near top of slope.

Localized re-grading required to flatten over steepened upper portion of slope and to provide positive drainage to minimize over-slope flows (which will result in progressive erosion along slope)

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Crest of Upstream Slope - **Localized erosion rill needs to be repaired with #57 stone.**

Potable Water Pond Dike

Localized bare spots on slope. **Repair either by re-seeding to re-establish grass cover or place small rip-rap/stone).**

(See Updated Status from Third Quarter Report –Location 092, for items to be completed)

Vegetation growth at toe of upstream slope. **Cut down and remove vegetation (grass/bushes)**

(See Updated Status from Third Quarter Report – Location 089, for items to be completed).

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Ash Pond Emergency Overflow

Repair of downstream outfall completed

(See Updated Status from Third Quarter Report – 094).

Rip-rap on upstream and downstream slopes overall looks good. No evidence of recent erosion or instability. Brush has been cleared since 3rd Quarter 2007.

(See Updated Status from Third Quarter Report – Location 095, for items to be completed).

Detention Pond

Vegetation on downstream slope. **Remove/cut down vegetation/brush/small trees for a distance of 30 ft. out from toe of slope.**

(See Updated Status from Third Quarter Report – Location 099, for items to be completed).

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Tree and brush adjacent to spillway should be cleared.

(See Updated Status from Third Quarter Report – Location 100, for items to be completed).

UPDATED STATUS (Reference - 3rd Quarter Report dated October 27, 2007)

073 The cleanout pipes for the subsurface drain at Sta 69+00 do not have covers on them. **These pipes should be covered.**
3-10-08 – Pipes capped

075 The stockpile of granular material west of the makeup water pump station appears to have gotten smaller than it should be. **It would be a good idea to add one load of sand, one load of #89 stone and two loads of #57 stone.**
3-10-08 – No Change

062 At the paved ditch at the toe of the maximum section of the storage pond dike, the slopes of the ditch have become overgrown with tall weeds and woody brush. **This vegetation should be cleared or poisoned.**
3-10-08 - Brush cleared

062 The brush growing up between the steps has also made walking on the stairs to the relief well flow measurement platform hazardous. **This brush should be removed. The weir in the paved ditch at this location is clogged with silt and should be cleaned out.**
3-10-08 - Brush cleared

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066 An animal burrow was noted next to the paved ditch at Sta 45+00. There is some woody brush in this area that should also be cut. Brush and tall grass provide cover for burrowing animals and therefore encourage their burrowing. **The animal should be trapped or gassed and the burrow should be packed with gravel and/or foamed. The brush should be cleared.**
3-10-08 – Brush cleared but burrow still observed

068 The toe of the dike at Sta 37+50 was very boggy as usual. In May, Hydro Services had Dr. Rene Rodriguez conduct geophysical testing of this area to try to determine the flow path of the water. Dr. Rodriguez' results and a drawing of the finger drain system correlate to indicate that the source of the water may be a buried finger drain with no outlet to the surface. **Hydro Services will work with plant management to plan an exploration of this area with the aim of locating the buried drain and installing a pipe to provide relief to this groundwater.**

069 The weir at Sta 37+50 is silted up and should be cleared so that it can be read properly.
3-10-08 – Weir cleared of silt

070 The emergency granular material stockpiles at Sta 37+50 are overgrown with weeds and brush. This vegetation might hinder access to the materials in an emergency. **The stockpiles should be sprayed to kill the weeds.**
3-10-08 – weeds and grass cleared. Sand and stone replenished, but need another load of #89 stone

077 The stoplogs for the spillway are stored on the dike adjacent to the spillway sitting on some timbers. The skin side of the stoplogs is down, allowing rainwater to stand in the stoplog. This causes corrosion and shortens the life of the stoplogs. It would be a good idea to examine the stoplogs for loss of section due to corrosion, repair and paint them if necessary, **and store them skin side up to reduce the potential for corrosion.** **3-10-08 – Unchanged**

CONFIDENTIAL BUSINESS
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Storage Pond – East Dike

081 There are some small trees and woody brush growing at the heel (upstream) of the east dike at this point. **This vegetation should be cut or poisoned.** (about Sta 7+00?)
3-10-08 – Vegetation cleared

082 Tall grass and woody brush are growing on both sides of the paved ditch at the toe of the east dike from Sta 5+00 to Sta 20+00. **This vegetation should be cut down.**
3-10-08 – Vegetation cleared

083 The granular material stockpiles downstream of the east dike have become overgrown with weeds. The sand will not be useable due to roots. **The stockpile should be sprayed with poison and a load of sand added.** (about Sta 10+00)
3-10-08 – Vegetation removed and stone added to stockpile

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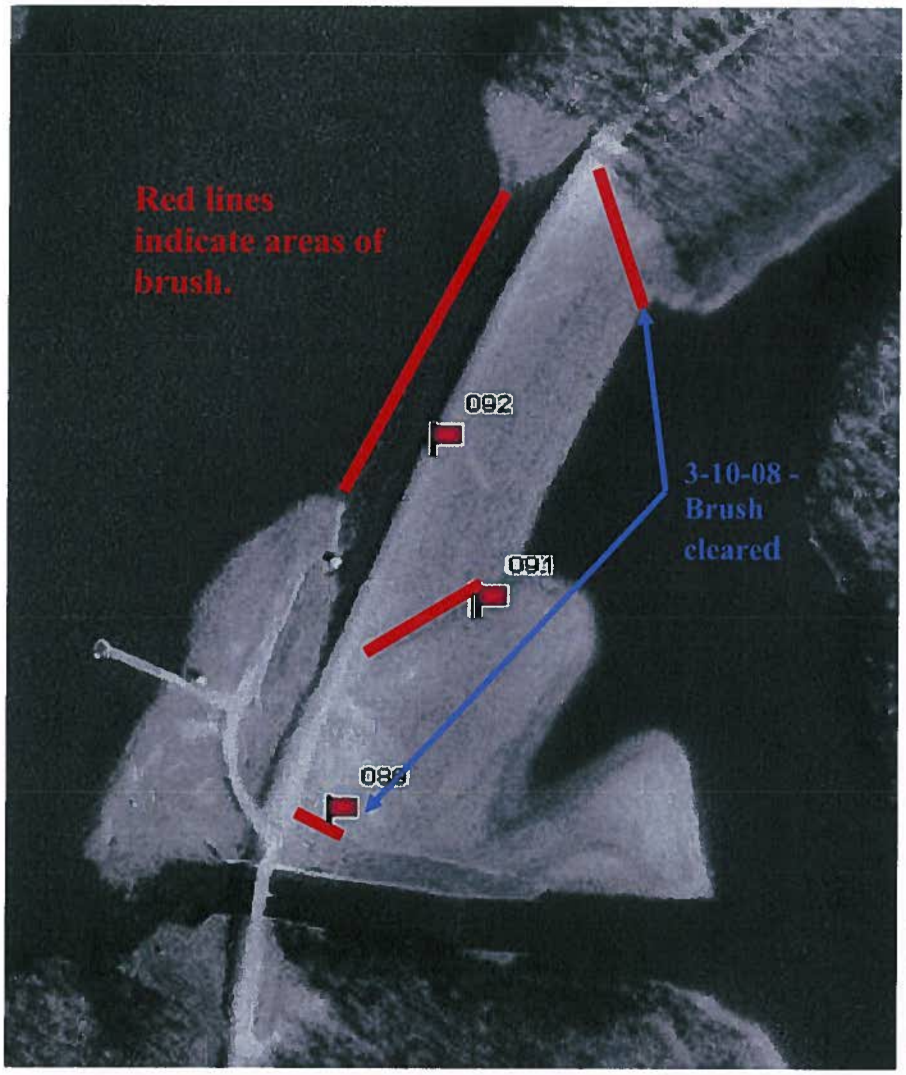
Potable Water Pond Dike

3-10-08 - Brush cleared downstream of the dike but brush needs to be cleared on upstream toe of slope

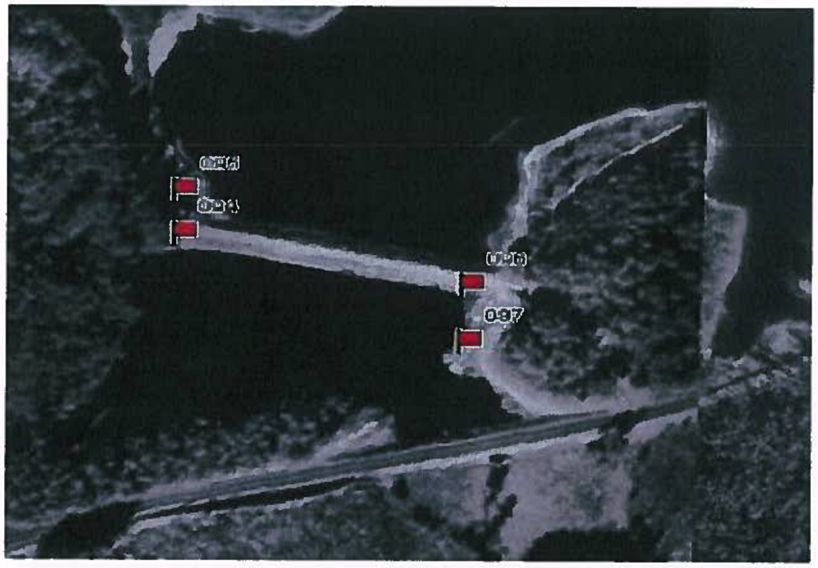


089 An eroded area was noted on the downstream slope just east of the spillway. This appears to be the result of runoff from the roadway passing through the riprap and running down this area instead of into the adjacent paved ditch. **It would be a good idea to add some rock to the eroded area to protect it from further erosion and to add some rock to the riprap at the top of the slope to try to direct the runoff into the existing paved ditch. There are also some small trees growing in this area. These should be cut or poisoned.**
3-10-08 – Trees and bushes removed and gravel placed in rip rap. Some additional rock required to cover bare spots

091 On the downstream side of the dike there is a growth of tall grass and woody brush along the east and west contacts of the dike with the natural ground. **This vegetation should be cut or poisoned.** **3-10-08 – Brush cleared at both locations**

092 The upstream slope of the dike is rip rapped. There is a fair amount of grass growing in the riprap. **This grass should be poisoned.** There is a stand of brush along the upstream edge of the dike. **This brush should be removed.**
3-10-08 – No work yet.

Ash Pond Emergency Overflow



094 The downstream outfall for the paved ditch has been undermined. Storm flows from the ditch undermine the ditch liner and will eventually remove the soil supporting the end of the ditch liner causing the liner to fail. **This area should be reinforced by placing Type I riprap in the pond at the outfall and choking that with Type III riprap. See sketch below.**
3-10-08 – Work completed

095 The upstream spillway of the paved ditch has been repaired with Type III riprap, but **the riprap needs to be dressed to match the contours of the paved ditch**. The current layout could result in uneven flows over the riprap and subsequent erosion
3-10-08 – No change

096 There is woody brush growing on the east end of the dike on the downstream side. **This brush should be cut or poisoned.**
3-10-08 – Brush has been cut

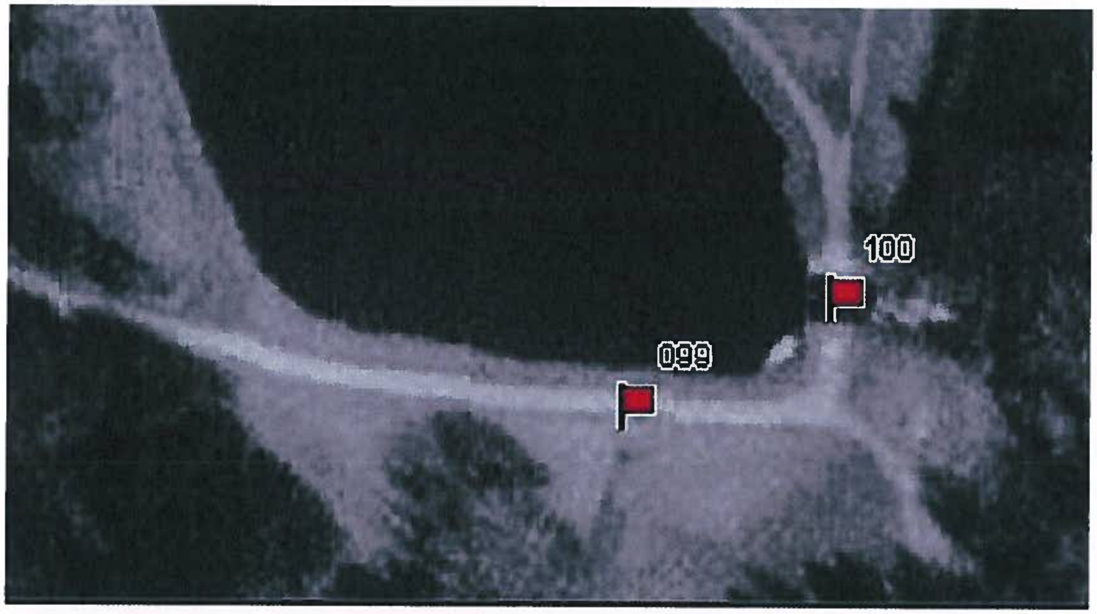
There is a bare spot adjacent to paved ditch near the location noted above. **This area should be armored with Type III riprap on a 4" bed of #57 stone. 3-10-08 – Still required**

098 There is woody brush growing in various locations around the perimeter of the pond on the downstream side of the skimmer wall. This brush could make recovery efforts difficult in the event of an oil spill to the ash pond. **This brush should be cut or poisoned. 3-10-08 – Brush cleared**

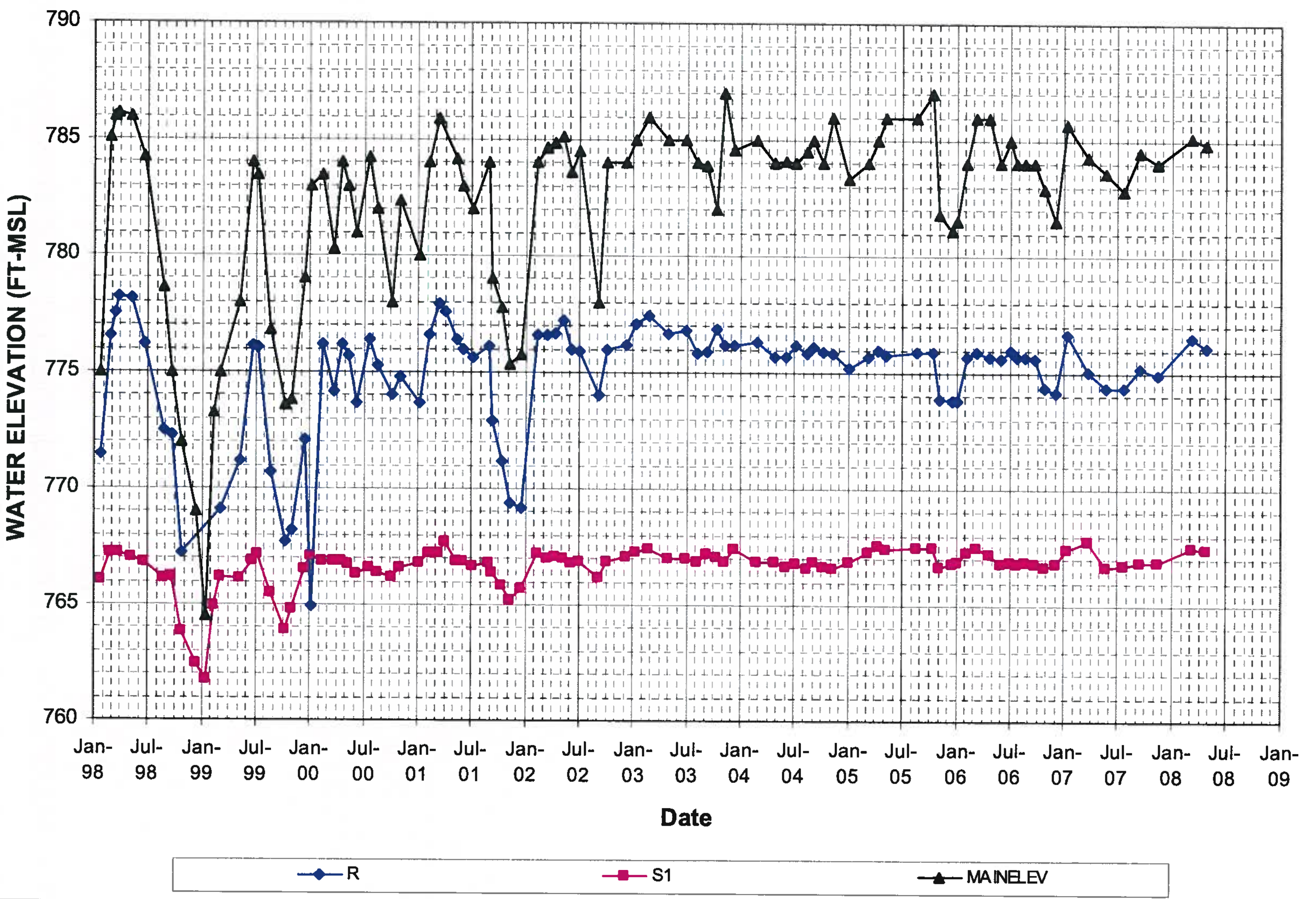
Detention Pond

099 The tall grass and small trees growing on the downstream side of the dike should be cut for a distance of 30 feet out from the toe. 3-10-08 – No work yet.

100 The tree and brush growing adjacent to the edge of the spillway should be cleared. 3-10-08 – No work yet.



Wansley Storage Pond Pz's at Sta. 20+00



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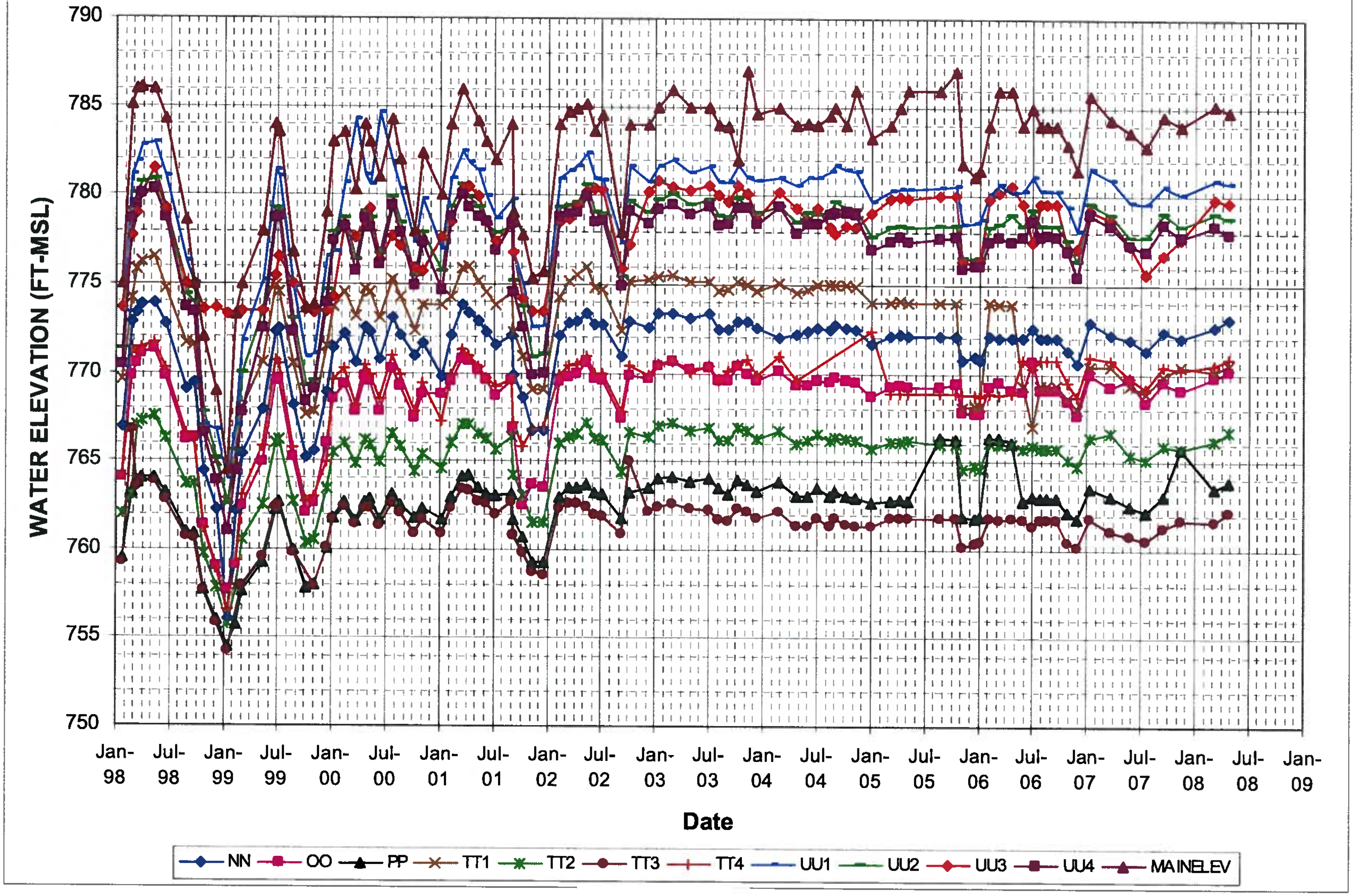
Plant Wansley Pz's at Sta. 37+50-1



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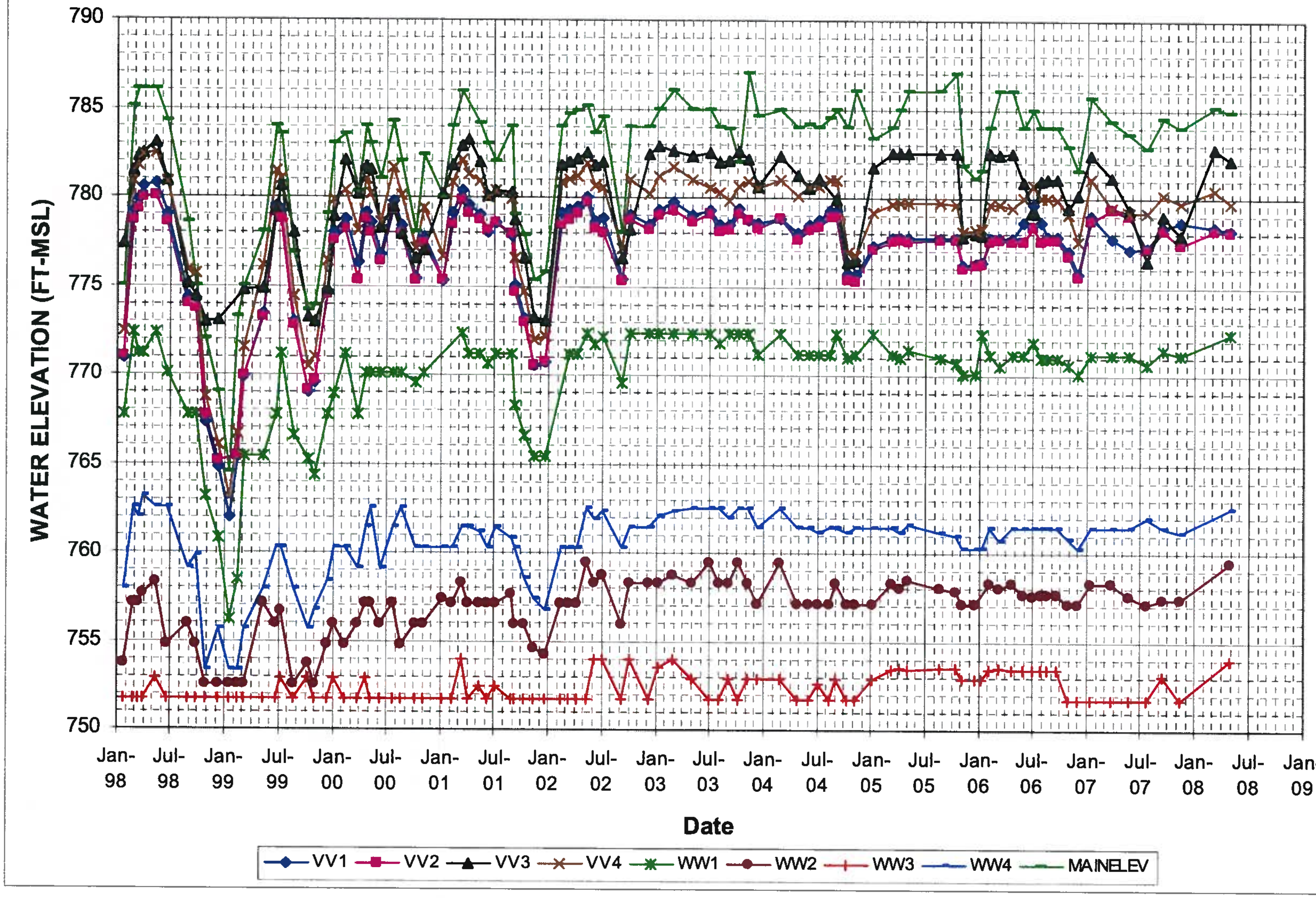
Plant Wansley Pz's at Sta. 37+50-2



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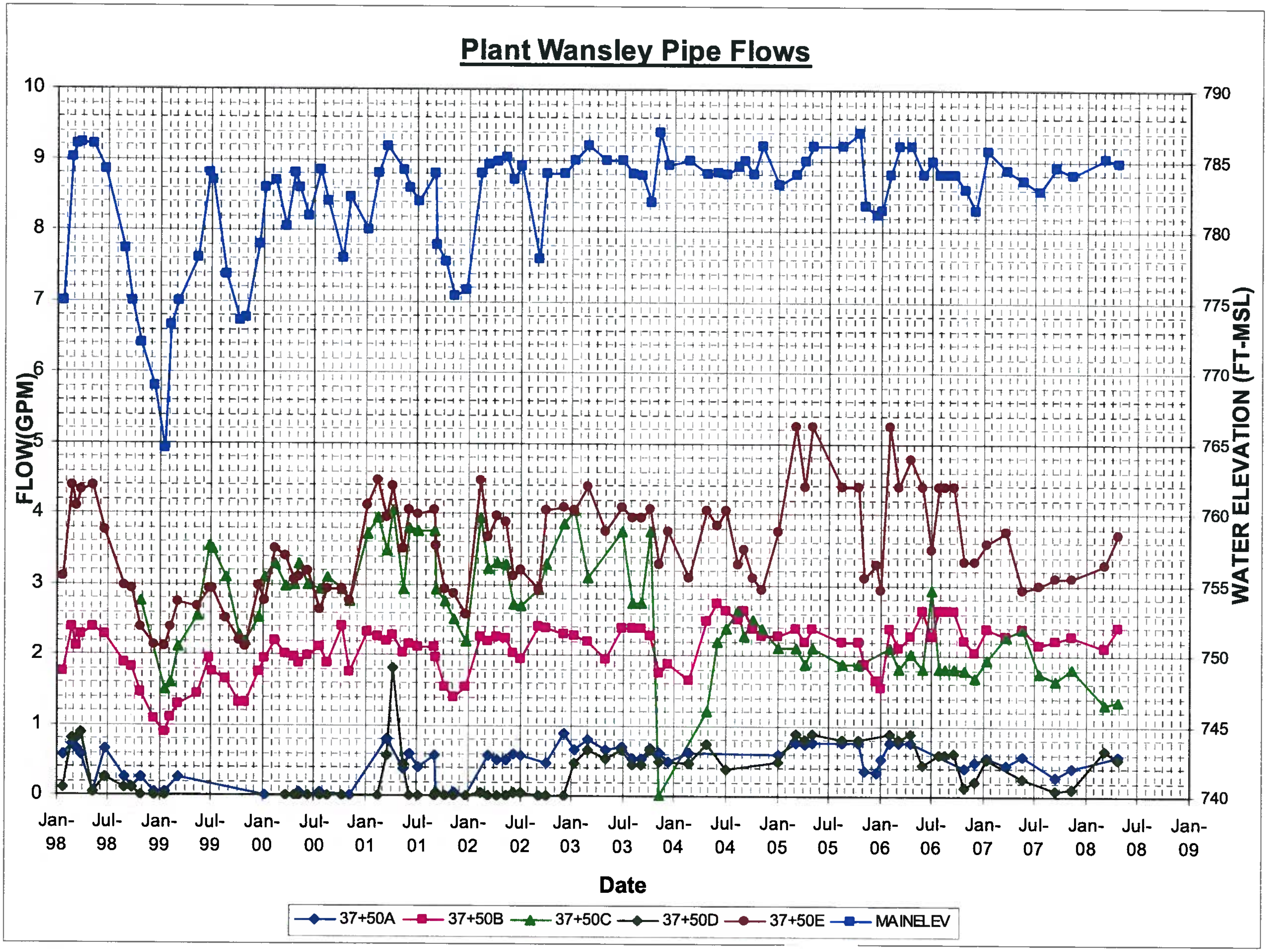

Plant Wansley Pipe Flows

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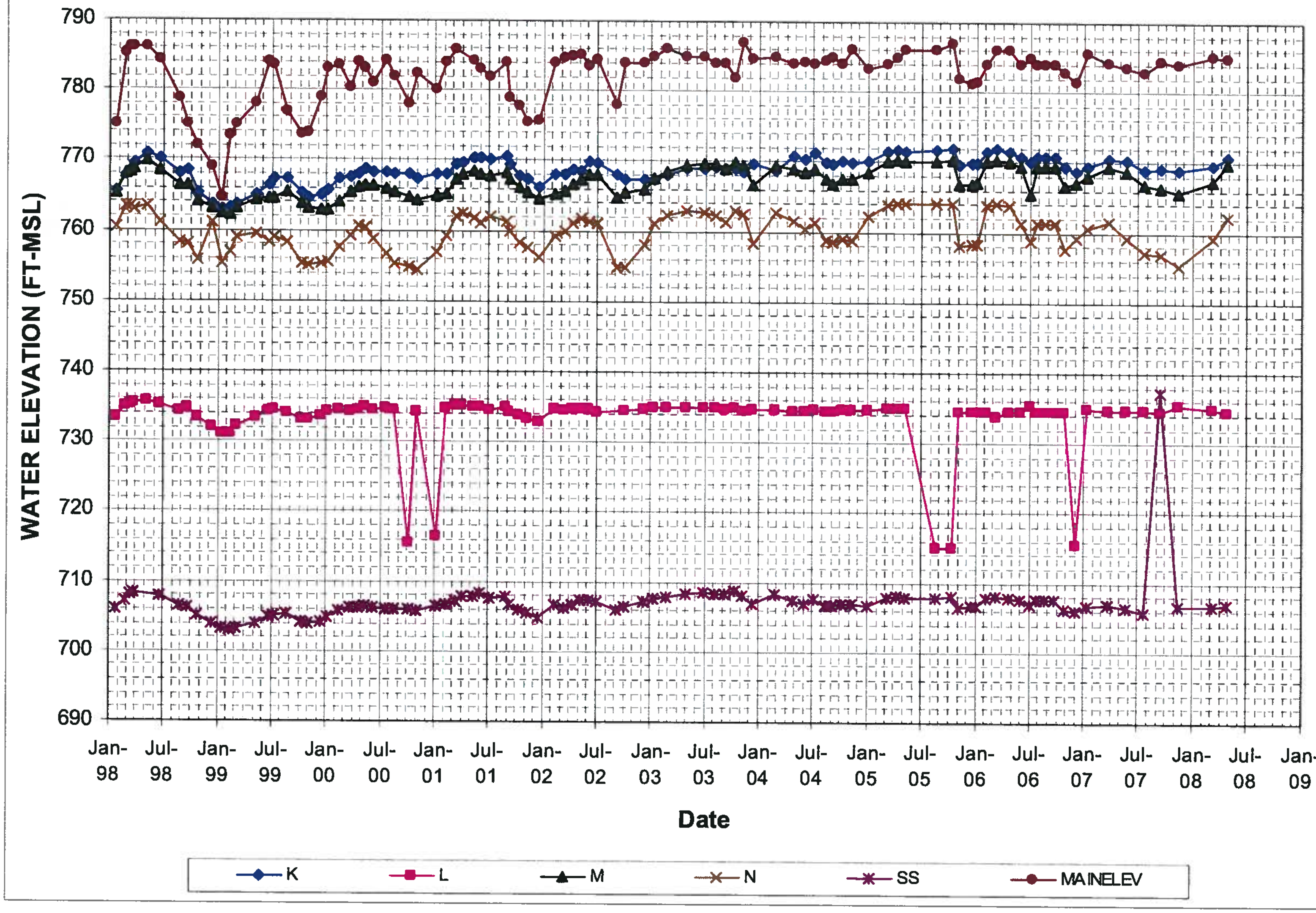
Wansley Storage Pond Pz's at Sta. 47+50



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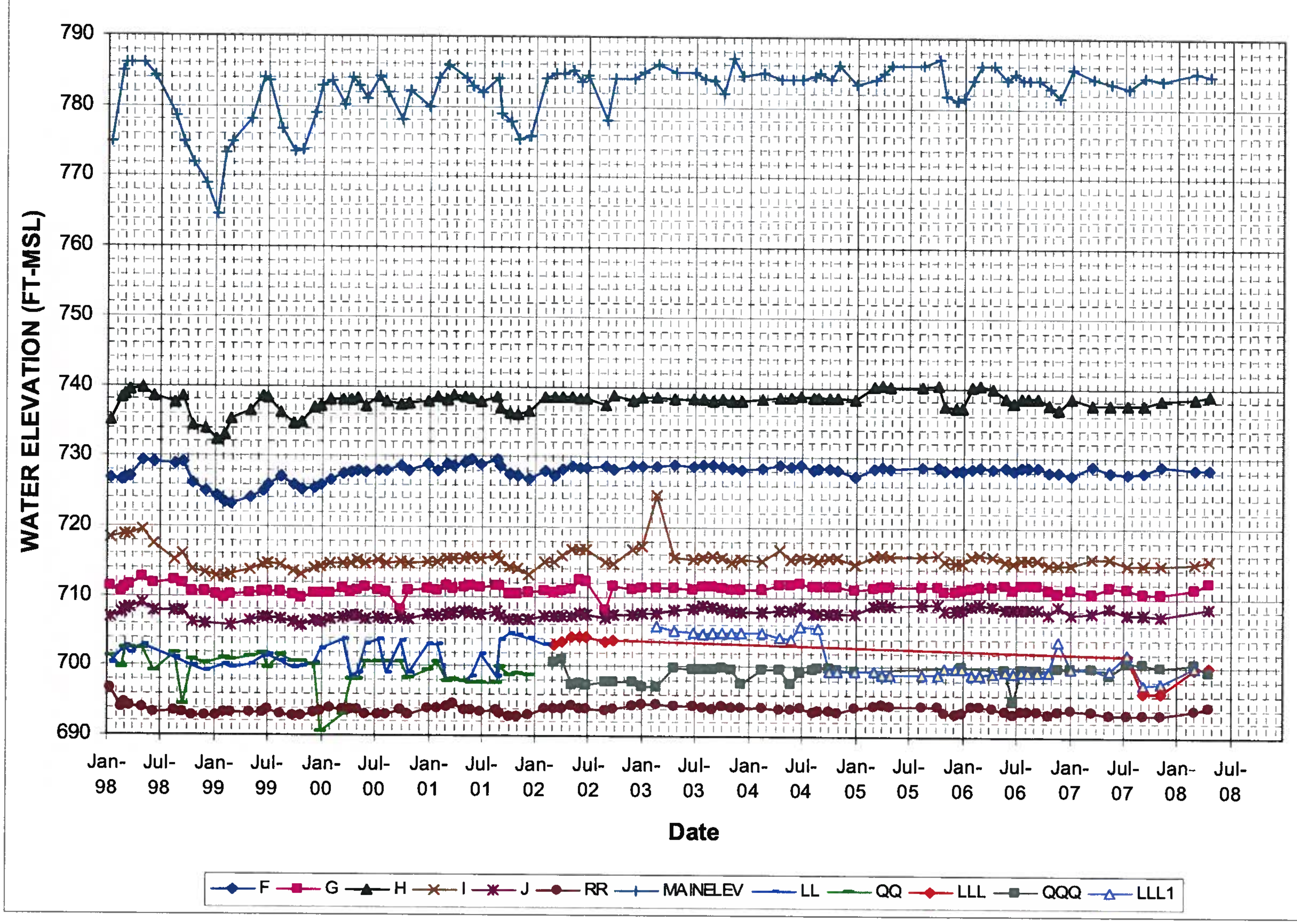
Wansley Storage Pond Pz's at Sta. 58+00



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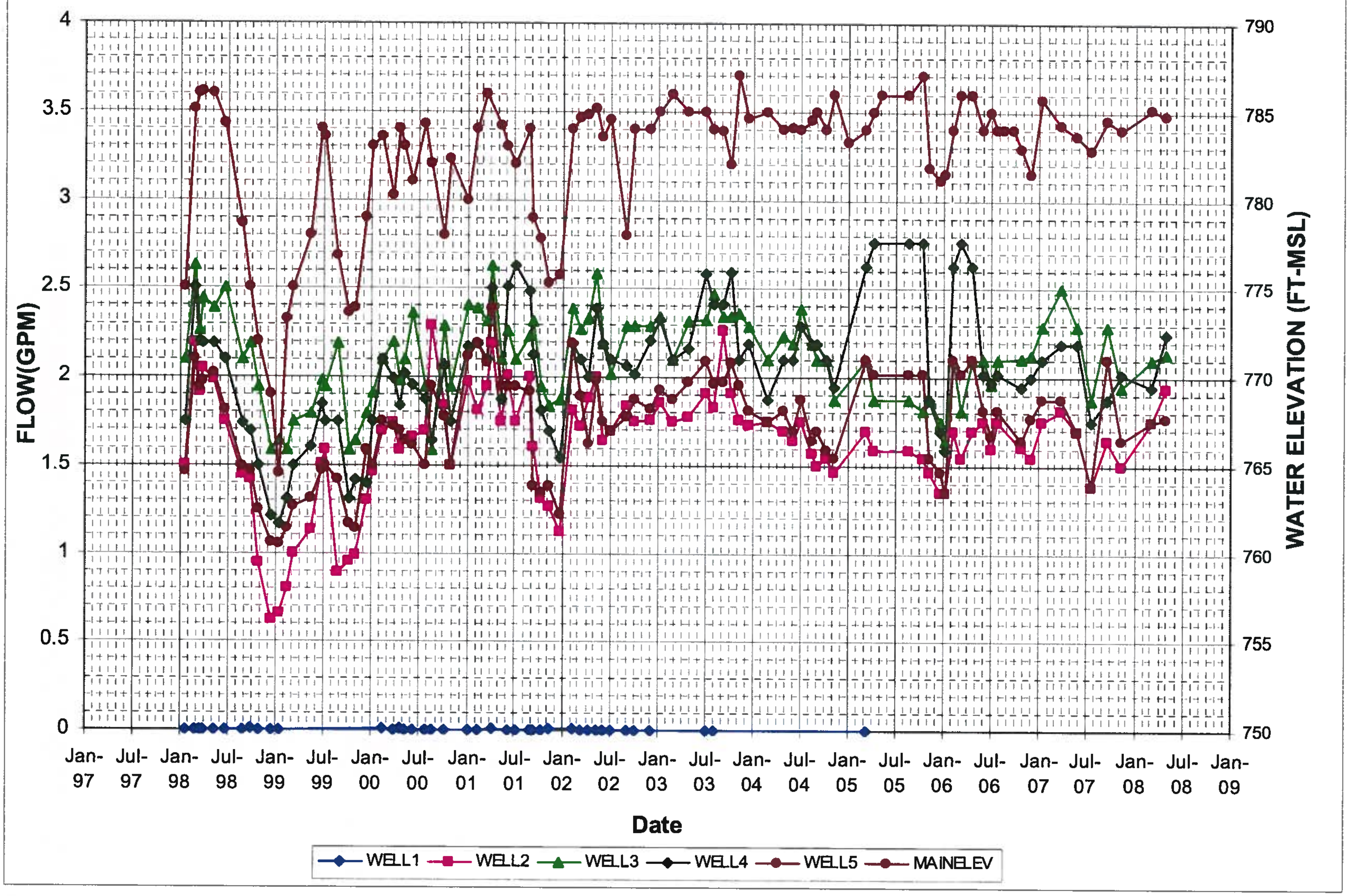
Plant Wansley Well Flows



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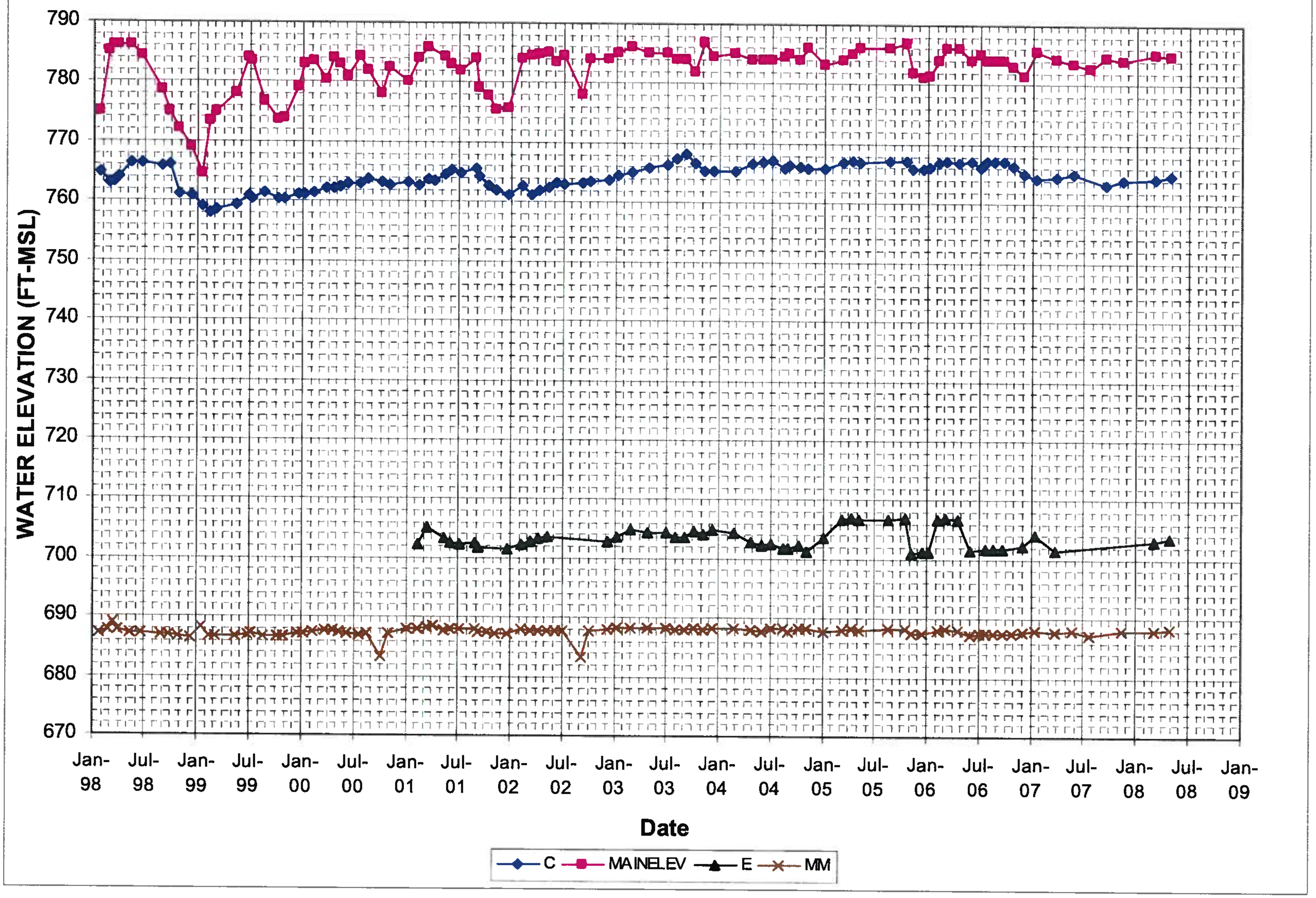
Wansley Storage Pond Pz's at Sta. 65+00



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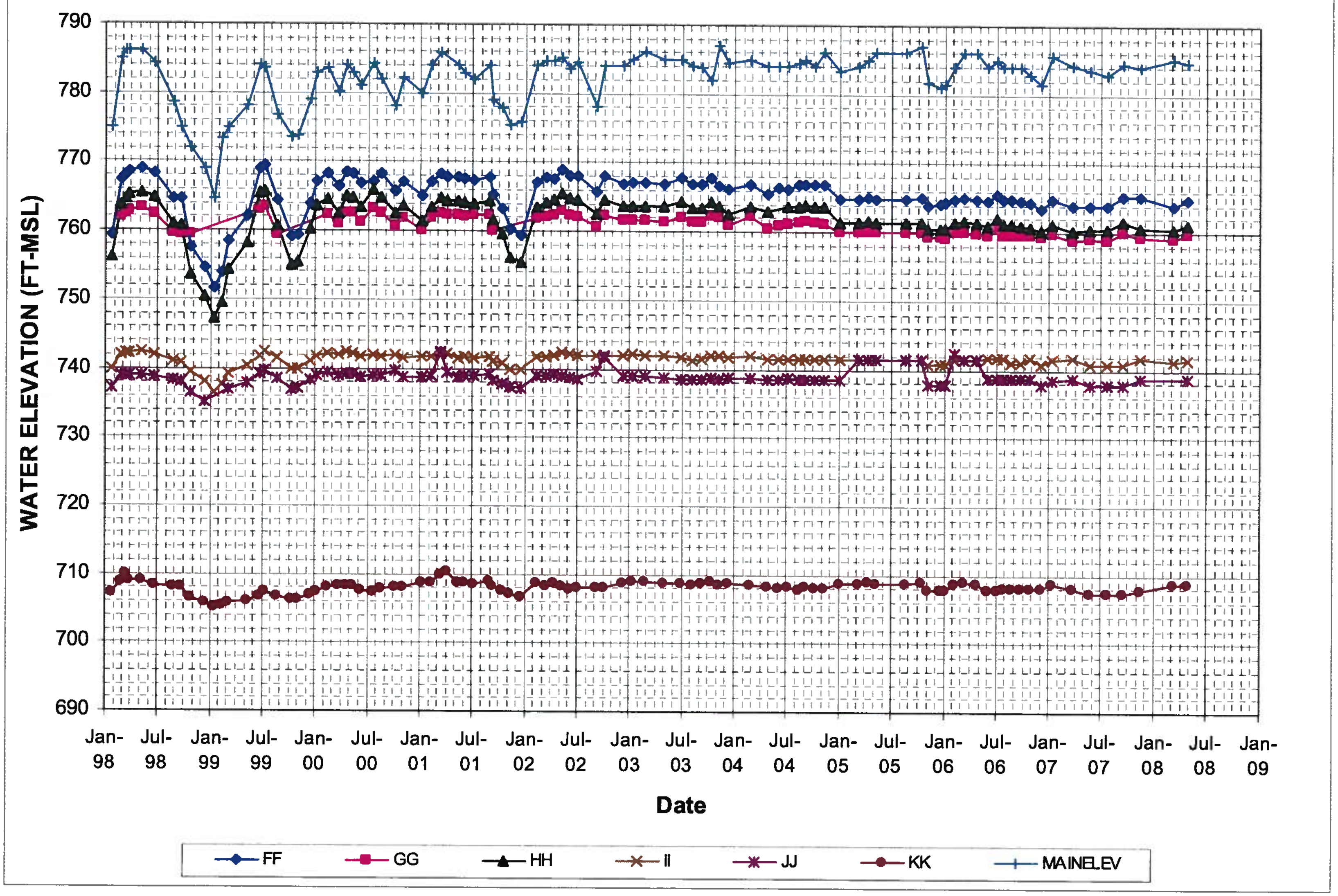
Wansley Storage Pond Pz's at Sta. 70+00



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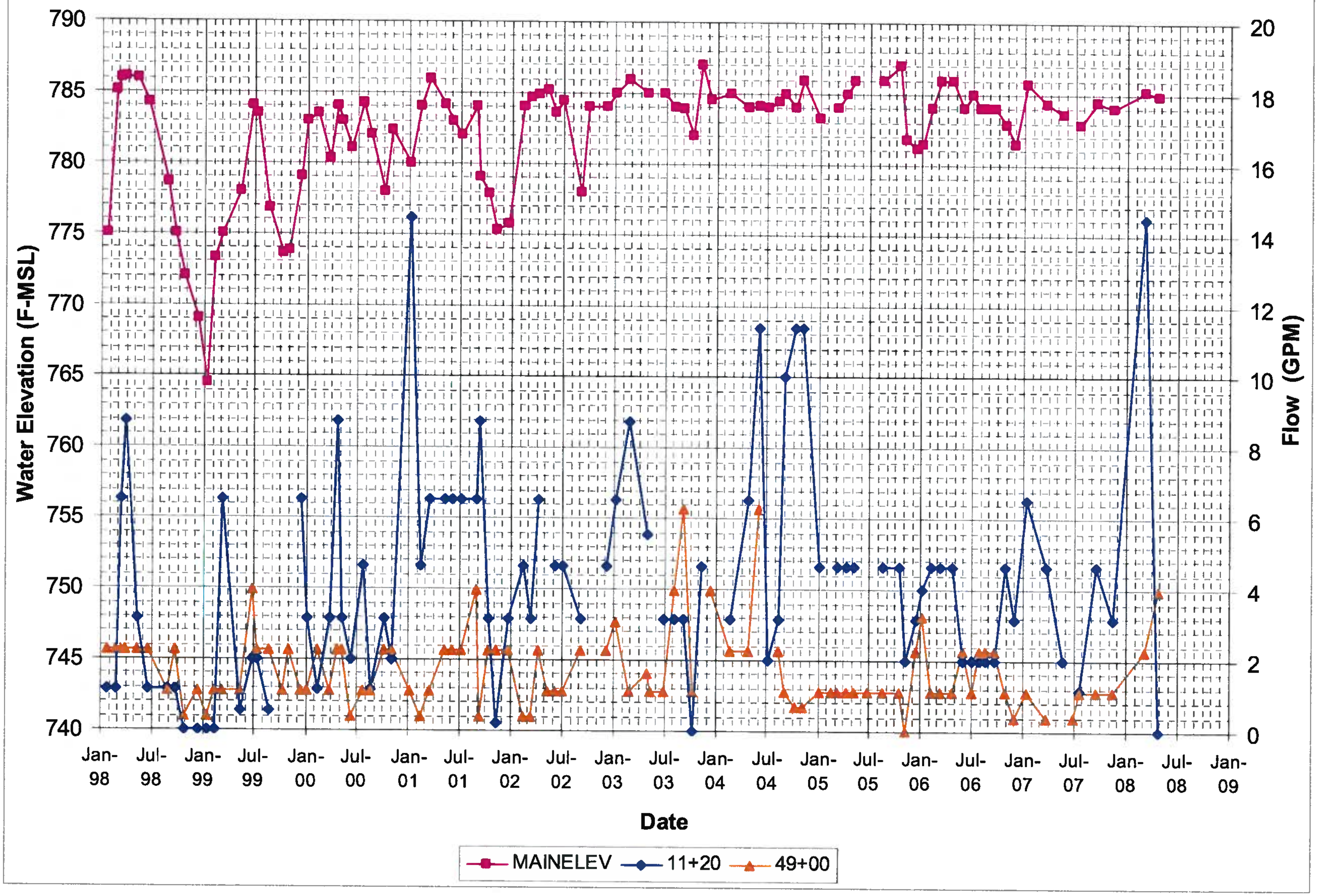
Plant Wansley Weir and Pipe Flows



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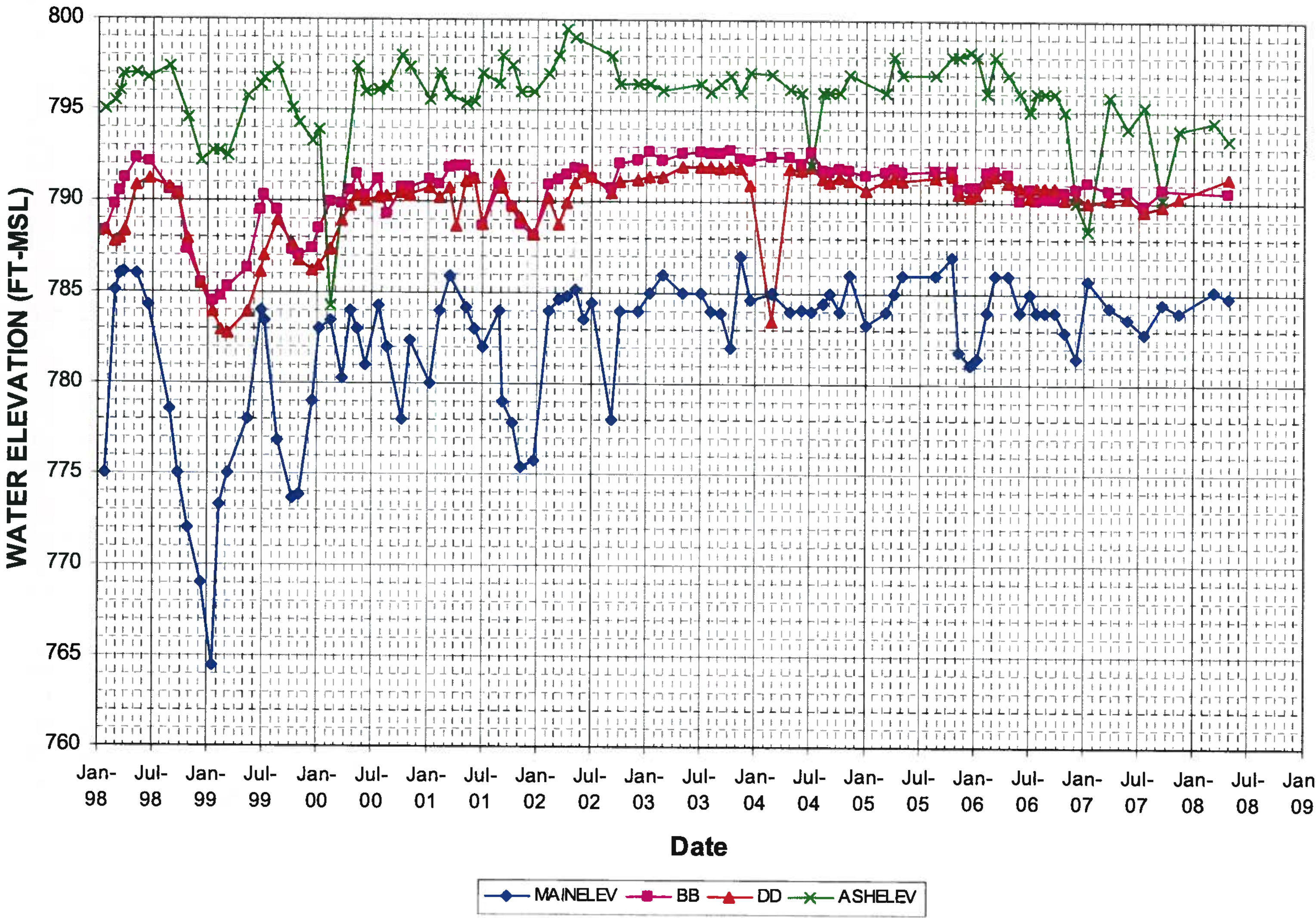
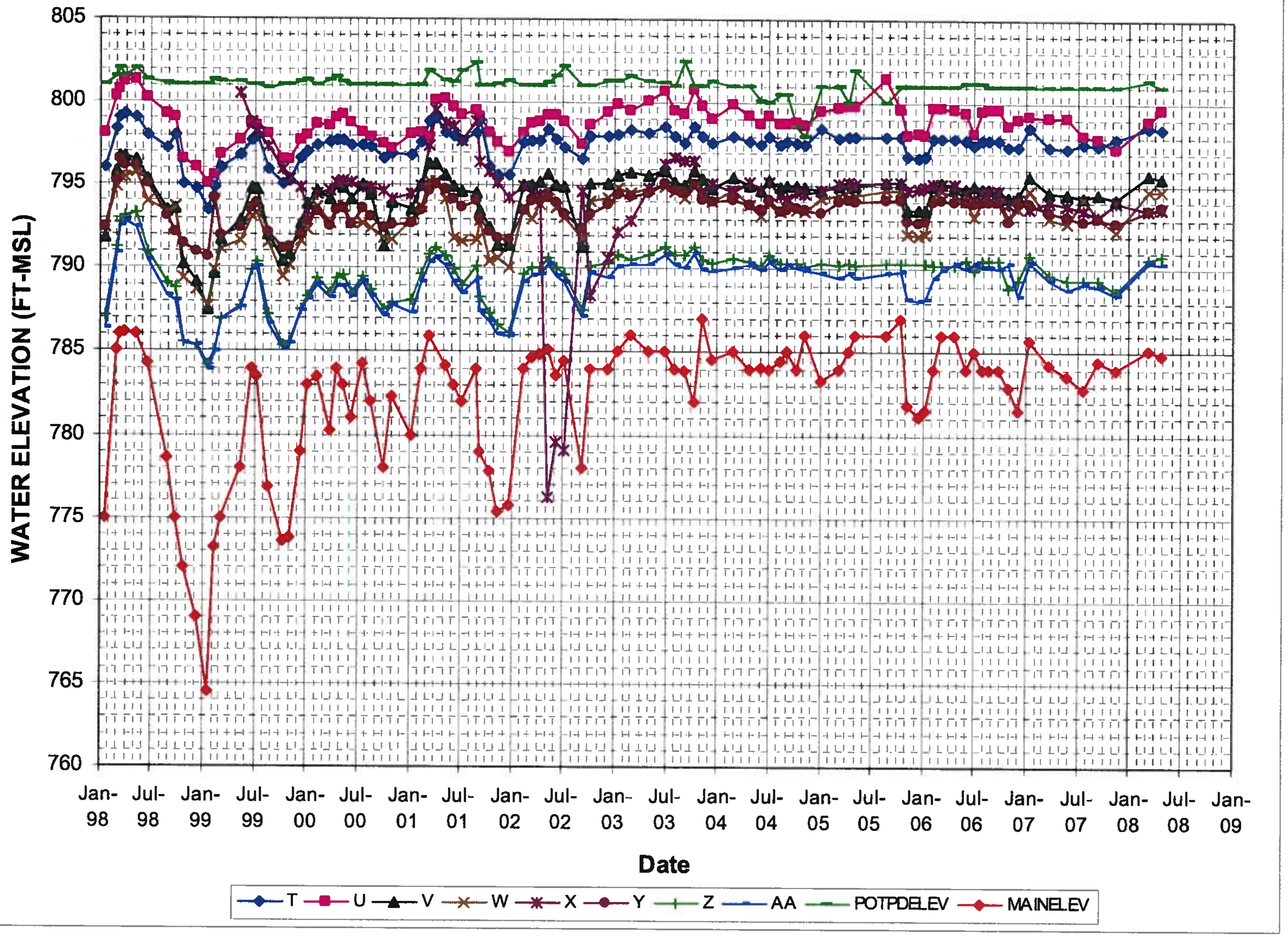
Wansley Separation Dike Pz's BB and DD



CONFIDENTIAL BUSINESS INFORMATION

Plant Wansley Potable Pond Piezometers



CONFIDENTIAL BUSINESS INFORMATION

PLANT WANSLEY

EARTH EMBANKMENTS

FINAL REPORT
AND
APPENDICES

GEORGIA POWER COMPANY
CIVIL ENGINEERING DEPARTMENT

MAY, 1975

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INTRODUCTION

The following narrative and attached appendices are in response to letter, Southern Services, dated February 27, 1975, requesting a compilation of design and construction data for the earth dams at Plant Wansley. Specifically, the letter requested information on the following:

a. Dam construction history.

b. Identification of borrow pits used for various portions of the dam.

c. Field compaction control and results summary.

d. Sources of riprap, filter material.

e. Identification of all Georgia Power Company, Law Engineering and Contractor personnel who inspected or supervised the work with the dates of their involvement.

Detailed studies on all of the earth dam portions of the project are on file with Southern Services, and are listed by date and title in Appendix I. The plans and specifications for the project, including the as-built drawings, are also available. The narrative report will therefore be relatively brief, but will be supported by the specific reports and detailed studies made throughout the design and construction period either by reference or in appendices. The appendices also contain daily and weekly reports, and field control data, if reference to these details should ever be required.

The information in the report was assembled by T.B. Chaudhary in the form of a preliminary document. It was reviewed and revised in the Civil Engineering Department of Georgia Power Company. In accord with the items "a" through "e" above, the report initially discusses the general construction history, including the personnel involved in the construction, inspection and supervision of the dam and dikes. Subsequent sections describe in more detail the construction of the various dike or dam segments. The data on compaction control and test results for each segment is appended, as well as selected photographs taken during earthwork construction. Special paragraphs on stone protection, which comprised an important part of the dike construction, are included.

CONSTRUCTION HISTORY

Field supervision of the project for Georgia Power Company throughout the construction period was under the direction of Mr. C.B. Head, Project Superintendent, and Mr. R.S. Ponsell, Civil Supervisor.

In early spring of 1972, Georgia Power Company selected Southland Constructors, Inc., as contractor for all grading work, including the dike and dam construction. Mr. Simpson Faulkner, President of Southland, was in charge of the Southland work until the end of January 1975, when he was replaced by Mr. Bobby Slaughter.

The survey work was initially done by Riley-Park-Hayden, who were later replaced by a Georgia Power Company survey group.

Law Engineering Testing Company was selected to provide a quality control program to assure that the grading work was performed in accordance with the palns and specifications, and to report any situation requiring special engineering attention. They assigned Mr. Michael R. Turner as Project Site Engineer to oversee all grading work. A team of soil technicians, including Law Engineering Testing Company and Georgia Power Company employees, was organized to observe and test the compaction of all fill work under the direction of Mr. Turner.

On May 1, 1972, the first compaction test strips were placed to evaluate the performance of the compaction equipment proposed to be used for the grading work. Law and Georgia Power Company's project construction group formulated procedures for Quality Control during fill placement for the dike construction (refer to Appendix #2). The procedure required that all phases of dike construction be witnessed by the civil group or their consultants.

On September 19, 1972, the contractor started stripping operations for the East Dike between Stations 0+00 and 22+00. Mr. Edward O. Prescott, Soils

Engineer, Law Engineering Testing Company, was assigned to the project on September 25, 1972, to assist Mr. Turner, and to be responsible for the East Dike construction inspection. Mr. Prescott remained at the site until December 5, 1972 when construction of the East Dike was suspended because of inclement weather. When the work resumed on February 20, 1973, Mr. Jay Budde, Soils Engineer, LETCo, assumed Mr. Prescott's responsibilities. Mr. Budde remained on the site until March 5, 1973.

On February 23, 1973, Mr. Beadles of LETCo met with Messrs. Ponsell and Edwards of Georgia Power. As a result of this meeting, Mr. Charles Edwards of Georgia Power was assigned to assume the responsibilities of earth construction inspection and testing. Mr. Tu~~e~~rner assisted Mr. Edwards until he became familiar with the inspection and testing operations. Mr. T.B. Chaudhary of LETCo was designated to provide consultation to Mr. Edwards on an as-requested basis. These changes of engineerng and inspection responsibilities are summarized in letters of confirmation dated March 1 and March 15, 1973 (Appendix #3). Under Mr. Edwards' supervision, the Separation and Storage Pond Dikes were partially completed, and the major portion of preparation and cleaning of the Potable Water Dam abutments was done.

Mr. Edwards requested assistance during a part of the foundation preparation for the Separation Dike. Mr. Thomas L. Cross (from June 5 to June 29, 1973) and Mr. David Bourne (from July 2 to August 17, 1973), both of LETCo, assisted Mr. Edwards during this phase of inspection. Mr. Edwards resigned from the Georgia Power Company on February 21, 1974. Mr. T.B. Chaudhary assumed the engineering inspection responsibilities for the remaining earth work related construction.

During this assignment, the Separation Dike was completed. Yellowdirt Creek was diverted for Potable Water Supply Dam construction, and the Potable Water Supply Dam was completed. Mr. Chaudhary was re-assigned on April 18, 1975, and the last section of the Storage Pond Dike, between Stations 50 and 70, was completed under the supervision of Georgia Power personnel.

CONSTRUCTION MATERIALS

Prior to and concurrent with construction, extensive explorations were conducted to identify and classify the soil and rock materials to be used for embankment construction. Reports for each of these detailed investigations are on file and are listed in Appendix I.

In brief, the site geology and soil profile are typical of much of the Southeastern Piedmont. The plant area and embankments are entirely within the Brevard Zone, which is a pronounced geologic lineament of deformed rocks extending from Alabama northeastward into North Carolina. The rocks at the site are biotite gneisses and schists, typically striking northeast with a southeast dip. Where sound and unweathered, they are highly competent, but because of pronounced foliation, they break into flat particles when excavated and crushed. However, this characteristic is not sufficiently detrimental to prevent the rock from being entirely adequate for riprap, bedding material, sub-ballast, and road base. It was not used for concrete aggregate.

Upland soils throughout the site are residual from in-place weathering of the underlying parent rock. These soils were used in the construction of the dikes and dams, and are generally sandy, micaceous, silts and silty, micaceous, fine sand. The upper layer, however, was more clayey because of advanced weathering of the minerals, and is generally described as red-brown, sandy, silty, clay or sandy, clayey silts.

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In the valleys of the streams and smaller drainage features, alluvial soils cover the valley floors. These are primarily silts and fine sands, with pockets of soft, organic muck soils which required removal before placing embankments. They were not used for embankment fills.

Sources for embankment materials were explored prior to construction and are described in detail in appropriate reports (Appendix I). The location and approximate available yards in each area are shown on Drawing H-10061 and on the respective contract drawings. As more than one borrow area might be used at one time for several portions of the dam work, it is not reasonable to attempt to identify each portion of the embankments with a definite elevation of a specific borrow area. However, the daily and weekly reports for each of the structures identify the borrow areas and embankment stations being placed at the time of the report, and the source of the material at any station or elevation could be determined from these reports if necessary (Appendices IV and V). Air photos taken during construction are also helpful in identifying the borrow areas.

The residual soils from the borrow areas produced exceptionally fine embankments. Little difficulty was encountered in securing the required 100% compaction, with densitities averaging 100 to 110 lbs. per cu.ft. (See test reports, Appendices A through D). The strength of the material was demonstrated in several instances where trenches for drains were excavated with a backhoe, producing dense, vertical, soil walls. Laboratory tests made on soil samples taken from the embankment indicated strengths and permeabilities equal to or exceeding the design parameters (Appendix I, Reports 62 and 63).

Stone slope protection in the form of riprap and bedding material represented a substantial part of the cost of the embankment construction, and every attempt was made to secure the necessary rock from the site with a minimum of haul distance. Grading for the plant site required considerable excavation below top of sound rock, and the blasted gneiss was stockpiled for later use as riprap. Although the foliation of the gneiss produced blasted rock with a tendency toward flat particles, this feature was not sufficiently serious to effect its suitability for stone embankment protection. The blasted rock was stockpiled at the plant site after excavation until it was needed as riprap. Generally, the rock was reasonably well graded, and when placed on the embankment it was entirely satisfactory for embankment protection. The occasional stones which were too large for the specified riprap sizes were broken at the stockpile by a drop ball.

All riprap for the separation dike, and a portion of that required for the storage pond dam, was secured from the excavation stockpile. This supply was eventually depleted, and a quarry was opened in the storage pond area to provide the remainder of the rock needed for the storage pond dikes. All rock for the potable water supply dam was secured from a quarry opened for that purpose between the embankment and the spillway.

Bedding material between the embankment soil and the riprap layer was manufactured by crushing rock secured from site grading. The 3/8 inch crusher run material was mixed with 25% off-site white sand to produce a blend which was satisfactory with respect to gradation requirements. Riprap and bedding were placed on the dikes as follows:

Separation Dike, Pool Side:

a. Three feet of riprap on 1 foot of bedding up to elevation 745.

b. Two feet of riprap, without bedding, from elevation 745 to elevation 780.

c. Two feet of riprap on 1 foot of bedding from elevation 780 to top of embankment.

Separation Dike, Ash pond Side:

Two feet of riprap from 775 berm to top of embankment. Bedding material (12") from El. 790 to top. No rock protection below El. 775.

Potable Water Supply Dam:

Potable Water Side - 24" riprap with no bedding to El. 795. From El. 795 to top 24" riprap on 12" of bedding.

Storage Pond Side - 24" riprap with no bedding to El. 780. From El. 780 to top 24" riprap on 12" of bedding.

Storage Pond Dam:

All embankment protected by 2 feet of riprap wiht 1 foot of bedding above El. 780. Areas of natural ground between embankment sections not protected.

On most embankment projects it is difficult to secure compaction at the edge of each compacted lift. When riprap and bedding is placed against such uncompacted material, and saturation occurs after the pool is impounded, slumping occurs which is often mistakenly attributed to riprap failure. On the Wansley embankments this was avoided by overbuilding the fill and then removing the loose exterior soil with a Gradall. Bedding material and riprap were then placed by building the embankment about 12 feet above the previously placed riprap; dumping the stone on top of the embankment; and placing the required bedding and riprap with the Gradall. This procedure resulted in a dense, well graded rock mass without underlying loose embankment fill.

By planned use of available site materials, adequate rock protection for the Wansley embankments has been secured at minimum cost. omit

EMBANKMENTS

East Dike - The Storage Pond Dike from Stations 0 through 22 is referred to as the East Dike. Construction started on September 19, 1972, with stripping of the entire dike section and additional undercutting of soft material between Station 9+00 and 20+00 prior to proof rolling the foundation subgrade. Mr. Turner witnessed the proof rolling operation prior to fill placement. In conformance with the construction procedures, a LETCo engineer, Mr. Prescott, was assigned the responsibility of construction inspection of the East Dike, starting September 25, 1972.

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On September 22, 1972, it was discovered that the upstream face of the dike was constructed on a 2(H):1(V) slope rather than 3:1, as specified. The contractor was directed to correct the slopes by benching in the addition width of the dike. (Appendix IV).

Excavation for the longitudinal drain between Station 7+50 and 9+50 was started on September 22. Initially, vertical sand drains (18" in diameter) were installed from Stations 7+65 through 11+65. Each drain was advanced to the natural ground and backfilled with concrete sand densified using concrete vibrators. After installation of the vertial drains, the specified longitudinal drains were constructed using a #57 stone core encased in one foot of concrete sand. All vertical, longitudinal, and transverse drains were constructed in this manner according to the specifications. To determine the effectiveness of the internal drains, a flow test was conducted on October 11, 1972. Water poured into the longitudinal drain at Station 17+10 started flowing through the transverse drain at Station 16+15, indicating that the drain was operational and effective (Appendix IV).

Because of inclement weather, construction of the East Dike was suspended on December 6, 1972. When work resumed on February 20, 1973, Mr. Prescott was replaced by Mr. Budde. With the exception of bedding and riprap placement on the upstream face, the dike was essentially completed by March 5, 1973. The bedding (1 foot thick) and riprap (2 feet thick) was placed in December 1974 and January 1975. This work was done according to the plans and specifications.

Detailed daily inspection reports for the East Dike are included in the "Dike Construction Progress Report," Appendix IV. The compaction test reports are attached as Appendix A.

Storage Pond Dike - The dike between Stations 22 and 110 was referred to during construction as Storage Pond Dike. The main fill embankment extends from Station 33 to Station 85. The section from Station 85 to 110 is primarily cut, and low embankment extends from Stations 95 and 98, and from Stations 105 to 108. Rock was blasted to obtain the specified elevation between Station 85 and 98 and from 109 to 110.

A cofferdam was constructed from Stations 60 to 70 and Yellowdirt Creek was diverted through the minor diversion ditch shown on Plan H-12350. Subsequently, the major diversion ditch was excavated. Presplit rock blasting techniques were required through the ridge for this excavation. The foundation was then cleaned and leveling concrete fill placed to the specified pipe invert elevation. Daniel Construction Company installed the twin steel pipe culverts and encased them in structural concrete. The north end of the twin steel pipes was extended with corrugated metal pipes. After diversion culverts were completed, Yellowdirt Creek was diverted through the pipes.

To facilitate dewatering of the remaining dike foundation at this location, several ditches were excavated and water pumped from a sump located at the south end of the dike. For dewatering the west side of the culvert, another sump was maintained to the left of the major diversion ditch. All alluvial soil (consisting of clay, sand, and gravel) was removed to rock beneath the entire dike foundation. After satisfactory clean-up of the foundation, select silty clay was used to start the embankment. The first layer of the fill was rolled with a penumatic tire roller to obtain better compaction on the uneven rock surface.

Fill placement proceeded satisfactorily and all internal vertical, longitudinal and transverse drains were installed according to plan (except as noted below) using sand purchased from T&L Company and rock manufactured at the site. The elevations of the longitudinal and transverse drain between Stations 54 and 70 were changed by Georgia Power Company's survey group. The actual elevation changes were noted on the plan and forwarded to Southern Services.

Daily compaction reports for the Storage Pond Dike are attached as Appendix B.

Separation Dike - Detailed exploration and design studies for the Separation Dike are contained in Communication No. 39, Appendix I. The diversion scheme and construction drawings are shown on Dwgs. H-12364 through H-12366, and Dwgs. H-12396 through H-12398.

The plans required the removal of all alluvial soils and all sand and gravel from the core area, and the removal of the alluvial material only from under the balance of the embankment. Initial work on stripping began on May 17, 1973, and details of the construction of the embankment are contained in the reports shown in Appendix V. In brief, a 48-inch corregated metal pipe was installed for diversion of the creek. The upstream portion of the embankment, Stage 1, was constructed, after stripping, to El. 745. The core area in the flood plain was then undercut to weathered rock, and fill was compacted onto the inspected rock surface. Drainage was accomplished with open ditches and pumping from sumps. The location of the ditches and sumps are shown on report dated September 14, 1973, Appendix V.

Soils used for embankment fill were lean clays and silts obtained from borrow areas as described in the weekly reports (Appendix V) and compaction reports (Appendix C). Unit weights average 100 to 110 lbs per cu.ft., and 100% density was obtained. During September and October, 1973, sandy material was encountered in the borrow areas. Samples of the material was placed in the dike were obtained, and laboratory tests were conducted. The results showed the materials to be satisfactory with respect to design parameters (Communications 62 and 63, Appendix I).

On May 2, 1974, a dam was constructed to stop the water flow through the diversion pipe and both ends of the pipe were plugged with approximately 8 feet of concrete. The foundations for the balance of the dike were prepared, and fill placement continued. The procedures for tying in the second stage construction with the first stage dike are described in letter dated September 28, 1973, Appendix V. The horizontal drainage blankets shown on Dwg. H-12365 were constructed, using at first sand from Yellowdirt Creek, later supplemented by sand purchased from T&L Company of Whitesburg, Georgia.

Stone protection was placed on the embankment as described in the preceeding section of this report under "Construction Materials."

Potable Water Supply Dam - Details of the exploration and design for the Potable Water Supply Dam are described in Communications Nos. 43,44,46,47, and 53. Initial stripping began during the first week of November 1973 under the field supervision of Charles Edwards. Excavation of the valley section and the abutments was generally according to Dwg. H-12352, except that over-excavation of the east abutment produced a near vertical face from top of rock at about elevation 740 to overburden at 780. This face was later dressed back as the embankment was placed to produce a sloping contact between the fill and the weathered rock abutment (see attached photos).

Both abutments contained rock outcrops which would have prevented proper compaction of the embankment fill. These were blasted with light charges during foundation preparation to permit proper compaction of the fill against the abutment.

The 72" concrete pipe which will provide permanent control of the Potable Water Supply Pond was used for diversion of the creek (Dwg. H-12356). To control the stream flow during construction of the concrete pipe, the contractor constructed a wooden wall parallel to the stream channel. Holes 8" in diameter were drilled on about 10' centers for anchoring vertical wooden posts.

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Tongue and groove joint laggings were then installed between the posts and anchored with sand bags. The creek was diverted to the east side of the wall, providing a fairly dry area for the construction of the concrete pipe. (See attached photographs for diversion details.)

All sand and gravel, alluvium, and broken rock debris were removed from the pipe foundatin and fill concrete placed to the specified elevation. After completion of the foundation work, the concrete pipe was installed and the lower half encased in concrete. Daniel Construction Company then built the north and south head walls and apron. The water was diverted through the pipe and a cofferdam constructed at the north end of the proposed dam to obtain a dry working area on both sides of the pipe.

The west side of the pipe area was cleaned first. Concrete was placed in any narrow slots in the foundation rock to facilitate the initial fill compaction. The first layer of embankment was selected clayey material compacted with pneumatic tired equipment. The fill was placed to the level of the top of the pipe. The east side of the pipe was then cleaned, leveled and similarly filled. When the embankment level reached the vertical cut described previously, the bank was sloped to allow better fill compaction and bond to the abutment.

The sand plug and sand-gravel drains were installed on both sides of the concrete pipe according to Dwg. H-12356. All upstream and downstream horizontal sand blankets were installed as specified with sand purchased from T&L Company. Stone protection for both upstream and downstream embankment slopes was 12" of bedding material and 24" of riprap. The bedding material was manufactured from the stockpile stone, and riprap stone was secured from a quarry opened for that purpose west of the embankment.

Southland Power Constructors excavated the spillway channel, the lower end of which required blasting of rock to obtain the specified elevation. The spillway structure itself was built by Daniel Construction Company.

SUMMARY

The material contained in this report is intended to briefly furnish information on the personnel who supervised the inspection of the embankments, together with sufficient data to permit identification of the reports which are available for all portions of the project. If it should ever become necessary to review the construction details of any part of the embankment, the proper field inspection report contained in these appendices, together with the project plans and the appropriate portions of the specifications, should be sufficient to identify the records and the procedures used for that part of the project.

Dam embankments constructed of compacted Piedmont soils on properly prepared Piedmont foundations have an excellent performance record. The Wansley foundations are strong and relatively impervious, and the residual Piedmont soils, properly compacted, make excellent embankment fill. The Wansley embankments were conservatively designed, with adequate provisions for foundation and embankment drainge, and with heavy riprap protection against wave action. There is no feature of the construction which should ever be a cause for concern. However, if it should become necessary at some future date to investigate a feature or area of the work, the design studies and the plans and specifications, together with the construction records contained herein, should be adequate for determination of the problem and to indicate any necessary remedial work.

11 App. II

LAW ENGINEERING TESTING COMPANY
Geotechnical and Materials Engineers
412 PLASTERS AVENUE, N.E. / ATLANTA, GEORGIA 30324 / (404) 873-4761

PROCEDURES FOR QUALITY CONTROL DURING FILL PLACEMENT FOR DIKE CONSTRUCTION

GENERAL

(1) All phases of dike construction will be witnessed by the civil group or their consultants to verify that the specifications and design drawings are adhered to and to verify that conditions in the field are similar to those upon which the designs were based. No changes in the specifications or designs will be made without prior approval of the design group of Georgia Power Co.

(2) A soil technician will be assigned to specific areas of dike construction on a full-time basis to carry out the work as prescribed in this procedure.
Note: The contractor must notify the soils technician in advance of his initiating any work in areas of dike construction.

(3) The soil technician and site soil engineer will have authority to stop all dike construction in a given area if the design specifications and drawings are not being followed.

FILL CONTROL

(4) All areas to receive fill will be thoroughly inspected by the site soils engineer to verify that adequate stripping of topsoil and organic debris is performed.

(5) During filling, the earth moving operations will be continuously monitored visually and with testing to verify that proper soils are being utilized and that adequate compaction is being achieved.

(6) At least one (1) density test will be made for each approximate 1500 yards of fill placed.

(7) The nuclear density gage shall be utilized in monitoring the inplace density of the fill material. However, approximately twenty percent of tests made with the nuclear device will be verified by conventional sand cone or shelby tube methods, as described in the Quality Assurance Manual.

(8) If the dry density obtained by the nuclear gage method varies by more than 4 lbs. from that of the conventional method, an additional conventional test will be made. The average density of the two (2) conventional method tests will then be compared with the average of the previous five (5) tests with the nuclear gage on that particular fill lift. If the average densities obtained by this procedure vary by less than 4 lbs., the tests will be considered valid. If they vary by more than 4 lbs. the site soils engineer will be consulted as to need for further testing of the suitability of the fill.

(9) Generally, the density as determined by the nuclear density gage will be that which will be compared with the compaction curves for determination of suitability of compaction.

(10) The density of the fill will be considered failing if a degree of compaction of less than 100 percent of the Standard Proctor Maximum dry density is obtained. Additional densification of the fill will be required if less than 100 percent is obtained.

INTERNAL DRAINS

(11) The construction of the internal drains shall be continuously observed by a soils engineer from the civil group to verify that the drain locations are as required and that proper thicknesses of the required materials are installed.

(12) The materials in the drains shall be compacted to the suitability of the soils engineer.

(13) Fine aggregate and coarse aggregates being utilized in drain construction will be tested each day to verify that their gradation is in compliance with the design requirements.

(14) On an occasional basis, the soils engineer will inject water into the drains prior to their being covered with fill to verify that they will perform satisfactorily.

RIP-RAP PLACEMENT

(15) The installation of rip-rap will be continuously observed by an engineer or technician from the soil group.

(16) He will verify that the required thicknesses of both the cushion blanket of fine stone and outer layer of armor stone are placed.

(17) The cushion blanket material will be tested daily to verify that its gradation is in compliance with the specifications.

(18) The armor stone will be visually inspected and volume measurements of pieces made to verify that its general gradation and maximum stone size are in compliance with the specifications.

QUALITY CONTROL
YELLOW CREEK STEAM PROJECT
CIVIL
ELECT
MECH
FILE

FROM App. V.

September 28, 1973

Mr. G. B. Dougherty
Southern Services Inc.
P. O. Box 2625
Birmingham, Alabama 35202

Subject: Borrow Material And Construction Procedures For The Plant Wansley Separation Dam

Dear Mr. Dougherty:

After encountering low density borrow material (90 to 95 pounds per cubic foot dry density) and very sandy material, we decided that additional testing was needed. A two-foot lift of the sandy material was placed on the upstream edge of the separation dam. Six undisturbed samples were obtained on September 27. These samples were sent to Law Engineering Testing Company for triaxial testing.

As soon as the weather permits, a two-foot lift of the low density material will be placed. This test lift will only cover an area sufficiently large enough to obtain the same compactive effort as is applied to large fill areas. We will obtain six more undisturbed samples for triaxial testing. Until we obtain the test results and your written approval, this low density material will only be placed in one six-inch lift per ten feet of fill. No additional sandy material will be used until we get your written approval.

All triaxial test results and all in-place density test results on the separation dam will be forwarded to you. After the results of these triaxial tests are obtained, we will decide on a definite schedule of triaxial testing. We plan to obtain five additional undisturbed samples of the normal specified fill material for triaxial testing as soon as filling resumes on the separation dam.

As to your question on tying the Stage I Construction to the remaining fill, we plan to continuously bench into the sloping fill. We will have a dozer cut into the existing fill until we obtain material that has the specified density as verified by in-place density tests. Close observation is provided by me and the field technicians to assure that this operation is performed correctly. It is simple to visualize that a proper benching operation requires that, at all times, the compacted material into which the horizontal bench is cut must be showing on the vertical portion of the bench cut.

When tying the fill to the existing abutments, several procedures are used. Steep abutments are cut back as much as possible. The existing natural ground is scarified completely before fill placement starts. The abutment is benched, if necessary. The rollers continuously run from the fill material onto the abutment. Since the sheeps foot or grid roller leaves the upper six inches of the compacted fill in a loose state, successive layers are fused together in a continual process, insuring an excellent seal between the existing abutment and the placed fill.

Yours very truly,

GEORGIA POWER COMPANY

Charles A. Edwards
Senior Engineering Associate

CAE:esw

cc: Mr. R. S. Ponsell
Mr. Don Foster
Quality Assurance File ✓

FROM APPC 2-5-76

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Sep. Dam

Night Shift

DATE: 10 5 73
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: 1211

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	432	444	436	437	432	428	436	[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	127.0	125.5	126.5	126.5	127.0	127.5	126.5	128.0
(F) Moist Count	1260	1208	1224	[illegible]	1264	1248	1222	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	25.4	24.2	24.6	24.8	25.4	25.2	24.6	[illegible]
(I) Dry Wt.	101.6	101.3	101.9	101.7	101.6	102.3	101.9	[illegible]
(J) Proctor Wt.	100	100	100	100	[illegible]	100	[illegible]	[illegible]
(K) % Comp. I ÷ J	100	101	101	101	[illegible]			
(L) % Moist								
(N) Location	18+00 ℄ →	18+70 →	20+[illegible] 80' L ℄	→	[illegible]	→	[illegible]	[illegible] →
(O) Elev.	744	745	749	750	753	754	754	755

Compaction Required 100%

CONFIDENTIAL BUSINESS INFORMATION

Technician

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: WANSLEY
JOB NO.:
AREA: SEPARATION DAM

DATE: OCT 4, 1973
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1A	2A	3A	4A	5A			
(B) Probe Depth								
(C) Dens. Count	408	406	392	416	396			
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	130.0	130.2	132.0	129.0	131.5			
(F) Moist Count	1130	990	980	1060	1060			
(G) F ÷ Std Count	22.4	19.1	18.9	20.8	20.8			
(H) Wt. Moist (lbs)								
(I) Dry Wt.	107.6	111.1	113.1	108.2	110.7			
(J) Proctor Wt.								
(K) % Comp. I ÷ J	FOR TRIAXIAL TESTING							
(L) % Moist								
(N) Location	5+00 150' L ℄	4+25 135'L℄	3+25 135' Lt ℄	3+00 160Lt℄	3+75 160Lt℄			
(O) Elev.	759	762	767	768	767			

Compaction Required

CONFIDENTIAL BUSINESS INFORMATION

Technician M. K

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA: [illegible]

[illegible] Sheet

DATE: 10 7 [illegible]
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	9	10	11	12	13	[illegible]	[illegible]	[illegible]
(B) Probe Depth								
(C) Dens. Count	422	[illegible]	[illegible]	[illegible]	412	414	927	402
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	125.5	129.0	127.5	[illegible]	129.5	[illegible]	128.[illegible]	130.0
(F) Moist Count	1134	1090	[illegible]	1119	1084	[illegible]	[illegible]	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	22.4	21.5	19.1	22.0	[illegible]	[illegible]		[illegible]
(I) Dry Wt.	[illegible]	107.5	108.4	[illegible]	108.2	[illegible]	[illegible]	[illegible]
(J) Proctor Wt.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			102
(K) % Comp. I ÷ J	[illegible]	106	[illegible]	102	[illegible]	[illegible]	[illegible]	[illegible]
(L) % Moist								
(N) Location	24+40 40'Lt	[illegible] →	22+[illegible] 100'Lt	22+[illegible] →	23+25 35'Lt	23+[illegible] →	[illegible] 150'Lt	[illegible] →
(O) Elev.	746	747	746	745	746	747	[illegible]	747

Compaction Required 100%

CONFIDENTIAL BUSINESS INFORMATION

Technician VD/70

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: scrubber Night Shift

DATE: 10-8-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1211

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count	426	434	442	428	446	444	434	444
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	128.0	126.5	125.5	127.5	125.0	125.5	126.5	125.5
(F) Moist Count	1236	1268	1214	1226	1210	1228	[illegible]	1236
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	25.0	24.2	24.2	24.8	24.2	24.8	25.0	25.0
(I) Dry Wt.	103.0	102.3	101.3	102.7	100.8	100.7	101.5	101.5
(J) Proctor Wt.	100	100	100	100	100	100	[illegible]	100
(K) % Comp. I ÷ J	100	100	100	100	100	[illegible]	[illegible]	100
(L) % Moist								
(N) Location	23+00 90' L ℄	23+20 →	24+50 25' R ℄	24+[illegible] →	25+50 ℄	26+[illegible] →	27+[illegible] 6' L	27+85 →
(O) Elev.	[illegible]	[illegible]	754	75[illegible]	754	75[illegible]	755	756

Compaction Required 100 %

CONFIDENTIAL BUSINESS INFORMATION

Technician WD/TO

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: WANSLEY
JOB NO.:
AREA: SEP DAM

DATE: 10/8/73
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]
DAY SHIFT

(A) Test Number	17	18	19	20				
(B) Probe Depth	6"			6"				
(C) Dens. Count	466	502	506					
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	122.5	118.5	118.0					
(F) Moist Count	1040	928	984					
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	20.3	17.8	18.9					
(I) Dry Wt.	102.2	100.7	99.1					
(J) Proctor Wt.	101.0	101.0	101.0					
(K) % Comp. I ÷ J	100+	99.8	98.3					
(L) % Moist			REROLLED					
(N) Location	17+90 31' ℄	19+50 160' R℄	19+30 170' R℄					
(O) Elev.	710	718	717					

Compaction Required 100%

CONFIDENTIAL BUSINESS INFORMATION

Technician N.L & C.F

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Sep Dam Night Shift

DATE: 10-7-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	464	448	452	444	446	438	442	452
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	123.0	125.0	124.5	125.5	125.0	126.0	125.5	124.5
(F) Moist Count	1158	1174	1160	1202	1158	1240	1200	1125
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.2	23.4	23.2	24.0	23.2	25.0	24.0	22.4
(I) Dry Wt.	98.8	101.6	101.3	101.5	101.5	101.0	[illegible]	[illegible]
(J) Proctor Wt.	100	100	100	100	100	100	[illegible]	[illegible]
(K) % Comp. I ÷ J	~~100~~ 99	100+	100+	100+	100	100+	[illegible]+	100+
(L) % Moist	REROLLED							
(N) Location	17+50 30'R ℄	17+65 →	18+75 ℄	18+85 →	20+0[illegible] 50'L ℄	[illegible] →	[illegible] 20'L ℄	
(O) Elev.	740	741	747	745	751	752	[illegible]	4

Compaction Required 100 %

CONFIDENTIAL BUSINESS INFORMATION

Technician UD

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Sep. Dam

D[illegible]

DATE: 10-7-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	498	462	478	490	458	470	476	488
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	119.0	123.2	121.5	120.0	123.7	122.2	119.2	120.0
(F) Moist Count	1260	1100	990	1170	1080	1120	1000	1010
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	25.4	21.7	19.1	23.4	21.3	22.2	19.2	19.6
(I) Dry Wt.	93.6	101.5	102.4	96.6	102.4	100.0	100.0	100.4
(J) Proctor Wt.	92	100	100	97	102	100	100	100
(K) % Comp. I ÷ J	100	100	100	100	100	[illegible]		
(L) % Moist								
(N) Location	20+00 → 100 LT E	+15	22+00 →	+15	24+00 →	+15	26+00 →	+15 →
(O) Elev.	755	754	753	752	753	752	751	750

Compaction Required ____________

Technician M K.

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: SEP DAM

Night Shift

DATE: 10-6-77
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	402	426	418	[illegible]	410	416	406	422
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	131.0	127.5	129.0	[illegible]	130.0	129.0	130.0	125.5
(F) Moist Count	1202	1180	1219	1152	940	[illegible]	1116	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	24.0	23.6	24.2	[illegible]	18.0	21.1	22.2	[illegible]
(I) Dry Wt.	107.0	103.9	105.5	[illegible]	112.0	107.9	107.5	108.2
(J) Proctor Wt.	106.3	103	103	103	110	106.3	[illegible]	106.3
(K) % Comp. I ÷ J	100	100	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(L) % Moist								
(N) Location	17+50 30' L ℄	17+60 →	18+75 160' L ℄	18+85 →	19+00 10' L ℄	[illegible] →	[illegible] 125' L ℄	[illegible] →
(O) Elev.	740	741	742	743	744	[illegible]	[illegible]	[illegible]

Compaction Required 100

Technician

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: W. Ansley
JOB NO.:
AREA: [illegible]

Night Shift

DATE: 10-9-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6"							
(C) Dens. Count	432	428	442	436	434	426	436	436
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	127.0	127.5	125.5	126.5	126.5	127.3	126.0	126.5
(F) Moist Count	1228	1226	1202	1216	1222	1240	1222	1238
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	24.8	24.5	24.0	24.6	24.6	25.0	24.8	25.0
(I) Dry Wt.	102.2	102.7	101.5	101.9	101.9	102.3	110.2	101.5
(J) Proctor Wt.	100	100	100	100	100	[illegible]	[illegible]	100
(K) % Comp. I ÷ J	100	100	100	100	100	[illegible]	[illegible]	100
(L) % Moist								
(N) Location	19+75 40' L ℄	19+85 →	21+50 20' R ℄	21+65 →	24+75 ℄	24+85 →	26+[illegible] 25' R ℄	[illegible]66 →
(O) Elev.	750	751	754	755	756	757	757	756

Compaction Required 100%

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY – SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.: /
AREA: Sep. Dam

DATE: 10-8-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271
DAY SHIFT

	[illegible]	[illegible]						
(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	430	450	436	442	456	462	442	436
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	127.2 127.2	124.7 124.7	126.2	125.7	124.0	123.2	125.2	126.2
(F) Moist Count	1040	1100	1030	1010	1120	1020	1000	990
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	20.3	21.7	20.1	19.6	22.2	20.0	19.3	19.1
(I) Dry Wt.	106.9	103.0	106.1	106.1	101.8	103.2	105.9	106.1
(J) Proctor Wt.	103	103	103	103	101	103	103	103
(K) % Comp. I ÷ J	100+	100+	100+	100+	100+	100+	100+	100+
(L) % Moist	19.5	22.0						
(N) Location	27+00 50'Lt ℄ →	27+15	25+00 60'Lt ℄ →	25+15	23+00 30'Lt ℄ →	23+15	21+00 ℄ →	21+20
(O) Elev.	755	754	755	754	754	753	752	751

Compaction Required 100

Technician ______

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: WANSLEY
JOB NO.:
AREA: SEPARATION DAM

DATE: 10/8/73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: [illegible]
DAY SHIFT

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6"							6"
(C) Dens. Count	432	450	440	466	450	460	430	472
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	127.0	124.5	126.0	122.5	124.5	123.5	127.5	122.0
(F) Moist Count	1440	1396	1346	1336	1464	1114	1014	196
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	29.6	28.7	27.5	27.3	30.1	22.0	19.6	19.3
(I) Dry Wt.	97.4	95.8	98.5	95.2	94.4	101.5	107.9	102.7
(J) Proctor Wt.	95.0	95.0	95.0	95.0	92.0	101.0	107.0	101.0
(K) % Comp. I ÷ J	100+	100+	100+	100+	100+	100+	100+	100+
(L) % Moist		LIGHT WEIGHT MATERIAL						
(N) Location	26+50 160'L ℄	25+50 160'L ℄	24+50 160'L ℄	23+50 160'L ℄	22+50 160'L ℄	18+00 110'R ℄	18+20 120'R ℄	17+70 70'R ℄
(O) Elev.	757	758	759	760	755	715	716	711

Compaction Required 100%

Technician M.K C.E. 9-13

CONFIDENTIAL BUSINESS
INFORMATION

2-5-76

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sep Dam

DATE: 9-27-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

Page 3

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count	406	412	436	424	412	430		
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	130.0	127.6 129.5	126.3 126.5	128.0	129.5	127.0		
(F) Moist Count	1290	1280	1400	1320	1470	1380		
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	26.2	259	28.7	26.8	30.3	28.3		
(I) Dry Wt.	103.8	103.6	97.8	101.2	99.2	98.7		
(J) Proctor Wt.	100	100	98	100	95	98		
(K) % Comp. I ÷ J	100	100	100	100	100	100		
(L) % Moist								
(N) Location	100 L72 → 12+00	12+20	100 L72 → 13+00	13+20	125 L72 → 13+50	13+70		
(O) Elev.	710	711	706	705	707	706		

Compaction Required 100

Technician M. K.

CONFIDENTIAL BUSINESS
INFORMATION

WORK SHEET

GEORGIA POWER COMPANY

FIELD DENSITY TEST (Shelby Tube Method)

Client [illegible]

Date

Project [illegible]

Job / lab no.

TEST NO.	W. W. SAMPLE & MOLD	WT. MOLD	W. W. SAMPLE	W. W. CU. FT.	W. W. MOIST SAMPLE	D. W. MOIST SAMPLE	W. MOIST	% MOIST	DRY DENSITY	*	% COMP.	LOCATION
	▨	▨	▨		▨	▨	▨					
1				[illegible]				[illegible]	[illegible]		[illegible]	[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
		[illegible]	[illegible]	[illegible]							[illegible]	
[illegible]	[illegible]	[illegible]									[illegible]	
10				127.8		83.6		19.3	106.6			See Page 3
12				126.3				22.9	103.0			

* Tests Compared To:

Compaction Curve No. ______ Maximum [illegible] pcf. Optimum Moisture [illegible] %

Compaction Required [illegible] %

Mold Volume Factor

Not to be typed ▨

Work performed by [illegible]

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA: [illegible]

DATE: 9-[illegible]-75
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	1	2	3	4	5	6		
(B) Probe Depth								
(C) Dens. Count	[illegible]	[illegible]	[illegible]	[illegible]		410		
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft3)	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		
(F) Moist Count	1070	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	[illegible]	14.3	[illegible]	[illegible]	[illegible]	[illegible]		
(I) Dry Wt.	107.7	108.7	[illegible]	[illegible]	112.3	[illegible]		
(J) Proctor Wt.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
(K) % Comp. I ÷ J	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
(L) % Moist	20.0	[illegible]	[illegible]	[illegible]	7			
(N) Location	2+75 135 LT [illegible]	[illegible] 135 LT [illegible]	[illegible] F40 [illegible]	[illegible] [illegible]	[illegible] [illegible]	[illegible] 65 [illegible]		
(O) Elev.	[illegible]	[illegible]	[illegible]53	[illegible]		[illegible]		

Compaction Required 100%

Technician [illegible]

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Seperation Dam

DATE: Sept 22-1975
DENSITY STANDARD COUNT: 262
MOISTURE STANDARD COUNT: 1522

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"	←					→	6"
(C) Dens. Count	460	438	450	440	464	458	486	470
(D) C ÷ Std Count	126.4	129.5	128.0	128.9	126.5	127.0	123.9	125.5
(E) Wet Wt. (lb/ft^3)	~~23~~							
(F) Moist Count	1432	1422	1630	1472	1504	1548	1466	1386
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.2	23.0	27.0	24.0	24.7	25.4	23.8	22.3
(I) Dry Wt.	103.2	106.5	101.0	104.9	101.8	101.6	100.1	103.2
(J) Proctor Wt.	103	106	100	103	100	100	100	103
(K) % Comp. I ÷ J	100%	100%	100%	100%	100%	100%	100%	100%
(L) % Moist								
(N) Location	~~Left~~ 60FT Lt ℄ Sta 12+00	60Ft Lt. ℄ Sta 12+15	Left ℄ 60Ft Sta 13+05	60' Lt ℄ Sta 13+20	50' Lt ℄ Sta 14+30	~~50'~~ Lt ℄ Sta 14+45	50' Lt ℄ Sta 15+05	50' Lt ℄ Sta 15+20
(O) Elev.	710 ~~12+00~~ ~~708~~ ~~710~~	711 ~~709~~ ~~709~~ ~~711~~	709	708	702	702	697	698

Compaction Required 100%

Technician A.N.L.

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: sep Dam

Night

DATE: 9-26-77
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	408	422	416	412	406	408	418	420
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	130.0	128.5	129.0	129.5	130.5	130.0	129.0	128.5
(F) Moist Count	1172	1194	1204	1192	1204	1188	1156	1182
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.4	23.8	24.0	23.8	24.0	23.8	23.2	23.6
(I) Dry Wt.	106.6	104.7	105.0	105.7	106.5	106.2	105.8	104.9
(J) Proctor Wt.	105	105	105	105	105	105	105	105
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	11+00 50'R℄	11+15 →	12+50 80'R℄	12+66 →	13+75 100'R℄	13+85 →	14+25 30'R℄	14+50 →
(O) Elev.	701	702	697	658	652	693	691	652

Compaction Required 100%

Technician V.D./TD

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: SEPDAM

Night

DATE: 9.27.73
DENSITY STANDARD COUNT: 871
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count	402	412	408	406	398	416	404	414
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	131.0	129.5	130.0	130.0	131.5	129.0	130.5	129.5
(F) Moist Count	1174	1192	1216	1204	1090	1144	1216	1186
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.4	23.8	24.6	24.0	21.5	22.7	24.6	23.8
(I) Dry Wt.	107.6	105.7	105.4	106.0	110.0	106.3	105.9	105.7
(J) Proctor Wt.	106.5	105.5	105	106.5	[illegible]	106.3	[illegible]	[illegible]
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	11+75 100' R ℄	11+85 →	12+50 ℄	12+65 →	13+25 50' R ℄	13+35 →	14+00 20' L ℄	14+10 →
(O) Elev.	704	705	708	709	694	653	651	652

Compaction Required 100%

Technician V.D./T.O.

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
[redacted].: [illegible]
AREA: [illegible]

DATE: 9-26 [illegible]
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	[illegible]	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	[illegible]	127	[illegible]	[illegible]	[illegible]	118	[illegible]	124
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	[illegible]	125.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(F) Moist Count	1310	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	122[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(I) Dry Wt.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3.4
(J) Proctor Wt.	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	
(K) % Comp. I ÷ J	[illegible]	[illegible]	102	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(L) % Moist								
(N) Location	12-75 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(O) Elev.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Compaction Required [illegible]

Technician [illegible]

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.: [illegible]
AREA: [illegible]

DATE: [illegible]
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number								
(B) Probe Depth								
(C) Dens. Count	[illegible]	[illegible]	[illegible]					
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	[illegible]	[illegible]	[illegible]	[illegible]				
(F) Moist Count	[illegible]	[illegible]	1.96	12[illegible]				
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	[illegible]	[illegible]	21.5	25.0				
(I) Dry Wt.	102.1	[illegible]	[illegible]	99.5				
(J) Proctor Wt.		[illegible]	[illegible]	[illegible]				
(K) % Comp. I ÷ J	102	1[illegible]3	1[illegible]2	[illegible]				
(L) % Moist								
(N) Location	12+50 100 LT [illegible]	12+70 →	13+50 90 LT [illegible]	[illegible]				
(O) Elev.	[illegible]	19[illegible]	[illegible]	[illegible]				

Compaction Required [illegible]

Technician [illegible]

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Sep Dam

DATE: 9-25-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	452	446	428	434	418	436	432	444
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	124.5	125.0	127.5	126.5	128.5	126.5	127.0	125.5
(F) Moist Count	1202	1214	1234	1224	1148	1196	1192	1206
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	24.0	24.2	24.8	24.6	20.6	24.0	23.8	24.2
(I) Dry Wt.	100.5	100.8	102.7	101.9	107.9	102.5	103.2	101.3
(J) Proctor Wt.	100	100	100	100	106.3	100	100	100
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	10+50 ℄	10+80 →	11+50 80' R ℄	11+75 →	12+75 100' L ℄	12+85 →	14+00 25' R ℄	14+20 →
(O) Elev.	712	713	712	713	712	713	713	714

Compaction Required 100%

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: W Ansley
JOB NO.:
AREA: Sep Dam

DATE: 9-26-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6"							
(C) Dens. Count	460	454	436	442	416	452	456	458
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	123.5	124.0	126.5	125.5	129.0	124.5	124.0	123.5
(F) Moist Count	1178	1196	1232	1192	1012	1222	1180	1168
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.6	23.8	24.8	23.8	19.6	24.6	23.6	23.4
(I) Dry Wt.	99.9	100.2	101.7	101.7	109.4	99.9	100.4	100.1
(J) Proctor Wt.	100	100	100	100	108	100	100	100
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	10+50 40' L ℄	10+60 →	12+00 100' R ℄	12+10 →	13+00 100' L ℄	13+20 →	14+75 ℄	14+80 →
(O) Elev.	713	714	714	715	714	715	714	715

Compaction Required 100%

Technician UD/TD

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Spreader Dam

DATE: 9/[illegible]
DENSITY STANDARD COUNT: 531
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	430	458	461	4[illegible]	[illegible]	[illegible]	452	428
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	127.2 126	[illegible]	[illegible]	[illegible]	126.7	[illegible]	124.2	127.5
(F) Moist Count	1060	1060	970	[illegible]	[illegible]	1010	[illegible]	1020
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	20.8	20.5	16.7	[illegible]	21.1	19.[illegible]	17.5	[illegible]
(I) Dry Wt.	106.4 [illegible]	[illegible]	104.3	[illegible]	[illegible]	[illegible].6	[illegible]	[illegible]7.6
(J) Proctor Wt.	104	104	[illegible]	[illegible]8	[illegible]	104	[illegible]	[illegible]7
(K) % Comp. I ÷ J	102	101	100	102	102	10[illegible]	102	[illegible]1
(L) % Moist	19.5 17.0							
(N) Location	27+50 5' Lt ℄ →	27+25	[illegible] 10' Lt ℄	[illegible]	25+[illegible] [illegible] Lt ℄ →	25+15	[illegible]	[illegible]
(O) Elev.	749	748	[illegible]	[illegible]	747	746	[illegible]	[illegible]4

Compaction Required 100

Technician [illegible]

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA: Sep [illegible]

DATE: [illegible]
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	17	18						
(B) Probe Depth								
(C) Dens. Count	250	232						
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	124.7	125.7						
(F) Moist Count	1120	1100						
(G) F ÷ Std Count	22.3	21.7						
(H) Wt. Moist (lbs)	102.5	104.0						
(I) Dry Wt.	100	100						
(J) Proctor Wt.	103	104						
(K) % Comp. I ÷ J								
(L) % Moist								
(N) Location	21+00 90+75	21+20 →						
(O) Elev.	746	745						

Compaction Required 100

Technician [illegible]

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA: [illegible]

DATE: 9/25/72
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	[illegible]	10	11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count	[illegible]	[illegible]	448	[illegible]	460	430	448	428
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	122.5	[illegible]	125.0	[illegible]	123.5	127.2	[illegible]	[illegible]
(F) Moist Count	[illegible]	[illegible]	1220	[illegible]	[illegible]	1040	[illegible]	1060
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.2	[illegible]	[illegible]	11.6	25	[illegible]	[illegible]	[illegible]
(I) Dry Wt.	99.[illegible]	[illegible]	100.4	[illegible]	97.[illegible]	106.9	[illegible]	[illegible]
(J) Proctor Wt.	98.0	[illegible]	[illegible]	106	98	104	[illegible]	[illegible]
(K) % Comp. I ÷ J	100	100	[illegible]	104	[illegible]	103	[illegible]	[illegible]
(L) % Moist								
(N) Location	22+50 30[illegible]+4 →	22+[illegible] →	[illegible] 1004+9 →	23+[illegible]	23+15 [illegible]	23+50 →	22+50 [illegible]9 →	22+65
(O) Elev.	746	725	74[illegible]	[illegible]	74[illegible]	748	[illegible]	[illegible]

Compaction Required [illegible]

Technician [illegible]

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: W. Ansley
JOB NO.:
AREA: Sep Dam

DATE: 9-27-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	482	494	486	466	492	488	478	484
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	121.0	119.5	120.5	122.0	119.5	120.5	121.5	120.5
(F) Moist Count	1050	1080	1062	1106	1028	1056	1092	1068
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	20.6	21.3	20.8	22.0	20.1	20.8	21.5	21.1
(I) Dry Wt.	100.4	98.2	99.7	100.0	99.4	99.7	100.0	99.4
(J) Proctor Wt.	* 100.0	98	* 100.0	100.0	98	100.0	100.0	98
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	19+75 150'L℄	19+80 →	21+00 100'L℄	21+15 →	22+75 220'L℄	23+00 →	24+00 225'L℄	25+15 →
(O) Elev.	753	754	755	756	755	756	721	722

* NEW PROCTOR

Compaction Required 100%

Technician VD/TO

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: W Ansley
JOB NO.:
AREA: Sep Dam

DATE: 9-25-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6"							
(C) Dens. Count	466	482	464	468	472	446	438	454
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	122.5	121.0	123.0	122.5	122.0	125.0	126.0	124.0
(F) Moist Count	1084	1048	1102	1014	1020	958	976	982
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	21.3	20.6	21.7	19.6	19.9	19.3	18.9	18.9
(I) Dry Wt.	101.2	100.4	101.3	102.9	102.1	103.7	107.1	105.1
(J) Proctor Wt.	100	100	100	100	100	103	106	103
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	20+50 80' L ℄	20+65 →	22+50 150' L ℄	22+60 →	24+00 100' L ℄	24+15 →	25+75 165' L ℄	25+85 →
(O) Elev.	754	757	758	759	758	759	760	759

Compaction Required 100%

Technician VD/70

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: WANSLEY
JOB NO.:
AREA: SEPARATION DAM

DATE: SEPT 24, 1973
DENSITY STANDARD COUNT: 262
MOISTURE STANDARD COUNT: 1572

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"	—	—	—	—	—	—	—
(C) Dens. Count	456	464	496	494	428	468	460	444
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	127.5	126.5	123.0	123.0	130.5	126.0	126.7	12[illegible].7
(F) Moist Count	1564	1530	1418	1454	1192	1288	1480	[illegible]370
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	25.8	25.0	23.0	23.8	18.8	20.5	24.2	[illegible]
(I) Dry Wt.	101.7	101.5	100.0	99.2	111.7	105.5	102.5	106.7
(J) Proctor Wt.	100.0	100.0	100.0	98.0	110.0	105.0	[illegible]	[illegible]
(K) % Comp. I ÷ J	100+%	100+%	100%	100+%	100+%	100%	[illegible]	[illegible]
(L) % Moist								
(N) Location	22+00 100' LT. ℄	22+30 90' LT. ℄	24+50 100' LT. ℄	24+70 90' LT. ℄	27+00 80' LT. ℄	27+20 70' LT. ℄	2[illegible]+00 80' LT ℄ →	2[illegible]+20
(O) Elev.	755	754	753	753	755	754	[illegible]38	737

Compaction Required 100%

Technician R. DUKE + C.E.

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Separation Dam

DATE: 9/24/73
DENSITY STANDARD COUNT: 262
MOISTURE STANDARD COUNT: 1522

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count	431	[illegible]	436	[illegible]	430	438	452	434
(D) C ÷ Std Count			1.62	1.73	1.64	167	173	1.66
(E) Wet Wt. (lb/ft^3)	[illegible]	[illegible]	131.4	[illegible]	130.5	[illegible]	[illegible]	130.0
(F) Moist Count	[illegible]	[illegible]	1340	[illegible]	1360	1280	[illegible]	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.0	[illegible]	21.5	21.7	[illegible]	[illegible]	19.0	[illegible]
(I) Dry Wt.	[illegible]	[illegible]	108.5	[illegible]	109.8	[illegible]	[illegible]	[illegible]
(J) Proctor Wt.	107	107	107	[illegible]	[illegible]	107	107	107
(K) % Comp. I ÷ J	101	[illegible]	102	101	103	102	[illegible]	[illegible]
(L) % Moist								
(N) Location	[illegible] 300 Lt ℄ →	[illegible]	20+00 125 Rt ℄ →	[illegible]	20+50 175 Rt ℄ →	[illegible]	21+10 225 Rt ℄	[illegible]
(O) Elev.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	720	[illegible]	[illegible]

Compaction Required 100

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Intake - access Road

DATE: Sept 23-1993
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1221

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"	6"	6"	6"	6"	6"	6"	6"
(C) Dens. Count	424	432	464	500	432	456	474	480
(D) C ÷ Std Count			123.0					
(E) Wet Wt. (lb/ft^3)	128.0	127.0	~~954~~	~~[illegible]~~ 119.0	127.0	124.0	122.0	121.0
(F) Moist Count			954					
(G) F ÷ Std Count	1160	1140	~~18.3~~		1126	1036	980	1026
(H) Wt. Moist (lbs)	23.2	22.7	18.3	13.4	22.3	20.2	~~[illegible]~~ 18.9	19.9
(I) Dry Wt.	104.8	104.3	104.7	105.6	104.9	103.8	103.1	1011
(J) Proctor Wt.	103	103	103	103	103	103	103	100
(K) % Comp. I ÷ J	100%	100%	106%	100%	100%	100%	100%	100%
(L) % Moist								
(N) Location	20' Lt ℄ Facing North 125' North of downstream cell	20' Lt ℄ Facing North 100' North of downstream cell	20' Lt ℄ Facing north 40' North of downstream cell	20' Lt ℄ Facing North 55' North of downstream cell	12' Rt ℄ Facing North 30' North of downstream cell	12' Rt ℄ Facing North 45' North of downstream cell	12' Rt ℄ Facing North 120' North	12' Rt ℄ Facing North 135' of downstream cell
(O) Elev.	~~682~~	~~680~~	~~683~~	684	683	682	685	684
	678	687	672	682				

Compaction Required 100%

Technician A.N.L.

CONFIDENTIAL BUSINESS INFORMATION

2-5-76

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA: [illegible]

DATE: 7-22-73
DENSITY STANDARD COUNT: 2?1
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6"							
(C) Dens. Count	454	442	434	478	454	462	476	426
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	124.0	126.0	126.5	125.0	1240	123.5	125.0	126.5
(F) Moist Count	1022	1094	1070	1054	982	966	1025	1056
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	19.9	21.5	21.1	20.6	18.9	18.7	17.8	20.3
(I) Dry Wt.	104.1	104.5	105.4	104.4	105.1	104.8	107.2	106.2
(J) Proctor Wt.	113	103	103	103	103	103	106.3	106.3
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	21+50 200'L ℄	21+60 →	22+75 100'L℄	23+00 →	24+80 120'L ℄	25+00 →	26+50 25' [illegible]	26+65 →
(O) Elev.	759	760	762	763	764	763	764	765

Compaction Required 100%

Technician UD

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.: 7
AREA: [illegible]

DATE: 2-21-78
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	502	466	456	462	448	454	428	436
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	118.5	123.0	124.0	123.5	125.0	124.0	125.0	126.5
(F) Moist Count	1150	1132	1168	1126	1098	1062	1028	1104
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.0	22.4	23.4	22.4	21.7	20.8	20.3	21.7
(I) Dry Wt.	95.5	100.6	100.6	101.1	103.3	103.2	104.7	104.8
(J) Proctor Wt.	100	100	100	100	103	103	103	103
(K) % Comp. I ÷ J	96	100	100	100	100	100	100	100
(L) % Moist	ReRolled →							
(N) Location	23+50 / 230' Lt	23+60 →	25+00 275' Lt	25+20 →	23+00 250' Lt	22+25 →	19+00 160' Lt	19+20 →
(O) Elev.	741	742	742	743	740	739	738	759

Compaction Required 100 %

Technician VD

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: ______
JOB NO.: ______
AREA: [illegible] Dam

DATE: 7-22-75
DENSITY STANDARD COUNT: ______
MOISTURE STANDARD COUNT: ______

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count	454	430	430	438	480	440	[illegible]	428
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	124.2	127.2	127.2	[illegible]	121.2	[illegible]	121.5	127.5
(F) Moist Count	1060							
(G) F ÷ Std Count			[illegible]	1050	1060	[illegible]	[illegible]	1140
(H) Wt. Moist (lbs)	20.8	22.2	21.1	20.6	20.8	[illegible]	[illegible]	[illegible]
(I) Dry Wt.	103.4	105.0	106.1	105.6	100.4	[illegible]	102.2	[illegible]
(J) Proctor Wt.	100	103	103	103	100	[illegible]	100	105
(K) % Comp. I ÷ J	103	102	103	103	100	[illegible]	[illegible]	[illegible]
(L) % Moist								
(N) Location	26+00 15+49 -	25+15 - ℄	25+00 15+72 ℄	25+15 - ℄	23+50 ℄	[illegible] ℄	[illegible] [illegible] ℄ -	[illegible]
(O) Elev.	750	749	749	748	744	[illegible]	[illegible]	738

Compaction Required 100

Technician ______

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY – SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: [illegible]

DATE: [illegible]
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	[illegible]	118	[illegible]	480	540	520	418	[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	131.0	128.7	[illegible]	121.2	114.7	116.7	128.7	127.0
(F) Moist Count	1240	1030	390	1080	1060	[illegible]	1010	1000
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	25.0	19.7	16.9	21.2	20.8	[illegible]	19.6	[illegible]
(I) Dry Wt.	106.0	108.8	99.1	100.0	94.0	96.4	109.1	107.7
(J) Proctor Wt.	104	107	98	98	94	94.0	107	107
(K) % Comp. I ÷ J	102	102	101	102	100	102	102	101
(L) % Moist								
(N) Location	25+00 100 LT ℄ →	25+15	23+50 110 LT ℄ →	23+30	21+50 25 LT ℄ →	21+70	20+[illegible] 50 RT ℄ →	[illegible]
(O) Elev.	718	747	746	745	746	745	748	724

Compaction Required

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Sep Dam

DATE: 9-21-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	438	426	434	428	430	470	466	460
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	126.0	127.5	126.5	125.0	127.0	122.5	122.5	123.5
(F) Moist Count	1156	1166	1098	1156	1120	932	916	926
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.2	23.4	21.7	22.2	22.2	17.8	17.5	17.8
(I) Dry Wt.	102.8	104.1	105.8	101.8	104.8	104.7	105.0	105.7
(J) Proctor Wt.	100	100	105.7	100	105.2	[illegible]	[illegible]	[illegible]
(K) % Comp. I ÷ J	100	100	100	100	100	100	[illegible]	[illegible]
(L) % Moist								
(N) Location	19+00 30' L℄	19+20 →	21+50 80' L℄	21+75 →	23+75 75' L℄	23+80 →	[illegible] 20' L℄	25+60 →
(O) Elev.	730	731	733	734	740	741	752	753

Compaction Required 100%

Technician UD/TO

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Sep Dam

DATE: 9-22-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1211

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6"							
(C) Dens. Count	424	430	460	466	428	416	414	[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	128.0	127.0	123.5	123.5	127.5	129.0	122.0	122.5
(F) Moist Count	1162	1164	972	1128	1168	1202	92[illegible]	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.2	23.2	18.7	22.4	23.4	24.0	17.8	18.0
(I) Dry Wt.	104.8	103.8	104.8	103.1	104.1	105.0	104.2	105.5
(J) Proctor Wt.	102	102	102	102	102	[illegible]	[illegible]	[illegible]
(K) % Comp. I ÷ J	100	100	100	100	100	[illegible]	[illegible]	[illegible]
(L) % Moist								
(N) Location	18+60 100'L ℄	18+75 →	20+50 ℄ →	20+60 →	22+50 30'L ℄	22+60 →	24+75 125'L ℄	24+80 →
(O) Elev.	732	733	734	735	742	752	751	750

Compaction Required 100%

Technician U.D./T.O.

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sep Dam

DATE: 9-21-73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	430	420	440	478	450	452	400	418
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	127.2	128.5	126.0	121.5	124.5	123.2	131.0	128.7
(F) Moist Count	1100	1080		1260	1180	1200	1090	1080
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	21.7	21.3	28.7	25.4	23.5	26.4	21.5	21.3
(I) Dry Wt.	105.5	107.2	97.3	96.1	101.0	96.8	109.5	106.4
(J) Proctor Wt.	103	105	94	94	98	94	10[illegible]	105
(K) % Comp. I ÷ J	103	102	100	100	100	100	[illegible]	[illegible]
(L) % Moist								
(N) Location	20+00 25 LT ℄ →	20+15 →	21+00 25 LT ℄ →	21+20 →	23+00 ℄ →	[illegible] →	24+50 ℄ →	24+[illegible] →
(O) Elev.	730	729	734	733	742	741	752	757

Compaction Required 100

Technician M. K

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Se PD HM

DATE: 9-21-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6"							
(C) Dens. Count	448	454	456	442	438	448	432	464
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	125,0	124.0	124,0	125.5	126.6	125,0	123.5	123,0
(F) Moist Count	1212	1194	1216	1182	1232	1068	1020	1016
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	24,2	23,8	24,6	23,6	24,8	21,1	19.9	19.9
(I) Dry Wt.	100,8	100 2	99,4	101,9	101,2	103,9	103,6	103,1
(J) Proctor Wt.	100	100	98	100	100	103	103	103
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	18+50 80' ℄	18+60 →	19+75 175' ℄	20+00 →	21+75 110' ℄	22+00 →	23+50 100' ℄	23+65 →
(O) Elev.	757	756	759	758	762	761	762	761

Compaction Required 100%

Technician U D / T G

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: ______
JOB NO.: ______
AREA: Sep Dam

DATE: 9/21/73
DENSITY STANDARD COUNT: ______
MOISTURE STANDARD COUNT: ______

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count							492	510
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	126.0	127.2	128.2	129.5	128.7	126.5	112.7	117.7
(F) Moist Count	1100	1060	1110	1030	1060	980	1120	1050
(G) F ÷ Std Count	'							
(H) Wt. Moist (lbs)	21.7	20.8	22.0	20.1	20.8	18.9	13.6	20.6
(I) Dry Wt.	104.3	106.4	106.2	109.4	107.9	107.6	99.1	97.1
(J) Proctor Wt.	103	103	103	106	106	106	97	94.0
(K) % Comp. I ÷ J	101	103	103	103	102	102	102	103
(L) % Moist								
(N) Location	26+75 200 RT ℄	26+60 →	25+25 200 RT ℄	25+16 →	22+50 190 RT ℄	21+70 →	20+60 180' RT ℄	20+65 →
(O) Elev.	725	726	723	722	720	721	720	721

Compaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician ______

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: ______
JOB NO.: ______
AREA: Sep Dam

DATE: 9-20-7[illegible]
DENSITY STANDARD COUNT: ______
MOISTURE STANDARD COUNT: ______

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	436	420	410	41[illegible]	442	448	[illegible]	458
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	126.5	128.5	131.0	129.0	12[illegible]	125.0	[illegible]	123.7
(F) Moist Count	1160	1080	1000	1100	124[illegible]	12[illegible]	[illegible]	1180
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.2	21.3	19.3	21.[illegible]	25.0	25.4	[illegible]	[illegible]
(I) Dry Wt.	103.3	107.2	111.7	107.3	100.7	99.6	99.7	100.1
(J) Proctor Wt.	10[illegible]	103	108	104	98	98	98	98
(K) % Comp. I ÷ J	102	104	104	103	102	102	10[illegible]	102
(L) % Moist								
(N) Location	25+50 100 LT ℄ →	25+58	23+50 90 LT ℄ →	23+35	21+50 100 LT ℄ →	21+30	19+80 105 LT ℄ →	19+65
(O) Elev.	745	746	738	737	733	732	728	727

Compaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician MK

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.: /
AREA: SPILLWAY

DATE: 7-20-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	396	408	466	444	412	406	458	448
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	131.5	130.0	123.0	125.5	129.5	130.0	123.5	125.0
(F) Moist Count	1138	1092	1168	1100	1084	1120	1106	1088
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	22.7	21.5	22.0	21.7	21.3	22.2	22.0	21.5
(I) Dry Wt.	108.8	108.5	101.0	103.8	108.2	107.8	100.5	103.5
(J) Proctor Wt.	108	108	100	100	108	108	100	100
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	2+30 ℄	2+50 →	3+50 150' R℄	3+65 →	4+75 75' R℄	4+80 →	6+50 130' R℄	6+60 →
(O) Elev.	766	765	764	763	763	762	762	761

Compaction Required 100 %

Technician VD/TO

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sep Dam

DATE: 7-20-73
DENSITY STANDARD COUNT: 271
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	[illegible]
(B) Probe Depth								
(C) Dens. Count	440	436	430	478	404	412	426	408
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	126.0	126.7	127.0	121.5	130.5	129.5	127.7	130.0
(F) Moist Count	1100	930	1000	920	1030	1050	1010	1090
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	21.7	17.8	19.3	17.5	20.1	20.6	19.6	21.3
(I) Dry Wt.	104.3	108.9	107.7	104.0	110.4	108.9	108.1	108.7
(J) Proctor Wt.	103	107	107	103	107	107	107	107
(K) % Comp. I ÷ J	101	102	101	101	103	102	101	102
(L) % Moist								
(N) Location	3+00 80 LT ℄ →	3+20 →	6+00 90 Lt ℄ →	6+10 →	6+30 95 LT ℄	3+00 75' Rt ℄ →	3+15 →	6+00 80 Rt ℄
(O) Elev.	765	764	757	756	755	768	767	754

Compaction Required 100

Technician M. K.

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY – SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.: /
AREA: sep Dam

DATE: 9-19-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	420	426	422	448	416	444	426	458
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	128.5	128.5	128.5	125.0	129.0	125.5	128.0	124.0
(F) Moist Count	880	1022	1074	1176	1006	1142	1014	1096
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	16.6	19.9	21.1	23.6	19.6	22.7	19.6	21.7
(I) Dry Wt.	111.9	108.6	107.4	101.4	109.4	102.8	108.4	102.3
(J) Proctor Wt.	108	108	108	100	108	100	108	100
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	19+25 135' Lt	19+35 →	20+50 160' Lt	20+60 →	21+40 140' Lt	21+50 →	22+75 125' Lt	22+85 →
(O) Elev.	756	755	756	755	756	757	756	757

Compaction Required 100%

Technician UD/TO

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY – SOILS
NUCLEAR DENSITY METER WORK SHEET

ROJECT: Wansley
OB NO.:
REA: SEP Dam

DATE: 9-20-73
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]

A) Test Number	9	10	11	12	13	14	/	
B) Probe Depth								
C) Dens. Count	432	424	428	454	448	452		
D) C ÷ Std Count								
E) Wet Wt. (lb/ft^3)	127.0	128.0	127.5	124.0	125.0	124.5		
F) Moist Count	948	1074	984	1072	1016	1066		
G) F ÷ Std Count								
H) Wt. Moist (lbs)	18.5	19.6	18.9	21.1	129	19.6		
I) Dry Wt.	108.5	108.4	108.6	102.9	105.1	104.9		
J) Proctor Wt.	108	109	108	100	105	105		
K) % Comp. I ÷ J	100	100	100	100	100	100		
L) % Moist								
N) Location	23+50 125' Lt	23+60 130' Lt	24+40 140' Lt	24+15 →	22+75 165' Lt	22+60 →		
O) Elev.	757	758	758	755	756	757		

ompaction Required 100 %

Technician UD/TO

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY – SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Storage Pad & RR #1

DATE: 9/19/73
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	450	434	496	490	456	488	470	462
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	123.5	126.7	[illegible]	120.0	124.0	120.2	122.5	123.2
(F) Moist Count	1170	1080	1060	1090	1100	1050	1020	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.4	20.8	[illegible]	21.5	21.7	20.6	19.9	18.9
(I) Dry Wt.	100.1	105.9	[illegible]	98.5	103.3	99.6	102.6	104.3
(J) Proctor Wt.	[illegible]	105	[illegible]	98	103	99	[illegible]	103
(K) % Comp. I ÷ J	100	100	[illegible]	100	100	100	100	100
(L) % Moist								
(N) Location	97+75 25' RT ℄ →	97+91	97+25 30' RT ℄ →	97+70	100+50 35 RT ℄ →	100+70	99+50 40 RT ℄ →	99+25
(O) Elev.	800	801	803	802	800	802	803	803

Compaction Required 100+

CONFIDENTIAL BUSINESS INFORMATION

Technician

GEORGIA POWER COMPANY – SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: WANSLEY
JOB NO.:
AREA: [illegible] Y R/R #1

DATE: 9/19/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

One more for luck

(A) Test Number	9	10	11	12	13			
(B) Probe Depth								
(C) Dens. Count	396	424	452	410	420			
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	131.5	128.0	124.0	129.7	128.5			
(F) Moist Count	1180	1210	1030	1040	1100			
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.6	24.2	20.1	20.3	21.7			
(I) Dry Wt.	109.7	103.8	103.9	109.4	106.8			
(J) Proctor Wt.	106	103	103	106	103			
(K) % Comp. I ÷ J	104	101	101	103	104			
(L) % Moist								
(N) Location	76+60 ℄	76+70 5LT ℄	76+80 5RT ℄	95+50 20RT ℄	95+67 21RT ℄			
(O) Elev.	803	802	801	802	801			

Compaction Required 100 +

Technician MK

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: W ANSLEY
JOB NO.:
AREA: [illegible]

DATE: 2 13/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	1	2	3	4	5	6		
(B) Probe Depth								
(C) Dens. Count	462	452	446	460	486	501		
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	123.2	124.7	125.2	121.0	120.7	118.5		
(F) Moist Count	1200	1240	980	1150	1130	[illegible]		
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	24.0	25.0	18.9	23.0	22.4	24.2		
(I) Dry Wt.	99.2	99.7	106.3	98.0	98.3	94.3		
(J) Proctor Wt.	98	98	106	98.0	98.	92		
(K) % Comp. I ÷ J	100	100	100	100	100	100		
(L) % Moist								
(N) Location	11+25 30 RT ℄ →	11+40 →	12+50 40' RT ℄ →	12+70 →	11+70 88 LT ℄ →	11+90 →		
(O) Elev.	678	699	700	699	696	695		

Compaction Required 100%

Technician

CONFIDENTIAL BUSINESS
INFORMATION

2-5-76

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: W Nuc/Pl
JOB NO.:
AREA: [illegible]

DATE: 9-22-75
DENSITY STANDARD COUNT: 2531
MOISTURE STANDARD COUNT: 1211

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6"							
(C) Dens. Count	454	442	434	448	454	462	446	[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	124.0	126.0	126.5	125.0	124.0	123.5	125.0	126.5
(F) Moist Count	1022	1094	1070	1059	982	966	1025	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	19.9	21.5	21.1	20.6	18.9	18.7	17.5	[illegible]
(I) Dry Wt.	104.1	104.5	105.4	104.4	105.1	[illegible]	107.2	106.2
(J) Proctor Wt.	103	103	103	103	103	[illegible]	106.3	106.3
(K) % Comp. I ÷ J	100	100	100	100	100	105	100	100
(L) % Moist								
(N) Location	21+50 260'L ℄	21+60 →	22+75 100'L℄	23+00 →	24+50 120'L ℄	25+00 →	26+50 75'L	26+65 →
(O) Elev.	759	760	762	[illegible]	764	763	764	763

Compaction Required 100%

Technician WD

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: [illegible]

DATE: 9-22-73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count	454	430	430	438	480	440	[illegible]	[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	124.2	127.2	127.2	[illegible]	121.2	[illegible]	121.5	[illegible]
(F) Moist Count	1060							
(G) F ÷ Std Count	[illegible]		[illegible]	1050	1060	1020	[illegible]	[illegible]
(H) Wt. Moist (lbs)	20.8	22.2	21.1	21.0	[illegible]	[illegible]	[illegible]	[illegible]
(I) Dry Wt.	1034	105.0	106.1	105.6	[illegible]	[illegible]	102.2	[illegible]
(J) Proctor Wt.	100	103	103	[illegible]			100	[illegible]
(K) % Comp. I ÷ J	103	102	103	103	[illegible]	[illegible]	[illegible]	[illegible]
(L) % Moist								
(N) Location	[illegible]	[illegible]	25400 1521 Q	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(O) Elev.	[illegible]	[illegible]	749	[illegible]	[illegible]	[illegible]	39	38

Compaction Required [illegible]

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: [illegible] Dam

DATE: 9/2[illegible]/[illegible]
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	400	418	5[illegible]6	480	540	520	418	430
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft3)	131.0	128.7	[illegible]	121.2	114.[illegible]	116.7	128.7	127.0
(F) Moist Count	1240	1020	[illegible]	1080	1060	1040	1010	1000
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	25.0	19.9	16.9	21.2	20.[illegible]	20.3	19.[illegible]	19.[illegible]
(I) Dry Wt.	106.0	108.8	99.1	100.0	94.0	76.4	109.1	107.[illegible]
(J) Proctor Wt.	104	107	96	78	94	94.0	107	107
(K) % Comp. I ÷ J	102	102	101	102	100	102	102	101
(L) % Moist								
(N) Location	25+00 100 LT ℄ →	25+15	25+50 100 LT ℄	[illegible] 5	21+50 25 LT ℄ →	21+70	20+50 50 RT ℄ →	20+70
(O) Elev.	748	747	746	745	746	745	745	[illegible]

Compaction Required

Technician

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: W Ansley
JOB NO.:
AREA: Sep Dam

DATE: 9-22-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6"							
(C) Dens. Count	424	430	460	466	428	416	474	[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	128.0	127.0	123.5	126.5	127.5	129.0	122.0	122.[illegible]
(F) Moist Count	1162	1164	972	1128	1158	1203	[illegible]	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.2	23.2	19.[illegible]	22.4	22.4	24.0	17.8	18.8
(I) Dry Wt.	104.8	103.8	104.[illegible]	103.1	104.1	103.6	104.2	[illegible]
(J) Proctor Wt.	103	103	103	103	103	[illegible]	[illegible]	[illegible]
(K) % Comp. I ÷ J	100	100	100	100	100	[illegible]	[illegible]	100
(L) % Moist								
(N) Location	18+60 100' Lt →	18+75 →	20+50 ℄ →	20+80 →	22+50 30' Lt	22+60 →	24+75 125' Lt	24+80 →
(O) Elev.	732	733	734	735	752	752	751	[illegible]

Compaction Required 100%

Technician UD/TO

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.: /
AREA: [illegible]

DATE: 9 21 73
DENSITY STANDARD COUNT: 251
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	502	466	456	462	448	454	448	436
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	118.5	123.0	124.0	123.5	125.0	124.0	125.0	126.[illegible]
(F) Moist Count	1150	1132	1168	1126	1095	1062	1038	1104
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.0	22.4	23.4	22.4	21.7	20.8	20.[illegible]	21.7
(I) Dry Wt.	95.5	100.6	100.6	101.1	103.3	103.2	104.7	104.8
(J) Proctor Wt.	100	100	100	100	103	103	103	103
(K) % Comp. I ÷ J	96	100	100	100	100	100	100	100
(L) % Moist	Rerolled →							
(N) Location	23+50' 230' Lt	23+60 →	25+00 275' Lt	25+20 →	23+00 230' Lt	22+25 →	19+00 160' Lt	19+20 →
(O) Elev.	741	742	742	743	740	739	755	759

Compaction Required 100%

Technician VD

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Sep Dam

DATE: 9-21-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	438	426	434	448	430	470	466	460
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	126.0	127.5	126.5	125.0	127.0	122.5	122.5	123.5
(F) Moist Count	1156	1166	1098	1156	1120	932	916	926
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.2	23.4	21.7	23.2	22.2	17.8	17.5	17.8
(I) Dry Wt.	102.8	104.1	105.8	101.8	104.8	104.7	105.0	105.7
(J) Proctor Wt.	100	100	105.0	100	105.5	[illegible]	[illegible]	[illegible]
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	[illegible]
(L) % Moist								
(N) Location	19+00 30' L ℄	19+20 →	21+50 80' L ℄	21+[illegible] →	23+[illegible] 75' L ℄	[illegible] →	25+10 20' L ℄	25+60 →
(O) Elev.	730	731	733	734	7[illegible]0	741	752	[illegible]

Compaction Required 100%

CONFIDENTIAL BUSINESS INFORMATION

Technician UD/TO

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sup Dam

DATE: 9-21-73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	430	420	440	478	450	462	400	418
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	127.2	128.5	126.0	121.5	124.5	123.2	131.0	128.7
(F) Moist Count	1100	1060		1260	1180	1300	1090	1380
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	21.7	21.3	28.7	25.4	23.5	26.4	21.5	21.3
(I) Dry Wt.	105.5	107.2	97.3	96.1	101.0	96.8	109.5	106.4
(J) Proctor Wt.	103	105	94	94	98	94	107	105
(K) % Comp. I ÷ J	103	102	100	100	100	100	[illegible]	[illegible]
(L) % Moist								
(N) Location	20+00 25 LT ℄ →	20+15 →	21+00 25' LT ℄ →	[illegible] →	23+00 ℄ →	23+15 →	24+50 ℄ →	[illegible] →
(O) Elev.	730	729	734	[illegible]	742	741	752	757

Compaction Required 100

Technician M. K

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: SePDam

DATE: 9-21-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6"							
(C) Dens. Count	448	454	456	442	438	448	462	464
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	125,0	124.0	124,0	125.5	126.0	125,0	123.5	123,0
(F) Moist Count	1212	1194	1216	1182	1232	1068	1020	1016
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	24.2	23.8	24.6	23.6	24.8	21.1	19.9	19.9
(I) Dry Wt.	100.8	100.2	99.4	101.9	101.2	103.9	103.6	103.1
(J) Proctor Wt.	100	100	98	100	100	103	103	103
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	18+50 80' Ld	18+60 →	19+75 175' Ld	20+00 →	21+75 110' L	22+00 →	23+50 100' Ld	23+65 →
(O) Elev.	757	756	759	755	762	761	762	761

Compaction Required 100%

Technician UD/TG

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sap Dam

DATE: 9/21/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count							492	[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft3)	126.0	127.2	128.2	129.5	128.7	126.5	1?7.7	[illegible]
(F) Moist Count	1100	1060	1110	1030	1060	980	1180	1050
(G) F ÷ Std Count	-							
(H) Wt. Moist (lbs)	21.7	20.8	220	20.1	20.6	189	[illegible]	[illegible]
(I) Dry Wt.	104.3	106.4	106.2	109.4	107.9	107.6	96.1	97.1
(J) Proctor Wt.	103	103	103	106	106	106	94	99.0
(K) % Comp. I ÷ J	101	103	103	103	102	102	102	[illegible]
(L) % Moist								
(N) Location	26+75 200 RT ℄	26+60 →	25+25 200 RT ℄ →	25+[illegible] →	22+50 190 RT ℄ →	22+70 →	20+[illegible] 180' RT ℄ →	[illegible] →
(O) Elev.	725	726	723	722	720	721	720	721

Compaction Required 100

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sep Dam

DATE: 9-20-73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	436	420	400	41[illegible]	442	448	[illegible]	458
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	126.5	128.5	131.0	129.0	12[illegible]	125.0	[illegible]	123.7
(F) Moist Count	1160	1[illegible]0	1000	1100	12[illegible]	1260	[illegible]	1160
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.2	21.3	19.3	21.7	25.0	25.4	[illegible]	23.[illegible]
(I) Dry Wt.	103.3	107.2	111.7	107.3	100.7	99.6	99.7	100.1
(J) Proctor Wt.	100	103	108	104	98	98	98	98
(K) % Comp. I ÷ J	103	104	104	103	102	102	102	102
(L) % Moist								
(N) Location	25+50 100 LT ℄ →	25+25 →	23+50 90 LT ℄ →	23+35 →	21+50 100 LT ℄ →	21+30 →	19+50 105 LT ℄ →	19+65 →
(O) Elev.	[illegible]	746	738	737	733	732	728	[illegible]

Compaction Required 100

Technician MK

CONFIDENTIAL BUSINESS INFORMATION

NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Sep Dam

DATE: 9-20-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	396	408	466	417	412	406	458	448
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	131.5	130.0	123.0	125.5	129.5	130.0	123.5	125.0
(F) Moist Count	1138	1092	1108	1100	1084	1120	1106	1088
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	22.7	21.5	22.0	21.7	21.3	22.2	22.0	21.5
(I) Dry Wt.	108.8	108.5	101.0	103.8	108.2	107.8	100.5	103.5
(J) Proctor Wt.	108	108	100	100	108	108	100	100
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	2+30 ℄	2+50 →	3+50 150' Rt	3+65 →	4+75 75' Rt	4+80 →	6+50 130' Rt	6+60 →
(O) Elev.	766	765	764	763	763	762	762	761

Compaction Required 100 %

Technician VD/TO

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK-SHEET

PROJECT:
JOB NO.:
AREA: Sep Dam

DATE: 9-20-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count	440	436	430	478	404	412	426	408
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	126.0	126.7	127.0	121.5	130.5	129.5	127.7	130.0
(F) Moist Count	1100	930	1000	920	1030	1050	1010	1080
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	21.7	17.8	19.3	17.5	20.1	20.6	19.6	21.3
(I) Dry Wt.	104.3	108.9	107.7	104.0	110.4	108.9	108.1	108.7
(J) Proctor Wt.	103	107	107	103	107	107	107	107
(K) % Comp. I ÷ J	101	102	101	101	103	102	101	102
(L) % Moist								
(N) Location	3+00 80 LT ℄ →	3+20 →	6+00 90 LT ℄ →	6+10 →	6+30 95 LT ℄	3+00 75' RT ℄ →	3+15 →	6+00 80 RT ℄
(O) Elev.	765	764	757	756	755	768	767	754

Compaction Required 100

Technician M. K.

CONFIDENTIAL BUSINESS INFORMATION

NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: SCP Dam

DATE: 9-20-73
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	9	10	11	12	13	14		
(B) Probe Depth								
(C) Dens. Count	432	424	428	454	448	452		
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	127.0	128.0	127.5	124.0	125.0	124.5		
(F) Moist Count	948	1074	984	1072	1016	1066		
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	18.5	19.6	18.9	21.1	19.9	19.6		
(I) Dry Wt.	108.5	108.4	108.6	102.9	105.1	104.9		
(J) Proctor Wt.	108	109	108	100	105	105		
(K) % Comp. I ÷ J	100	100	100	100	100	100		
(L) % Moist								
(N) Location	23+50 125' Lt	23+60 130' Lt	24+00 140' Lt	24+15 →	22+75 165' Lt	22+60 →		
(O) Elev.	757	758	758	755	756	757		

Compaction Required 100%

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: [illegible]

DATE: 9-19-73
DENSITY STANDARD COUNT: 221
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	420	426	422	448	416	444	426	458
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	128.5	128.5	128.5	125.0	129.0	125.5	128.0	124.0
(F) Moist Count	880	1022	1074	1176	1006	1142	1014	1096
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	16.6	19.9	21.1	23.6	19.6	22.7	19.6	21.7
(I) Dry Wt.	111.9	108.6	107.4	101.4	109.4	102.8	108.4	102.3
(J) Proctor Wt.	108	108	108	100	108	100	108	100
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	19+25 135' ℄	19+35 →	20+50 160' ℄	20+60 →	21+40 140' ℄	21+50 →	22+75 125' ℄	22+85 →
(O) Elev.	756	755	756	755	756	757	756	757

Compaction Required 100%

Technician UD/TD

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: W ANSLEY
JOB NO.:
AREA: [illegible]

DATE: 9/13/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	1	2	3	4	5	6		
(B) Probe Depth								
(C) Dens. Count	462	452	446	480	186	501		
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	123.2	124.7	125.2	121.0	120.7	118.5		
(F) Moist Count	1200	1240	980	1150	1130	[illegible]		
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	24.0	25.0	18.9	23.0	22.4	24.2		
(I) Dry Wt.	99.2	99.7	106.3	98.0	98.3	94.3		
(J) Proctor Wt.	98	98	106	98.0	98.	92		
(K) % Comp. I ÷ J	100	100	100	100	100	100		
(L) % Moist								
(N) Location	11+25 30 RT ℄ →	11+40 →	12+50 40' RT ℄ →	12+70 →	11+70 88 LT ℄ →	11+90 →		
(O) Elev.	698	699	700	699	676	695		

Compaction Required 100%

Technician MK

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: [illegible]

DATE: 9-12-73
DENSITY STANDARD COUNT: 2351
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6"							
(C) Dens. Count	456	466	472	468	482	474	480	478
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	124.0	123.0	122.0	123.0	121.6	122.0	121.0	121.5
(F) Moist Count	1134	1242	1202	1216	1154	1062	1084	1106
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	22.4	25.0	24.0	24.6	23.0	20.8	21.3	22.0
(I) Dry Wt.	101.6	98.0	98.0	99.4	98.0	101.2	99.7	98.5
(J) Proctor Wt.	98	98	98	98	98	78	98	[illegible]
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	[illegible]
(L) % Moist								
(N) Location	10+50 45'R℄	10+60 55'R℄	10+75 ℄ ←	10+85 →	11+50 60'R℄	11+30 →	11+75 20'L℄	[illegible] →
(O) Elev.	687	688	688	687	685	686	[illegible]	[illegible]

Compaction Required 100%

Technician OD/77

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: [illegible]

DATE: 9-12-73
DENSITY STANDARD COUNT: 931
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	462	456	480	474	478	[illegible]	472	472
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	123.0	124.0	120.5	122.0	121.5	124.0	122.0	122.0
(F) Moist Count	1018	1032	926	952	1090	1122	1028	1002
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	22.2	22.4	17.8	18.5	21.5	22.2	20.1	19.3
(I) Dry Wt.	100.8	101.6	102.7	103.5	100	101.8	101.9	102.7
(J) Proctor Wt.	100	100	100	100	100	100	100	100
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	22+00 120'Rℓ	22+15 100'Rℓ	22+00 30'Rℓ	22+10 45'Rℓ	20+75 100'Rℓ	20+85 →	19+36	[illegible]
(O) Elev.	744	745	742	743	742	743	740	741

Compaction Required 100%

CONFIDENTIAL BUSINESS INFORMATION

Technician UD/[illegible]

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: SED. DAM

DATE: 9-11-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1291

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6"							
(C) Dens. Count	450	432	438	446	430	422	390	408
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	124.5	127.0	126.0	125.0	127.5	128.0	132.5	130.0
(F) Moist Count	1112	10.76	998	1040	1148	1022	1182	1102
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	22.0	21.3	19.3	20.3	23.0	19.5	23.6	21.7
(I) Dry Wt.	102.5	105.7	106.7	104.7	104.5	109.1	108.9	108.3
(J) Proctor Wt.	100	105	105	105	105	1080	105	108
(K) % Comp. I ÷ J	100+	100	100	100	100	100	106	100
(L) % Moist								
(N) Location	19+00 125'RE	19+15 →	20+95 150'RE	21+00 →	22+85 90'R℄	23+00 →	25+00 40'R℄	25+15 →
(O) Elev.	734	735	736	737	737	738	737	735

Compaction Required 100%

Technician VD/TO

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sep Pond

DATE: 9-11-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	390	412	402	418	430	426	434	458
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	132.5	129.5	131.0	128.5	127.0	128.0	126.5	123.5
(F) Moist Count	974	988	904	942	1050	1160	1098	1074
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	18.7	19.1	17.1	18.0	20.6	23.2	21.7	21.1
(I) Dry Wt.	113.8	110.4	113.9	110.5	106.4	104.8	104.8	102.4
(J) Proctor Wt.	110	110	110	110	105	105	105	105
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	98
(L) % Moist					ReRolled	→	→	→
(N) Location	12+25 120'R℄	12+35 →	13+50 90'R℄	13+60 →	14+25 200'R℄	14+50 →	14+00 150'R℄	14+20 →
(O) Elev.	694	693	692	691	690	689	678	677

Compaction Required 100%

Technician UD/70

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: PLANT WANSLEY
JOB NO.:
AREA: SEP DAM

DATE: 9/10/73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6 inches	→	→	→	→	→	→	→
(C) Dens. Count	422	432	486	466	418	426	458	434
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	128.2	127.0	120.5	122.7	128.7	127.7	123.7	126.7
(F) Moist Count	1050	920	930	890	1020	980	1000	910
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	20.6	17.5	17.8	16.9	19.9	18.9	19.3	17.3
(I) Dry Wt.	1076	109.5	102.7	105.8	108.8	108.8	105.4	109.4
(J) Proctor Wt.	108	108	103	103	108	108	103	108
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	3+00 100 Lt ℄	3+15 →	5+00 →	5+15 →	3+50 100 Rt ℄	3+65 100 Rt ℄	5+50 100 Rt ℄	5+75 100 Rt ℄
(O) Elev.	764	763	755	754	760	758	750	748

Compaction Required 100

Technician M.K.

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sap Dam

DATE: 9/10/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	434	424	496	454	454	462	490	430
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	126.7	128.0	119.0	124.2	124.2	123.2	126.0	127.2
(F) Moist Count	900	1010	960	840	920	980	1000	990
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	17.1	19.6	18.5	15.7	17.5	18.2	19.3	19.1
(I) Dry Wt.	109.6	108.4	100.5	108.5	106.7	109.3	106.7	108.1
(J) Proctor Wt.	108	108	100	108	106	103	106	106
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	24+25 250' LT ℄ →	24+37	22+25 220 LT ℄ →	22+40	20+40 230' LT ℄ →	20+65	19+00 215 LT ℄ →	19+25
(O) Elev.	739	738	736	735	733	732	727	728

Compaction Required 100

Technician M. K.

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible] DAM
JOB NO.:
AREA:

DATE: 9-10-77
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	476	418	466	452	478	470	484	466
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	121.5	122.5	123.0	124.5	121.5	122.0	120.5	123.0
(F) Moist Count	936	848	986	985	[illegible]	788	[illegible]	994
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	18.0	15.8	19.1	19.1	16.1	19.1	21.5	19.1
(I) Dry Wt.	103.5	106.7	103.9	105.4	105.4	102.9	99.0	105.7
(J) Proctor Wt.	103	106.7	103	103	105	103	98	[illegible]
(K) % Comp. I ÷ J	[illegible]	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	11+50 40'Rt	12+[illegible] 55'Rt	[illegible] 105'RL	[illegible] 115 Rt	13+40 100'Rt	13+50 90'Rt	[illegible]	[illegible]
(O) Elev.	690	689	991	692	692	691	690	691

Compaction Required [illegible]

Technician [illegible]

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: ________
JOB NO.: ________
AREA: Sad. Dam

DATE: 2/10/73
DENSITY STANDARD COUNT: ________
MOISTURE STANDARD COUNT: ________

(A) Test Number	9	10						
(B) Probe Depth								
(C) Dens. Count	24	460						
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	125.5	123.5						
(F) Moist Count	940	1250						
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	18.0	25.[illegible]						
(I) Dry Wt.	107.5	98.3						
(J) Proctor Wt.	106	98						
(K) % Comp. I ÷ J	100	100						
(L) % Moist								
(N) Location	24+00 17+90	24+20 "						
(O) Elev.	740	739						

Compaction Required 100

Technician

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.: !
AREA: Sep Dam

DATE: 9/10/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	416	410	434	418	440	444	428	4[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	129.0	129.5	126.5	128.7	126.2	125.[illegible]	127.5	12[illegible]
(F) Moist Count	1010	1090	950	980	11[illegible]	950	[illegible]90	1250
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	19.6	21.5	18.2	18.9	23.2	18.[illegible]	21	25.2
(I) Dry Wt.	109.4	108.0	108.3	109.8	103.0	107.3	108.2	97.0
(J) Proctor Wt.	107	107	107	107	100	106	[illegible]	91
(K) % Comp. I ÷ J	100	100	100	100	100	100	[illegible]	106
(L) % Moist								
(N) Location	[illegible]+00 RT [illegible]/100	13+20 →	1[illegible]+00 RT E 100	1[illegible]+15 →	19+75 LT 125	19+96 →	22+00 LT E 150	22+15 →
(O) Elev.	694	693	692	6[illegible]	[illegible]	[illegible]	[illegible]36	735

Compaction Required 100

Technician M.K.

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sep Dam

DATE: 9/10/73
DENSITY/STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	Nine	Ten	Eleven	Twelve	Thirteen	Forteen	fifteen	Sixteen
(B) Probe Depth								
(C) Dens. Count	416	404	438	432	436	446		
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	129.0	130.5	126.0	127.0	126.5	125.2		
(F) Moist Count	1150	1210	1190	1300	1310	1290		
(G) F. ÷ Std Count								
(H) Wt. Moist (lbs)	23.0	24.2	23.8	26.4	26.5	26.2		
(I) Dry Wt.	106.0	106.3	102.2	100.6	100.0	99.0		
(J) Proctor Wt.	103	103	100	100	98	98		
(K) % Comp. I ÷ J	100	100	100	100	100.	100		
(L) % Moist								
(N) Location	10+00 75 Rt ℄ →	10+15 →	11+00 80' Rt ℄ →	11+15 →	12+00 90 Rt ℄ →	12+21 →		
(O) Elev.	690	688	687	687	687	685		

Compaction Required 100

Technician MK

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sep Dam

DATE: 9-10-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	454	432	512	512	436	480	458	442
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	124.2	127.0	117.5	117.5	126.5	121.2	123.7	125.7
(F) Moist Count	1300	1360	960	960	910	1120	808	910
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	26.4	27.8	18.5	18.5	17.3	19.9	15.0	17.3
(I) Dry Wt.	97.8	99.2	99.0	99.0	109.2	101.3	108.7	108.4
(J) Proctor Wt.	98.0	98.0	98	98.0	107	98.0	107.0	107.0
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	10+50 50 Rt ℄ →	10+70	10+00 250 Rt ℄ →	10+15	11+50 240 Rt ℄ →	11+60	11+70 230 Rt ℄	11+50 200 Rt ℄
(O) Elev.	685	686	705	704	701	700	692	705

← Core →

Compaction Required 100

CONFIDENTIAL BUSINESS
INFORMATION

Technician M. K.

NUCLEAR DENSITY METER WORK SHEET

PROJECT: ______
JOB NO.: ______
AREA: Seperation Dam

DATE: 9-8-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6" →	→	→	→	→	→	→	→
(C) Dens. Count	400	410	448	430	418	418	426	412
(D) C ÷ Std Count	—	—	—	—	—	—	—	—
(E) Wet Wt. (lb/ft^3)	131.0	129.7	125.0	127.2	128.7	128.7	127.7	129.5
(F) Moist Count	1020	1010	990	1000	920	1028	940	1030
(G) F ÷ Std Count	—	—	—	—	—	—	—	—
(H) Wt. Moist (lbs)	19.9	19.6	19.1	19.3	17.5	19.9	18.0	20.1
(I) Dry Wt.	111.1	110.1	105.9	107.9	111.2	108.8	109.7	109.4
(J) Proctor Wt.	109	109	106	106.0	109	109	109	109
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	3+00 150 Lt ℄ →	3+20 →	5+00 160 Lt ℄ →	5+19 →	4+50 Rt ℄ 20 →	4+65 →	3+00 15 Rt ℄ →	3+21 →
(O) Elev.	750	759	749	748	748	749	762	761

Compaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician [illegible]

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: SxP Drain

DATE: 9-8-73
DENSITY STANDARD COUNT: 751
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6"							
(C) Dens. Count	402	412	408	414	502	486	492	472
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	131.0	129.5	130.0	129.5	118.5	120.5	120.0	122.0
(F) Moist Count	988	926	962	934	1038	1072	1046	1105
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	19.1	17.8	18.5	17.8	20.3	21.1	20.6	22.0
(I) Dry Wt.	111.9	111.7	111.5	111.7	98.2	99.1	99.4	100.0
(J) Proctor Wt.	110	110	110	110	98	98	98	98
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	7+90 95'L ℄	7+80 100'L℄	6+15 75'R ℄	6+10 85'R ℄	24+00 40'R ℄	24+10 30'R℄	25+15 60'L' ℄	25+25 30'L ℄
(O) Elev.	732	733	737	735	740	741	743	744

Compaction Required 100

Technician UD/7C

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: ____
JOB NO.: ____
AREA: Sap Dam

DATE: 9/8/73
DENSITY STANDARD COUNT: ____
MOISTURE STANDARD COUNT: ____

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	418	432	410	434	462	458	504	478
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	128.5	127.0	129.7	126.7	123.2	123.7	118.2	121.5
(F) Moist Count	980	960	1000	960	1120	1190	1060	1140
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	12.9	18.5	19.3	18.5	22.2	23.8	20.0	20.3
(I) Dry Wt.	115.6	108.5	110.4	108.2	101.0	99.9	98.2	101.2
(J) Proctor Wt.	108	108	110	[illegible]	100	100	98	[illegible]
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	[illegible]
(L) % Moist								
(N) Location	8+40 100' LT ℄ —	8+60 →	7+50 75' RT ℄ →	7+65 →	23+50 ℄ Dam →	23+60 →	20+50 →	20+68 →
(O) Elev.	730	729	735	734	738	737	730	729

Compaction Required 100

Technician ____

CONFIDENTIAL BUSINESS
INFORMATION

NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sap Dam

DATE: 9/8/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count	416	404	492	520	420	436	414	422
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	129.0	130.5	119.7	116.7	128.5	126.2	129.0	128.0
(F) Moist Count	1010	1030	860	990	980	890	1020	1040
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	19.6	20.1	16.1	19.1	18.9	16.9	19.9	20.3
(I) Dry Wt.	108.4	110.4	103.6	97.6	109.6	109.3	108.1	107.7
(J) Proctor Wt.	106	109	103	98	109	109	106	106
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	20+00 200 Lt℄ →	20+15 →	23+00 175 Lt℄ →	23+37 →	24+50 150 Lt℄ →	24+65 →	23+00 80 Lt℄ →	23+19 →
(O) Elev.	731	729	734	732	740	739	734	735

Compaction Required 100

Technician M K

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: [illegible]

DATE: 9-7-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1371

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth								
(C) Dens. Count	388	394	396	406	418	426	400	416
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	132.5	132.0	131.5	130.0	129.0	127.0	131	[illegible]
(F) Moist Count	896	1140	1038	176	980	998	1000	966
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	17.1	22.7	20.3	18.9	18.9	19.3	19.5	18.7
(I) Dry Wt.	115.4	109.3	111.2	111.1	110.1	109.7	112.7	110.3
(J) Proctor Wt.	115	110	110	110	110	110	110	110
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	3+30 75'L ℄	3+60 100'L ℄	4+75 100'R ℄	4+96 115'R ℄	6+00 80'L ℄	6+[illegible] 70'L ℄	7+4[illegible] 15[illegible]L	7+20 15[illegible]
(O) Elev.	760	757	756	755	749	748	745	[illegible]4

Compaction Required 100%

Technician VY-I[illegible]

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Seperation Dam

DATE: 9/7/73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1571

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6	→	→	→	→	→	→	→
(C) Dens. Count	428	430	404	418	426	488	420	430
(D) C ÷ Std Count	—	—	—	—	—	—		—
(E) Wet Wt. (lb/ft³)	127.5	127.2	130.5	128.7	127.7	120.2	128.5	127.2
(F) Moist Count	970	1030	1000	990	808	860	990	1040
(G) F ÷ Std Count	—	—	—	—	—	—	—	—
(H) Wt. Moist (lbs)	18.7	20.1	19.3	19.1	15.0	16.1	19.1	20.3
(I) Dry Wt.	108.8	107.1	111.2	109.6	112.7	104.1	109.4	106.9
(J) Proctor Wt.	108	105	108	108	108	103	108	105
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	3+00 50 LT ℄ →	3+16 →	5+00 75'LT ℄ →	5+15 →	3+20 100 RT ℄	3+00 100'RT ℄	6+00 125 RT ℄	6+20- 125'RT ℄
(O) Elev.	756	755	750	749	758	757	747	746

75

14 80

Compaction Required 100%

Technician

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sap Dam

DATE: 9/7/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count	432	450	408	426	472	418	420	442
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	127.0	124.7	130.0	127.7	122.2	128.7	128.5	125.8
(F) Moist Count	1020	920	1110	980	1000	1060	950	1110
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	19.9	17.5	22.0	18.9	19.3	20.8	18.2	22.0
(I) Dry Wt.	107.1	106.2	108.0	108.8	102.9	107.9	110.3	103.8
(J) Proctor Wt.	103	103	108	108	103	108	108	103
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	4+00 75 Lt ℄ →	4+20 →	6+00 75 Lt ℄ →	6+15 →	4+50 100 Rt ℄ →	4+65 →	6+50 →	6+65 →
(O) Elev.	753	752	746	745	759	758	745	744

Compaction Required 100

Technician M K

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: WANSLEY
JOB NO.:
AREA: [illegible]

DATE: 9-7-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	17	18	19	20				
(B) Probe Depth	6"							
(C) Dens. Count	462	474	478	466				
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	123.0	122.0	121.5	123.0				
(F) Moist Count	1130	1104	1026	1146				
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	22.4	21.7	20.1	23.0				
(I) Dry Wt.	100.6	100.3	101.4	100.6				
(J) Proctor Wt.	100	100	100	100				
(K) % Comp. I ÷ J	100	100	100	100				
(L) % Moist								
(N) Location	23+75 85' R ℄	23+85 60' R ℄	25+00 ℄	24+15 10' L ℄				
(O) Elev.	739	740	741	742				

Compaction Required 100 %

CONFIDENTIAL BUSINESS INFORMATION

Technician UD/TD

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Sep Dam

DATE: 9-6-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6"							
(C) Dens. Count	506	478	488	492	466	474	450	436
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	118.0	121.5	120.0	120.0	123.0	122.0	124.5	126.5
(F) Moist Count	1016	1166	1008	1026	1074	1052	1060	1098
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	19.6	23.4	19.6	20.1	21.1	20.6	20.8	21.7
(I) Dry Wt.	97.4	98.1	100.4	99.9	101.9	101.4	103.7	105.8
(J) Proctor Wt.	98	98	98	98	100	100	100	105.3
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	28+00 40' L ℄	28+20 50' L ℄	27+50 86' R ℄	27+60 90' R ℄	20+00 ℄	20+15 20' R ℄	21+75 150' R ℄	21+75 140' R ℄
(O) Elev.	742	741	740	739	738	739	737	732

Compaction Required 100%

Technician UD/TD

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Dam

DATE: 9-6-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6							
(C) Dens. Count	444	428	410	426	422	408	410	416
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	125.5	127.5	129.5	127.5	128.0	130.0	129.5	129.0
(F) Moist Count	950	984	920	902	956	1028	990	980
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	18.2	18.9	17.5	17.1	18.5	20.1	19.1	18.9
(I) Dry Wt.	107.3	108.6	112.0	110.4	109.5	109.9	110.4	110.1
(J) Proctor Wt.	106.3	106.3	110	110	110	110	110	110
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	4+15 60'R ℄	4+25 50'R ℄	5+50 185'L ℄	5+40 200'L ℄	7+00 40'L ℄	7+10 30'L ℄	7+90 140'R ℄	8+00 150'R ℄
(O) Elev.	754	753	746	747	737	736	728	727

Compaction Required 100%

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Plant Wansley
JOB NO.:
AREA: Sap Dam

DATE: 9/6/73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT:

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6 inches							
(C) Dens. Count	420	430	434	420	428	418	400	436
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	128.5	127.2	126.7	128.5	127.5	128.7	131.0	126.2
(F) Moist Count	990	960	1120	1000	1000	1010	1100	1110
(G) F ÷ Std Count								-
(H) Wt. Moist (lbs)	19.1	18.5	22.2	19.3	19.3	19.6	21.7	22.0
(I) Dry Wt.	109.4	108.7	104.5	109.2	108.2	109.1	109.3	104.2
(J) Proctor Wt.	108	108	103	108	108	108	108	103
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	5+40 250 LT ℄	5+30 →	5+50 ℄	5+40 ℄	4+00 RT ℄ 100'	4+20 RT ℄ 90'	4+70 50 LT ℄	4+90 50 LT ℄
(O) Elev.	745	744	747	746	752	751	750	749

Compaction Required 100

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sap Dam

715
700

DATE: 9/6/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	9	10	11	12	13	14		
(B) Probe Depth								
(C) Dens. Count	424	454	410	418	452	430		
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	128.0	124.2	129.7	128.7	124.2	127.2		
(F) Moist Count	950	960	1060	990	950	1020		
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	18.2	18.5	20.8	19.1	18.2	19.9		
(I) Dry Wt.	109.8	105.7	108.9	109.6	106.0	107.3		
(J) Proctor Wt.	108	106	108	108	106	106		
(K) % Comp. I ÷ J	100	100	100	100	100	100		
(L) % Moist								
(N) Location	7+00 150 LT ℄	7+15 155 LT℄	7+50 50 LT ℄	7+65 55LT℄	8+00 150 RT℄	8+18 150 RT ℄		
(O) Elev.	735	736	730	729	727	726		

Compaction Required 100

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: [illegible]

DATE: 9-6-93
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	15	16	17	18	19	20	21	22
(B) Probe Depth	6"							
(C) Dens. Count	484	466	476	518	506	458	478	[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	121.0	123.0	121.5	117.0	118.5	119.0	121.5	117.5
(F) Moist Count	1014	1022	1060	988	1004	1022	1052	976
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	19.6	20.1	20.8	19.1	19.3	19.9	20.6	18.9
(I) Dry Wt.	101.4	102.9	100.7	97.9	99.2	99.9	100.9	98.6
(J) Proctor Wt.	100	100	100	98	98.0	98	100	98
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	25+00 120'R℄	25+75 125'R℄	26+00 80'R℄	26+20 70'R℄	26+50 60'L℄	[illegible] 50'L℄	[illegible] ℄	[illegible] 20'L℄
(O) Elev.	738	739	742	744	744	746	74	41

Compaction Required 100 %

Technician WD/TD

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: SPP [illegible]

DATE: 9-5-77
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	9	10	11	12	13	14		
(B) Probe Depth	6"							
(C) Dens. Count	426	438	412	406	424	438		
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	127.5	126.0	125.5	130.0	128.0	126.0		
(F) Moist Count	1002	898	942	992	926	884		
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	19.3	17.1	18.0	191	17.8	16.6		
(I) Dry Wt.	108.2	108.9	111.5	110.9	110.2	109.4		
(J) Proctor Wt.	108	108	110	110	110	110		
(K) % Comp. I ÷ J	100	100	100	100	100	100		
(L) % Moist								
(N) Location	6+50 100'R ℄	6+60 115'R ℄	7+00 ℄	7+15 20'L ℄	8+00 80'R ℄	8[illegible] 90'R ℄		
(O) Elev.	738	737	731	730	729	728		

Compaction Required 100%

Technician VD/TG

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: [illegible]

DATE: 9-5-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	428	430	446	418	448	432	432	422
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	127.5	127.0	125.0	1290	125.0	127.0	127.0	128.5
(F) Moist Count	924	916	872	958	1004	884	908	966
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	17.5	17.5	16.3	18.5	19.3	16.6	17.3	18.7
(I) Dry Wt.	110.0	109.5	108.7	110.5	105.7	110.4	109.7	[illegible]
(J) Proctor Wt.	110	110	106.3	110	106.3	110	110	110
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	4+25 ℄	4+40 15'R ℄	4+75 40'R ℄	5+00 50'R ℄	4+50 60'L ℄	4+60 70'L ℄	5+75 80'L ℄	5+85 90'L ℄
(O) Elev.	747	746	746	745	746	745	746	745

Compaction Required 100%

Technician VD/TD

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: [illegible]

DATE: 9/5/77
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	8	9	10	11	12	14	15	16
(B) Probe Depth								
(C) Dens. Count	464	450	450	508	442	440	442	428
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	123.0	124.7	124.7	118.0	125.7	123.5	125.7	127.5
(F) Moist Count	860	910	840	920	950	980	900	990
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	16.1	17.3	15.7	17.5	18.2	18.9	17.1	19.1
(I) Dry Wt.	106.9	107.4	109.0	106.5	107.5	104.6	108.6	108.4
(J) Proctor Wt.	106^{5}	106^{5}	106^{5}	100	106	103	106	106
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	9+20 25'Rt℄ →	9+40	7+00 30'Rt℄ →	7+20	5+50 110'Lt℄ →	5+60	5+00 100 Rt℄ →	5+20
(O) Elev.	717	716	730	729	745	744	[illegible]	745

Compaction Required 100

Technician M.K.

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: [illegible]

DATE: 9/5/73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"	→	→	→	→	→	→	→
(C) Dens. Count	458	438	464	440	430	460	426	422
(D) C ÷ Std Count	—	—	—	—	—	—	—	—
(E) Wet Wt. (lb/ft3)	123.7	126.2	123.0	[illegible]	127.2	123.5	[illegible]	128.2
(F) Moist Count	900	1020	860	1020	980	1040	1160	1132
(G) F ÷ Std Count	—	—	—	—	—	—	—	—
(H) Wt. Moist (lbs)	17.1	19.9	16.1	19.9	[illegible]	20.3	23.2	22.4
(I) Dry Wt.	106.6	106.3	106.9	[illegible]	108.3	103.2	[illegible]	[illegible]
(J) Proctor Wt.								
(K) % Comp. I ÷ J								
(L) % Moist								
(N) Location	19+00 245 Lt ℄ →	19+00	20+20 230 Lt ℄ →	20+55	22+20 220 Lt ℄ →	22+60	23+50 215' Lt ℄ →	23+60
(O) Elev.	725	724	726	725	728	729	732	731

Compaction Required 100

Technician M. [illegible]

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA: [illegible]

DATE: 7-5-78
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	412	416	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	[illegible]	123.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(F) Moist Count	[illegible]	[illegible]	[illegible]	113	[illegible]	[illegible]	[illegible]	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	[illegible]	[illegible]	21.1	17.3	20.8	20.6	[illegible]	[illegible]
(I) Dry Wt.	[illegible]	101.7	[illegible]	[illegible]	[illegible]	116.6	[illegible]	[illegible]
(J) Proctor Wt.	[illegible]	[illegible]	103	[illegible]	[illegible]	106	[illegible]	[illegible]
(K) % Comp. I ÷ J	100	100	94	[illegible]	[illegible]	100		[illegible]
(L) % Moist			Retested →					
(N) Location	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(O) Elev.	[illegible]	[illegible]	727	728	[illegible]	[illegible]	[illegible]	[illegible]

Compaction Required 100%

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA:

DATE: [illegible]
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT:

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count	490	478	[illegible]	[illegible]	[illegible]	512	[illegible]	[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	[illegible]	121.5	[illegible]	[illegible]	120.0	117.5	121.0	[illegible]
(F) Moist Count	[illegible]	[illegible]			[illegible]		[illegible]	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	[illegible]	[illegible]	16.7	[illegible]	[illegible]	[illegible]	[illegible]	
(I) Dry Wt.	100.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	110	[illegible]
(J) Proctor Wt.	100	100	100	[illegible]			[illegible]	[illegible]
(K) % Comp. I ÷ J	100	100	100	100	[illegible]		[illegible]	[illegible]
(L) % Moist								
(N) Location	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(O) Elev.	[illegible]	[illegible]	[illegible]	[illegible]		113	[illegible]	[illegible]

Compaction Required [illegible]

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA:

DATE: 9-5-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	17	18	[illegible]	20				
(B) Probe Depth	6"							
(C) Dens. Count	[illegible]	[illegible]	[illegible]	[illegible]				
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	[illegible]	[illegible]	[illegible]	[illegible]				
(F) Moist Count	[illegible]	1172	[illegible]	[illegible]				
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	8.5	18.5	[illegible]	[illegible]				
(I) Dry Wt.	[illegible]	[illegible]	[illegible]	[illegible]				
(J) Proctor Wt.	[illegible]	[illegible]	[illegible]	[illegible]				
(K) % Comp. I ÷ J	[illegible]	100	100	[illegible]				
(L) % Moist								
(N) Location	[illegible]	[illegible]	[illegible]	[illegible]				
(O) Elev.	[illegible]	[illegible]	[illegible]	[illegible]				

Compaction Required ____________

Technician ____________

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sep Dam

DATE: 9/4/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	17	18	19	20				
(B) Probe Depth								
(C) Dens. Count	400	420	418	422				
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	131.0	128.5	128.7	128.2				
(F) Moist Count	1270	1180	1250	1300				
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	25.7	23.6	25.2	26.4				
(I) Dry Wt.	105.3	104.9	103.5	101.8				
(J) Proctor Wt.	103	103	103	103				
(K) % Comp. I ÷ J	100	100	100	99				
(L) % Moist								
(N) Location	20+00 180' Rt ℄ →	19+89	18+75 165 Rt ℄ →	18+66				
(O) Elev.	712	711	712	711				

200

Compaction Required 100

Technician

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Plant Wansley
JOB NO.:
AREA: Seperation Dam

DATE: 9/4/73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count	452	516	454	434	466	430	426	460
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	124.7	117.2	124.2	126.7	122.7	127.2	127.7	123.5
(F) Moist Count	950	920	1300	970	1200	1010	1330	890
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	18.5	17.0	26.4	18.7	24.0	19.6	27.1	16.9
(I) Dry Wt.	106.2	100.2	97.8	108.0	98.7	107.6	100.6	106.6
(J) Proctor Wt.	104.0	100	98	107.0	98	108	98	106
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	℄ 6+00	10 Rt ℄ 6+00	24+50 250 Rt ℄ →	24+60	22+50 240 Rt ℄ →	22+60	21+00 250 Rt ℄ →	20+85
(O) Elev.	725	726	711	710	712	711	710	711

Compaction Required 100

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.: Sep. Dam
AREA:

DATE: 9/4/73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number								
(B) Probe Depth								
(C) Dens. Count	454	466	428	438	470	460	470	462
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	124.2	122.7	127.5	126.2	122.2	123.5	122.2	123.2
(F) Moist Count	1060	960	980	940	700	840	940	980
(G) F ÷ Std Count	✓							
(H) Wt. Moist (lbs)	20.8	18.5	18.9	18.0	12.3	15.7	18.0	[illegible]
(I) Dry Wt.	103.4	104.2	108.6	108.2	109.9	107.8	104.2	[illegible]
(J) Proctor Wt.	104	104	108	108	108	108	104	104
(K) % Comp. I ÷ J	100	[illegible]	[illegible]	[illegible]	100	[illegible]	100	100
(L) % Moist								
(N) Location	6+00 75'R℄	6+00 85R℄	25 L℄ 6+00	35' L℄ 6+00	℄ 7+00	10L℄ 7+00	8+50 100R℄	8+50 110'R℄
(O) Elev.	735	734	735	734	730	729	725	[illegible]

Compaction Required 100

Technician MK

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA:

DATE: [illegible]
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT:

(A) Test Number	1	[illegible]	1	[illegible]					
(B) Probe Depth	6								
(C) Dens. Count	[illegible]	456	[illegible]	[illegible]					
(D) C ÷ Std Count									
(E) Wet Wt. (lb/ft^3)	[illegible]	[illegible]	125.0	[illegible]					
(F) Moist Count	[illegible]	[illegible]	[illegible]	[illegible]					
(G) F ÷ Std Count									
(H) Wt. Moist (lbs)	[illegible]		[illegible]						
(I) Dry Wt.	[illegible]		[illegible]	[illegible]					
(J) Proctor Wt.	[illegible]	[illegible]	[illegible]	[illegible]					
(K) % Comp. I ÷ J	[illegible]	[illegible]	[illegible]	100					
(L) % Moist									
(N) Location	[illegible]	[illegible]	18+50	18+30					
(O) Elev.	[illegible]	[illegible]	[illegible]						

Compaction Required

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA: [illegible]

DATE: [illegible]
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	1	10	[illegible]	12	13	14	15	[illegible]
(B) Probe Depth								
(C) Dens. Count	470	462	463	[illegible]	502	506	416	462
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(F) Moist Count	[illegible]	1146	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(I) Dry Wt.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(J) Proctor Wt.		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(K) % Comp. I ÷ J	99	[illegible]	[illegible]	[illegible]	[illegible]	100	[illegible]	[illegible]
(L) % Moist								
(N) Location	[illegible] 15C R4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(O) Elev.	[illegible]	[illegible]6	[illegible]		[illegible]	[illegible]		

Compaction Required [illegible]

Technician [illegible]

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.: [illegible]
AREA: [illegible]

DATE: [illegible]
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	[illegible]	[illegible]	470	[illegible]	416	466	[illegible]	[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	122.[illegible]	123.5	12[illegible].5	123.3	119.0	[illegible]	124.[illegible]	[illegible]
(F) Moist Count	1110	962	1[illegible]	997	744	[illegible]	[illegible]	
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	22.[illegible]	16.1	[illegible]	15.[illegible]	[illegible]	12.1	[illegible]	
(I) Dry Wt.	100.[illegible]	107.4	10[illegible].6	[illegible]	[illegible]3.4	106.7	[illegible]	[illegible]
(J) Proctor Wt.	[illegible]	111	[illegible]		[illegible]	[illegible]		
(K) % Comp. I ÷ J	100	[illegible]	100	10[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(L) % Moist								
(N) Location	[illegible]	[illegible]	[illegible]	[illegible]	L	[illegible]	[illegible]	
(O) Elev.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			

Compaction Required [illegible] %

Technician [illegible]

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sep. Dam

DATE: 8/31/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	466	464	540	534	450	438	480	530
(D) C ÷ Std Count	—	—	—	—	—	—	—	—
(E) Wet Wt. (lb/ft^3)	122.7	123.0	114.7 113.0	115.2	124.7	126.2	121.2	115.7
(F) Moist Count	1210	1260	1250	1170	1120	1200	1290	1060
(G) F ÷ Std Count	—	—	—	—	—	—	—	—
(H) Wt. Moist (lbs)	24.2	25.4	25.2	23.4	22.2	24.0	26.2	20.8
(I) Dry Wt.	98.5	98.6	89.5	91.8	102.5	102.2	95.0	94.9
(J) Proctor Wt.	98	98.	92	92	100	100	92	92.0
(K) % Comp. I ÷ J	100	100	98	100	100	100	100	100
(L) % Moist			28.2 26.6					
(N) Location	21+00 50 Rt ℄ →	21+10 →	Rerolled 19+75 75' Rt ℄ →	19+85 →	18+75 75'Rt ℄ →	18+65 →	18+50 200 Rt ℄ →	18+60 →
(O) Elev.	710	709	705	704	702	701	700	701

Compaction Required 100

Technician MK

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sep. Dam

DATE: 8/31/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number			11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count	432	472	400	428	418	430	428	440
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	128.4 127.0	122.2	131.0	127.5	128.7	127.2	127.5	126.0
(F) Moist Count	1040	1100	1140	1120	1350	1180	1280	1190
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	20.3	21.7	22.7	22.2	27.5	23.6	25.9	23.8
(I) Dry Wt.	108.5 106.7	100.5	108.3	105.3	101.2	103.6	101.6	102.2
(J) Proctor Wt.	105.0	100.	108.0	105.00	100	103.0	101.0	101.0
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist	16.9 19.0							
(N) Location	20+50 200 Rt ℄	20+60 200' Rt ℄	19+00 265 Lt ℄ →	19+10	20+25 220 Lt ℄ →	20+35	23+50 230 Lt ℄ →	23+60
(O) Elev.	706	705	722	721	726	725	730	731

150 100 120

Compaction Required 100

Technician M. K.

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sep Dam

DATE: 8/30/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	17	18	19						
(B) Probe Depth									
(C) Dens. Count	432	440	428						
(D) C ÷ Std Count									
(E) Wet Wt. (lb/ft^3)	127.0	126.0	127.5						
(F) Moist Count	1250	1180	1120						
(G) F ÷ Std Count									
(H) Wt. Moist (lbs)	25.2	23.6	22.5						
(I) Dry Wt.	101.8	102.4	105.0						
(J) Proctor Wt.	100	160	105						
(K) % Comp. I ÷ J	100	100	100						
(L) % Moist									
(N) Location	19+55 70 Lt ℄ →	18+00 →	18+10 →						
(O) Elev.	718	720	719						

Compaction Required 100

Technician M. K

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Plant Wansley
JOB NO.:
AREA: Seperation Dam

DATE: 8/30/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"	←	←	←	←	←	←	←
(C) Dens. Count	418	416	414	410	450	444	430	428
(D) C ÷ Std Count	✓	←	←	←	←	←	←	←
(E) Wet Wt. (lb/ft^3)	128.8	129.0	129.2	129.7	124.7	125.5	127.4	127.5
(F) Moist Count	1172	1210	1182	1170	1100	1140	[illegible]	1160
(G) F ÷ Std Count	←	←	←	←	←	←	←	←
(H) Wt. Moist (lbs)	23.4	24.2	23.6	23.4	21.7	22.7	24.2	23.2
(I) Dry Wt.	105.4	104.8	102.6	106.3	103.0	102.8	103.2	104.3
(J) Proctor Wt.	103	103	103	103	103	103	103	103
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	24+00 175'Lt ℄ →	24+15 →	23+30 200 Lt ℄ →	23+45 →	21+05 220'Lt ℄ →	21+20 →	19+75 240 →	19+65 →
(O) Elev.	755	754	722	[illegible]	724	723	720	719

Compaction Required 100

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sep. Dam

DATE: 8/30/73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6	→	→	→	→	→	→	→
(C) Dens. Count	402	416	444	454	422	424	418	424
(D) C ÷ Std Count	✓	✓	✓	✓	✓	✓	✓	✓
(E) Wet Wt. (lb/ft³)	130.7	1290	125.5	124.2	128.0	128.0	128.7	128.0
(F) Moist Count	1340	1350	1200	1170	1258	1252	1290	1292
(G) F ÷ Std Count	✓	✓	✓	✓	✓	✓	✓	✓
(H) Wt. Moist (lbs)	27.3	27.5	24.0	23.4	20.8	25.2	26.2	26.2
(I) Dry Wt.	103.4	1015	101.5	100.8	107.2	102.8	102.5	101.8
(J) Proctor Wt.	103	100	100	100	105	103	103	100
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	24+50 50LT℄	24+60 →	23+50 75LT℄	23+60 →	23+40 →	22+50 80'LT℄	22+60 →	21+00 80'LT℄
(O) Elev.	735	734	730	729	728	726	725	725

Compaction Required 100

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA:

DATE: [illegible]
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	[illegible]	[illegible]		[illegible]				
(B) Probe Depth	[illegible]							
(C) Dens. Count	[illegible]	[illegible]	[illegible]	[illegible]				
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	[illegible]	13[illegible].0	[illegible]	12[illegible].0				
(F) Moist Count	1105	1422		[illegible]				
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	[illegible]	[illegible]		[illegible]				
(I) Dry Wt.	107.[illegible]	110.1	[illegible]	[illegible]				
(J) Proctor Wt.		[illegible]		[illegible]				
(K) % Comp. I ÷ J								
(L) % Moist								
(N) Location	[illegible] 125' ∠ ℄	[illegible] [illegible] ∠ ℄	[illegible] 150' ∠ ℄	[illegible] 160' ∠ ℄				
(O) Elev.	745	744	743	742				

Compaction Required 100

Technician UD

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA: [illegible]

DATE: [illegible]
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	1	2	3	4	5	6	7	[illegible]
(B) Probe Depth	6"							
(C) Dens. Count	[illegible]	416	446	422	424	416	[illegible]	[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	[illegible]	129.0	125.0	127.0	128.0	129.0	127.3	128.0
(F) Moist Count	1282	1301	[illegible]		1340	[illegible]	[illegible]	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	25.9	21.6	[illegible]	24.6	27.3	[illegible]	24.2	[illegible]
(I) Dry Wt.	103.6	102.4	103.3	102.4	100.7	101.7	103.3	[illegible]
(J) Proctor Wt.	[illegible]	[illegible]	[illegible]	[illegible]	100	[illegible]	[illegible]	[illegible]
(K) % Comp. I ÷ J	103	[illegible]	[illegible]	[illegible]	100	[illegible]	[illegible]	[illegible]
(L) % Moist			RePulled					
(N) Location	18+[illegible] 75' L ℄	18+15 85' L ℄	19+[illegible] 60' L ℄	19+[illegible] 90' L ℄	20+00 100' L ℄	[illegible] 10[illegible] L ℄	[illegible] 50' L ℄	[illegible] [illegible] L ℄
(O) Elev.	721	722	720	721	722	723	721	721

Compaction Required 100%

Technician

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS

NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA:

DATE: [illegible]
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT:

(A) Test Number #	9	10	11	12	13	[illegible]	[illegible]	[illegible]
(B) Probe Depth	6"							
(C) Dens. Count	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	129.0	128.0	[illegible]	128.0	124.0	[illegible]	[illegible]	
(F) Moist Count	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	[illegible]		[illegible]	213	191	[illegible]		
(I) Dry Wt.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(J) Proctor Wt.	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
(K) % Comp. I ÷ J	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(L) % Moist								
(N) Location	18+50 12' L [illegible]	18+40 125 L [illegible]	15+[illegible] 115 L [illegible]	[illegible] 120 L [illegible]	20+75 90 L [illegible]	[illegible] 95 L [illegible]	[illegible] [illegible]	[illegible]
(O) Elev.	722	724	72[illegible]	[illegible]	[illegible]	[illegible]	742	[illegible]

Compaction Required 100%

CONFIDENTIAL BUSINESS INFORMATION

Technician [illegible]

LAW ENGINEERING TESTING COMPANY
NUCLEAR DENSITY METER WORK SHEET

ROJECT: Plant Wansley
OB NO.: G-4100
REA: Separation Dam

DATE: 8-22-78
DENSITY STANDARD COUNT: 2.31
MOISTURE STANDARD COUNT: [illegible]

A) Test Number	9	10	11	12	13	14	15	16
B) Probe Depth								
C) Dens. Count	442	420	464	450	426	438	430	432
D) C ÷ Std Count	1							
E) Wet Wt. (lb/ft^3)	125.7	128.5	123.0	124.4	127.9	126.0	127.3	127.0
F) Moist Count	1110	1120	[illegible]	[illegible]	1260	1220	1142	1280
G) F ÷ Std Count								
H) Wt. Moist (lbs)	22.0	22.2	23.7	27.3	25.4	24.6	22.8	25.4
I) Dry Wt.	1037	106.3	99.3	97.1	102.5	101.4	104.5	101.6
J) Proctor Wt.	1030	105	100	100	100	100	103	103
K) % Comp. I ÷ J	100	100	99	97	100	100	100	100
L) % Moist								
N) Location	Sta 19+25 175' Lt ℄	Sta 19+40 175' Lt ℄	Sta-20+30 175' Lt ℄	Sta [illegible] 175' Lt ℄	Sta 22+25 200' Lt ℄	St 22+40 200' Lt ℄	Sta-24+30 200' Lt ℄	Sta 24+75 200' [illegible]
O) Elev.	717	716	716	715	720	719	72[illegible]	[illegible]

100

ompaction Required 100%

CONFIDENTIAL BUSINESS INFORMATION

Technician NH

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.: Sep
AREA: Dam

DATE: 8/29/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	17	18	19	20	21	22	23	24
(B) Probe Depth								
(C) Dens. Count	458	460	422	434	440	436	440	414
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	123.7	123.5	128.2	126.7	126.0	126.2	126.0	129.2
(F) Moist Count	1400	1380	1280	1240	1160	1200	1310	1280
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	28.7	28.3	26.2	25.3	23.2	24.0	26.0	25.9
(I) Dry Wt.	95.0	95.2	102.0	101.4	102.8	102.2	100.0	103.3
(J) Proctor Wt.	100	100	100	100	100	100	100	100
(K) % Comp. I ÷ J	to Wet Re Rolled		100	100	100	100	100	100
(L) % Moist								
(N) Location	19+50 100 Lt ℄ →	19+60 →	21+00 100 Lt ℄ →	21+20 →	22+50 80' Lt ℄ →	22+60 →	24+25 75' Lt ℄ →	24+35 →
(O) Elev.	714	713	716	715	723	724	[illegible]	[illegible]

Compaction Required

CONFIDENTIAL BUSINESS INFORMATION

Technician DMK : A.N.L.

LAW ENGINEERING TESTING COMPANY
NUCLEAR DENSITY METER WORK SHEET

ROJECT: Plant Wansley
OB NO.: G-4100
REA: Sep. Dam

DATE: 8/29/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

A) Test Number	1	2	3	4	5	6	7	8
B) Probe Depth	6" →	→	→	→	→	→	→	→
C) Dens. Count	436	438	450	424	436	428	432	436
D) C ÷ Std Count	←	←	←	←	←	←	←	←
E) Wet Wt. (lb/ft^3)	126.2	126.2	124.7	128.0	126.2	127.5	127.6	126.2
F) Moist Count	1090	1020	1080	1000	1060	1040	1080	1020
G) F ÷ Std Count	←	←	←	←	←	←	←	←
H) Wt. Moist (lbs)	21.5	19.9	21.3	19.3	20.8	20.3	21.2	19.9
I) Dry Wt.	104.7	106.3	103.4	108.7	105.4	107.2	105.7	106.3
J) Proctor Wt.	105	105	100	108	105	105	105	105
K) % Comp. I ÷ J	100	100	100	100	100	100	[illegible]	[illegible]
L) % Moist								
N) Location	19+60 280Lt ℄ →	19+70 →	21+40 255Lt ℄ →	21+50 →	23+25 275Lt ℄ →	23+35 →	24+75 270 Lt ℄	24+65 →
O) Elev.	718	717	720	719	726	725	727	726

40

ompaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician M. K.

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Sd Dam

DATE: 8.25.73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6"							
(C) Dens. Count	428	432	456	398	404	412	452	450
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	127.5	127.0	124.0	131.5	130.5	129.5	124.5	124.5
(F) Moist Count	1198	1184	988	1216	1156	1168	1000	968
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	24.0	23.6	19.1	24.6	23.2	22.0	19.3	18.7
(I) Dry Wt.	103.5	103.4	104.9	107.9	107.3	107.5	105.2	105.8
(J) Proctor Wt.	103	103	105	108	108	108	105	105
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	23+00 90' L ℄	23+10 80' L ℄	24+50 150' L ℄	24+60 160' L ℄	25+00 100' L ℄	25+[illegible] 110' L ℄	18+50 80' L ℄	18+60 90' L ℄
(O) Elev.	727	728	730	731	728	725	718	719

Compaction Required 100%

Technician UD/TO

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

19+00 — 25+00

PROJECT: Wansley
JOB NO.: 1
AREA: [illegible]

DATE: 8-29-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	438	428	406	402	412	392	434	460
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	126.0	127.5	130.0	131.0	129.5	132.0	126.5	123.5
(F) Moist Count	1230	1220	1038	1022	1016	934	1114	976
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	24.8	24.6	20.3	19.9	19.9	18.0	22.0	18.9
(I) Dry Wt.	101.2	102.9	109.7	111.1	109.6	114.0	104.5	104.6
(J) Proctor Wt.	100	100	109	109	109	114	105	105
(K) % Comp. I ÷ J	100+	100+	100	100+	100	100	100	100
(L) % Moist								
(N) Location	19+25 260' L ℄	19+35 275' L ℄	20+50 175' L ℄	20+60 185' L ℄	21+00 200' L ℄	21+15 215' L ℄	22+25 250' L ℄	22+35 260' L ℄
(O) Elev.	715	716	716	717	717	718	724	725

Compaction Required 100 %

Technician VD/TO

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA:

DATE: [illegible]
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	[illegible]	10	11	12	13	14	[illegible]	
(B) Probe Depth	6"							
(C) Dens. Count	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(F) Moist Count	1235	1216	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	[illegible]	24.6	[illegible]	7	[illegible]	[illegible]	[illegible]	[illegible]
(I) Dry Wt.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(J) Proctor Wt.	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		
(K) % Comp. I ÷ J	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
(L) % Moist								
(N) Location	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(O) Elev.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		

Compaction Required 100%

CONFIDENTIAL BUSINESS INFORMATION

Technician [illegible]

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA:

DATE: [illegible]
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	1	2		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(B) Probe Depth	6"							
(C) Dens. Count	449	455	425	422	432	407	442	417
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	125.0	127.0	127.[illegible]	128.0	123.[illegible]	125.[illegible]	[illegible]	[illegible]
(F) Moist Count	1428	1382	1267	1268	[illegible]	[illegible]	[illegible]	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	27.1	28.3	25.4	2[illegible]	25.9	22.2	[illegible]	22.0
(I) Dry Wt.	97.9	98.7	102.1	102.3	97.6	[illegible]	104.8	[illegible]
(J) Proctor Wt.	100	100	100	[illegible]	100	100	[illegible]	
(K) % Comp. I ÷ J	[illegible]	[illegible]	[illegible]	[illegible]	98	[illegible]	[illegible]	[illegible]
(L) % Moist								
(N) Location	21+00 300'L ℄	21+[illegible] [illegible]'L ℄	19+[illegible] 200'L ℄	[illegible] 200'L ℄	20+50 120'L ℄	2[illegible] 100'L ℄	2[illegible] 250'L ℄	[illegible] [illegible] L ℄
(O) Elev.	711	710	712	712	712	713	712	713

Compaction Required 100%

CONFIDENTIAL BUSINESS INFORMATION

Technician UD/TJ

LAW ENGINEERING TESTING COMPANY
NUCLEAR DENSITY METER WORK SHEET

ROJECT: Plant Wansley
OB NO.: G-4100
REA: Sep Dam

DATE: 8/28/[illegible]
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

A) Test Number	1	2	3	4	5	6	7	8
B) Probe Depth								
C) Dens. Count	410	426	400	420	450	420	430	418
D) C ÷ Std Count								
E) Wet Wt. (lb/ft³)	129.7	127.7	131.2	131.2	124.7	128.5	[illegible]	128.7
F) Moist Count	1060	980	1100	1010	1090	1110	1080	1020
G) F ÷ Std Count								
H) Wt. Moist (lbs)	20.7	18.9	21.7	19.6	21.5	21.7	21.3	17.9
I) Dry Wt.	109.0	108.8	110.5	111.6	103.2	106.8	105.9	108.8
J) Proctor Wt.	108	108.0	108	108	103	106	106	108
K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
L) % Moist								
N) Location	19+50 265 Lt ℄	19+50 250 Lt ℄	19+60 175 Lt ℄	19+60 195 Lt ℄	19+80 60 Lt ℄	19+80 75 Lt ℄	20+20 60 Lt ℄	20+20 75 Lt ℄
O) Elev.	712	711	712	711	710	709	709	708

ompaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician M. K.

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA: [illegible] SEPAN

DATE: [illegible]
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	[illegible]	10		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(B) Probe Depth								
(C) Dens. Count	438	444	[illegible]	416	436	[illegible]	[illegible]	477
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	120.5	[illegible]	122.9
(F) Moist Count	182	770	[illegible]	235	[illegible]	[illegible]	[illegible]	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(I) Dry Wt.	[illegible]	106.8	104.6	[illegible]	100.3	[illegible]	[illegible]	100.3
(J) Proctor Wt.	[illegible]		[illegible]	[illegible]	[illegible]		[illegible]	
(K) % Comp. I ÷ J	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
(L) % Moist								
(N) Location	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(O) Elev.	[illegible]	736	[illegible]	[illegible]	736	[illegible]	[illegible]	[illegible]

Compaction Required 100 %

CONFIDENTIAL BUSINESS INFORMATION

Technician [illegible]

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.: [illegible]
AREA: [illegible] SEPAR.

DATE: [illegible]
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	1	2	3	4	5	6	7	[illegible]
(B) Probe Depth	6"							
(C) Dens. Count	464	446	[illegible]	[illegible]	470	[illegible]	[illegible]	[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	123,0	[illegible]	[illegible]	[illegible]	122.5	[illegible]	[illegible]	125.0
(F) Moist Count	762	948	[illegible]	[illegible]	900	[illegible]	[illegible]	1044
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	18.5	18.2	[illegible]	[illegible]	17.1	17.5	[illegible]	[illegible]
(I) Dry Wt.	104.5	106.8	104.7	106.2	105.4	105.0	106.0	107.4
(J) Proctor Wt.	[illegible]	106.3	105	106.3	106.3	[illegible]	106.3	[illegible]
(K) % Comp. I ÷ J	100	100	100	[illegible]	99	99	[illegible]	[illegible]
(L) % Moist								
(N) Location	[illegible] ℄ 0 Rt	7+60 20'R ℄	[illegible] 30'R ℄	7+15 20'R ℄	9+00 200'L ℄	5+15 210'L ℄	10+60 200'L ℄	[illegible] [illegible] L ℄
(O) Elev.	725	726	724	725	735	726	735	726

Compaction Required 100 %

Technician

CONFIDENTIAL BUSINESS INFORMATION

LAW ENGINEERING TESTING COMPANY
NUCLEAR DENSITY METER WORK SHEET

ROJECT: Plant Wansley
OB NO.: G-4100
REA: Sep Dam

DATE: 8/27/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

A) Test Number	17	18	19	20				
B) Probe Depth								
C) Dens. Count	482	478	462	460				
D) C ÷ Std Count								
E) Wet Wt. (lb/ft^3)	123.7	128.2	125.7	126.7				
F) Moist Count	1320	1280	1120	1480				
G) F ÷ Std Count								
H) Wt. Moist (lbs)	21.0	20.2	17.2	24.2				
I) Dry Wt.	102.7	108.0	108.5	102.5				
J) Proctor Wt.	103	106	106	103				
K) % Comp. I ÷ J	100	100	100	100				
L) % Moist								
N) Location	13+75 265 Lt ℄	13+90 →	17+00 220 Lt ℄	17+15 →				
O) Elev.	732	731	731	730				

100

ompaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician MK

LAW ENGINEERING TESTING COMPANY
NUCLEAR DENSITY METER WORK SHEET

ROJECT: Plant Wansley
OB NO.: G-4100
REA: Cap Dam

DATE: 8/27/73
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]

A) Test Number			11	12	13	14	15	16
B) Probe Depth								
C) Dens. Count	442	410	432	444	428	436	436	440
D) C ÷ Std Count								
E) Wet Wt. (lb/ft^3)	125.7	129.7	130.0	128.7	131.7	129.7	129.7	129.2
F) Moist Count	980	1060	1270	1240	1400	1280	1320	1130
G) F ÷ Std Count								
H) Wt. Moist (lbs)	18.9	20.8	20.0	19.5	22.7	22.2	21.0	17.5
I) Dry Wt.	106.8	108.9	110.0	109.2	109.0	109.5	108.7	111.7
J) Proctor Wt.	106	109	109	106	106	106	106	109
K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
L) % Moist								
N) Location	7+75 220 Lt ℄	7+90 →	7+25 245' Lt ℄	7+40 →	9+20 270 Lt ℄	9+40 →	10+50 280 Lt ℄	10+65 →
O) Elev.	733	732	733	732	730	729	732	731

30 75 90

ompaction Required 100

Technician

CONFIDENTIAL BUSINESS INFORMATION

LAW ENGINEERING TESTING COMPANY
NUCLEAR DENSITY METER WORK SHEET

ROJECT: Plant Wansley
OB NO.: G-4100
REA: [illegible]

DATE: [illegible]
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT:

A) Test Number	1	2	3	4	5	6	7	8
B) Probe Depth								
C) Dens. Count	440	432	400	438	406	420	[illegible]	424
D) C ÷ Std Count								
E) Wet Wt. (lb/ft^3)	125.7	127.0	121.0	125.7	130.2	128.5	128.0	[illegible]
F) Moist Count	960	1000	1010	980	1070	1050	1020	[illegible]
G) F ÷ Std Count								
H) Wt. Moist (lbs)	18.5	19.3	19.6	18.9	21.1	[illegible]	[illegible]	[illegible]
I) Dry Wt.	107.2	107.7	111.4	106.8	109.1	[illegible]	[illegible]	108.4
J) Proctor Wt.	106	106	109	106	109	106	106	106
K) % Comp. I ÷ J	100	100	100	100	100	[illegible]	[illegible]	[illegible]
L) % Moist								
N) Location	17+10 190 Lt ℄	17+25 →	15+00 235 Lt ℄	15+15 →	12+50 260 Lt ℄	12+65 →	10+00 [illegible] Lt ℄	10+35 →
O) Elev.	728	727	729	728	732	731	[illegible]	[illegible]

ompaction Required 100

CONFIDENTIAL BUSINESS
INFORMATION

Technician M K

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA: [illegible]

DATE: 8-24-73
DENSITY STANDARD COUNT: 2331
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth	6"							
(C) Dens. Count	426	434	462	428	466	454	462	470
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	128.0	126.5	123.0	127.5	123.0	124.0	123.0	122.5
(F) Moist Count	792	744	984	972	972	964	926	916
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	14.2	13.3	18.9	19.1	18.7	18.5	17.8	17.5
(I) Dry Wt.	113.8	113.2	104.1	108.4	104.3	105.5	105.2	105.0
(J) Proctor Wt.	110	110	105	107	105	105	105	105
(K) % Comp. I ÷ J	100+	100+	99	100	99	100	100	100
(L) % Moist			ReRolled →					
(N) Location	15+25 260'L ℄	15+10 210'L ℄	13+40 250'L ℄	13+20 230'L ℄	11+65 195'L ℄	11+50 220'L ℄	9+75 250'L ℄	9+60 265'L ℄
(O) Elev.	724	725	723	724	723	724	722	723

Compaction Required 100%

CONFIDENTIAL BUSINESS INFORMATION

Technician V D

LAW ENGINEERING TESTING COMPANY
NUCLEAR DENSITY METER WORK SHEET

ROJECT: Plant Wansley
OB NO.: G-4100
REA: Sep Dam

DATE: 8/24/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

A) Test Number	17	18	19	20				
B) Probe Depth								
C) Dens. Count	422	400	440	428				
D) C ÷ Std Count								
E) Wet Wt. (lb/ft^3)	128.2	131.0	125.8	127.5				
F) Moist Count	990	940	1020	960				
G) F ÷ Std Count								
H) Wt. Moist (lbs)	19.1	18.0	19.9	18.5				
) Dry Wt.	109.1	113.0	105.9	109.0				
J) Proctor Wt.	106	110	106	109.0				
K) % Comp. I ÷ J								
L) % Moist								
M) Location	11+00 205 Lt ℄	11+20 →	9+40 200 Lt ℄	9+55 →				
N) Elev.	727	726	728	727				

mpaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician M.K.

LAW ENGINEERING TESTING COMPANY
NUCLEAR DENSITY METER WORK SHEET

ROJECT: Plant Wansley
OB NO.: G-4100
REA: [illegible]

DATE: [illegible]
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

A) Test Number	9	10	11	12	13	14	15	16
3) Probe Depth								
C) Dens. Count	460	[illegible]	416	430	434	436	436	408
) C ÷ Std Count								
E) Wet Wt. (lb/ft^3)	123.5	125.5	129.0	127.2	126.7	126.2	126.2	130.0
F) Moist Count	970	1000	930	1010	1050	1050	1090	1010
3) F ÷ Std Count								
H) Wt. Moist (lbs)	18.7	[illegible]	17.8	19.6	20.6	20.6	20.3	19.6
I) Dry Wt.	104.8	106.2	111.2	107.6	106.1	105.6	105.9	110.4
J) Proctor Wt.	[illegible]	105	110.0	106	106	106	106	109
<) % Comp. I ÷ J	100	[illegible]	[illegible]	[illegible]	100	[illegible]	[illegible]	[illegible]
) % Moist								
) Location	16+00 250 LT℄	16+20 →	16+00 200 LT℄	16+20 →	15+00 190 LT℄	15+15 →	13+50 195 LT ℄	13+65 →
) Elev.	723	[illegible]	723	724	725	724	725	724

mpaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician

LAW ENGINEERING TESTING COMPANY
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Plant Wansley
JOB NO.: G-4100
AREA: [illegible]

DATE: 3-2[illegible] 7[illegible]
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

A) Test Number	1	2	3	4	5	6	7	8
B) Probe Depth								
C) Dens. Count	418	426	43[illegible]	420	442	440	428	[illegible]
D) C ÷ Std Count								
E) Wet Wt. (lb/ft^3)	128.7	127.7	127.0	128.5	125.7	126.0	12[illegible].5	127.2
F) Moist Count	940	1020	1[illegible]40	1010	950	1000	[illegible]20	950
G) F ÷ Std Count								
H) Wt. Moist (lbs)	18.0	19.9	22.7	19.6	18.2	19.3	19.9	[illegible]
I) Dry Wt.	110.7	107.8	104.3	108.9	107.5	106.7	[illegible]	108.[illegible]
J) Proctor Wt.	110	[illegible]	[illegible]			[illegible]	106	
K) % Comp. I ÷ J	100+							100+
L) % Moist								
N) Location	9+00 270 Lt ℄	9+15 →	10+60 275 Lt ℄	10+75 →	12+25 290 Lt ℄	12+[illegible] →	14+00 [illegible] Lt ℄	14+15 →
O) Elev.	726	725	725	724	725	724	724	723

7[illegible] 80 75

Compaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician MK

GEORGIA POWER COMPANY — SOILS

NUCLEAR DENSITY METER WORK SHEET

PROJECT: W Ansley
JOB NO.:
AREA: [illegible]

DATE: [illegible]-23-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1250

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	454	438	442	432	428	438	410	406
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	124.0	126.0	125.5	127.0	127.5	126.0	130.0	130.5
(F) Moist Count	924	936	932	966	990	992	932	916
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	17.5	18.0	17.8	18.7	19.1	19.1	17.8	18.7
(I) Dry Wt.	106.5	108.0	107.7	108.3	108.5	106.9	112.2	111.8
(J) Proctor Wt.	107	107	107	107	107	107	110	110
(K) % Comp. I ÷ J	100	100+	100	100+	100	100	100+	
(L) % Moist								
(N) Location	14+30 250' L ℄	14+15 260 L ℄	12+60 285 L ℄	12+40 265L ℄	11+60 200'L ℄	10+80 210' L ℄	10+15 225 L ℄	10+00 215' L ℄
(O) Elev.	723	724	722	723	723	723	723	723

Compaction Required 100%

CONFIDENTIAL BUSINESS INFORMATION

Technician VD/TO

GEORGIA POWER COMPANY – SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA:

DATE: 5-23-73
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number								
(B) Probe Depth								
(C) Dens. Count	[illegible]	[illegible]	[illegible]	[illegible]	408	[illegible]	472	[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	[illegible]	127.5	128.5	129.0	[illegible]0.0	[illegible]	127.0	[illegible]
(F) Moist Count	1132	1094		[illegible]	1080	[illegible]		
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	[illegible]	21.5	[illegible]	[illegible]	21.3	20.7	[illegible]	[illegible]
(I) Dry Wt.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(J) Proctor Wt.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
(K) % Comp. I ÷ J	[illegible]	[illegible]	[illegible]	[illegible]	100	[illegible]	[illegible]	
(L) % Moist								
(N) Location	[illegible] L t	[illegible] L t	[illegible] 195 L t	[illegible] 200 L t	12+60 250 L t	[illegible] 260 L t	15+20	[illegible]
(O) Elev.	6	7	7	7 8	718	719	7	20

Compaction Required [illegible] %

CONFIDENTIAL BUSINESS INFORMATION

Technician [illegible]

LAW ENGINEERING TESTING COMPANY
NUCLEAR DENSITY METER WORK SHEET

ROJECT: Plant Wansley
OB NO.: G-4100
REA: [illegible] Dam

DATE: 8-23-73
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]

) Test Number	17	18	19	20				
) Probe Depth								
) Dens. Count	408	468	430	418				
) C ÷ Std Count								
) Wet Wt. (lb/ft^3)	130.0	122.5	127.2	1287				
) Moist Count	1090	1160	1080	1000				
) F ÷ Std Count								
) Wt. Moist (lbs)	21.5	232	21.3	19.3				
) Dry Wt.	108.5	99.3	105.9	109.4				
) Proctor Wt.	106	[illegible]	[illegible]	[illegible]				
) % Comp. I ÷ J	100	100	100	100				
) % Moist								
) Location	10+50 270' LT?	10+70 →	9+00 245' LT?	9+15 →				
) Elev.	722	721	722	721				

90

105'

mpaction Required 100 %

CONFIDENTIAL BUSINESS INFORMATION

Technician M K

LAW ENGINEERING TESTING COMPANY
NUCLEAR DENSITY METER WORK SHEET

ROJECT: Plant Wansley
OB NO.: G-4100
REA: Sep Dam

DATE: 8-23-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

A) Test Number	9	Ten	11	12	13	14	15	16
B) Probe Depth	6"	6"						
C) Dens. Count	428	420	424	416	446	410	434	462
D) C ÷ Std Count								
E) Wet Wt. (lb/ft^3)	127.5	128.5	128.0	129.0	125.2	129.7	126.7	123.2
F) Moist Count	1120	1080	860	1010	940	960	1200	940
G) F ÷ Std Count								
H) Wt. Moist (lbs)	22.5	21.3	16.1	19.6	18.0	18.5	24.0	18.0
I) Dry Wt.	105.0	107.2	111.9	109.4	107.2	111.2	102.7	105.2
J) Proctor Wt.	105	105.0	109	106	106	109	[illegible]	105
K) % Comp. I ÷ J	100	100	100	100	100	100	[illegible]	100
L) % Moist								
N) Location	15+50 240 Lt ℄	15+65 →	16+00 265 Lt ℄	16+20 →	14+25 290 Lt ℄	14+35 →	12+50 290 Lt ℄	12+30 →
O) Elev.	720	721	722	721	722	721	722	721

50 75 80

Compaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician M K

LAW ENGINEERING TESTING COMPANY
NUCLEAR DENSITY METER WORK SHEET

ROJECT: Plant Wansley
OB NO.: G-4100
REA: Sep Dam

DATE: 8-23-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

A) Test Number	1	2	3	4	5	6	7	8
B) Probe Depth	6 inches	→	→	→	→	→	→	→
C) Dens. Count	400	422	436	410	426	442	424	402
D) C ÷ Std Count								
E) Wet Wt. (lb/ft^3)	131.2	128.7	126.2	129.7	127.8	125.7	128.0	130.7
F) Moist Count	1030	1010	1100	1100	1110	1120	1150	1140
G) F ÷ Std Count								
H) Wt. Moist (lbs)	20.1	19.6	21.7	21.7	22.0	22.2	23.0	22.7
I) Dry Wt.	111.1	109.1	104.5	107.0	105.8	103.5	105.0	108.0
J) Proctor Wt.	109	109	105	105	105	105	105	109
K) % Comp. I ÷ J	100	100	100	100	100	99	100	99
L) % Moist								
N) Location	7+75 200 Lt ℄	7+90 →	9+50 220 Lt ℄	9+65 →	11+25 250 LT ℄	11+40 →	12+55 270 Lt ℄	12+70 →
O) Elev.	723	722	723	722	723	722	723	722

ompaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician M. K.

LAW ENGINEERING TESTING COMPANY
NUCLEAR DENSITY METER WORK SHEET

ROJECT: Plant Wansley
OB NO.: G-4100
REA: Sep. Dam

DATE: 8/22/73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

A) Test Number	17	18	19	20	21	22		
B) Probe Depth								
C) Dens. Count	424	474	428	440	406	426		
D) C ÷ Std Count								
E) Wet Wt. (lb/ft³)	128.0	122.6	127.5	126.0	130.2	127.8		
F) Moist Count	1170	990	1090	960	1030	1020		
G) F ÷ Std Count								
H) Wt. Moist (lbs)	23.4	19.1	21.5	18.5	20.1	19.9		
I) Dry Wt.	104.6	102.9	106.0	107.5	110.1	107.9		
J) Proctor Wt.	103	103	106	106	109	106		
K) % Comp. I ÷ J	100	100	100	100	100	100		
L) % Moist								
M) Location	11+00 260' LT	11+15 →	9+50 275' LT	9+65 275' LT'	8+50 225 LT ℄	8+35 →		
) Elev.	719	720	722	721	723	722		

ompaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician M. H.

LAW ENGINEERING TESTING COMPANY
NUCLEAR DENSITY METER WORK SHEET

ROJECT: Plant Wansley
OB NO.: G-4100
REA: Sep. Dam

DATE: 8-22-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

A) Test Number	9	10	11	12	13	14	15	16
B) Probe Depth								
C) Dens. Count	462	438	434	408	472	458	388	422
D) C ÷ Std Count								
E) Wet Wt. (lb/ft^3)	123.2	126.3	126.7	130.0	122.2	123.7	132.7	128.2
F) Moist Count	920	930	940	960	970	920	1100	932
G) F ÷ Std Count								
H) Wt. Moist (lbs)	17.5	17.8	18.0	185	18.7	17.5	21.7	17.8
I) Dry Wt.	105.7	108.5	108.7	111.5	103.5	106.2	111.0	110.4
J) Proctor Wt.	103	105	109	109	103	103	109	109
K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
L) % Moist								
M) Location	16+00 265 LT ℄	16+25 →	16+00 300 Lt ℄	16+15 →	13+85 290' LT ℄	14+00 →	12+60 310' LT	12+75 →
O) Elev.	716	717	716	715	718	719	719	718

ompaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician M. D.

LAW ENGINEERING TESTING COMPANY
NUCLEAR DENSITY METER WORK SHEET

ROJECT: ~~Plant Wansley~~
OB NO.: ~~C-4109~~
REA: Sep. Dam

DATE: 8/22/73
DENSITY STANDARD COUNT: 331
MOISTURE STANDARD COUNT: 1271

) Test Number	1	2	3	4	5	six	7	8
) Probe Depth								
) Dens. Count	470	498	442	470	440	438	466	478
) C ÷ Std Count								
) Wet Wt. (lb/ft^3)	122.0	119.0	125.7	122.0	125.8	126.2	122.8	121.2
) Moist Count	1020	900	1040	1030	970	960	1020	910
) F ÷ Std Count								
) Wt. Moist (lbs)	19.9	17.1	20.3	20.1	18.7	18.5	19.9	17.3
) Dry Wt.	102.1	101.9	105.4	101.9	107.1	107.7	102.9	103.9
) Proctor Wt.	100	100	103	100	105	105	103	103
) % Comp. I ÷ J	100	100	100	100	100	100	100	100
) % Moist								
) Location	9+50 250' LT ℄	9+65 →	11+00 260' LT ℄	11+15 →	13+50 260' LT ℄	13+70 →	14+50 265' LT ℄	14+65 →
) Elev.	718	717	718	717	718	717	718	717

mpaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician M. K.

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA:

DATE: [illegible]
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: 1271

(A) Test Number		2	[illegible]	[illegible]	5	[illegible]	7	8
(B) Probe Depth	6"							
(C) Dens. Count	[illegible]	428	[illegible]	[illegible]	418	[illegible]	492	[illegible]
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	[illegible]	[illegible]	[illegible]	[illegible]	129.0	130.0	123.5	[illegible]
(F) Moist Count	958	1026	[illegible]	[illegible]	1010	[illegible]	1054	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	[illegible]	20.1	18.7	[illegible]	21.5	[illegible]	17.6	17.9
(I) Dry Wt.	[illegible]	[illegible]	[illegible]	[illegible]	108.5	[illegible]	105.1	[illegible]
(J) Proctor Wt.								
(K) % Comp. I ÷ J					100	[illegible]	[illegible]	[illegible]
(L) % Moist								
(N) Location	[illegible]	160' L 4	[illegible]	[illegible]	[illegible]	[illegible]	300' L 4	[illegible]
(O) Elev.	719	717	713	719	718	717	717	720

Compaction Required 100 %

CONFIDENTIAL BUSINESS INFORMATION

Technician [illegible]

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA: [illegible]
SEPARATION

DATE: 5-2/[illegible]
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	9	10	11	12	13	14		
(B) Probe Depth	2"							
(C) Dens. Count	456	466	472	452	462	468		
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	124.0	122.5	122.0	124.5	123.5	122.5		
(F) Moist Count								
(G) F ÷ Std Count	952	744	715	948	940	978		
(H) Wt. Moist (lbs)	18.9	18.0	19.3	18.2	18.0	18.7		
(I) Dry Wt.	105.1	104.5	102.7	106.3	105.5	103.8		
(J) Proctor Wt.	105	105.0	103	106.7	106.3	103		
(K) % Comp. I ÷ J	100	100	106	100	100	100		
(L) % Moist								
(N) Location	11+60 350' Lt ℄	11+15 360' L ℄	12+15 320' L ℄	12+65 330' L ℄	12+85 360' L ℄	13+00 315' L ℄		
(O) Elev.	709	708	707	710	711	712		

Compaction Required 100%

CONFIDENTIAL BUSINESS INFORMATION

Technician UD/70

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: WANSLEY
JOB NO.:
AREA: SEPARATION DAM

DATE: AUG 21, 73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	17	18	19	*20	211	22	23	27
(B) Probe Depth	6"	←					→	6"
(C) Dens. Count	462	458	490	486	456	432	424	430
(D) C ÷ Std Count	123.5	124.0	119.0	120.5	124.0	127.0	122.0	[illegible]
(E) Wet Wt. (lb/ft³)								
(F) Moist Count	1032	950	1072	1168	1016	1010	1020	940
(G) F ÷ Std Count	20.1	18.2		23.4	19.9			
(H) Wt. Moist (lbs)	103.4	105.8	21.1			19.6	19.9	18.0
(I) Dry Wt.		106.0	97.9	93.4	104.1	107.4	108.1	109.2
(J) Proctor Wt.	103.0		100	100.0	103.0	106	106	[illegible]
(K) % Comp. I ÷ J	100%	100%	97.9	93.4	100%	[illegible]	[illegible]	[illegible]
(L) % Moist			REROLLED	REROLLED ~~[illegible]~~ ADDED				
(N) Location	13+40 225 LT ℄	15+00 225 LT. ℄	14+90 230' LT. ℄	16+20 240' LT. ℄	16+25 230' LT. ℄	14+00 320 LT ℄	14+20 320 LT ℄	12+50 320 LT ℄
(O) Elev.	716	715	716	715	716	715	714	[illegible]

* LIGHT MATERIAL NOT USED AGAIN

Compaction Required 100%

Technician M. K. C.E.

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: SEPARATION DAM

DATE: 8/21/73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count	[illegible]	[illegible]	464	500	458	462	454	490
(D) C ÷ Std Count	[illegible]	[illegible]	123.0	119.0	124.0	123.5	124.0	120.0
(E) Wet Wt. (lb/ft^3)								
(F) Moist Count	[illegible]	[illegible]	980	948	1020	1010	1056	1096
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	[illegible]	[illegible]	18.9	18.2	19.9	19.6	20.8	21.7
(I) Dry Wt.	107.9	[illegible]	104.1	100.8	104.1	103.9	103.2	98.3
(J) Proctor Wt.	106.	106	103.0	100	103	103	103.0	100.0
(K) % Comp. I ÷ J	100+	100+	100+	100+	100+	100+	100+	98.3
(L) % Moist								REROLLED
(N) Location	14+50 250'LT℄	14+35 250'LT℄	9+50 225'LT℄	9+70 225'LT℄	11+10 230'LT℄	11+20 220'LT℄	13+50 225'LT℄	13+70 225'LT℄
(O) Elev.	711	[illegible]	712	711	715	716	717	718

Compaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician MIKE K. CE

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Dike
SEPARATION

DATE: 8/31/[illegible]
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"	←					→	6"
(C) Dens. Count	444	448	[illegible]	476	402	412	418	[illegible]
(D) C ÷ Std Count	125.5	125.2	[illegible]	121.7	150.7	[illegible]	[illegible]	[illegible]
(E) Wet Wt. (lb/ft³)								
(F) Moist Count	870	[illegible]	1010	1030	1050	[illegible]	1110	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	[illegible]	19.3	[illegible]	[illegible]	20.8	[illegible]	22.0	21.5
(I) Dry Wt.	[illegible]	105.9	104.1	101.6	107.9	107.5	[illegible]	105.7
(J) Proctor Wt.	106	106	103	100	106	[illegible]	[illegible]	[illegible]
(K) % Comp. I ÷ J	100	100+	100+	100+	100	[illegible]	[illegible]	[illegible]
(L) % Moist								
(N) Location	9+00 225' Lt ℄	9+15 →	10+50 →	10+35 →	12+00 →	12+15 250 Lt ℄	[illegible] →	[illegible] →
(O) Elev.	709	710	708	709	711	712	[illegible]	[illegible]

Compaction Required 100

Technician MIKE K

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.: [illegible]
AREA: [illegible]

DATE: 8-21-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1211

(A) Test Number	9	10	11	12	13	14	15	16
(B) Probe Depth								
(C) Dens. Count	418	436	452	448	436	425	447	412
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	128.5	126.5	124.5	125.0	126.5	127.5	125.5	123.0
(F) Moist Count	994	988	1120	1016	998	1014	911	[illegible]
(G) F ÷ Std Count								/
(H) Wt. Moist (lbs)	19.1	19.1	22.2	19.7	19.3	22.0	17.5	16.7
(I) Dry Wt.	109.4	107.4	102.3	105.1	107.2	105.5	108.0	106.1
(J) Proctor Wt.	109.0	106.3	100.5	105.0	106.3	[illegible]	106.3	[illegible]
(K) % Comp. I ÷ J	100	100+	[illegible]	100	100+	100	100+	100
(L) % Moist								
(N) Location	9+90 350' Lt	10+00 360' Lt	12+50 330' Lt	12+60 340' Lt	14+75 365' Lt	14+50 370' Lt	16+00 300' Lt	16+60 310' Lt
(O) Elev.	713	714	715	716	716	717	716	717

Compaction Required 100%

Technician U.D./70

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: DAM

DATE: 8-21-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1277

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	414	406	430	422	438	430	446	428
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	129.5	130.5	126.5	128.5	126.0	127.0	125.5	127.5
(F) Moist Count	978	964	978	976	922	934	946	932
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	18.9	18.5	18.9	18.9	17.5	17.8	18.2	17.8
(I) Dry Wt.	110.6	112.0	107.6	109.6	108.5	109.2	107.3	109.7
(J) Proctor Wt.	1090	109.0	106.3	109.0	106.3	1090	106.3	109.0
(K) % Comp. I ÷ J	100+	100+	100+	100+	100+	100+	[illegible]	[illegible]
(L) % Moist								
(N) Location	10+50 225'L ℄	10+60 230'L ℄	12+00 260'L ℄	12+20 270'L ℄	15+00 300'L ℄	5+20 285'L ℄	11+10 180'L ℄	11+15 185'L ℄
(O) Elev.	713	714	714	715	715	716	714	715

Compaction Required 100%

Technician UD/70

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sep Dam

DATE: 9/21/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	25	26	27					
(B) Probe Depth								
(C) Dens. Count	446	452	480					
(D) C ÷ Std Count	1							
(E) Wet Wt. (lb/ft^3)	125.2	124.2	121.2					
(F) Moist Count	1050	910	1150					
(G) F ÷ Std Count	20.6	17.3	23.0					
(H) Wt. Moist (lbs)	104.6	96.9	98.2					
(I) Dry Wt.	103	105	99					
(J) Proctor Wt.								
(K) % Comp. I ÷ J	100	100	99.1					
(L) % Moist								
(N) Location	10+50 390 279	10+60 →	10+70 →					
(O) Elev.	713	712	710					

Compaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician M.K

GEORGIA POWER COMPANY – SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sep Dike

DATE: 3/20/73
DENSITY STANDARD COUNT:
MOISTURE STANDARD COUNT:

(A) Test Number	1	2	3	4	5	six	7	8
(B) Probe Depth								
(C) Dens. Count	444	430	430	432	416	422	406	438
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	125.5	127.2	127.2	127.0	129.0	128.2	130.2	126.0
(F) Moist Count	1070	1100	970	1030	1030	1040	1110	1070
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	21.1	22.0	18.7	20.1	20.1	20.3	22.0	20.1
(I) Dry Wt.	104.4	105.2	108.5	106.9	108.9	107.9	107.8	105.7
(J) Proctor Wt.	103.0	105.0	106.0	106	106	106	106	[illegible]
(K) % Comp. I ÷ J	100	100	102	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(L) % Moist								
(N) Location	11+00 320' Lt ℄	10+85 →	12+00 →	12+20 →	13+00 325 Lt ℄	13+15 →	14+00 306' Lt ℄	14+20 →
(O) Elev.	708	707	710	709	711	710	708	708

Compaction Required

CONFIDENTIAL BUSINESS INFORMATION

Technician M. R.

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Dike
SEPARATION DIKE

DATE: 8-20-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	464	500	464	456	476	492	412	474
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	123.0	119.0	123.0	124.0	121.5	119.5	129.5	122.0
(F) Moist Count	892	846	934	902	996	988	1046	1036
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	11.9	15.8	17.8	17.1	19.3	19.1	20.6	20.3
(I) Dry Wt.	106.1	103.2	105.2	106.9	102.2	100.4	108.9	101.7
(J) Proctor Wt.	106.3	103	105	106.3	100	100	106.3	100
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	10+80 200' Lt ℄	10+95 210' L ℄	11+75 225' L ℄	11+85 350' L ℄	13+25 200' Lt ℄	13+45 220' L ℄	14+60 300' L ℄	14+75 315' L ℄
(O) Elev.	708	709	709	710	711	712	710	711

Compaction Required 100%

Technician VD/-JD

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sep. Dike

DATE: 8/17/73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12				
(B) Probe Depth	6"	Six inches	6"	6"				
(C) Dens. Count	430	440	416	428				
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	125.2	126.2	129.0	127.5				
(F) Moist Count	934	1000	1060	1000				
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	17.8	19.3	21.3	20.8				
(I) Dry Wt.	107.4	105.9	107.7	106.7				
(J) Proctor Wt.	105	105	105	105				
(K) % Comp. I ÷ J	100	100	100	100				
(L) % Moist								
(N) Location	12+00 170 LT ℄	12+15 170 LT ℄	13+00 200 LT ℄	13+20 →				
(O) Elev.	704	703	702	703				

Compaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician M.K.

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: Sep. [illegible]

DATE: 8/17/[illegible]
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6	6"	6"	6"	6"	6"	6"	6"
(C) Dens. Count	[illegible]	422	440	[illegible]	422	420	428	424
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft³)	[illegible]	128.2	126.3	[illegible]	[illegible]	126.5	127.5	128.0
(F) Moist Count	1260	1030	1210	[illegible]	1080	1130	1000	[illegible]
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	25.4	20.1	[illegible]	25	20.8	22.4	[illegible]	20.8
(I) Dry Wt.	101.8	[illegible]	102.1	[illegible]	107.9	106.1	100.2	107.2
(J) Proctor Wt.	[illegible]	105	100	[illegible]	105	105	[illegible]	[illegible]
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	100
(L) % Moist								
(N) Location	[illegible] 325' Lt ±	12+70 →	11+50 330' Lt ±	11+70 →	10+70 325' Lt	10+50 325' Lt	10+75 [illegible] Lt ±	10+70 [illegible]
(O) Elev.	705	704	705	704	[illegible]	700	703	[illegible]

Compaction Required 100

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA: [illegible]
SEPARATIO

DATE: 2-16-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14		
(B) Probe Depth	6"							
(C) Dens. Count	462	472	448	426	456	464		
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	128.0	123.0	125.0	128.0	124.0	123.0		
(F) Moist Count	1084	1154	1085	1104	1026	1077		
(G) F ÷ Std Count	2							
(H) Wt. Moist (lbs)	22.5	24.5	22.5	23.0	21.0	22.0		
(I) Dry Wt.	106.5	108.5	102.5	105.0	103.0	101.0		
(J) Proctor Wt.	100	1062	100	105.0	103.0	[illegible]		
(K) % Comp. I ÷ J	100	100	100	100	100	[illegible]		
(L) % Moist								
(N) Location	12+00 390S℄	10+20 360S℄	12+00 380S℄	12+75 360S℄	14+00 300S℄	14+20 310S℄		
(O) Elev.	704	705	705	706	706	707		

Compaction Required 100%

Technician UD/TO

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: SEPARATION

DATE: 5-16-73
DENSITY STANDARD COUNT: [illegible]
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"	—						
(C) Dens. Count	464	416	442	430	416	424	432	425
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	123.0	129.0	125.5	127.0	129.0	128.0	127.0	127.5
(F) Moist Count	1222	1120	1152	1075	1105	1114	1078	1086
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	26.0	20.2	24.5	22.0	23.0	20.3	22.0	22.5
(I) Dry Wt.	97.0	108.8	101.0	105.0	106.0	107.7	105.0	105.0
(J) Proctor Wt.	97	106.7	101	105	106.0	106.7	105	[illegible]
(K) % Comp. I ÷ J	100	100	100	100	100	100	100	[illegible]
(L) % Moist								
(N) Location	10+60 190'S℄	10+20 200'S℄	11+35 180'S℄	11+30 170'S℄	12+50 220'S℄	12+75 230'S℄	13+75	13+90 [illegible]
(O) Elev.	703	704	704	705	705	706	705	[illegible]

Compaction Required 100%

Technician UD/TD

CONFIDENTIAL BUSINESS
INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: [illegible]
JOB NO.:
AREA: [illegible]
SEPARATION

DATE: 5-15-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: [illegible]

(A) Test Number	9	10	11	12	13	14		
(B) Probe Depth	6"							
(C) Dens. Count	422	416	458	446	462	465		
(D) C ÷ Std Count	1526	1800	1982	1750	2000	2025		
(E) Wet Wt. (lb/ft^3)	125.0	129.0	124.0	12[illegible].0	123.5	122.5		
(F) Moist Count	1112	1054	915	1042	1168	1200		
(G) F ÷ Std Count	874	852	777	819	871	943		
(H) Wt. Moist (lbs)	22.0	21.5	19.0	20.3	22.0	24.0		
(I) Dry Wt.	106.0	107.5	105.0	104.7	101.5	98.5		
(J) Proctor Wt.	106.5	106.5	106.2	106.5	98	98		
(K) % Comp. I ÷ J	100	00	99	[illegible]	100	100		
(L) % Moist								
(N) Location	[illegible] 60'E	[illegible] 50'E	[illegible] 30'F	24+[illegible] 25'E	11+25 20'E	11+[illegible] 6'E		
(O) Elev.	704	705	702	703	[illegible]01	702		

3'[illegible] West Toe

Compaction Required 100%

CONFIDENTIAL BUSINESS INFORMATION

Technician

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Dike
SEPARATION

DATE: 8-13-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"							
(C) Dens. Count	480	478	420	426	462	478	512	492
(D) C ÷ Std Count	2113	2069	1815	1894	2000	2069	2226	2129
(E) Wet Wt. (lb/ft³)	121.0	121.5	128.5	127.5	123.5	121.5	117.5	120.0
(F) Moist Count	1232	1130	936	900	1066	1090	1256	1020
(G) F ÷ Std Count	967	889	736	708	838	857	988	802
(H) Wt. Moist (lbs)	24.7	22.5	18.0	17.0	21.0	21.5	23.0	19.7
(I) Dry Wt.	96.3	99.0	110.5	110.5	102.5	100.0	94.5	100.3
(J) Proctor Wt.	98.0	99	109	101	103	98	98	98
(K) % Comp. I ÷ J	98	100	100	100	99	100		100
(L) % Moist	ReRolled	—			Rerolled		—	—
(N) Location	14+80 130'E	14+65 120'E	13+00 150'E	13+20 160'E	12+20 150'E	12+10 140'E	11+00 130'E	11+15 160'E
(O) Elev.	704	705	703	704	701	702	701	702

Compaction Required 100%

Base of West Toe

Technician GD/TC

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT:
JOB NO.:
AREA: SEPARATION DAM

DATE: 8/13/73
DENSITY STANDARD COUNT: 262
MOISTURE STANDARD COUNT: 1522

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"	←			→	6"		
(C) Dens. Count	446	440	428	452	456	494	492	464
(D) C ÷ Std Count					1.75	1.88	188	177
(E) Wet Wt. (lb/ft^3)	1250	126.0	127.5	124.5	127.0	123.0	123.0	126.5
(F) Moist Count	1180	1160	1200	1000	1660	1180	730	1280
(G) F ÷ Std Count					1.09	.775	1.114	.840
(H) Wt. Moist (lbs)	23.6	23.2	24.0	19.3	27.5	18.5	28.2	21.2
(I) Dry Wt.	101.4	102.8	103.5	105.2	100.5	104.5	94.8	106.3
(J) Proctor Wt.	100	100	113	115	100	105	94	105
(K) % Comp. I ÷ J	100	100	100	[illegible]	100+	100+	100+	100+
(L) % Moist								
(N) Location	11+50 250 Lt ℄	11+65 →	12+75 200 Lt ℄	12+90 →	13+00 300 Lt ℄	13+20 →	11+00 →	11+20 →
(O) Elev.	700	699	700	699	705	703	702	703

Compaction Required 100%

CONFIDENTIAL BUSINESS INFORMATION

Technician MIKE K

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Dyke

#1 DAM.

DATE: 8-12-77
DENSITY STANDARD COUNT: 271
MOISTURE STANDARD COUNT: 1271

(A) Test Number	9	10	11	12	13	14		
(B) Probe Depth	6"							
(C) Dens. Count	404	406	416	406	414	428		
(D) C ÷ Std Count								
(E) Wet Wt. (lb/ft^3)	130.5	130.0	129.0	130.0	129.5	127.5		
(F) Moist Count	1172	1166	1108	1086	1022	996		
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	23.4	23.4	22.0	21.7	19.9	19.3		
(I) Dry Wt.	107.1	106.6	107.0	108.3	109.6	108.3		
(J) Proctor Wt.	106.3	106.3	106.3	106.3	106.3	106.3		
(K) % Comp. I ÷ J	100	100	100	100	100	100		
(L) % Moist								
(N) Location	13+75 200'L ℄	13+85 185'L ℄	14+00 50'L ℄	14+10 10'R ℄	12+50 100'L ℄	12+60 120'L ℄		
(O) Elev.	700	704	703	702	699	700		

Compaction Required 100

CONFIDENTIAL BUSINESS INFORMATION

Technician UD

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Wansley
JOB NO.:
AREA: Dike

SEP DAM

DATE: 8-11-73
DENSITY STANDARD COUNT: 231
MOISTURE STANDARD COUNT: 1271

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"	6"	6"	6"	6"	6"	6"	
(C) Dens. Count	468	430	426	404	452	450	416	412
(D) C ÷ Std Count			127.5	130.5	124.5	124.5	122.0	129.5
(E) Wet Wt. (lb/ft^3)	122.5	127.0	4					
(F) Moist Count	976	1074	1008	1060	1112	972	966	1012
(G) F ÷ Std Count								
(H) Wt. Moist (lbs)	18.9	21.1	19.6	20.8	22.0	18.7	18.7	22.0
(I) Dry Wt.	103.6	105.9	107.9	109.7	102.5	105.8	110.3	107.5
(J) Proctor Wt.	103	106.3	106.3	109	103	106.3	109	106
(K) % Comp. I ÷ J	100	99	100+	100	100	99	100	100
(L) % Moist								
(N) Location	11+35 Along ditch →	11+45	11+50	11+75	12+85 100' R ℄	12+75 120' R ℄	13+00 220' R ℄	13+15 240' R ℄
(O) Elev.	699	695	658	659	658	659	702	703

Compaction Required 100%

CONFIDENTIAL BUSINESS INFORMATION

Technician UD

both were 28.8.

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Yellow Dirt
JOB NO.: SAG-638
AREA: Seperation Dike

DATE: 8/11/73
DENSITY STANDARD COUNT: 262 (131)
MOISTURE STANDARD COUNT: 1022 (761)

	+	+	~~+~~					
(A) Test Number	7:00 am 1	7:05 am 2	7:30 am 3	1:30 pm 4	2:25 pm 5	2:30 pm 6	3:25 pm 7	3:30 pm 8
(B) Probe Depth			6"	6"	6"	6"	6"	6"
(C) Dens. Count			226	252	254	246	254	247
(D) C ÷ Std Count			1.725	1.920	1.940	1.880	1.970	1.885
(E) Wet Wt. (lb/ft³)			122.80	122.00	121.50	123.00	120.50	123.00
(F) Moist Count	755	676	847	575	458	672	543	545
(G) F ÷ Std Count	0.850	0.890	1.111	0.755	0.605	0.883	0.715	0.716
(H) Wt. Moist (lbs)	23.50	21.75	28.20	17.75	13.50	21.50	16.75	16.75
(I) Dry Wt.			99.6	103.25	108.00	101.50	103.75	106.25
(J) Proctor Wt.			106.3	103.0	106.3	106.3	103.0	106.3
(K) % Comp. I ÷ J			94%	100%	100%+	96%	100%	100%
(L) % Moist								
(N) Location	Sta. 13+00 125' E. of W. Toe	Sta. 13+25 120' E. of W. Toe	Sta. 13+00 150' E. of W. Toe	Sta. 14+00 80' W. of Core	Sta. 12+50 75' W. of Core	Sta. 13+00 85' W. of Core	Sta. 12+00 40' W. of Core	Sta. 13+00 88' W. of Core Retest of #6
(O) Elev.	701.0	701.0	701.0	697.0	697.0	692.0	697.5	697.0

+ Test #1 & 2 for moisture only

Compaction Required 100%

CONFIDENTIAL BUSINESS INFORMATION

Technician

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Yellow Dirt
JOB NO.: SAG-638
AREA: Seperation Dike

DATE: 8/11/73
DENSITY STANDARD COUNT: 262 (131)
MOISTURE STANDARD COUNT: 1522 (761)

(A) Test Number	4:30 pm 9	~~4:40 pm~~ ~~10~~	4:40 pm 10					
(B) Probe Depth	6"	~~6"~~	6"					
(C) Dens. Count	235	~~231~~	231					
(D) C ÷ Std Count	1.795	~~1.780~~	1.780					
(E) Wet Wt. (lb/ft^3)	125.50	~~126.0~~	126.00					
(F) Moist Count	578	~~560~~	560					
(G) F ÷ Std Count	0.760	~~0.735~~	0.735					
(H) Wt. Moist (lbs)	18.00	[illegible]	17.25					
(I) Dry Wt.	107.50	[illegible]	108.75					
(J) Proctor Wt.	106.3	[illegible]	106.3					
(K) % Comp. I ÷ J	100%+		100%+					
(L) % Moist								
(N) Location	Sta 11+50 35' W of core		Sta. 11+50 43' W. of core					
(O) Elev.	698.0		698					

Compaction Required

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Yellow Dirt
JOB NO.: SAG-638
AREA: Seperation Dike

DATE: 8/10/73
DENSITY STANDARD COUNT: 262 (131)
MOISTURE STANDARD COUNT: 1522 (761)

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"	6"	6"	6"	6"	6"	6"	6"
(C) Dens. Count	206	222	206	224	211	214	210	213
(D) C ÷ Std Count	1.57	1.70	1.57	1.71	1.61	1.67	1.61	1.62
(E) Wet Wt. (lb/ft^3)	133.00	128.50	133.00	128.00	131.00	129.50	131.00	131.00
(F) Moist Count	685	634	703	688	632	646	638	635
(G) F ÷ Std Count	0.900	0.830	0.924	0.905	0.830	0.850	0.840	0.830
(H) Wt. Moist (lbs)	22.00	20.00	22.75	22.25	20.00	20.75	20.25	20.00
(I) Dry Wt.	111.00	108.50	110.25	106.75	111.00	108.75	110.75	111.00
(J) Proctor Wt.	106.3	106.3	106.3	106.3	106.3	106.3	106.3	106.3
(K) % Comp. I ÷ J	100%+	100% +	100%+	100%+	100%+	100%+	100% +	100%+
(L) % Moist								
(N) Location	Sta. 13+00 100' E. of W. Toe	Sta. 13+00 110' E. of W. Toe	Sta. 11+50 100' E. of W. Toe	Sta. 14+50 150' E. of W. toe	Sta. 14+50 156' E. of W. Toe	Sta. 13+00 50' E. of W. toe	Sta. 13+10 55' E. of W. Toe	Sta. 12+00 ~~50' E. of W. toe~~ 50' E. of W. toe
(O) Elev.	700.0	700.0	694.0	705.0	705.0	700.5	700.5	700.5

Compaction Required 100%

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: Yellow Dirt
JOB NO.: SAG-638
AREA: Seperation Dike

DATE: 8/10/73
DENSITY STANDARD COUNT: 262 (131)
MOISTURE STANDARD COUNT: 1522 (761)

(A) Test Number	7	8	9	10	11			
(B) Probe Depth	6"	6"	6"	6"	6"			
(C) Dens. Count	246	224	231	225	241			
(D) C ÷ Std Count	1.88	1.71	1.76	1.71	1.84			
(E) Wet Wt. (lb/ft^3)	123.00	128.00	126.50	128.00	124.00			
(F) Moist Count	863	755	693	802	738			
(G) F ÷ Std Count	1.13	.990	.910	1.080	0.970			
(H) Wt. Moist (lbs)	28.50	24.75	22.25	27.25	24.25			
(I) Dry Wt.	94.50	107.25	104.25	100.75	99.75			
(J) Proctor Wt.	106.3	106.3	106.3	106.3	106.3			
(K) % Comp. I ÷ J	89%	100%+	98%	95%	94%			
(L) % Moist								
(N) Location	STA. 13+00 125' E. of W. Toe	STA 12+50 125' E. of W. Toe	STA. 12+00 125' E. of W. Toe	STA. 13+00 100' E. of W. toe	STA. 13+25' 105' E. of W. Toe			
(O) Elev.	700.0	700.5	700.0	701.0	701.0			

Note: Material was to wet, fill was stopped.
Note: Moisture was checked ~~with~~ also with the "Speedy" in this area, it was 24.6%.

Compaction Required 100%

Technician

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

PROJECT: WANSLEY
JOB NO.:
AREA: SEP. DAM

DATE: AUG 7
DENSITY STANDARD COUNT: 262
MOISTURE STANDARD COUNT: 1522

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"	←					→	6"
(C) Dens. Count	486	484	496	490	490			
(D) C ÷ Std Count	~~0.948~~ 1.79	1.85	1.89	1.87	1.87			
(E) Wet Wt. (lb/ft^3)	126.0	124.0	123.0	123.5	123.5			
(F) Moist Count	1294	1316	1426	1188	1258			
(G) F ÷ Std Count	0.850	0.863	0.935	0.780	0.825			
(H) Wt. Moist (lbs)	20.5	21.0	23.0	18.5	20.0			
(I) Dry Wt.	105.5	103	100.0	105.0	103.5			
(J) Proctor Wt.	105	103	103.0	105.0	103			
(K) % Comp. I ÷ J	100+%	100%	97%	100%	100+%			
(L) % Moist			REROLLED					
(N) Location	13+50 200'WE	13+00 200'WE	13+00 250'WE	13+50 250'WE	13+25 225'WE			
(O) Elev.	696	697	697	696	696			

Compaction Required 100%

Technician EDWARDS

CONFIDENTIAL BUSINESS INFORMATION

GEORGIA POWER COMPANY — SOILS
NUCLEAR DENSITY METER WORK SHEET

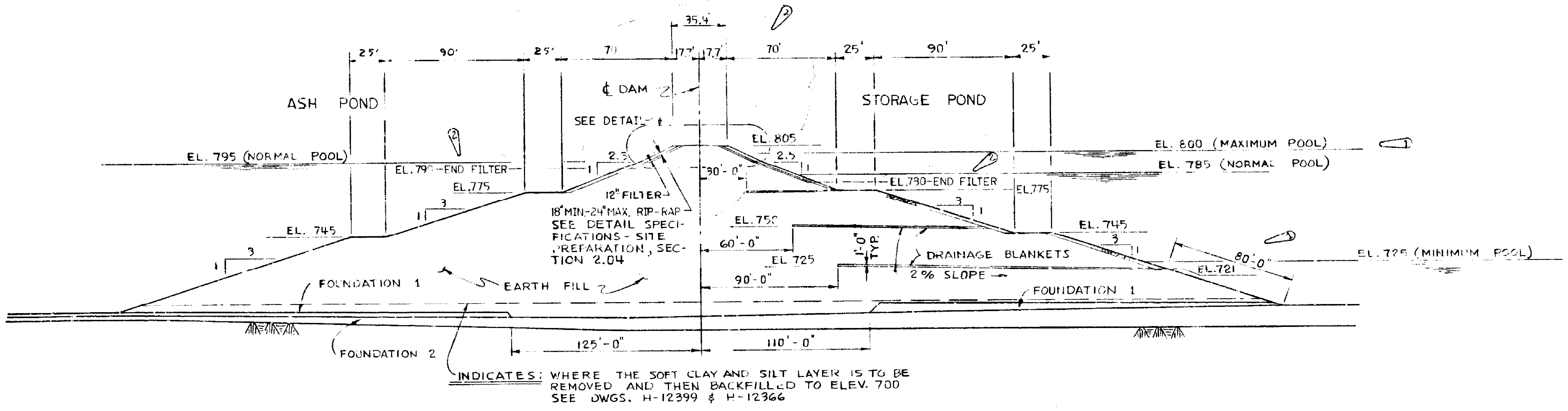
*
PROJECT: WANSLEY
JOB NO.:
AREA: SEPARATION DAM

DATE: AUG 6 1973
DENSITY STANDARD COUNT: ~~3~~ 1262
MOISTURE STANDARD COUNT: 1522

(A) Test Number	1	2	3	4	5	6	7	8
(B) Probe Depth	6"	6"	6"	6"	6"	6"	6"	6"
(C) Dens. Count	1450 ~~226~~	504	494	548				
(D) C ÷ Std Count	~~124.5~~ 1.83	1.92	1.89	2.09				
(E) Wet Wt. (lb/ft³)	124.5	122.0	122.5	117.0				
(F) Moist Count	1038	1226	1070	1086				
(G) F ÷ Std Count	0.683	0.805	0.704	0.713				
(H) Wt. Moist (lbs)	15.8	19.2	16.3	16.6				
(I) Dry Wt.	108.7	102.8	106.2	100.4				
(J) Proctor Wt.	107	103	106.0	103				
(K) % Comp. I ÷ J	100+%	100%	100%+	97%				
(L) % Moist				REROLLED				
(N) Location	* 14+50 40' E. W TOE	14+00 40' E. W. TOE	13+50 50' E of W. TOE	13+40 40' E of W. TOE				
(O) Elev.	695	695	694	695				

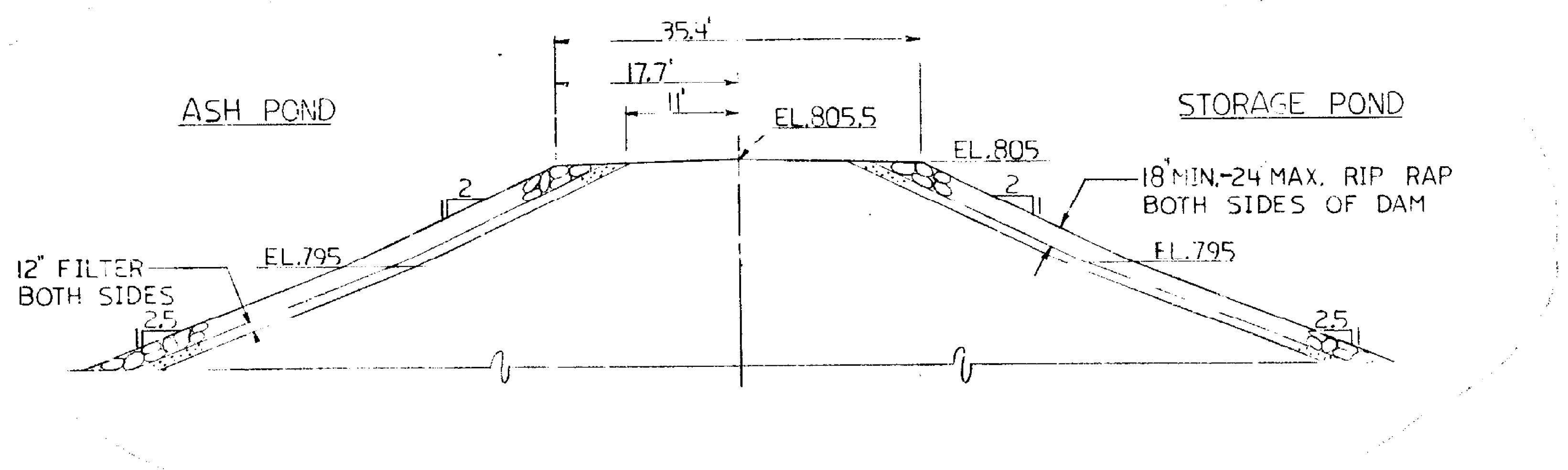
Compaction Required 100%

Technician LANKFORD



INDICATES: WHERE THE SOFT CLAY AND SILT LAYER IS TO BE REMOVED AND THEN BACKFILLED TO ELEV. 700 SEE DWGS. H-12399 & H-12366

SECTION G-G (H-12399)
1" = 40'-0"



TYPICAL TOP OF DAM DETAIL

SCALE: 1"=10'-00"

SOIL DESCRIPTION

EARTH FILL	CLAYEY SANDY SILT
RIP - RAP	ROCK AGGREGATE
DRAINAGE BLANKET	SAND AND GRAVEL FROM BORROW PIT LOCATIONS SELECTED FOR HIGH PERMEABILITY
FOUNDATION 1	SAND AND GRAVEL (ALLUVIUM)
FOUNDATION 2	SANDY MICACEOUS SILT (RESIDUAL)

NOTE :

1. FOR THE LOCATION OF THE SECTION SHOWN, PLEASE REFER TO DWG. H-12399.
2. THIS DESIGN IS BASED ON THE ASSUMPTION THAT THE WATER LEVEL IN STORAGE POND SIDE ONLY WILL FLUCTUATE FROM EL. 785 TO EL. 720.
3. FOR ADDITIONAL NOTES CONCERNING SOIL MATERIALS TO BE USED IN DAM SEE DWG. H-12396.

REFERENCES : SEPARATION DAM

H-12364 — DIVERSION SCHEME — STAGE DRAWINGS & SECTIONS
H-12366 — CONSTRUCTION DIVERSION SCHEME — STAGE DRAWINGS & PLANS
H-12396 — STABILITY ANALYSIS. SHEET 1 OF 3
H-12397 — " " , SHEET 2 OF 3
H-12398 — " " , SHEET 3 OF 3
H-12399 — GENERAL ARRANGEMENT WITH EXCAVATION LIMITS

SOUTHERN SERVICES, INC.
FOR

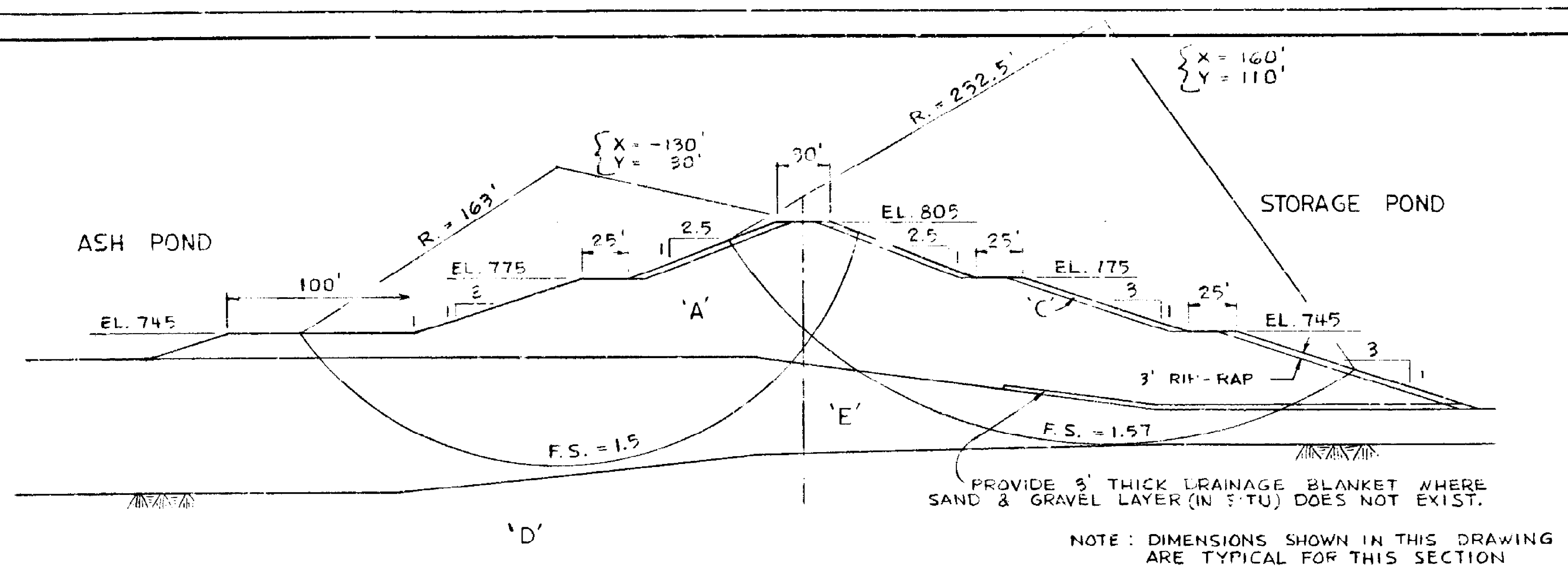
GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT

PLANT WANSLEY
SEPARATION DAM
SECTION & DETAILS

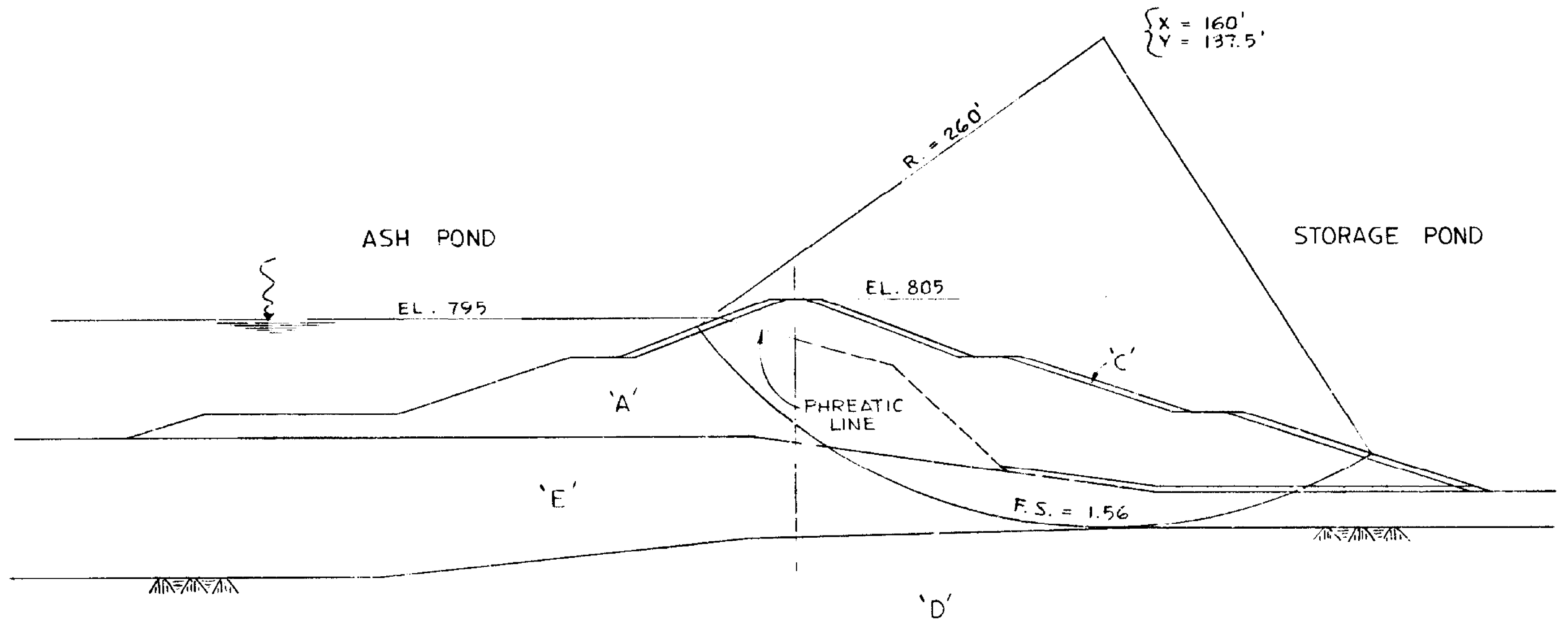
2	11-26-73	JMS	WIDEN TOP OF DAM, ADDED TYPICAL DAM DETAIL, AND SET LENGTH OF FILTER MATERIAL ON SIDE SLOPES
1	6-22-73	WDP	GENERAL
NO.	DATE	BY	REVISIONS

APPROVALS
Ble [illegible] 4/6/73
E.B. Duncan 4-13-73

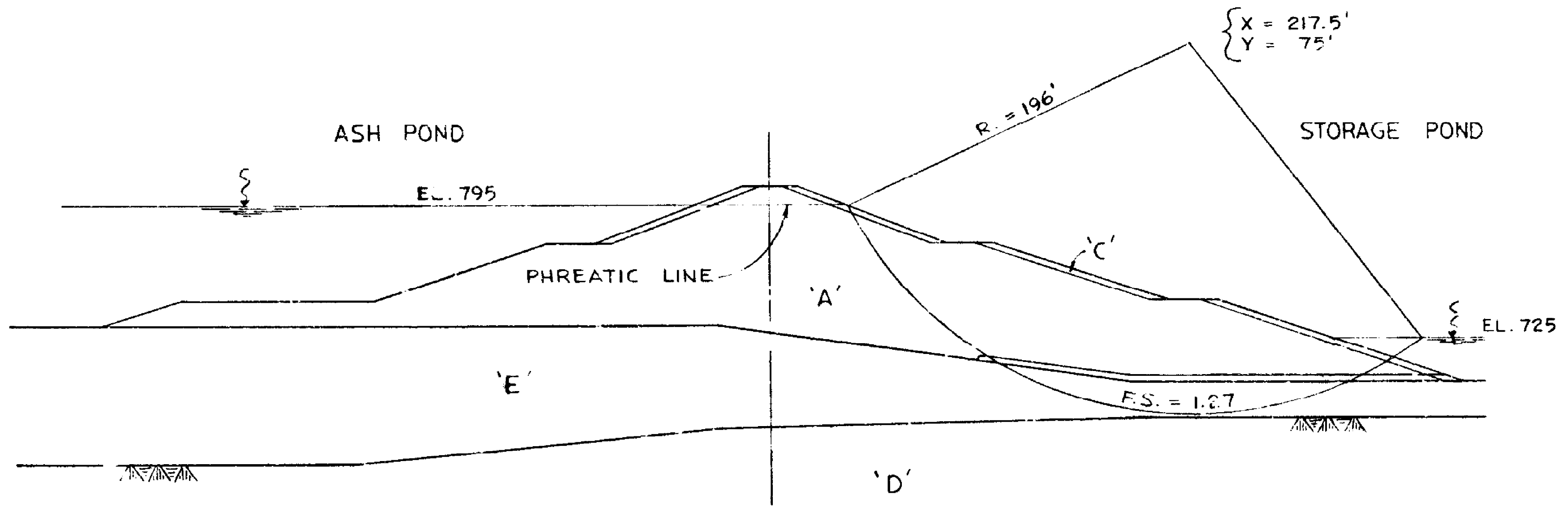
DSGN. J.M.
DR. W.D.F.
CH'K J.M.
SCALE AS SHOWN
DATE 4-3-73
DRAWING NUMBER
LOCATION 10-209
SHEET NO. H-12365



UNDER CONSTRUCTION



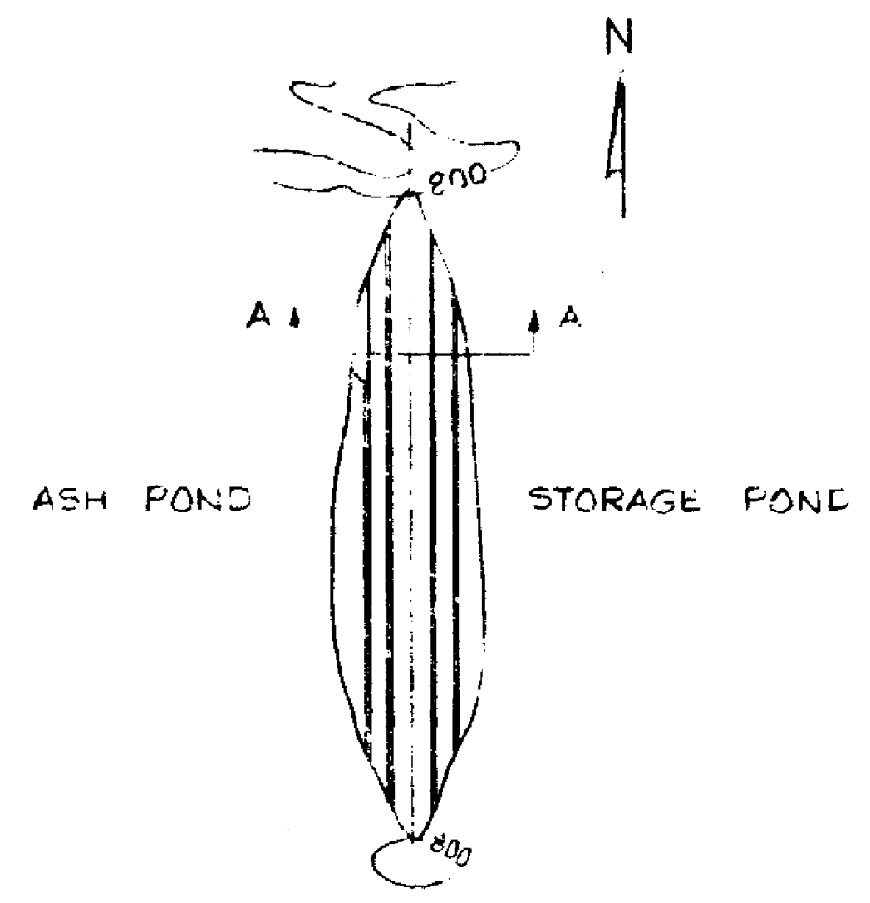
STEADY SEEPAGE



STORAGE POND DRAWDOWN EL. 795 – EL. 725

CIRCLE ANALYSIS

SECTION A-A



KEY PLAN
NOT TO SCALE

TOTAL STRESS
SOIL CHARACTERISTICS

TYPE SOIL	CONSTRUCTION			STEADY SEEPAGE & DRAWDOWN		
	γ_m LBS/CU.FT.	ϕ DEGREES	C LBS/SQ.FT.	γ_m LBS/CU.FT.	ϕ DEGREES	C LBS/SQ.FT.
EMB. FILL (A)	124	26.5	1200	124	19	1400
FILTER (B)	130	40	0	130	40	0
RIP-RAP (C)	130	38	0	130	38	0
BEDROCK (D)	150	40	3000	150	40	3000
FDN. 1 (E)	112	8	550	112	12	700

NOTES:

1. SAFETY FACTORS SHOWN ARE THE MINIMUM FOR EACH CONDITION. COMPLETE COMPUTER RESULTS AVAILABLE FROM SOUTHERN SERVICES, INC.
2. SAFETY FACTORS DO NOT INCLUDE BENEFIT FROM DEPOSIT OF ASH.
3. SOIL CHARACTERISTICS FROM LAW ENGINEERING AND TESTING CO. THROUGH GEORGIA POWER CO.
4. MATERIALS RECOMMENDED BY LETCO FOR EMBANKMENT FILLS ARE : a. FINE TO MEDIUM SANDY SILT (WEST BORROW); b. STIFF TO HARD FINE TO MEDIUM SANDY MICACEOUS SILT (NORTH BORROW); c. PARTIALLY WEATHERED ROCK (LETCO REPORT NO. 40, OCT. 1972).

   USE OF FINE TO COARSE SAND AND HIGHLY MICACEOUS SOILS IN THE EMBANKMENT SHOULD BE AVOIDED. HOWEVER, SAND CAN BE USED IN THE DRAINS.
5. EMBANKMENT FILLS SHALL BE COMPACTED AT LEAST TO SECURE THE DESIGN STRENGTH CHARACTERISTICS USED IN THE ANALYSIS OF SLOPES. FIELD CONTROL SHOULD ENSURE THE DESIGN STRENGTH OF THE MATERIALS USED IN THE DESIGN.

CONFIDENTIAL BUSINESS INFORMATION
WAN-API 009

GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT
PLANT WANSLEY
SEPARATION DIKE
STABILITY ANALYSIS-SHEET 1 OF 3

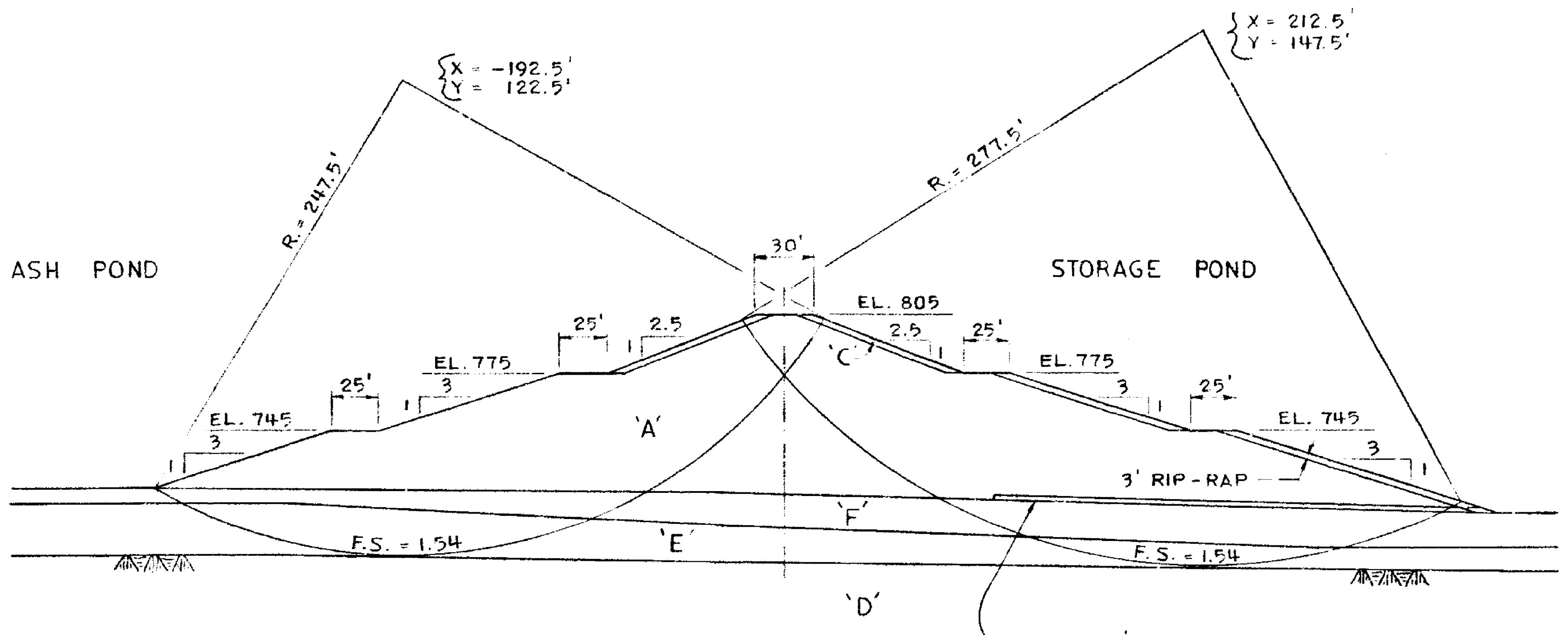
REVISIONS		
NO.	DATE	BY

APPROVALS	
E. E. Duncan	8-6-73

DSGN	DR.	CH'K
	W	J. M.
SCALE 1" = 50'-0"		DATE 6-7-73

DRAWING NUMBER
LOCATION 10-209
SHEET NO. H-12396

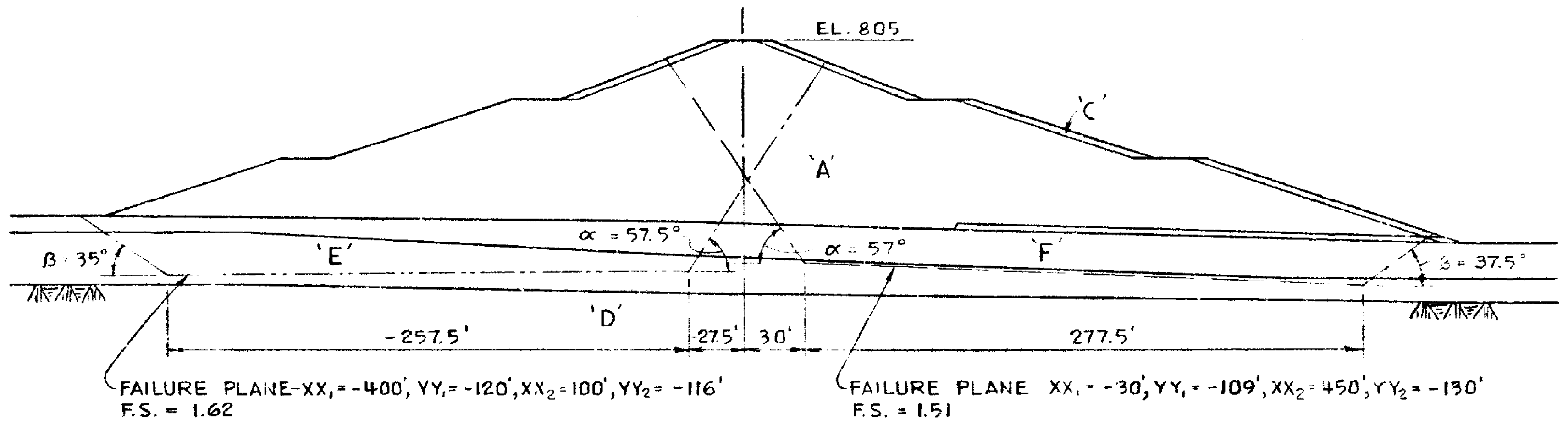
RETURN TO HYDRO



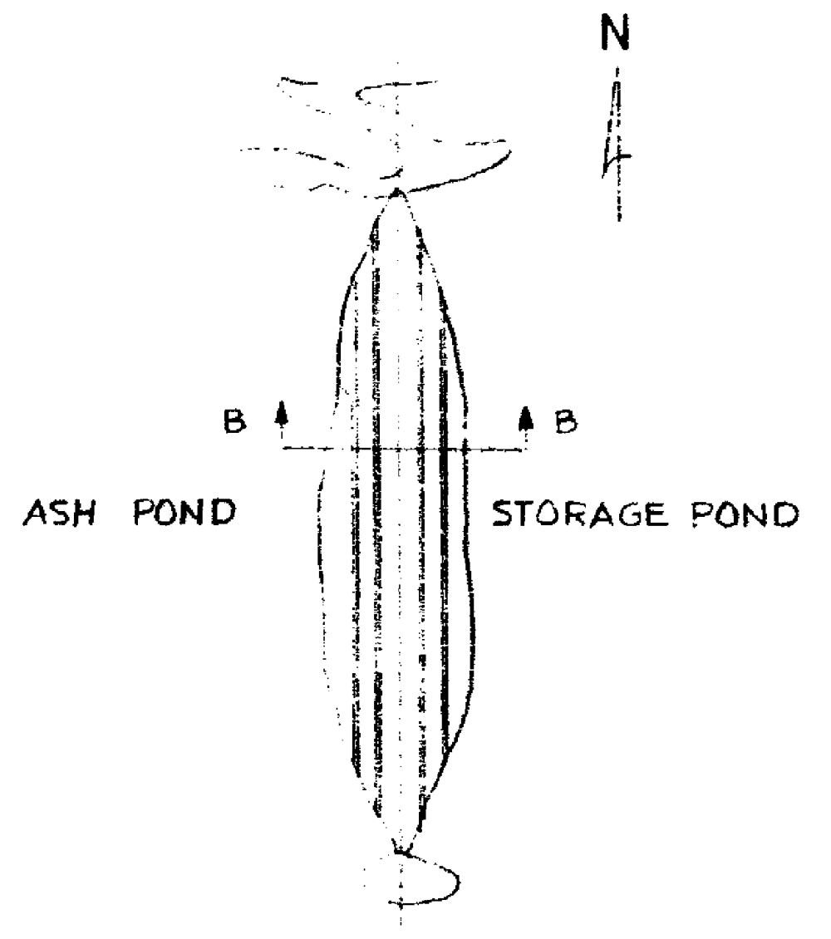
NOTE: DIMENSIONS SHOWN IN THIS DRAWING ARE TYPICAL FOR THIS SECTION

PROVIDE 3' THICK DRAINAGE BLANKET WHERE SAND & GRAVEL LAYER (IN SITU) DOES NOT EXIST.

UNDER CONSTRUCTION



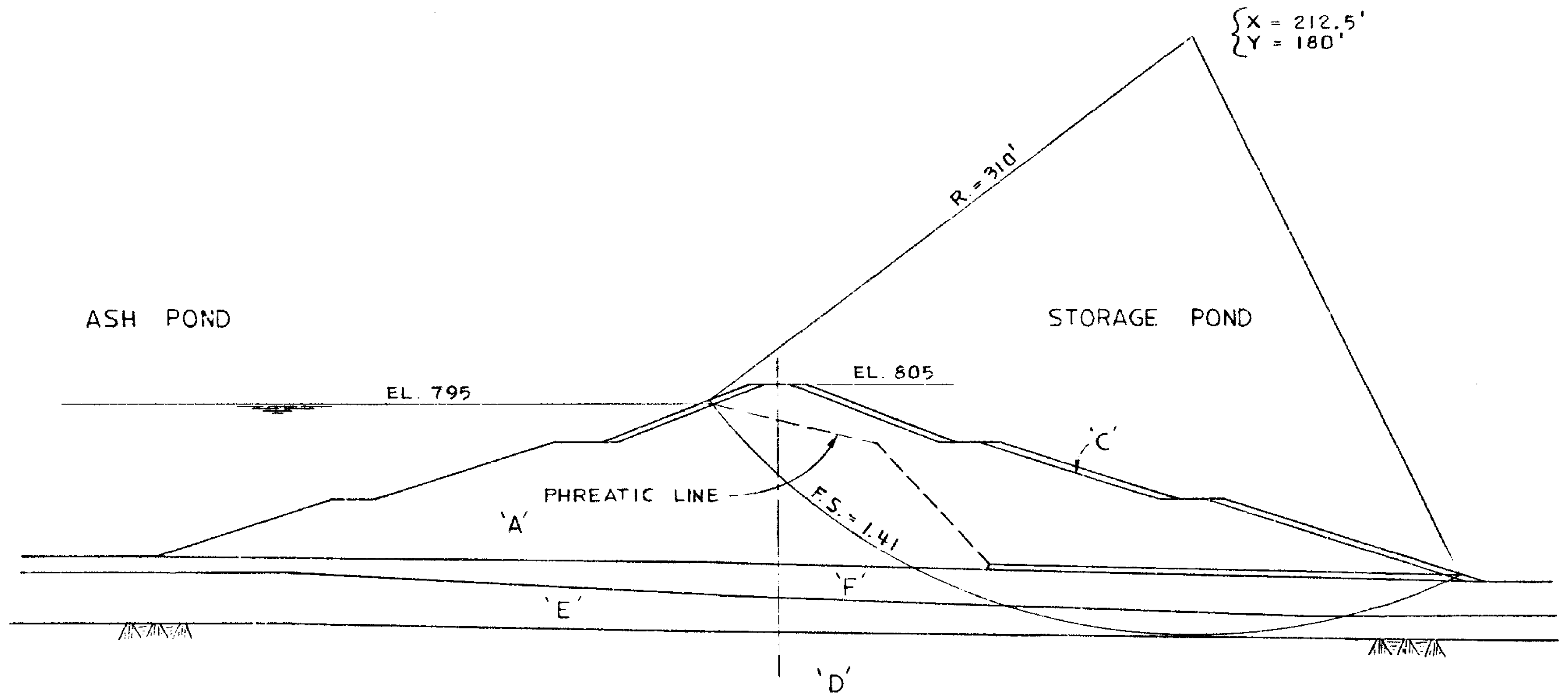
UNDER CONSTRUCTION



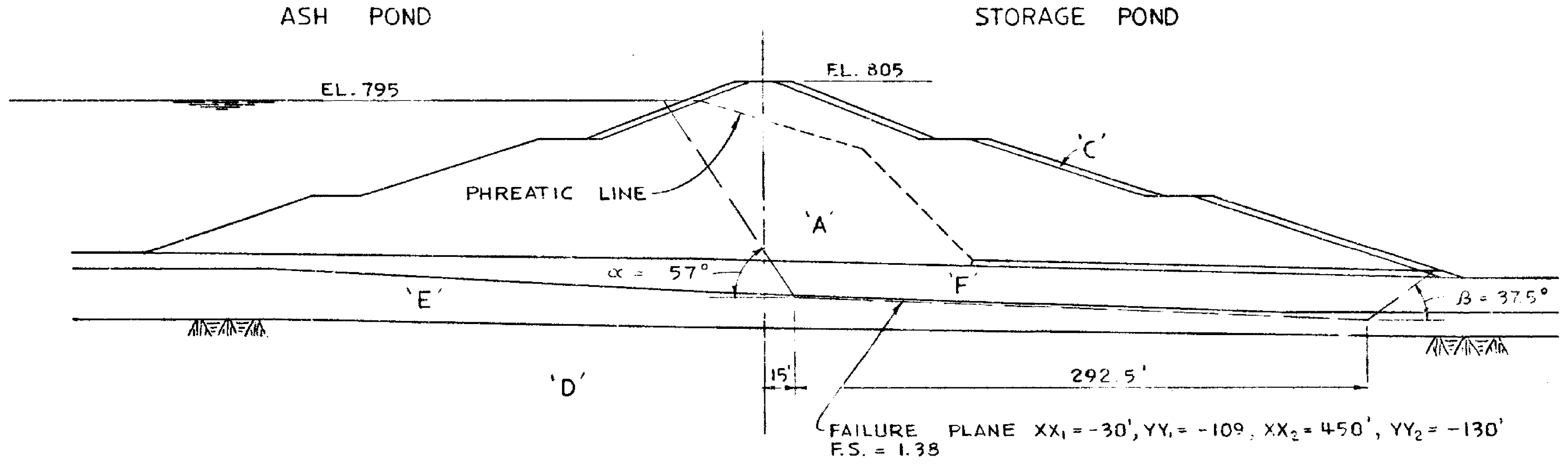
KEY PLAN
NOT TO SCALE

TOTAL STRESS
SOIL CHARACTERISTICS

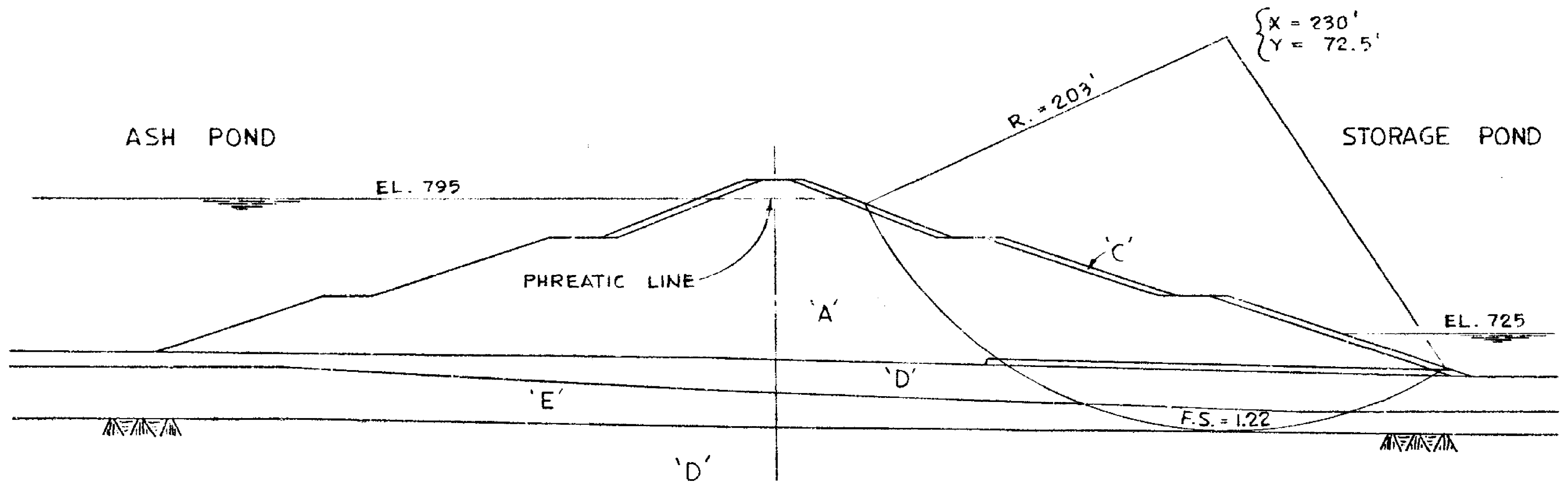
TYPE SOIL	CONSTRUCTION			STEADY SEEPAGE & DRAWDOWN		
	γ_m LBS/CU.FT.	ø DEGREES	C LBS/SQ.FT.	γ_m LBS/CU.FT.	ø DEGREES	C LBS/SQ.FT.
EMB. FILL (A)	12.4	26.5	1200	124	19	1400
FILTER (B)	130	40	0	130	40	0
RIP-RAP (C)	130	30	8	130	30	8
BEDROCK (D)	150	40	3000	150	40	3000
FDN. 1 (E)	112	8	550	112	12	700
FDN. 2 (F)	120	12	1300	120	12	1300



STEADY SEEPAGE

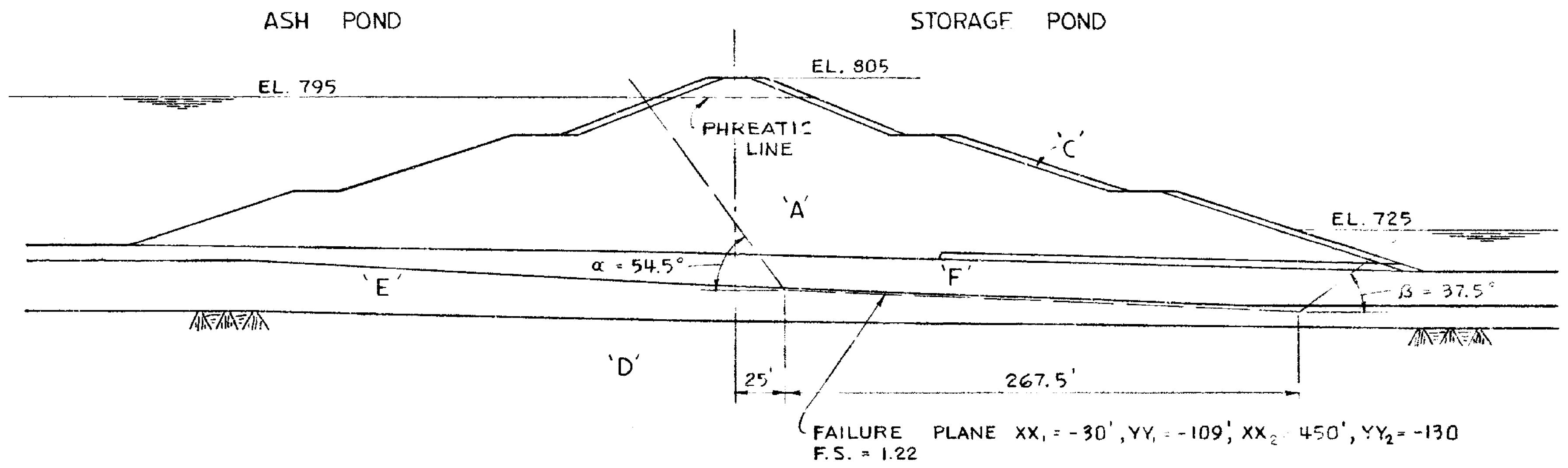


NOTE:
FOR GENERAL NOTES SEE DWG. H-12396.



STORAGE POND DRAWDOWN EL. 795 – EL. 725

CIRCLE ANALYSIS



STORAGE POND DRAWDOWN EL. 795 – EL. 725

WEDGE ANALYSIS

SECTION B-B

GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT
PLANT WANSLEY
SEPARATION DIKE
STABILITY ANALYSIS-SHEET 2 OF 3

REVISIONS			APPROVALS	
NO	DATE	BY	Rgg	
			R Alt	
			F Duncan	8-6-73

DSGN.	DR	CH'K
J.M.	WDP	J.M.
SCALE		DATE
1" = [illegible]		6-7-73

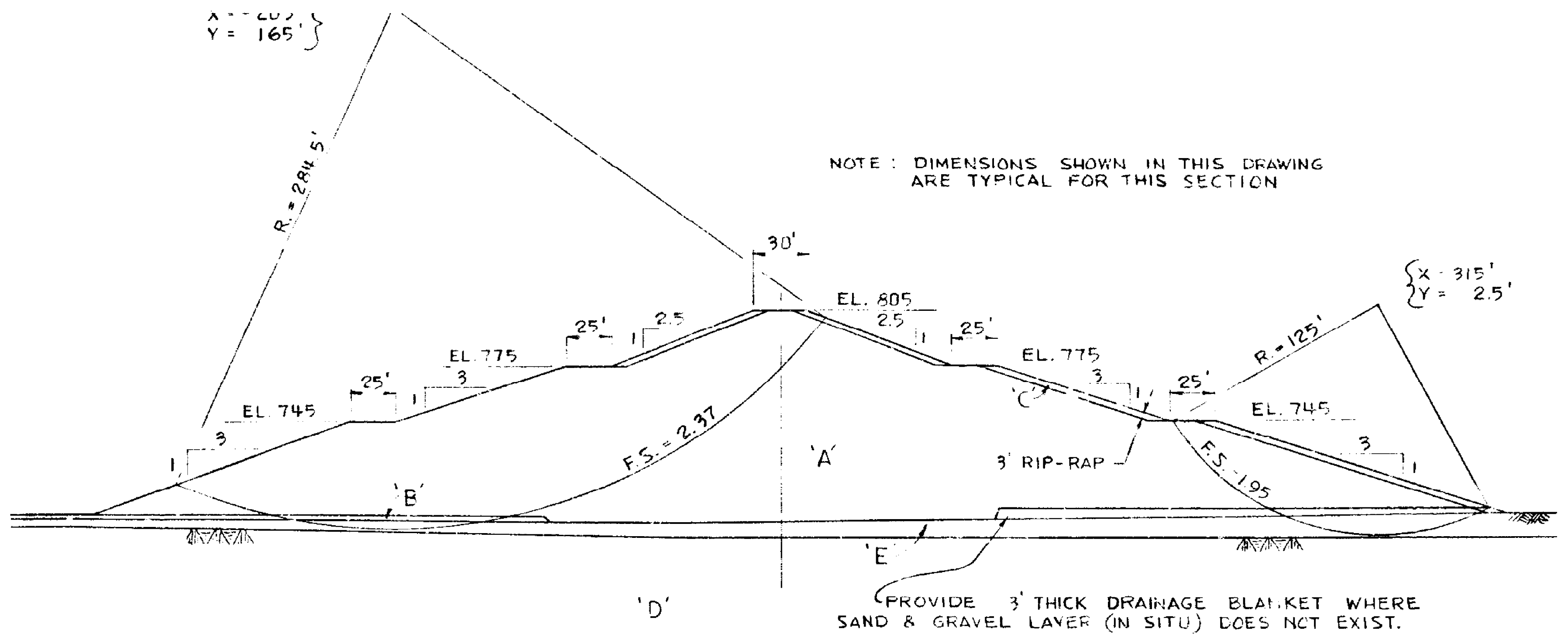
DRAWING NUMBER

LOCATION	SHEET NO.
10-209	H-12397

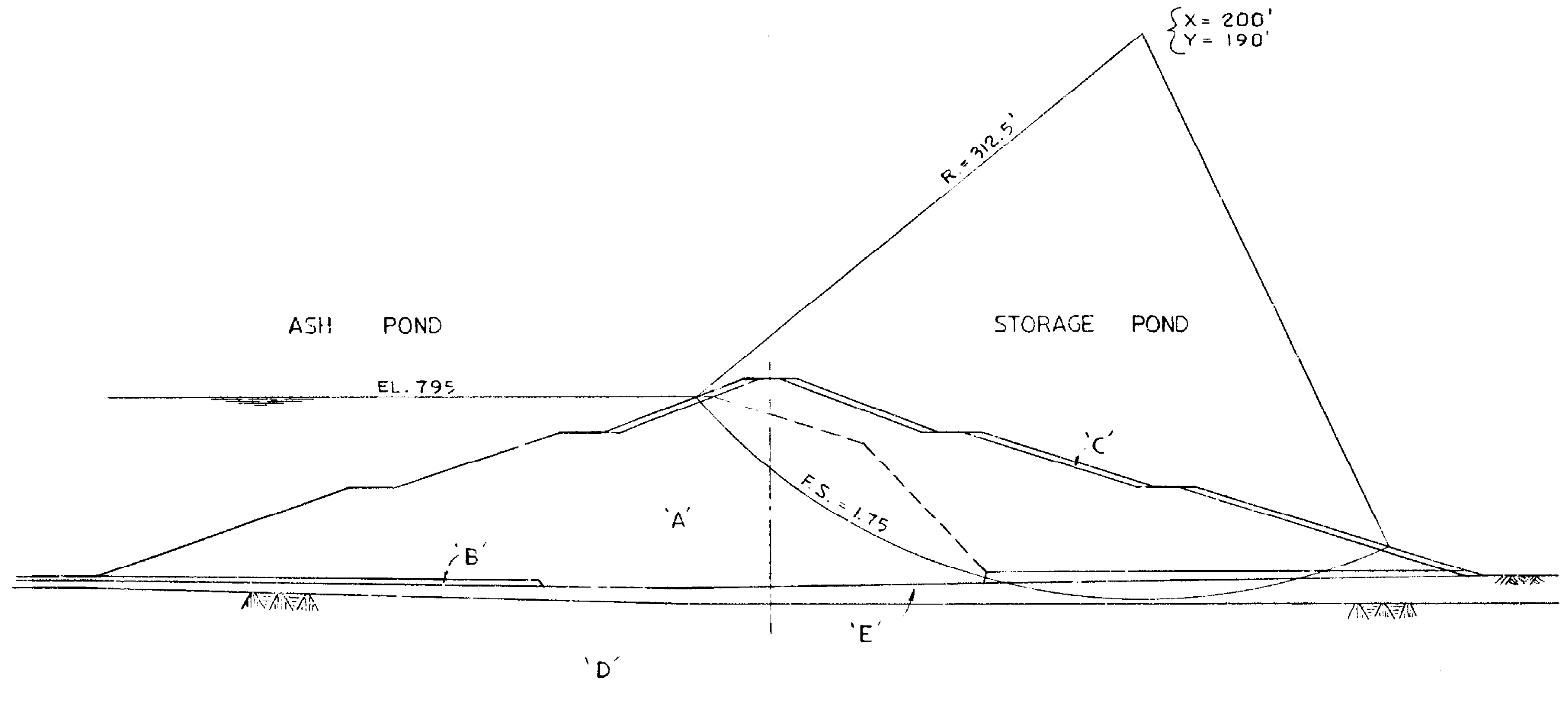
RETURN TO HYDRO

30X

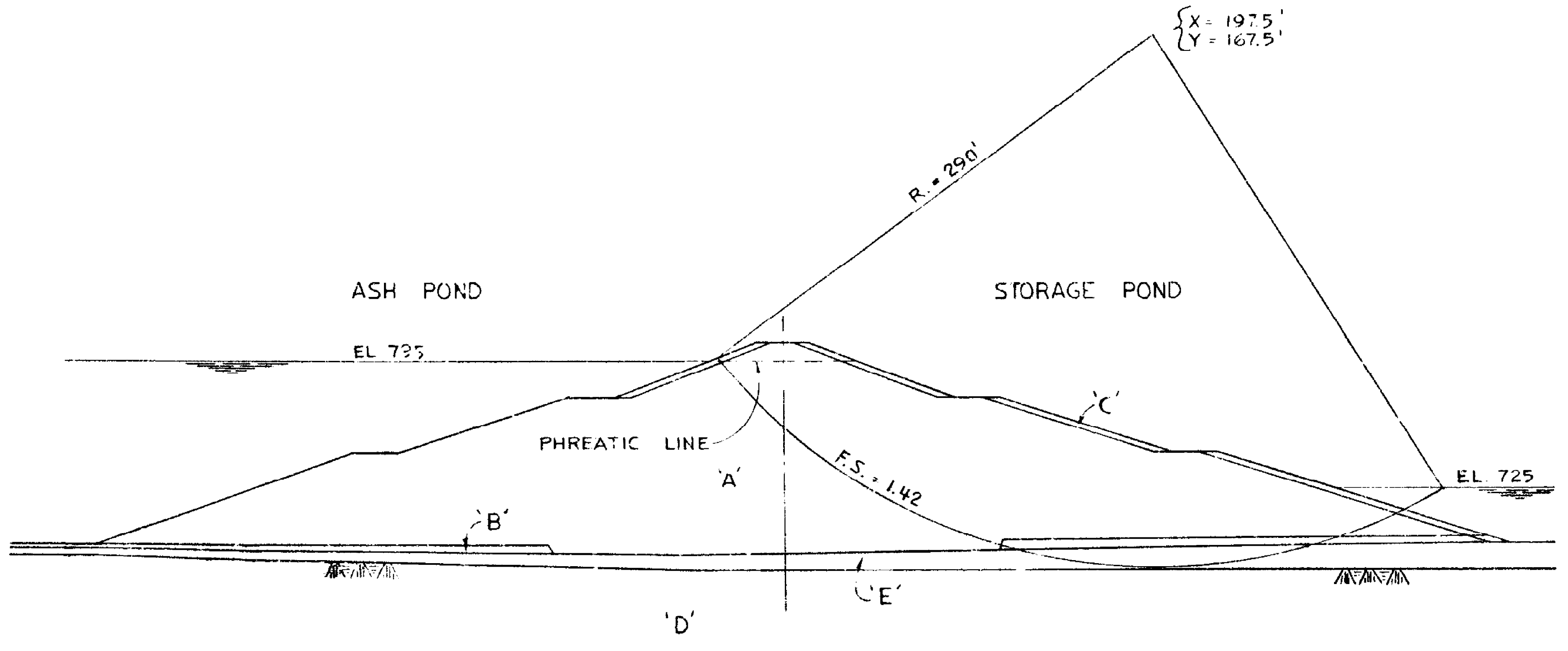
NOTE: DIMENSIONS SHOWN IN THIS DRAWING ARE TYPICAL FOR THIS SECTION



UNDER CONSTRUCTION

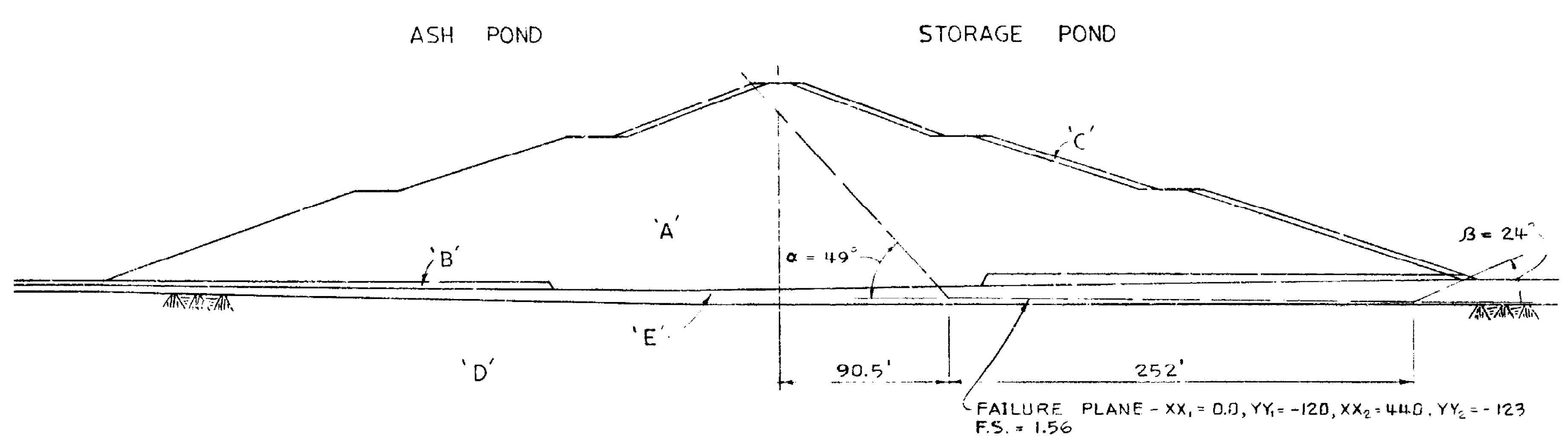


STEADY SEEPAGE

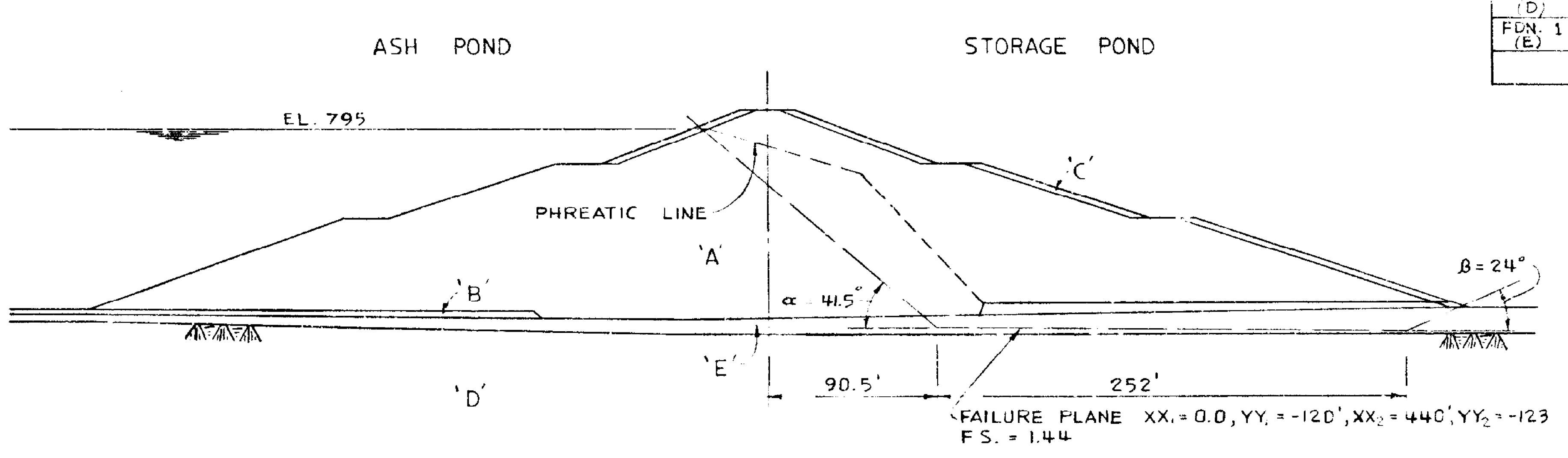


STORAGE POND DRAWDOWN EL. 795 - EL. 725

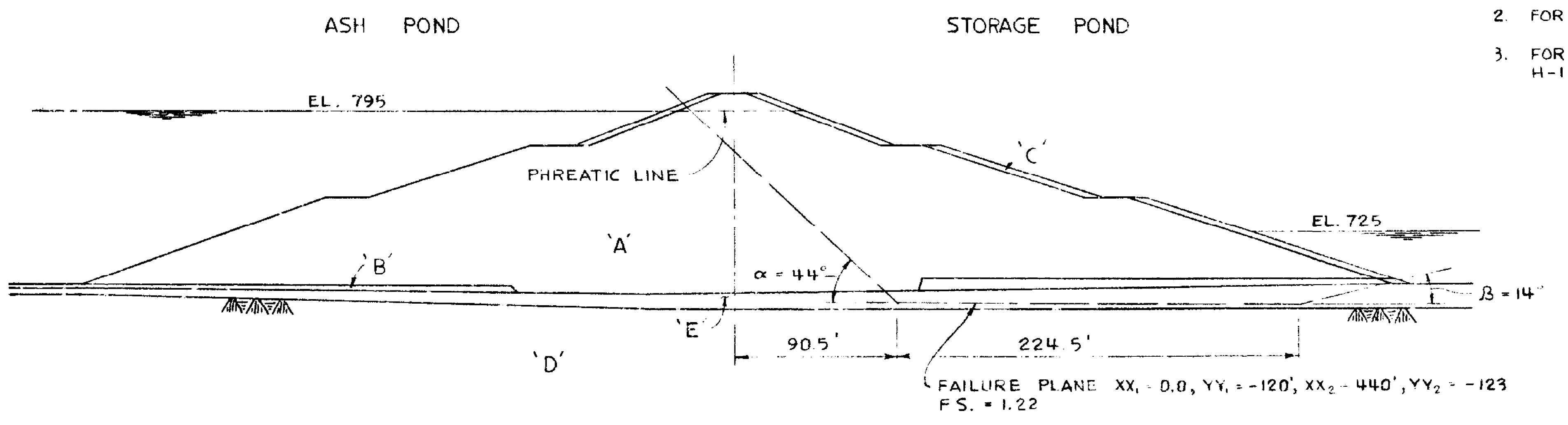
CIRCLE ANALYSIS



UNDER CONSTRUCTION



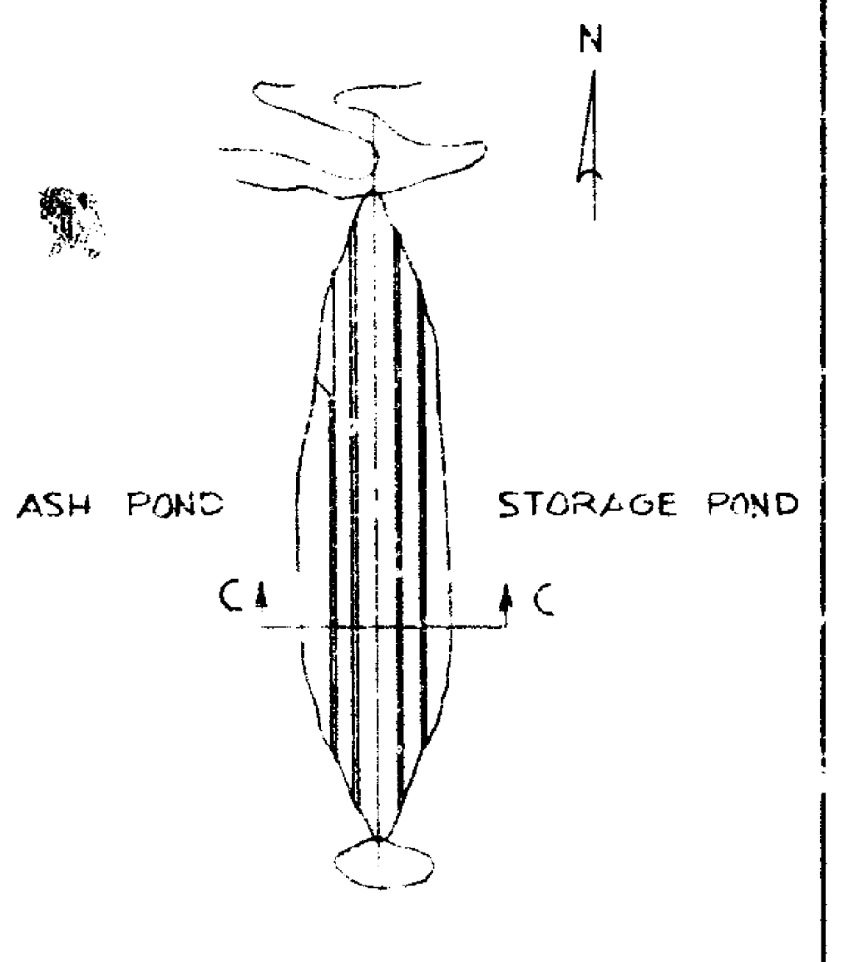
STEADY SEEPAGE



STORAGE POND DRAWDOWN EL. 795 - EL. 725

WEDGE ANALYSIS

SECTION C-C



KEY PLAN
NOT TO SCALE

TOTAL STRESS SOIL CHARACTERISTICS

TYPE SOIL	CONSTRUCTION			STEADY SEEPAGE & DRAWDOWN		
	γ_m LBS/CU.FT.	ϕ DEGREES	C LBS/SQ.FT.	γ_m LBS/CU.FT.	ϕ DEGREES	C LBS/SQ.FT.
EMB. FILL (A)	124	26.5	1200	124	19	1400
FILTER (B)	130	40	0	130	40	0
RIP-RAP (C)	130	38	0	130	38	0
BEDROCK (D)	150	40	3000	150	40	3000
FDN. 1 (E)	112	8	550	112	12	700

NOTE:

1. FOR SECTION C-C ONLY, MATERIAL "B" EXISTS IN SITU. PROPER CARE SHALL BE TAKEN TO COMPACT THIS MATERIAL IN ACCORDANCE WITH THE SPECIFICATIONS. FIELD INSPECTION MUST BE MADE TO INSURE EXISTENCE OF THIS MATERIAL AS SHOWN.
2. FOR GENERAL NOTES SEE DWG. H-12396.
3. FOR CONSTRUCTION DETAILS SEE DWG. H-12365.

GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT
PLANT WANSLEY
SEPARATION DIKE
STABILITY ANALYSIS-SHEET 3 OF 3

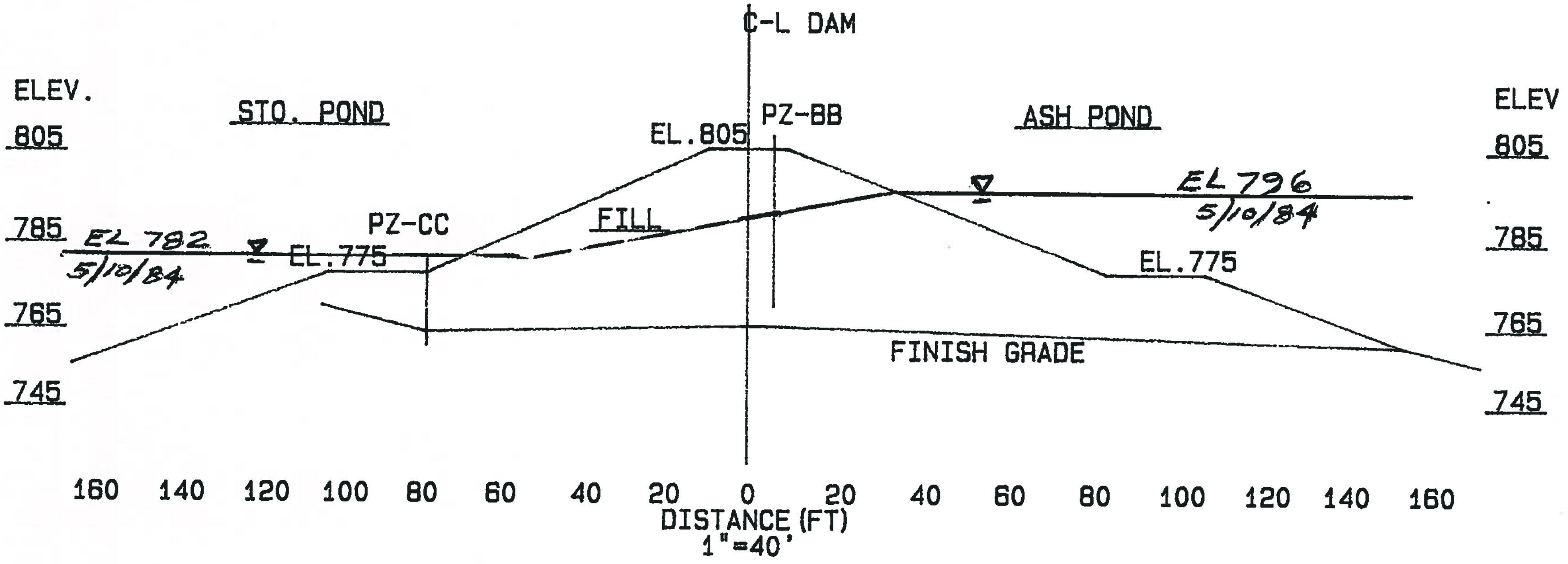
REVISIONS			APPROVALS	DSGN. JM	DR. WDF	CH'K JM
NO	DATE	BY		SCALE		DATE 6-7-73
			RK Rice	DRAWING NUMBER		
			8-6-73	LOCATION 10-207		SHEET NO. H-12396

RETURN TO HYDRO

PLANT WANSLEY

SEPARATION DAM

STA 2+00

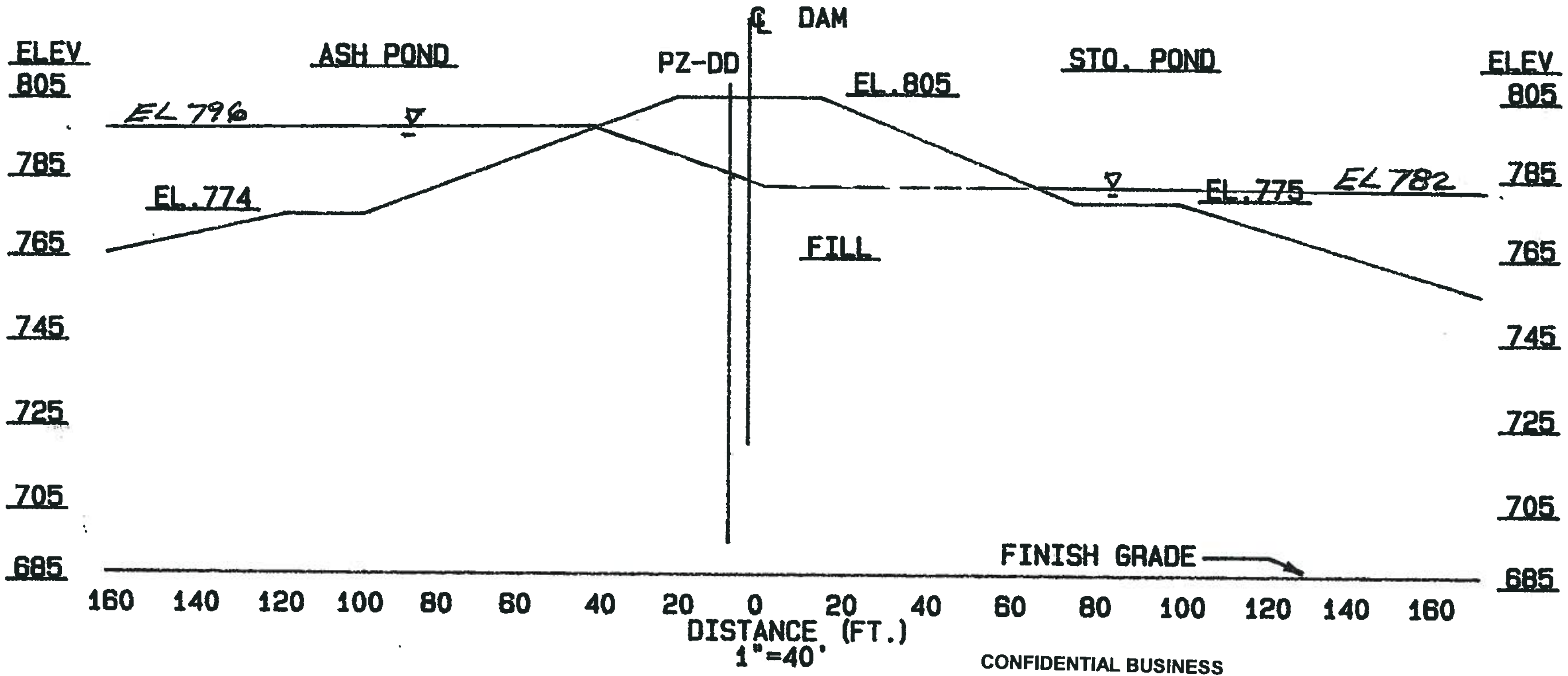


CONFIDENTIAL BUSINESS INFORMATION

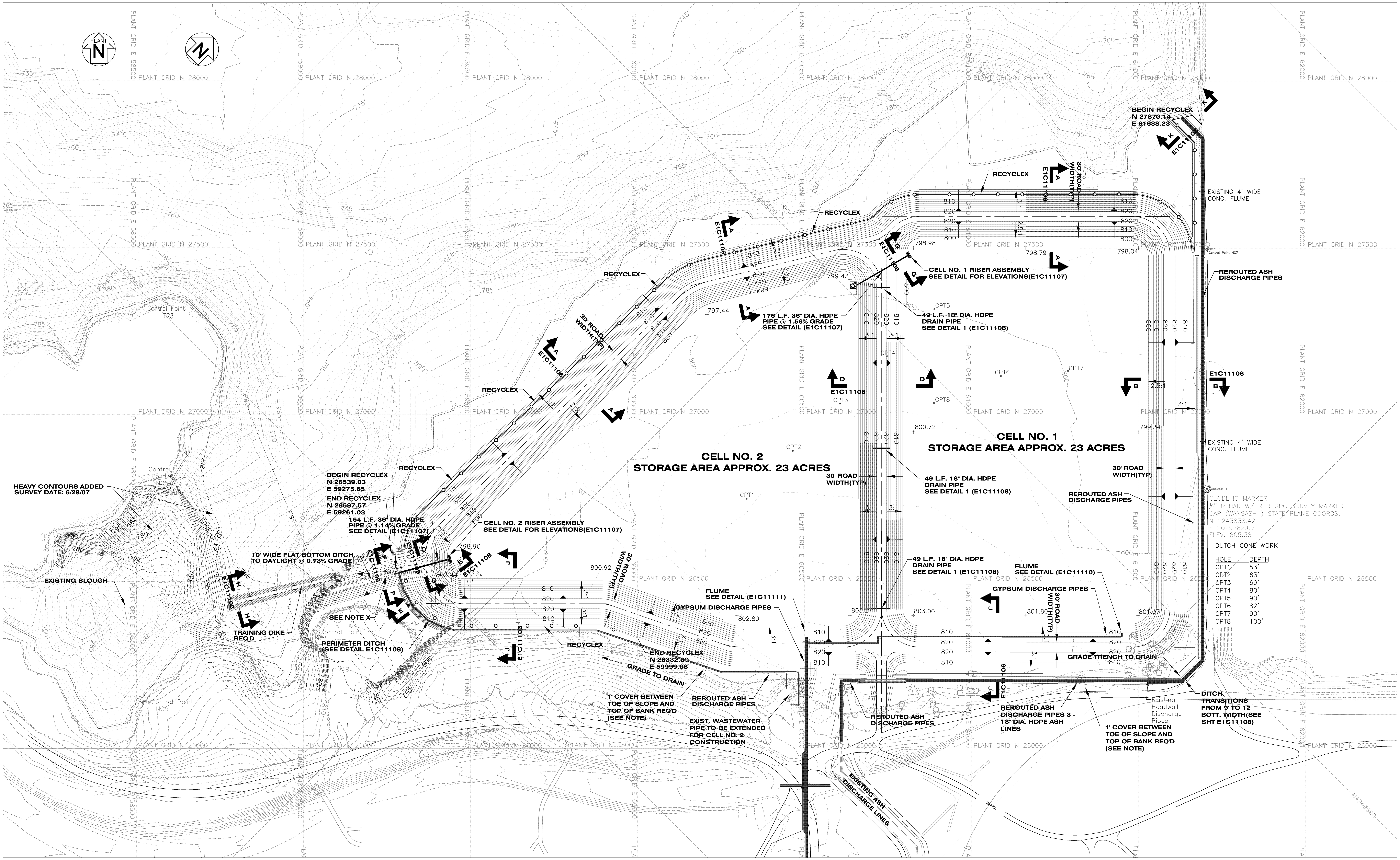
(67)

PLANT WANSLEY

SEPARATION DAM
STA. 12+50



CONFIDENTIAL BUSINESS
INFORMATION



DUTCH CONE WORK

HOLE	DEPTH
CPT1	53'
CPT2	63'
CPT3	69'
CPT4	80'
CPT5	90'
CPT6	82'
CPT7	90'
CPT8	100'

GENERAL ARRANGEMENT AND SITE PLAN

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

CONFIDENTIAL BUSINESS INFORMATION
WAN-API 015

GENERAL NOTES

1. FOR DRAWING INDEX, NOTES, AND SPECIFICATIONS SEE E1C11100.
2. ALONG THE TOE OF DIKE, ALL EXPOSED ASH SHALL BE COVERED WITH 1 FOOT OF SOIL COVER. (SC/SM, MH/ML)
3. WASTE WATER DISCHARGE PIPES TO BE TEMPORARILY EXTENDED TO FACILITATE DIKE CONSTRUCTION. THESE PIPES WILL BE LATER REMOVED TO PERMANENTLY END IN THE DISCHARGE DITCH FROM CELL NO. 2.

Southern Company Services, Inc.

Southern Company Generation
Engineering and Construction Services
FOR
Georgia Power Company

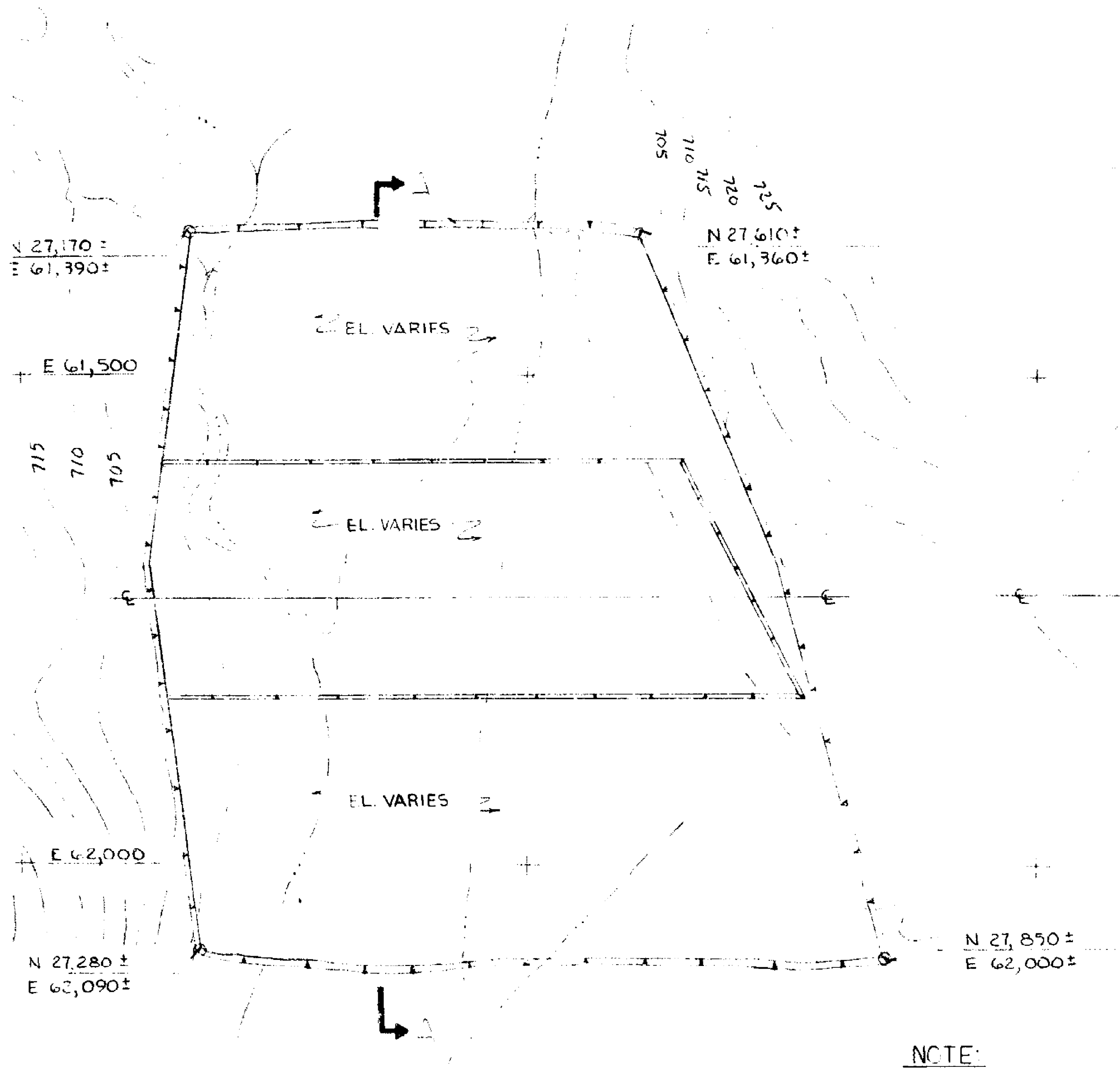
PLANT WANSLEY UNITS 1 & 2
FGD PROJECT

SHORT TERM GYPSUM DISPOSAL
GENERAL ARRANGEMENT AND SITE PLAN

REVISION	DATE	DESCRIPTION	JOB NO.	EWO	BY	CHK'D	CIVIL APPR	ELECT APPR	I/C APPR	MECH APPR	DISC MGR
1	8-10-07	GENERAL REVISION ISSUED FOR CONSTRUCTION	C07510	3059DE	JWM	PMG	DHF	☒	☒	☒	CKT
0	7-27-07	ISSUED FOR CONSTRUCTION	C07510	3059DE	JWM	PMG	AMW	RKC	KAH	MTB	CKT

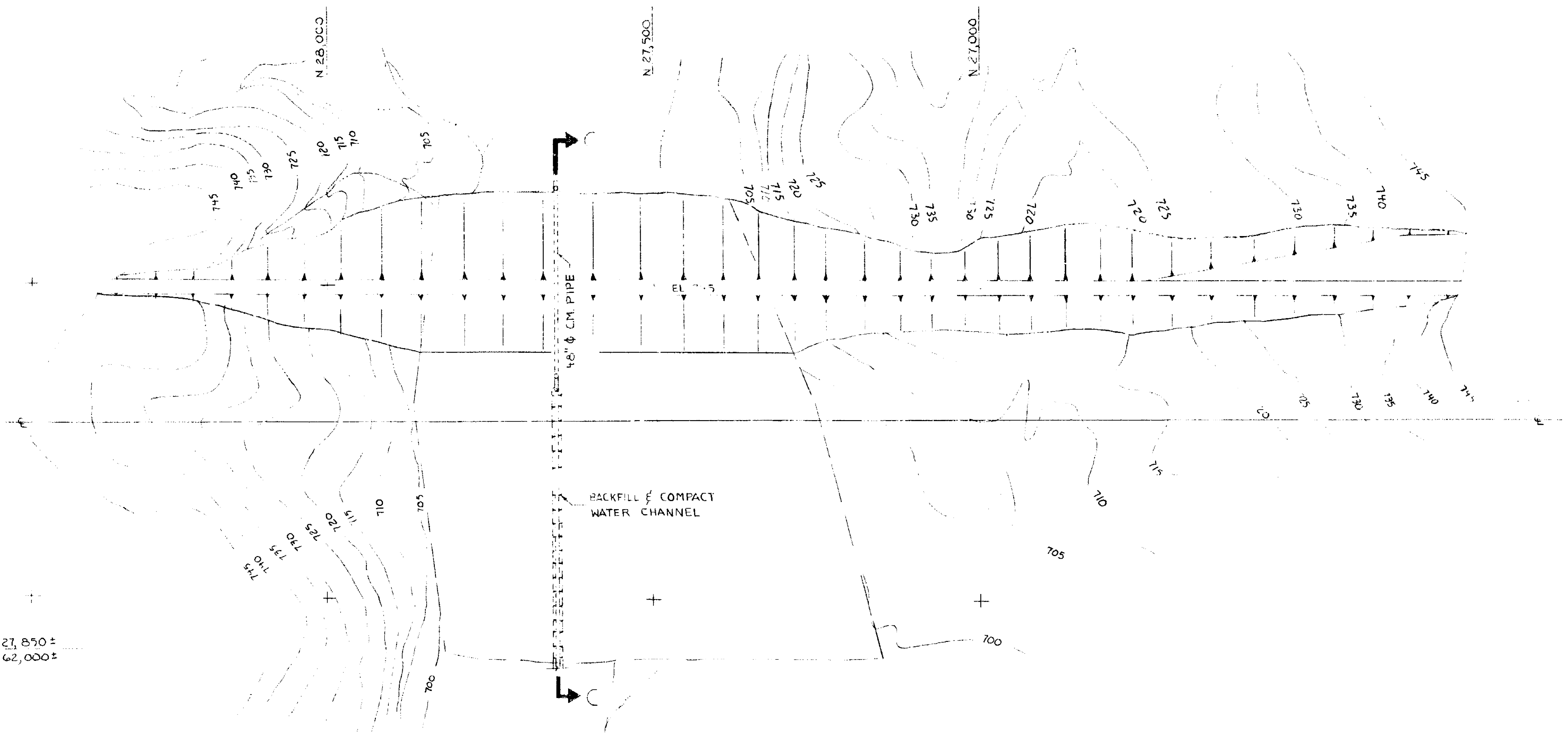
SCALE	PROJ I.D.	DRAWING NUMBER	SH	CONT'D	REV
1"=100'		E1C11102	1	FINAL	1

ANSI E: 44x34 Acad2004

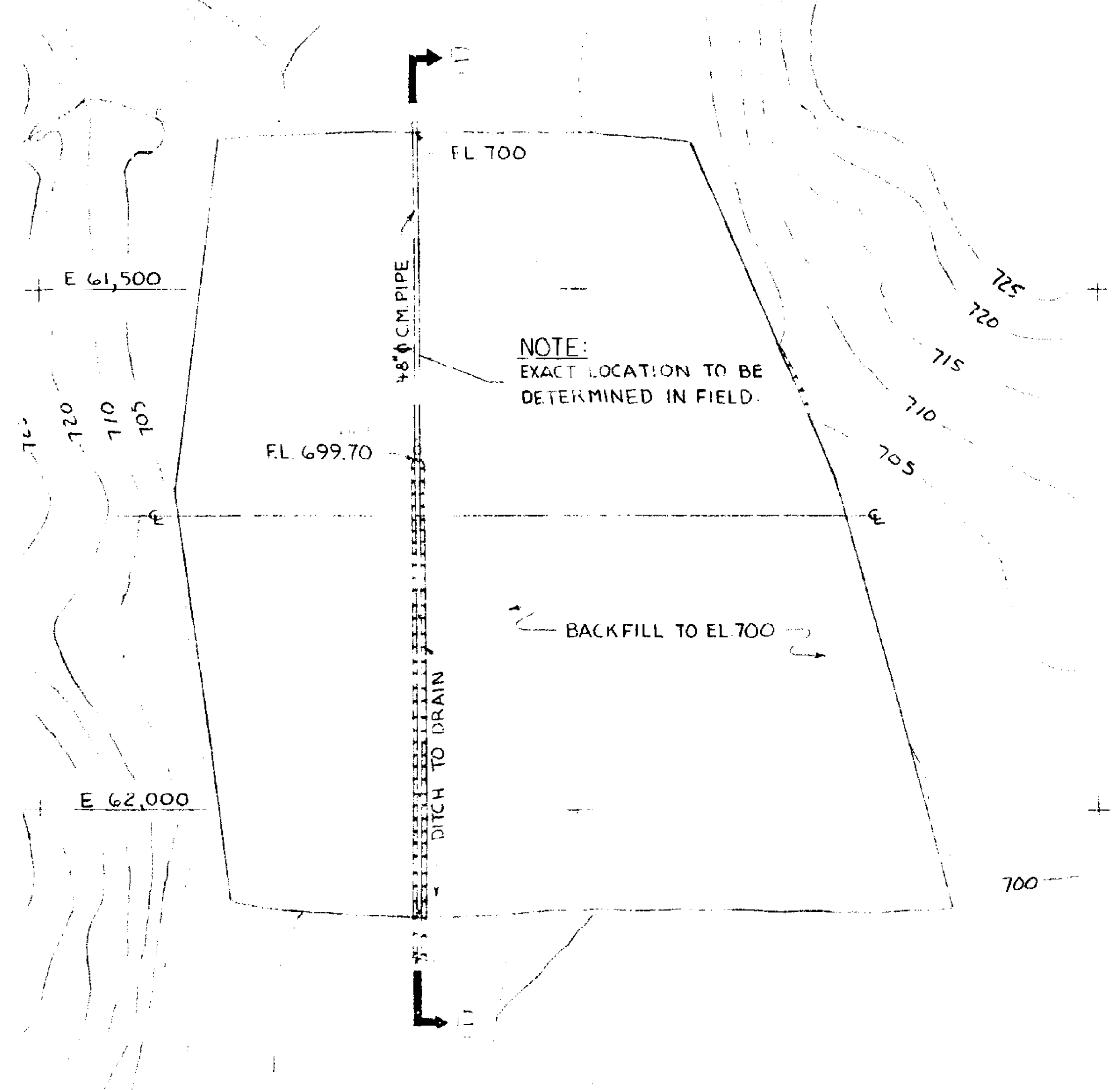


STAGE 1
SCALE: 1"=100'

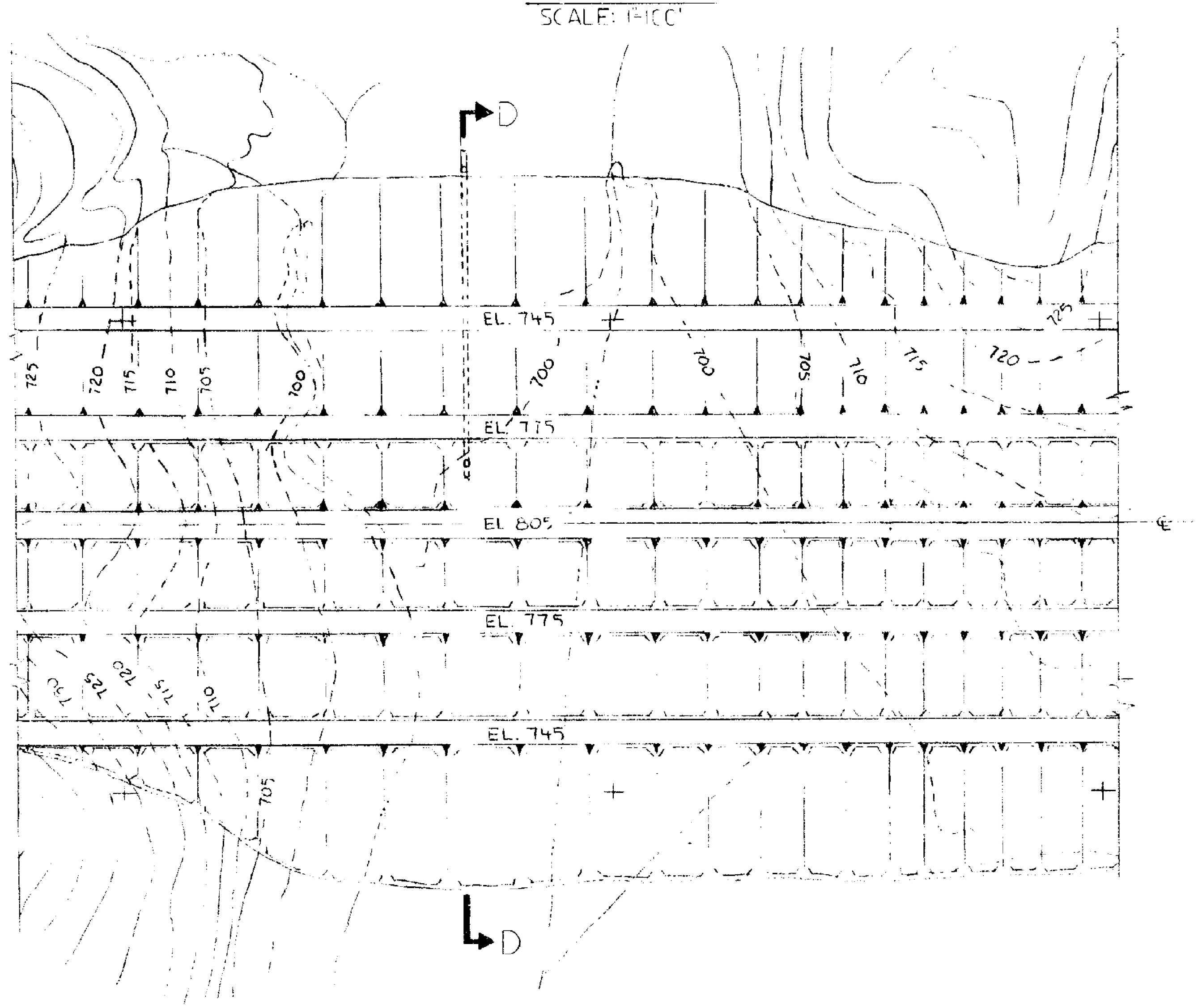
NOTE:
WORK THIS DRAWING
WITH H-12399



STAGE 3
SCALE: 1"=100'



STAGE 2
SCALE: 1"=100'



STAGE 4
SCALE: 1"=100'

REFERENCES

DWG. NO. H-12364 : SEPARATION DAM CONSTRUCTION DIVERSION SCHEME STAGE DRAWINGS, SECTION'S.
DWG. NO. H-12399 : SEPARATION DAM PLAN AND SECTIONS.

SOUTHERN SERVICES INC.
FOR

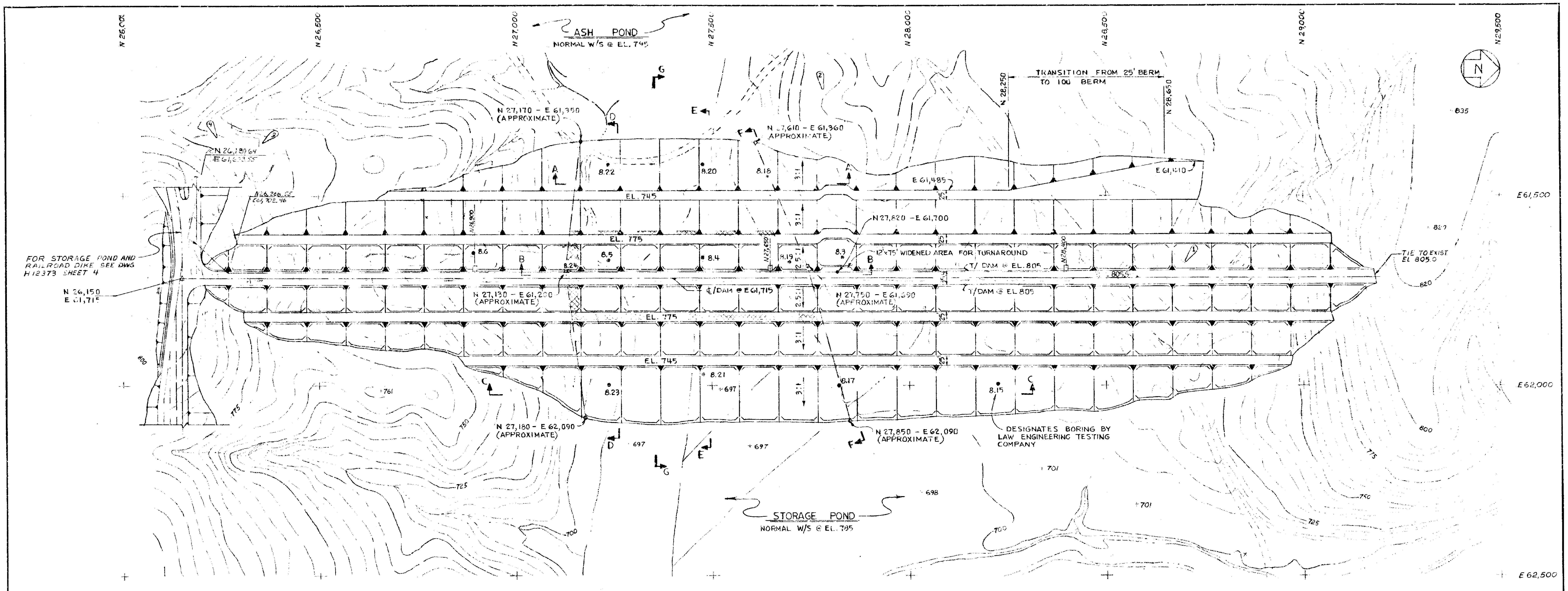
GEORGIA POWER CO. ATLANTA GA.
GENERAL ENGINEERING DEPARTMENT

PROJECT PLANT WANSLEY
SUBJECT SEPARATION DAM - CONSTRUCTION
DIVERSION SCHEME STAGE DWG'S, PLANS
SCALE 1"=100'

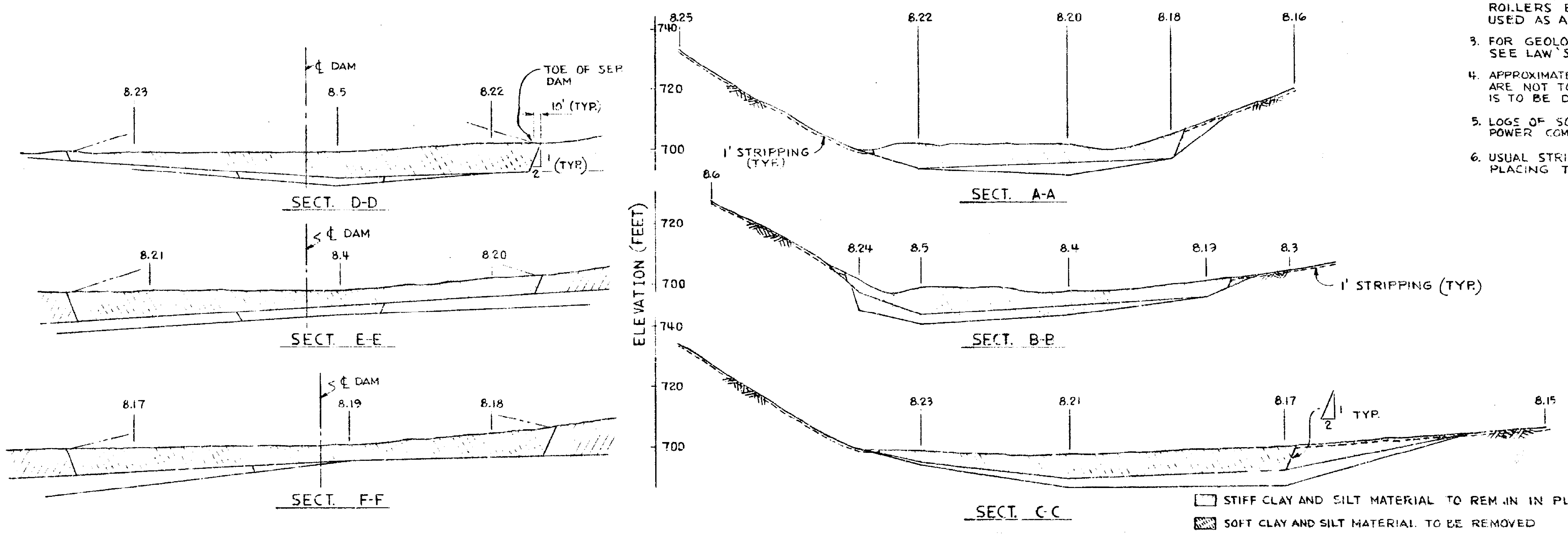
DRAWN CDL. CHECKED E.P. DESIGNED E.P.
APPROVED DATE 5-4-73
APPROVED DATE 5-4-73
APPROVED DATE

SHEET OF SHEETS
SUPERSEDES
LOCATION 10-209
SHEET NO H-12366

RETURN TO HYDRO



PLAN OF SEPARATION DAM
1" = 100'-0"



▭ STIFF CLAY AND SILT MATERIAL TO REMAIN IN PLACE
▨ SOFT CLAY AND SILT MATERIAL TO BE REMOVED
▒ SAND AND GRAVEL MATERIAL TO BE REMOVED
▭ SAND AND GRAVEL MATERIAL TO REMAIN IN PLACE

GEOLOGIC SECTIONS
HORIZ. SCALE: 1" = 100'-0"
VERT. SCALE: 1" = 20'-0"

NOTE:

1. SOFT TO VERY SOFT ALLUVIUM (CLAY AND SILT) IS TO BE REMOVED UNDER THE SUPERVISION OF THE FIELD ENGINEER. THE APPROXIMATE BOUNDARY IS SHOWN BY THE SHADED AREA. LEAVE STIFF CLAY AND SILT IN PLACE.
2. SAND AND GRAVEL LAYER BELOW THE CLAY AND SILT IS TO BE REMOVED FROM THE HATCHED AREA ONLY. THE REST WILL BE CONSOLIDATED BY ROLLERS BEFORE PLACING EMBANKMENT FILL AND USED AS A DRAINAGE BLANKET.
3. FOR GEOLOGIC CROSS SECTIONS & OTHER RELATED DETAILS SEE LAW'S COMMUNICATION NO. 39; FIGURES 1-5,9.
4. APPROXIMATE LOCATION OF LIMITS OF MATERIAL TO BE REMOVED ARE NOT TO BE CONSTRUED AS EXACT. ACTUAL EXCAVATION IS TO BE DETERMINED BY NATURE OF THE MATERIAL.
5. LOGS OF SOIL BORINGS MAY BE OBTAINED FROM GEORGIA POWER COMPANY OR SOUTHERN SERVICES INC.
6. USUAL STRIPPING SHOULD BE DONE AS NECESSARY BEFORE PLACING THE FILL.

REFERENCES: SEPARATION DAM

H-12364 — DIVERSION SCHEME — STAGE DRAWINGS & SECTIONS
H-12365 — SECTION & DETAILS
H-12366 — CONSTRUCTION DIVERSION SCHEME — STAGE DRAWINGS & PLANS
H-12373 — STORAGE POND DAM, SHEET 4
H-12396 — STABILITY ANALYSIS, SHEET 1 OF 3
H-12397 — " " , SHEET 2 OF 3
H-12398 — " " , SHEET 3 OF 3
H 12237 — GEN. ARRANGEMENT, ASH PIPE ROUTING

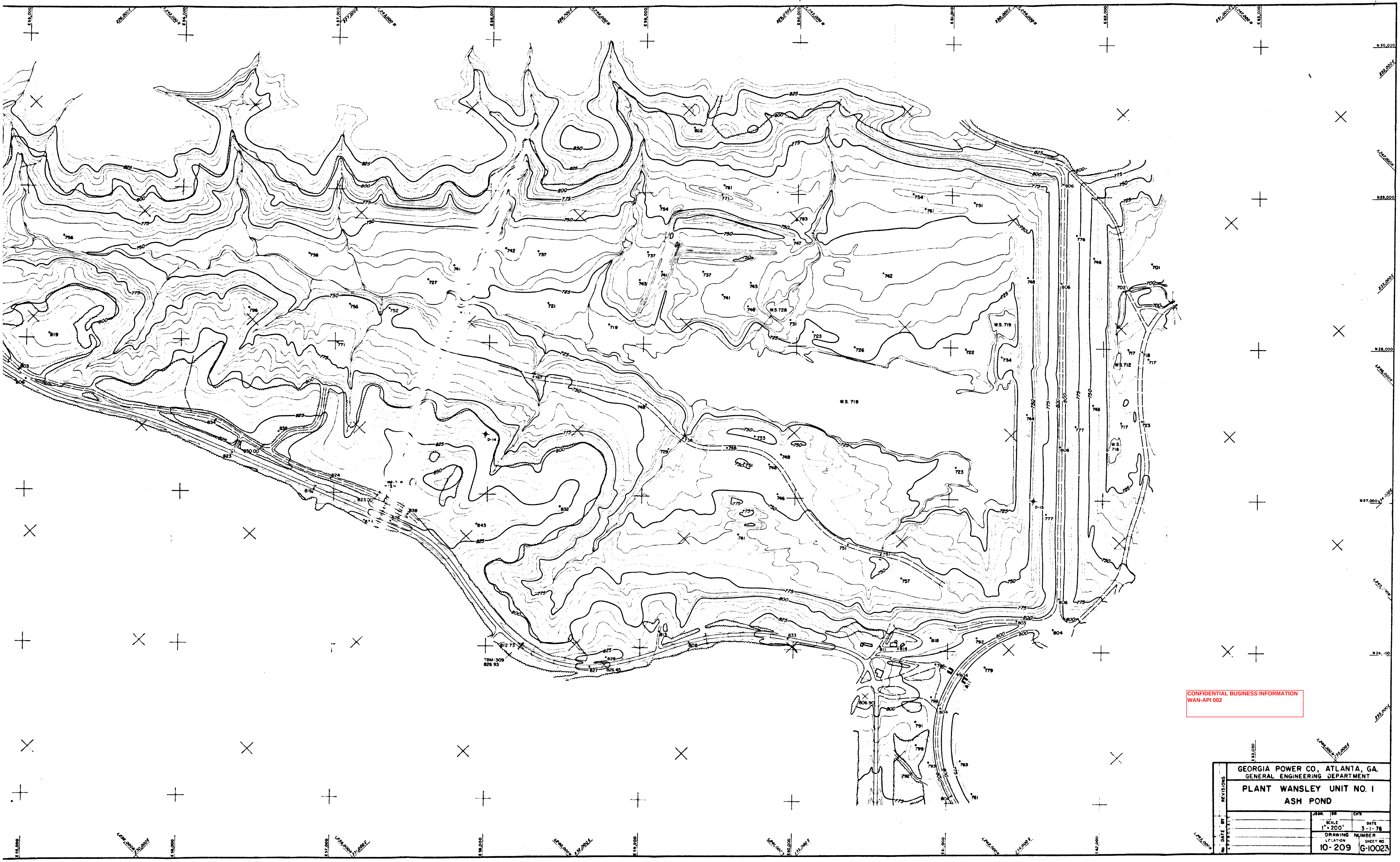
SOUTHERN SERVICES, INC.
FOR
GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT

PLANT WANSLEY
SEPARATION DAM-GENERAL ARRANGEMENT
WITH LIMITS OF EXCAVATION

NO.	DATE	BY	REVISIONS
4	3-11-76	VAB	RELOCATED ASH PIPING
3	5-5-75	JMF	RELOCATED ASH PIPING
2	3/20/75	CCL	ADDED ASH PIPING

APPROVALS
4/4/73
F. Duncan 4-13-73

DSGN. J.M. | DR. WDP | CH'K JM
SCALE AS SHOWN | DATE 4-9-73
DRAWING NUMBER
LOCATION 10-209 | SHEET NO. H-12399



GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT

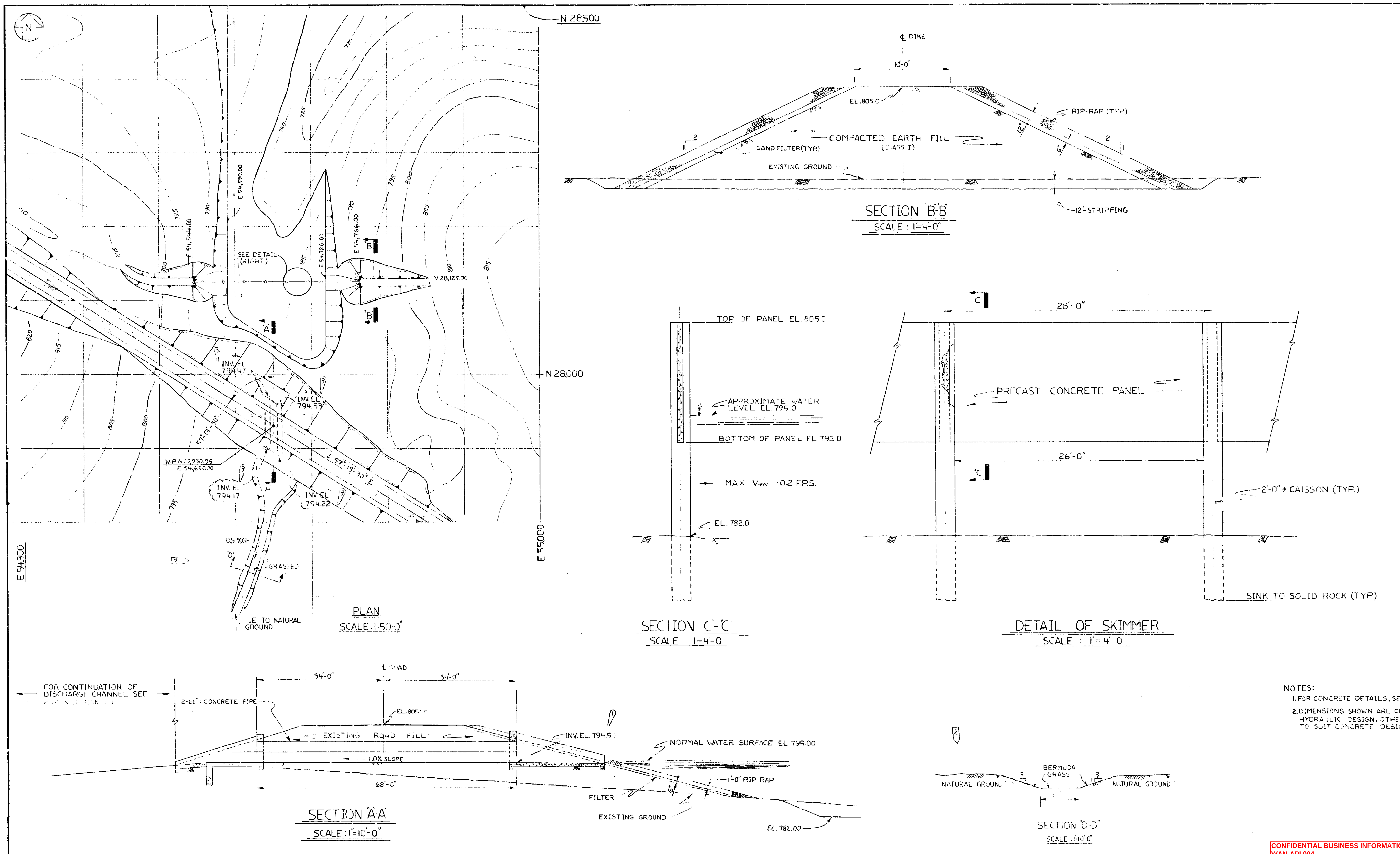
PLANT WANSLEY UNIT NO. 1
ASH POND

REVISIONS		
No	DATE	BY
APPROVALS		
DSGN.	DR.	CH'K
SCALE 1" = 200'		DATE 3-1-76
DRAWING NUMBER		
LOCATION 10-209		SHEET NO. G-10023

CONFIDENTIAL BUSINESS INFORMATION
WAN-API 002

G-10023

14



NOTES:
1. FOR CONCRETE DETAILS, SEE DWG. H-12126
2. DIMENSIONS SHOWN ARE CRITICAL TO HYDRAULIC DESIGN. OTHERS MAY VARY TO SUIT CONCRETE DESIGN.

CONFIDENTIAL BUSINESS INFORMATION
WAN-API 004

By R.E.	By JMc	By ACL	DRAWN A.C.L. CHECKED W.G.R. DESIGNED E.P.
REV. NO. 3 DATE 8-1-74	REV. NO. 2 DATE 4-24	REV. NO. 1 DATE 8-29-73	APPROVED ... DATE
CHANGED PIPE INVERT EL.	ADDED GRASSED CHANNEL TO PLAN VIEW ADDED SECTION "D-D"	[illegible]	APPROVED J. F. Duncan DATE 9-4-73
			APPROVED DATE

SOUTHERN SERVICES, INC.
FOR
GEORGIA POWER COMPANY
PROJECT PLANT WANSLEY
SUBJECT ASH POND DISCHARGE STRUCTURE GENERAL ARRANGEMENT
SCALE AS SHOWN B/M
LOCATION 10-209
H-12363

30X

SOUTHERN COMPANY

Engineering and Construction Services Calculation

Calculation Number:
TV-WN-ECS3201-001

Project/Plant: Plant Wansley Ash Pond	**Unit(s):** Units 1-2	**Discipline/Area:** ES&EE

Title/Subject:
Slope Stability Analyses of Ash Pond Separation Dike

Purpose/Objective:
Analyze slope stability of Ash Pond Separation Dike

System or Equipment Tag Numbers: NA	**Originator:** Wayne Wang

Contents

Topic	**Page**	**Attachments** (Computer Printouts, Tech. Papers, Sketches, Correspondence)	**# of Pages**
Purpose of Calculation	1	Attachment A – Figure 1	1
Methodology	1	Attachment B – Boring Log	4
Criteria & Assumptions	1	Attachment C – Soil Laboratory Analyses	8
Summary of Conclusions	3	Attachment D – Historic Soil Laboratory Analyses	1
Design Inputs/References	3		
Body of Calculation (print outs)	4 - 9		
Total # of pages including cover sheet & attachments:	30		

Revision Record

Rev. No.	**Description**	**Originator Initial / Date**	**Reviewer Initial / Date**	**Approver Initial / Date**
0	Issued for Information	WW/8-6-10	GHM/8-10-10	JCP/8-10-10

Notes:

Purpose of Calculation

Plant Wansley has disposed of coal combustion by-products (ash) in one main storage impoundment since 1976. The Plant Wansley ash pond was commissioned in 1975. The separation dike (ash pond dike) was installed in 1975 between the ash pond and the downstream storage water pond. The dike was constructed to a crest elevation of El. 805 with 2.3 (H):1(V) and 3 (H):1(V) upstream and downstream slopes, intermediate berms at El. 775 and El. 745, and a maximum height of approximately 105 feet.

The purpose of this calculation is to determine the stability of the separation dike of the Ash Pond.

Methodology

The calculation was performed using the following methods and software:

GeoStudio 2007 (Version 7.16, Build 4840), Copyright 1991-2008, GEO-SLOPE International, Ltd.

Bishop, Ordinary, Janbu, and Morgenstern-Price analytical methods were run. Morgenstern-Price was reported.

Criteria and Assumptions

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 Wansley, and “Pseudostatic Coefficient for Use in Simplified Seismic Slope Stability Evaluation” published in *Journal of Geotechnical and Geoenvironmental Engineering, ASCE September 2009* by *Jonathan Bray* and *Thaleia Travasarou*, a seismic load of 0.15g was used in the analyses.
- The current required minimum criteria (factors of safety) were taken from US Corps of Engineers Manual EM 1110-2-1902, October 2003 and 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.
- 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 parameters used during the 1973 stability analysis indicated on Drawings H12396 - H12398. 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 cross-section of the dike was obtained using the following sources:

1) Original design Drawing No. H12365 Section G-G.
2) A boring conducted in July 2010.

The following soil properties were used in the analyses:

	Dry Unit Weight (pcf)	Moist Unit Weight (pcf)	Effective Stress Parameters		Total Stress Parameters	
			Internal Friction Angle	Cohesion (psf)	Internal Friction Angle	Cohesion (psf)
Embankment Fill	102	123	32	140	29	400
Foundation Soil	--	112	37	0	24	80
Foundation (Gravel Filter)	--	130	40	0	40	0
Sluiced Ash	--	80	10	0	10	0
Rock	--	150	40	3000	40	3000

As shown on drawing H-12398, the 1973 stability analysis used unconsolidated - undrained (UU) strength parameters of c = 700 psf and phi = 12° for the foundation soils under a steady state loading condition. The Law Engineering Testing Company Report dated April 3, 1972, reported results for a consolidated – undrained (CU) triaxial shear test performed on a foundation sample from Boring 8.12, sample depth of 14 ft to 16 ft, or approximate Elev. 696. The total and effective parameters from this test were used in this 2010 analysis.

The following hydraulic information was used in the analyses:

Elevation (ft)	Min. Pool	Normal Pool	Max. Pool
Ash Pond	--	795	802.6
Storage Pond	725	780	--

Based on Georgia Power's (GP) Land Department Drawing M-187-6, Plant Wansley Ash Pond – August 2005 Survey, the top elevation of the ash in the impoundment is approximately El. 765. The normal pool is El. 795. The maximum surcharge pool is El. 802.6 which corresponds to the crest elevation of the emergency spillway. According to the Plant Wansley Ash Pond Storm Water Analysis prepared by SCG Hydro Services, the storage capacity of the ash pond from, conservatively, El. 799 to El. 802.6 is 1044 ac-ft, 2.22 times the storage necessary for the 100 year, 24 hour storm event. For our analysis, we assumed that rapid drawdown would occur from El 802.6 of the maximum surcharge pool to El. 795, the normal pool elevation.

The normal (and maximum) pool elevation of the storage water pond is El. 780. This maximum level constraint has been established to minimize the occurrence of excessive seepage conditions along the downstream slope/toe of the dike. Based on the 1973 original slope analyses shown on

GP Drawings H12396 –H12398, the minimum pool is El. 725. We assume conservatively that rapid drawdown occurs from El. 780 to El. 725.

Summary of Conclusions

The following table lists the factors of safety for various slope stability failure conditions. All conditions are steady state except where noted. Construction cases were not considered. Based on the results of these analyses, the dike is stable. The minimum factor of safety for each load case was taken from the USACOE EM 1110-2-1902 (2003) or 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.

Failure Conditions	Computed Factor of Safety	Required Minimum Factor of Safety[1]
Downstream Steady State	1.9	1.5
Downstream Seismic	1.2	1.1
Downstream Maximum Surcharge Pool (Ash Pond)	1.7	1.4
Upstream Rapid Drawdown (Ash Pond)	1.9	1.3
Downstream Rapid Drawdown (Storage Pond)	1.4	1.3

[1] US Corps of Engineers Manual EM 1110-2-1902, October 2003

The analyses show that in all cases the separation dike is stable. Safety factors for all cases were acceptable and exceeded the minimum safety factors required.

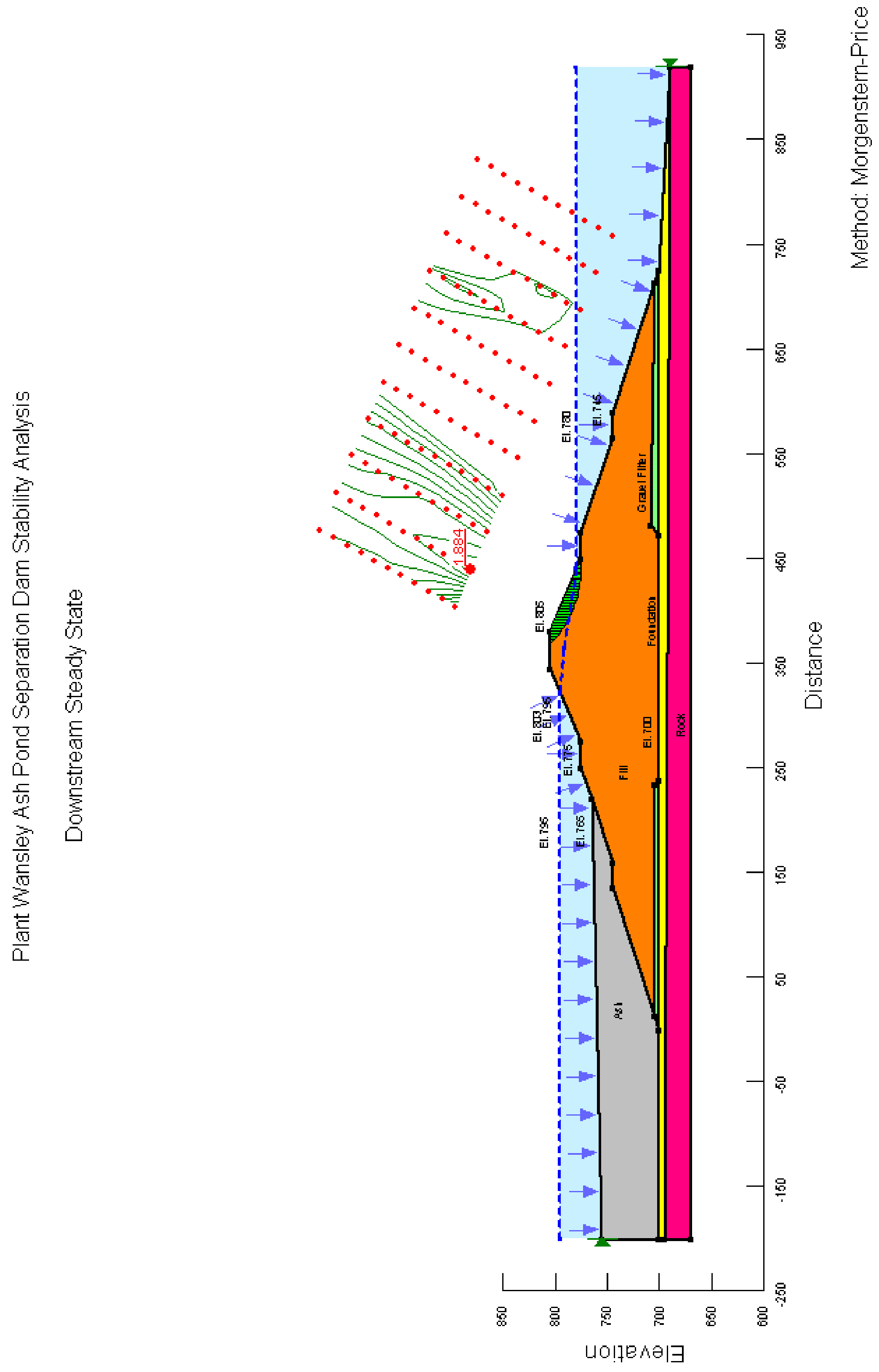
Design Inputs/References

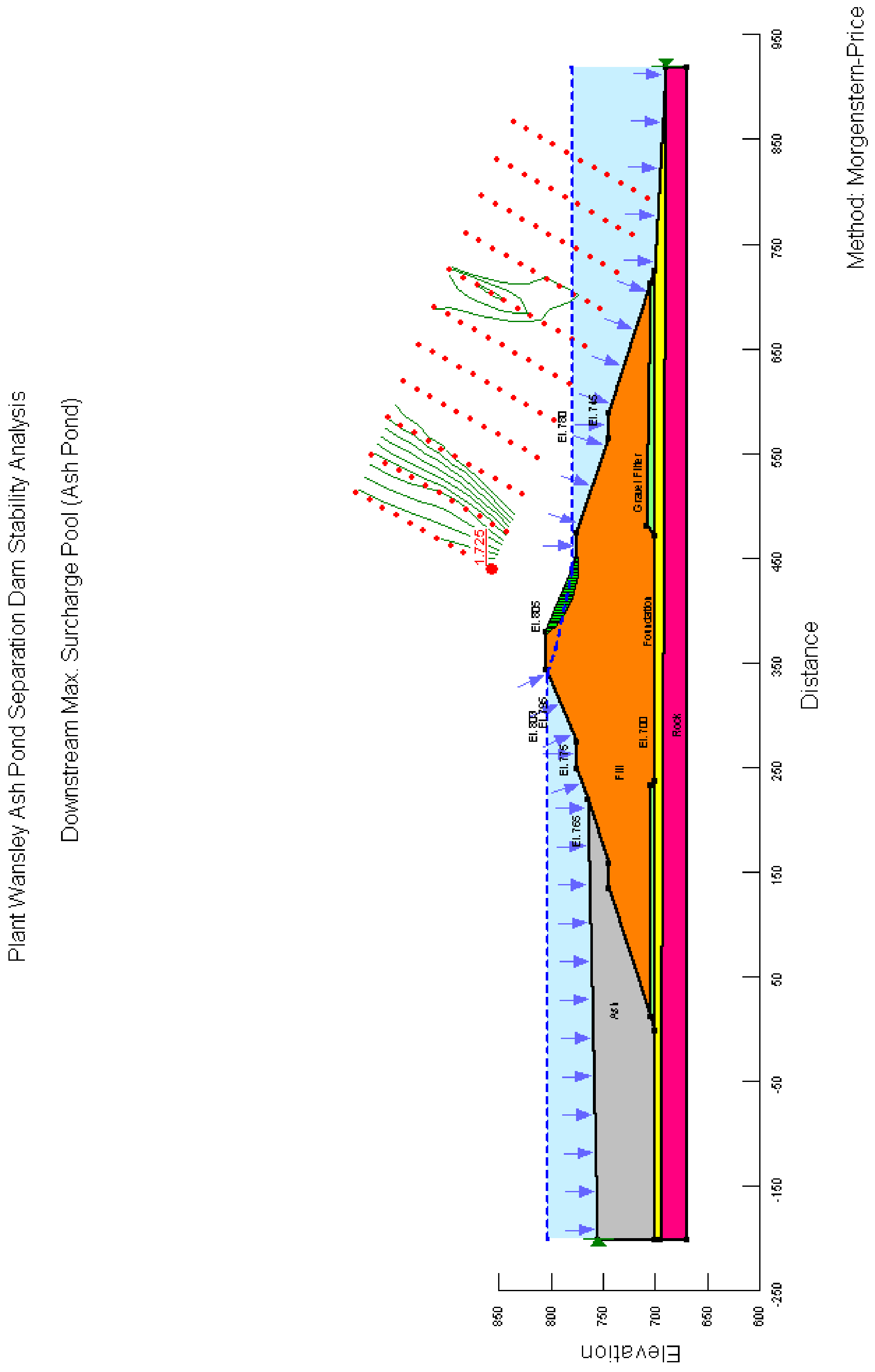
USGS Earthquake Hazards website, http://www.usgs.gov/hazards/earthquakes/.
NOAA website, http://www.srh.noaa.gov/ffc/html/rva.php.
Georgia Department of Natural Resources, Environmental Protection, Rules for Dam Safety.
GPC Land Department Drawing M-187-6 Plant Wansley Ash Pond – August 2005 Survey
GPC Drawing H10027 Project Location Map
GPC Drawing H12363 - Plant Wansley Ash Pond Discharge Structure General Arrangement
GPC Drawing H12364 - Plant Wansley Separation Dike Construction
GPC Drawing H12365 - Plant Wansley Separation Dike section and Details
GPC Drawing H12366 - Plant Wansley Separation Dike Construction
GPC Drawing H12396 - Plant Wansley Separation Dike Stability Analysis – Sheet 1 of 3
GPC Drawing H12397 - Plant Wansley Separation Dike Stability Analysis – Sheet 2 of 3
GPC Drawing H12398 - Plant Wansley Separation Dike Stability Analysis – Sheet 3 of 3
GPC Drawing H12399 - Plant Wansley Separation Dike General Arrangement
SCG Hydro Services - Dam Safety Surveillance, 4th Quarter 2009 Report, Plant Wansley

Evaluate Storm Water Capacity of Wansley Ash Pond by SCG Hydro Services – August 2010

Body of Calculation

Calculation consists of Slope-W modeling attached.


Plant Wansley Ash Pond Separation Dam Stability Analysis
Downstream Steady State
Method: Morgenstern-Price
1.884
El. 795
El. 765
El. 775
El. 803
El. 796
El. 805
El. 780
El. 745
El. 700
Ash
Fill
Foundation
Gravel Filter
Rock
Distance
-250
-150
-50
50
150
250
350
450
550
650
750
850
950
Elevation
600
650
700
750
800
850

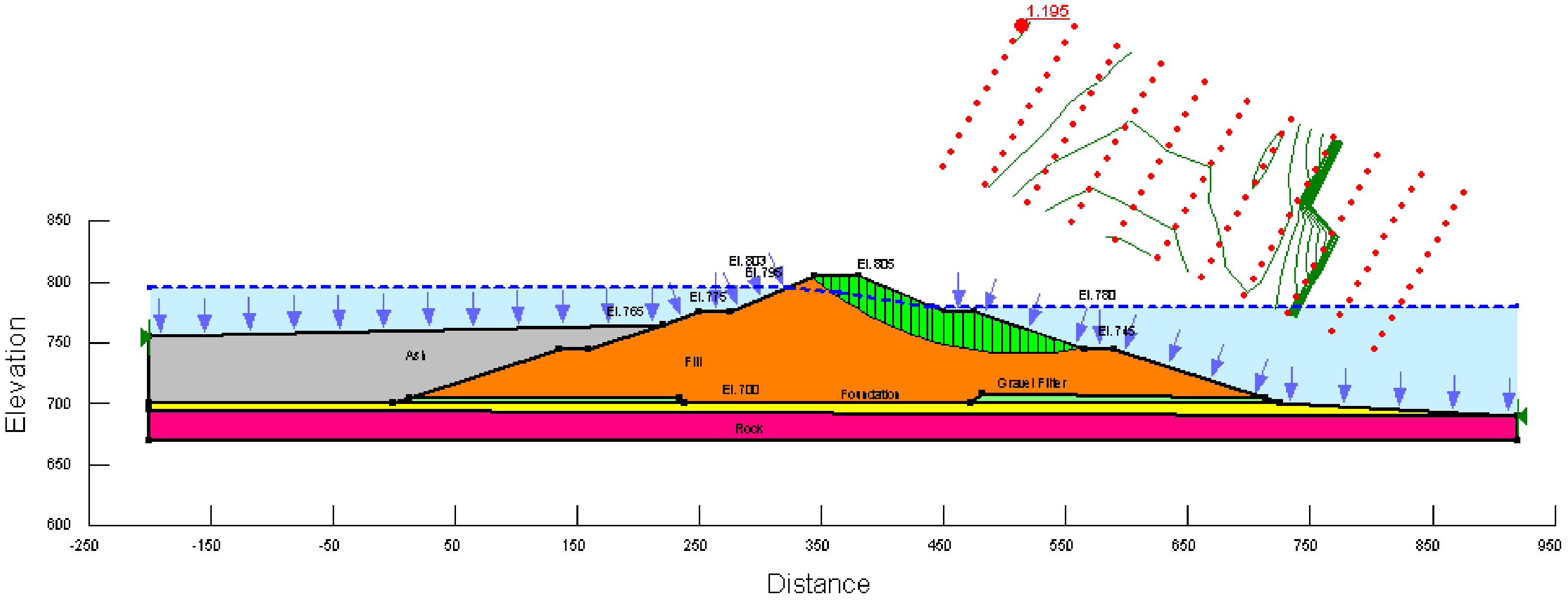


Plant Wansley Ash Pond Separation Dam Stability Analysis

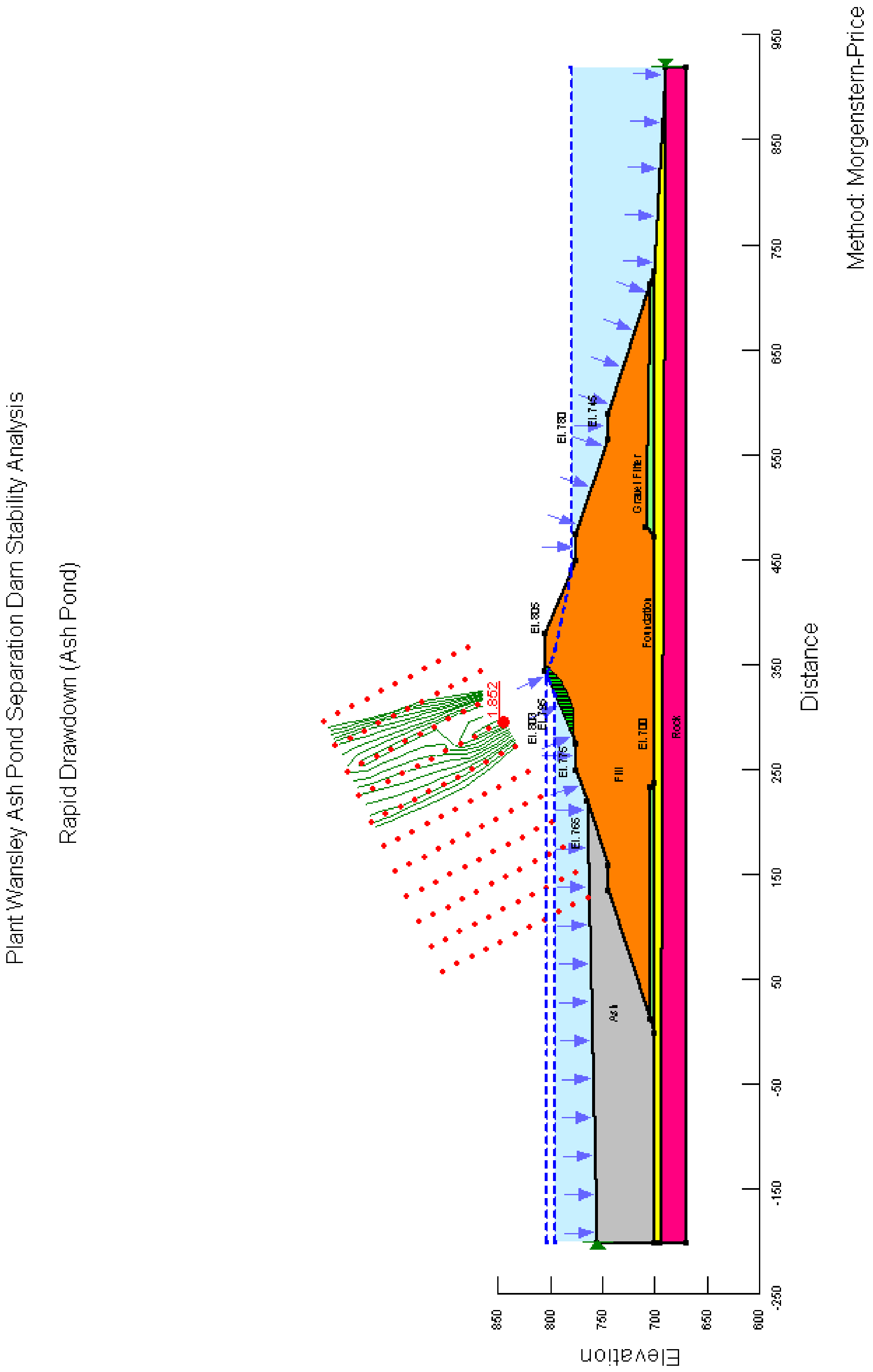
Downstream Max. Surcharge Pool (Ash Pond)

Plant Wansley Ash Pond Separation Dam Stability Analysis

Downstream Seismic

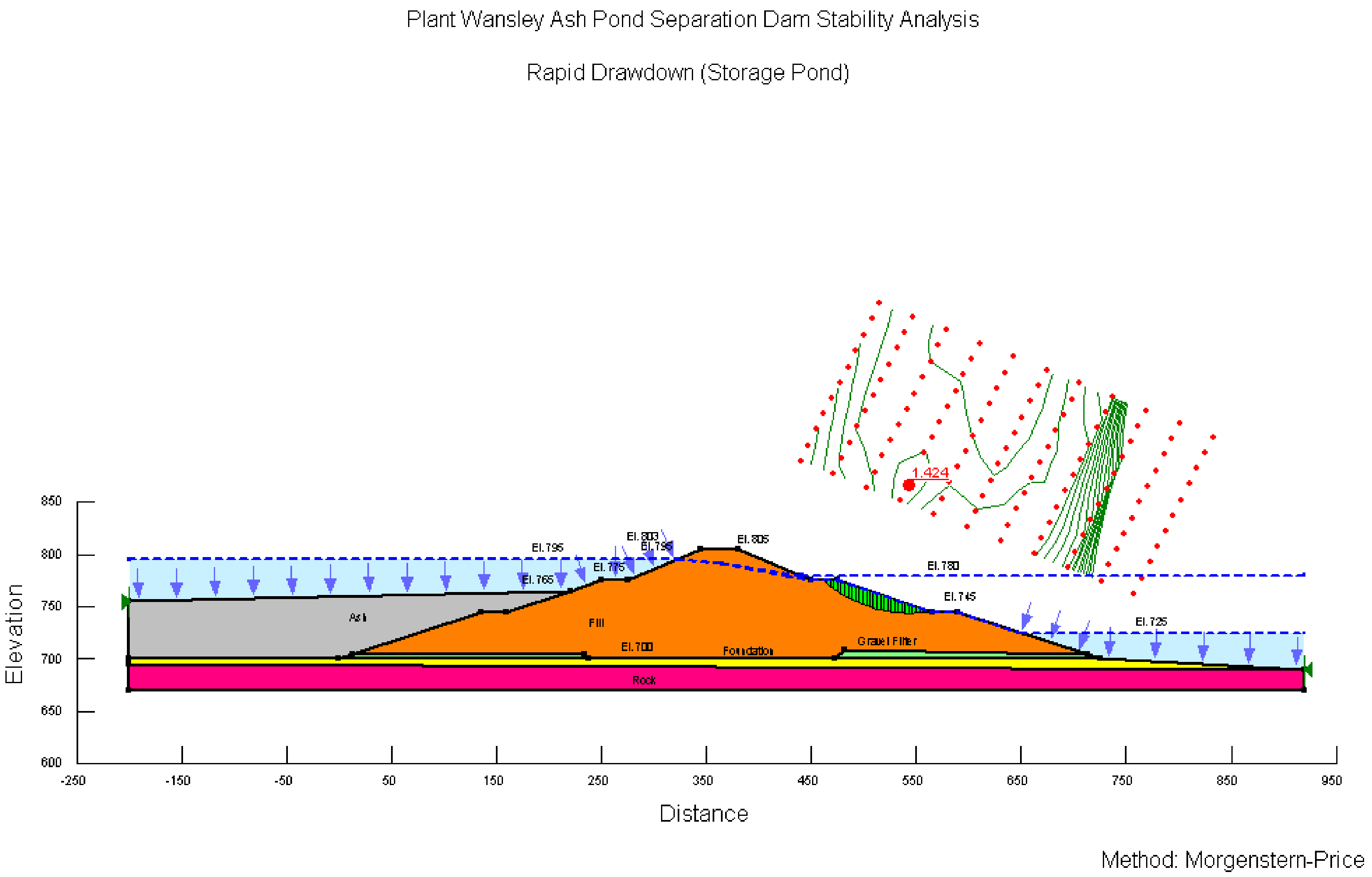


Method: Morgenstern-Price



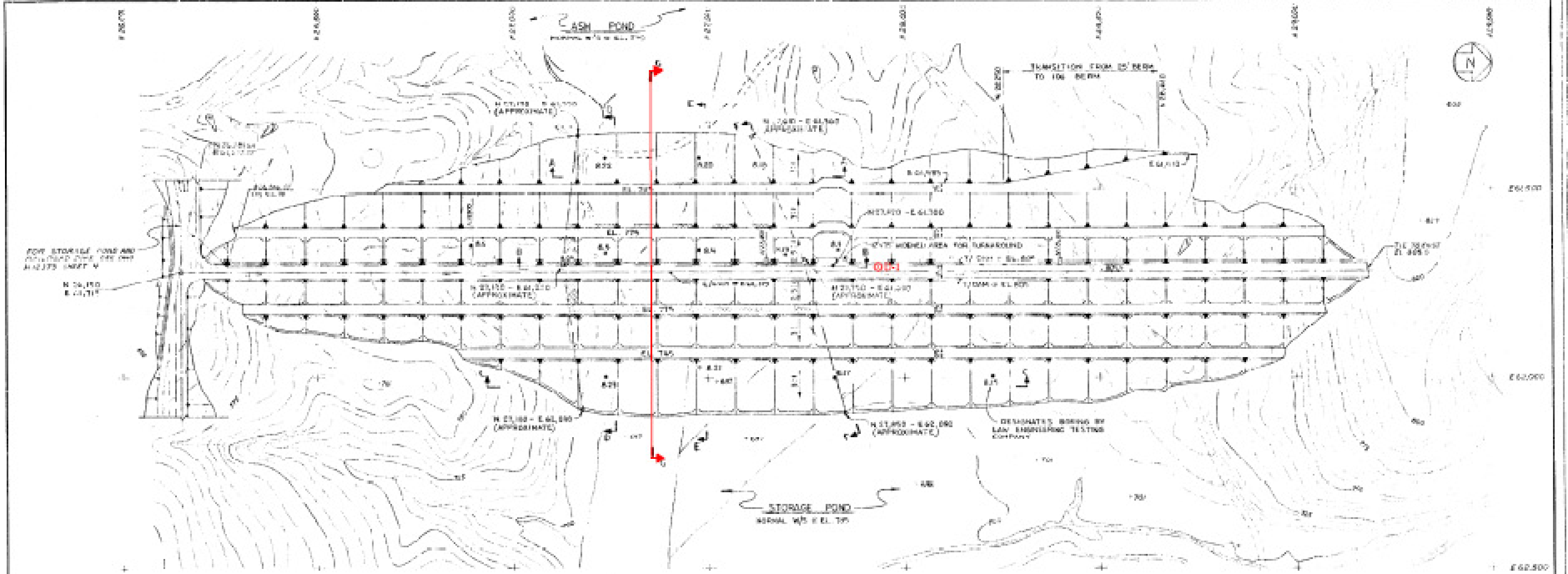
Plant Wansley Ash Pond Separation Dam Stability Analysis

Rapid Drawdown (Ash Pond)


Plant Wansley Ash Pond Separation Dam Stability Analysis
Rapid Drawdown (Storage Pond)
1.424
El. 795
El. 803
El. 795
El. 805
El. 775
El. 765
El. 780
El. 745
El. 725
Ash
Fill
El. 700
Foundation
Gravel Filter
Rock
Elevation
850
800
750
700
650
600
-250
-150
-50
50
150
250
350
450
550
650
750
850
950
Distance
Method: Morgenstern-Price

Attachment A

Figure - Boring Location



PLAN OF SEPARATION DAM

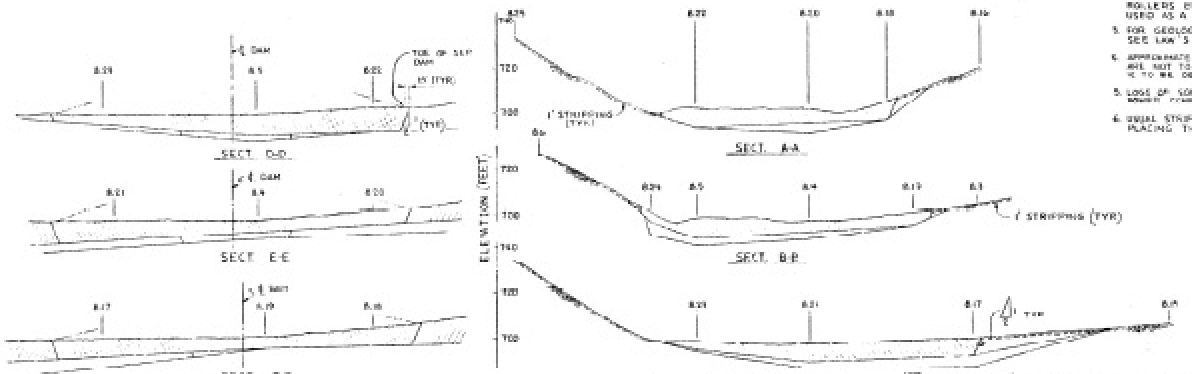
1" = 100'-0"

NOTE:

1. SOFT TO VERY SOFT ALLUVIUM (CLAY AND SILT) IS TO BE REMOVED UNDER THE SUPERVISION OF THE FIELD ENGINEER. THE APPROXIMATE BOUNDARY IS SHOWN BY THE SHADED AREA. LEAVE STIFF CLAY AND SILT IN PLACE.
2. SAND AND GRAVEL LAYER BELOW THE CLAY AND SILT IS TO BE REMOVED FROM THE HATCHED AREA ONLY. THE REST WILL BE CONSOLIDATED BY ROLLERS BEFORE PLACING EMBANKMENT FILL AND USED AS A DRAINAGE BLANKET.
3. FOR GEOLOGIC CROSS SECTIONS & OTHER RELATED DETAILS SEE LAW'S COMMUNICATION NO 19; FIGURES 1-5,9.
4. APPROXIMATE LOCATION OF LIMITS OF MATERIAL TO BE REMOVED ARE NOT TO BE CONSTRUED AS EXACT. ACTUAL EXCAVATION IS TO BE DETERMINED BY NATURE OF THE MATERIAL.
5. LOGS OF SOIL BORINGS MAY BE OBTAINED FROM GEORGIA POWER COMPANY OR SOUTHERN SERVICES, INC.
6. USUAL STRIPPING SHOULD BE DONE AS NECESSARY BEFORE PLACING THE FILL.

REFERENCES: SEPARATION DAM

H-27[illegible] — DIVERSION SCHEME — STAGE DRAWINGS & SECTIONS
H-27165 — SECTION & DETAILS
[illegible] — CONSTRUCTION DIVERSION SCHEME — STAGE DRAWINGS & PLANS
H-12375 — STORAGE POND DAM, SHEET 4
H-27996 — STABILITY ANALYSIS, SHEET 1 OF 3
H-27997 — " " , SHEET 2 OF 3
H-27998 — " " , SHEET 3 OF 3
H-12217 — GEN. ARRANGEMENT, ASH PIPE ROUTING



GEOLOGIC SECTIONS

HORIZ. SCALE: 1" = 100'-0"
VERT. SCALE: 1" = 20'-0"

☐ STIFF CLAY AND SILT MATERIAL TO REMAIN IN PLACE
▨ SOFT CLAY AND SILT MATERIAL TO BE REMOVED
▨ SAND AND GRAVEL MATERIAL TO BE REMOVED
☐ SAND AND GRAVEL MATERIAL TO REMAIN IN PLACE

SOUTHERN SERVICES, INC.
FOR
GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT
PLANT WANSLEY
SEPARATION DAM-GENERAL ARRANGEMENT
WITH LIMITS OF EXCAVATION

10-209
H2[illegible]

Attachment B

Soil Log

SOUTHERN COMPANY
Energy to Serve Your World™

DRILLING LOG

GEOLOGICAL SERVICES

Hole No. D-1
Sheet 1 of 4

SITE **Plant Wansley Seperation Dyke** HOLE DEPTH **106** SURF.ELEV. 806
LOCATION Plant Wansley COORDINATES N 27943.78 E 61716.41
ANGLE 0 BEARING 0 CONTRACTOR Ranger DRILL NO. N/A
DRILLING METHOD H.S.A. NO. SAMPLES 21 NO. U.D. SAMPLES 4
CASING SIZE N/A LENGTH N/A CORE SIZE N/A TOTAL % REC. N/A
WATER TABLE DEPTH 26' ELEV. N/A TIME AFTER COMP. 17 hours DATE TAKEN 7/8/2010
TYPE GROUT Portland QUANTITY N/A MIX 1:1 DRILLING START DATE 7/7/2010
DRILLER Justen Crowe RECORDER Korey Young APPROVED Korey Young DRILLING COMP. DATE 7/7/2010

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0									
1							T.O.B. water level was 62'		
2									
3									
4									
5		red brown micacous SILT (ML)	1	3.5-5	11-12-14	26			
6									
7									
8									
9									
10		red brown micacous SILT (ML)	2	8.5-10	7-6-8	14			
11									
12									
13									
14									
15		red brown micacous SILT (ML)	3	13.5-15	8-10-12	22			
16									
17									
18							UD 16-18.5		
19									
20		red brown micacous SILT (ML)	4	18.5-20	8-13-17	30			
21									
22							UD 21-23.5		
23									
24									

Form GS9901 7-26-2004

SOUTHERN COMPANY
Energy to Serve Your World™

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. D-1

Sheet 2 of 4

SITE **Plant Wansley Seperation Dyke** TOTAL DEPTH **106** SURF.ELEV. 806

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		red brown micacous SILT (ML)	5	23.5-25	7-12-10	22			
26									
27									
28									
29									
30		red brown micacous SILT (ML)	6	28.5-30	8-10-12	22			
31									
32									
33									
34									
35		red brown micacous SILT (ML)	7	33.5-35	6-8-9	17			
36									
37									
38									
39									
40		red brown micacous SILT (ML)	8	38.5-40	6-9-13	22			
41									
42									
43									
44									
45		red brown micacous SILT (ML)	9	43.5-45	7-9-12	21			
46									
47							UD 46-47.5 short push due to hard material		
48									
49									
50		red brown micacous SILT (ML	10	48.5-50	7-9-10	19			
51									
52							UD 51-53 short push due to hard materia		
53									
54									
55		red brown micacous SILT (ML	11	53.5-55	5-7-12	19			
56									

Form GS9901 7-26-2004

SOUTHERN COMPANY
Energy to Serve Your World™

DRILLING LOG

GEOLOGICAL SERVICES

Hole No. D-1

Sheet 3 of 4

SITE **Plant Wansley Seperation Dyke** TOTAL DEPTH **106** SURF.ELEV. 806

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
57									
58									
59									
60		multi colored sandy SILT (ML)	12	58.5-60	5-10-16	26			
61									
62									
63									
64									
65		brown gray micacous SILT (ML)	13	63.5-65	7-16-14	30			
66									
67									
68									
69									
70		brown gray micacous SILT (ML)	14	68.5-70	7-14-16	30			
71									
72									
73									
74									
75		brown gray micacous SILT (ML)	15	73.5-75	7-12-15	27			
76									
77									
78									
79									
80		tan fine sandy SILT (ML)	16	78.5-80	6-12-17	29			
81									
82									
83									
84									
85		brown micacous SILT (ML	17	83.5-85	7-16-13	29			
86									
87									
88									

SOUTHERN COMPANY
Energy to Serve Your World™

DRILLING LOG

GEOLOGICAL SERVICES

Hole No. D-1

Sheet 4 of 4

SITE **Plant Wansley Seperation Dyke** TOTAL DEPTH **106** SURF.ELEV. 806

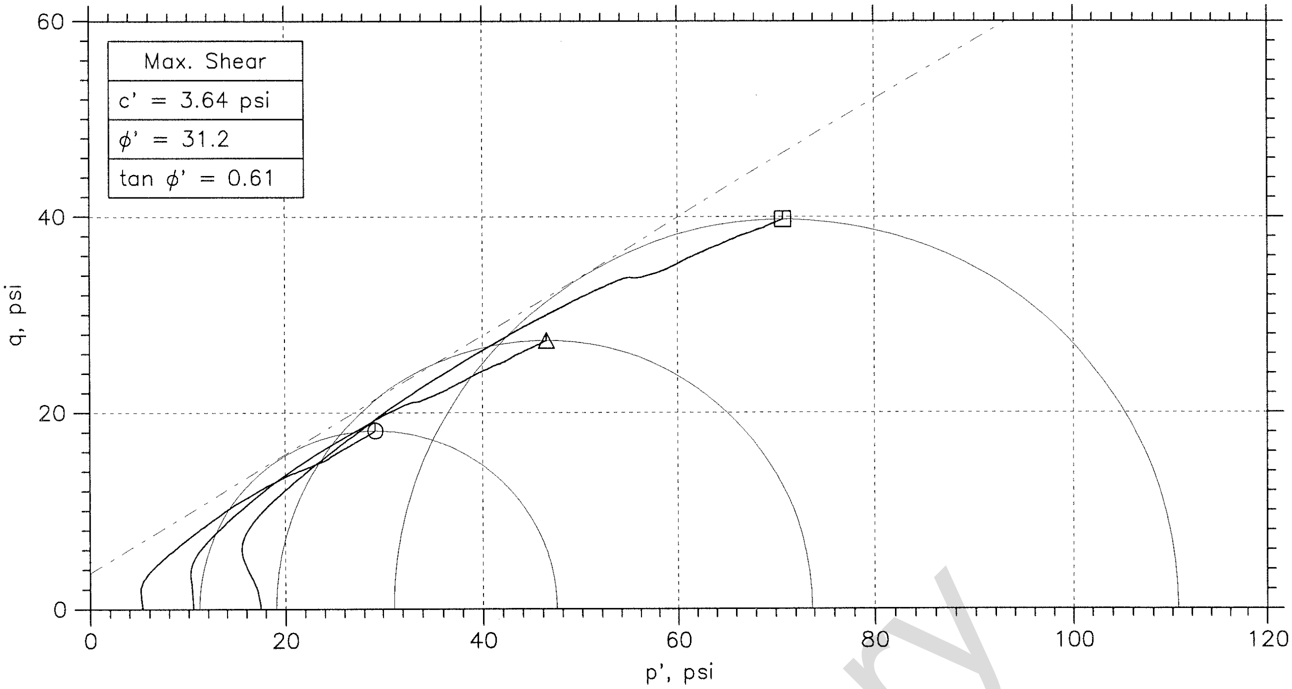
Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
89									
90		pink brown micacous SILT (ML)	18	88.5-90	13-20-22	42			
91									
92									
93									
94									
95		tan brown micacous SILT (ML)	19	93.5-95	9-13-19	32			
96									
97									
98									
99									
100		tan brown silty CLAY (CL)	20	98.5-100	9-12-15	27			
101									
102									
103									
104									
105		tan orange clayey fine SAND (SC)	21	103-5-105	12-18-23	41			
106									
107		Auger Refusal @ 106'							
108									
109									
110									
111									
112									
113									
114									
115									
116									
117									
118									
119									
120									

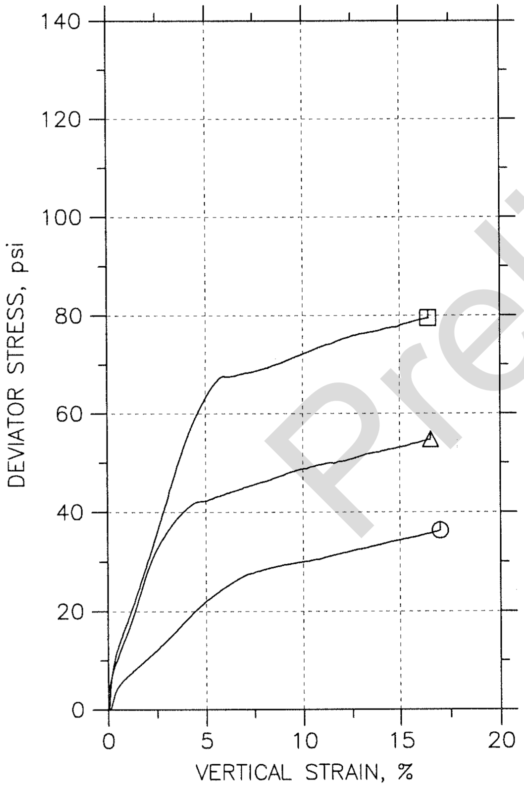
Form GS9901 7-26-2004

Attachment C

Soil Laboratory Analyses by MACTEC Engineering and Consulting.

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

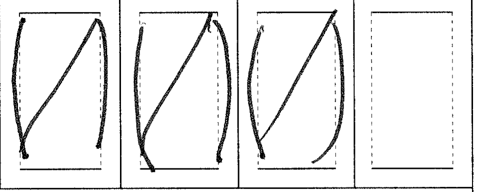




Symbol		○	△	□	
Sample No.		UD	UD	UD	
Test No.		10353.1	10353.2	10353.3	
Depth		21-23.3 ft	21-23.3 ft	21-23.3 ft	
Initial	Diameter, in	2.865	2.872	2.873	
	Height, in	5.57	5.973	5.572	
	Water Content, %	19.2	19.7	20.4	
	Dry Density, pcf	104.7	101.1	101.1	
	Saturation, %	87.8	82.2	84.8	
	Void Ratio	0.58	0.636	0.636	
Before Shear	Water Content, %	21.8	23.5	23.1	
	Dry Density, pcf	104.8	102.	102.6	
	Saturation*, %	100.0	100.0	100.0	
	Void Ratio	0.578	0.622	0.613	
	Back Press., psi	120.	110.	110.	
Ver. Eff. Cons. Stress, psi		5.252	10.5	17.49	
Shear Strength, psi		18.14	27.35	39.71	
Strain at Failure, %		17	16.5	16.4	
Strain Rate, %/min		0.05	0.05	0.05	
B-Value		0.96	0.93	0.95	
Estimated Specific Gravity		2.65	2.65	2.65	
Liquid Limit		---	---	---	
Plastic Limit		---	---	---	

MACTEC

Project: Plant Wansley Ash Pond
Location: D-1
Project No.: 6152100244
Boring No.: D-1
Sample Type: Undisturbed
Description: Brown Silty Sand
Remarks: ASTM D4767-04



Phase calculations based on start and end of test.
* Saturation is set to 100% for phase calculations.

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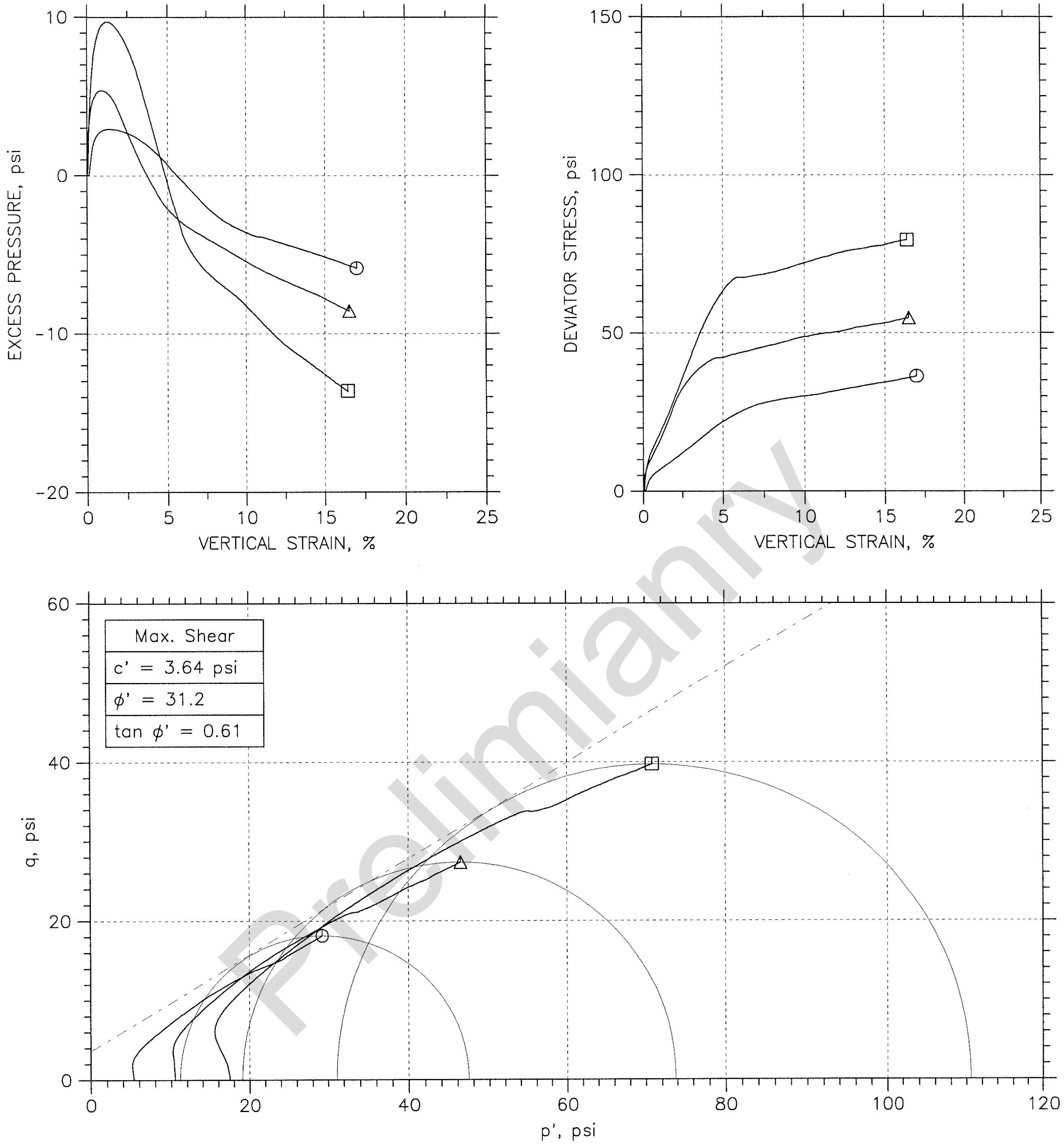
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
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△	UD	10353.2	21-23.3 ft	JW	7/26/10			10353.2a_2582.dat
□	UD	10353.3	21-23.3 ft	JW	7/26/10			10353.3a_2583.dat

MACTEC

Project: Plant Wansley Ash Pond	Location: D-1	Project No.: 6152100244
Boring No.: D-1	Sample Type: Undisturbed	

Description: Brown Silty Sand

Remarks: ASTM D4767-04

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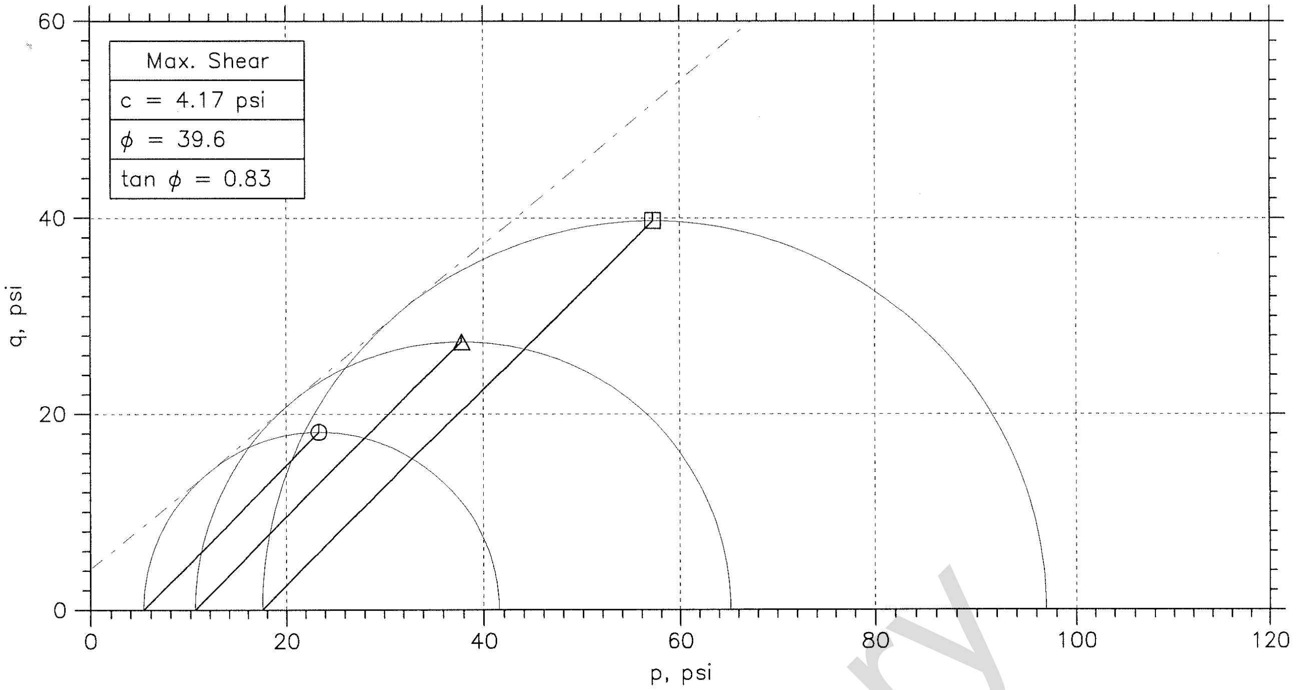
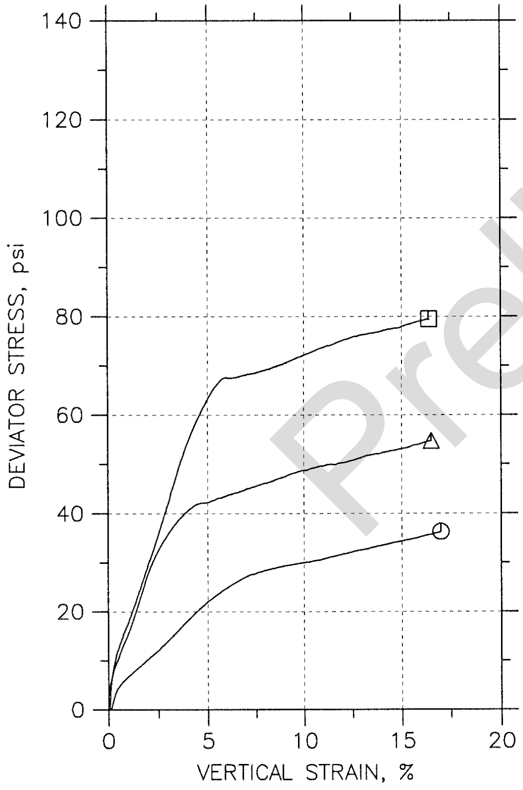
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

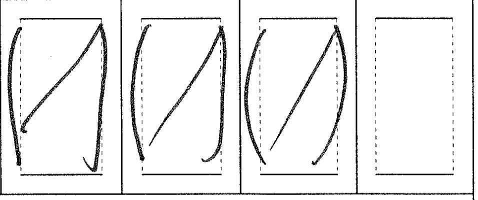




	Symbol	○	△	□	
	Sample No.	UD	UD	UD	
	Test No.	10353.1	10353.2	10353.3	
	Depth	21-23.3 ft	21-23.3 ft	21-23.3 ft	
Initial	Diameter, in	2.865	2.872	2.873	
	Height, in	5.57	5.973	5.572	
	Water Content, %	19.2	19.7	20.4	
	Dry Density, pcf	104.7	101.1	101.1	
	Saturation, %	87.8	82.2	84.8	
	Void Ratio	0.58	0.636	0.636	
Before Shear	Water Content, %	21.8	23.5	23.1	
	Dry Density, pcf	104.8	102.	102.6	
	Saturation*, %	100.0	100.0	100.0	
	Void Ratio	0.578	0.622	0.613	
	Back Press., psi	120.	110.	110.	
	Ver. Eff. Cons. Stress, psi	5.252	10.5	17.49	
	Shear Strength, psi	18.14	27.35	39.71	
	Strain at Failure, %	17	16.5	16.4	
	Strain Rate, %/min	0.05	0.05	0.05	
	B-Value	0.96	0.93	0.95	
	Estimated Specific Gravity	2.65	2.65	2.65	
	Liquid Limit	---	---	---	
	Plastic Limit	---	---	---	

MACTEC

Project: Plant Wansley Ash Pond
Location: D-1
Project No.: 6152100244
Boring No.: D-1
Sample Type: Undisturbed



Description: Brown Silty Sand
Remarks: ASTM D4767-04

Phase calculations based on start and end of test.
* Saturation is set to 100% for phase calculations.

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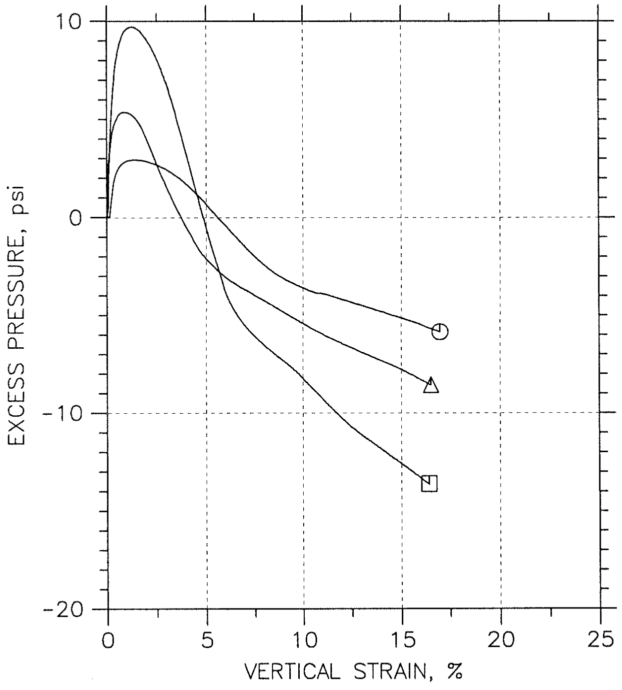
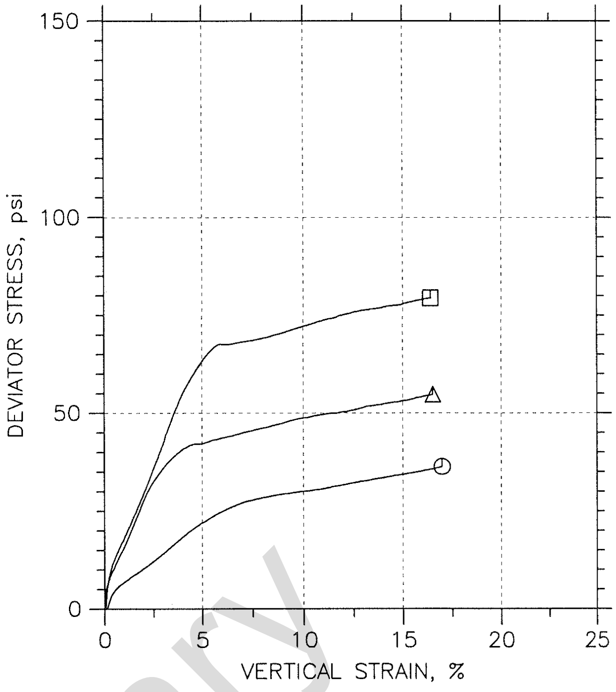
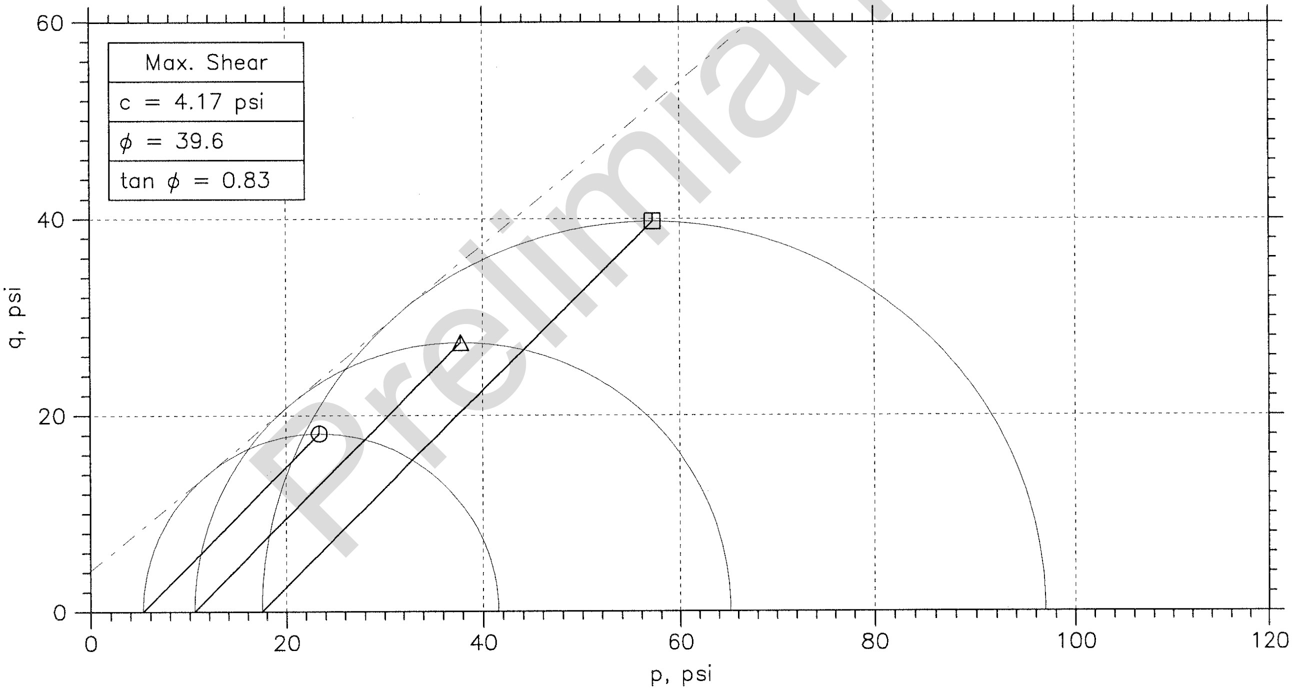
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767







	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
○	UD	10353.1	21-23.3 ft	JW	7/26/10			10353.1_2581.dat
△	UD	10353.2	21-23.3 ft	JW	7/26/10			10353.2a_2582.dat
□	UD	10353.3	21-23.3 ft	JW	7/26/10			10353.3a_2583.dat

MACTEC

Project: Plant Wansley Ash Pond
Location: D-1
Project No.: 6152100244
Boring No.: D-1
Sample Type: Undisturbed
Description: Brown Silty Sand
Remarks: ASTM D4767-04

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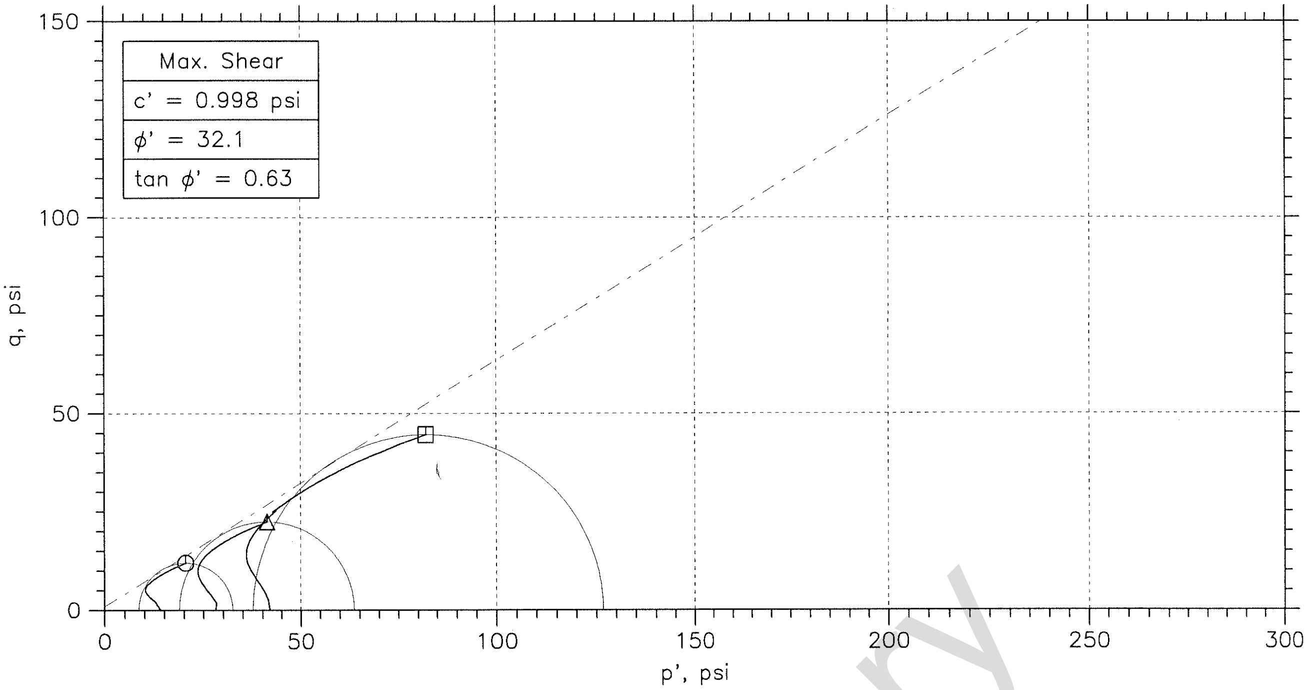
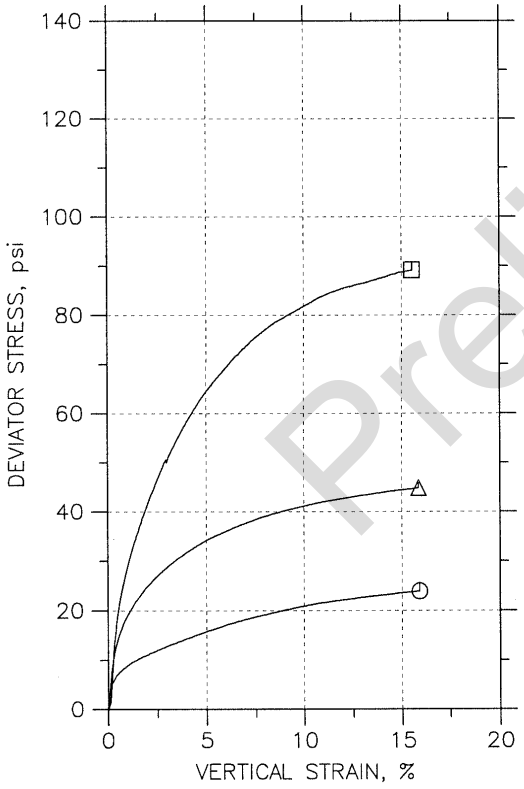
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

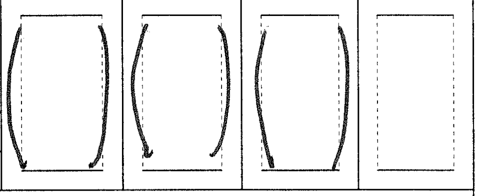




	Symbol	○	△	□	
	Sample No.	UD	UD	UD	
	Test No.	10352.1	10352.2	10352.3	
	Depth	51-53 ft	51-53 ft	51-53 ft	
Initial	Diameter, in	2.843	2.872	2.872	
	Height, in	5.56	5.955	5.562	
	Water Content, %	23.3	22.5	19.3	
	Dry Density, pcf	97.62	99.59	107.4	
	Saturation, %	88.9	90.2	94.8	
	Void Ratio	0.695	0.661	0.54	
Before Shear	Water Content, %	25.5	23.9	20.1	
	Dry Density, pcf	98.7	101.3	108.	
	Saturation*, %	100.0	100.0	100.0	
	Void Ratio	0.676	0.633	0.532	
	Back Press., psi	120.	110.	100.	
	Ver. Eff. Cons. Stress, psi	14.	27.99	42.	
	Shear Strength, psi	11.93	22.38	44.54	
	Strain at Failure, %	15.9	15.8	15.5	
	Strain Rate, %/min	0.05	0.05	0.05	
	B-Value	0.96	0.92	0.96	
	Estimated Specific Gravity	2.65	2.65	2.65	
	Liquid Limit	---	---	---	
	Plastic Limit	---	---	---	

MACTEC

Project: Plant Wansley Ash Pond
Location: D-1
Project No.: 6152100244
Boring No.: D-1
Sample Type: Undisturbed
Description: Brown Silty Sand
Remarks: ASTM D4767-04



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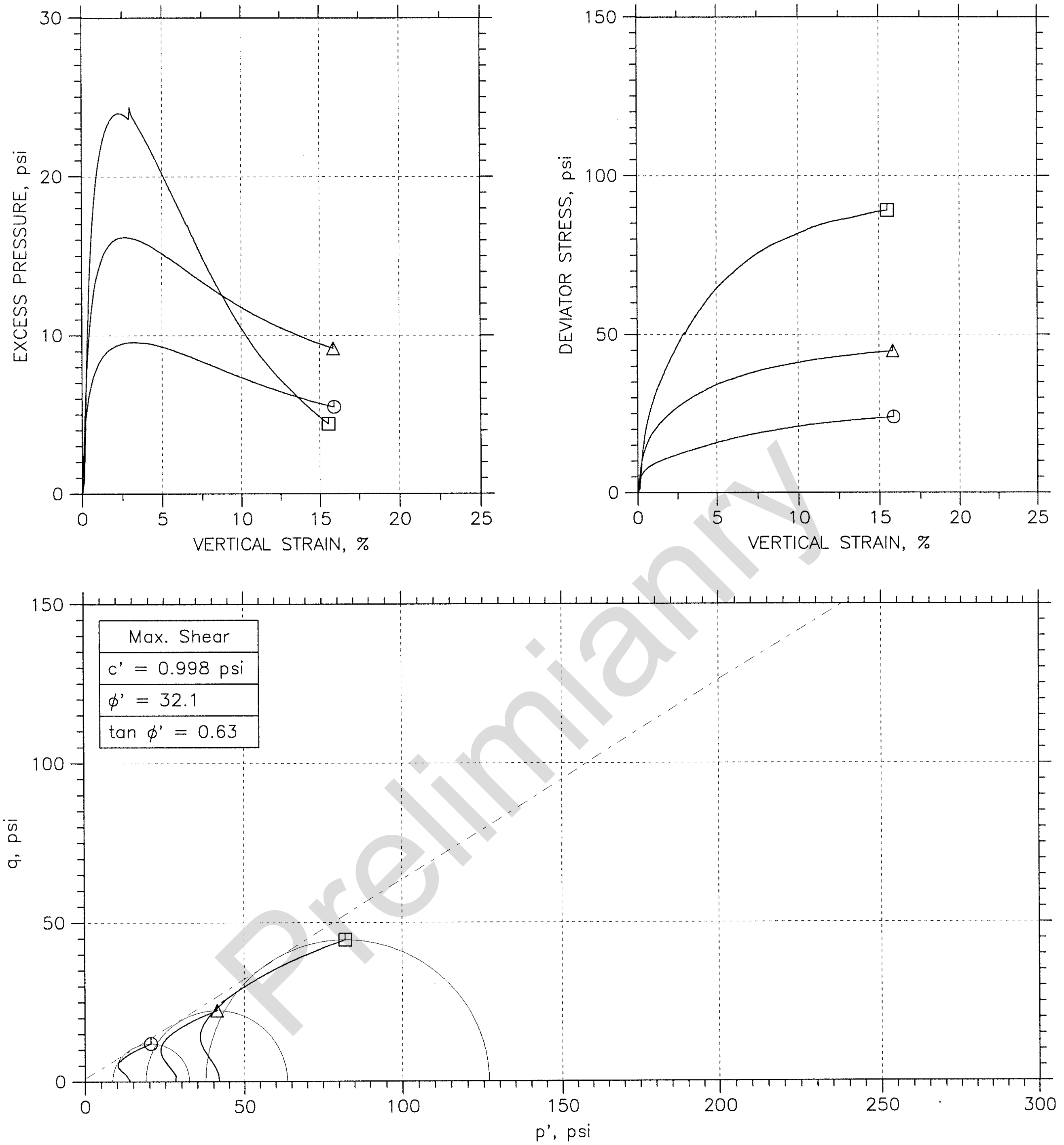
Phase calculations based on start and end of test.
* Saturation is set to 100% for phase calculations.

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

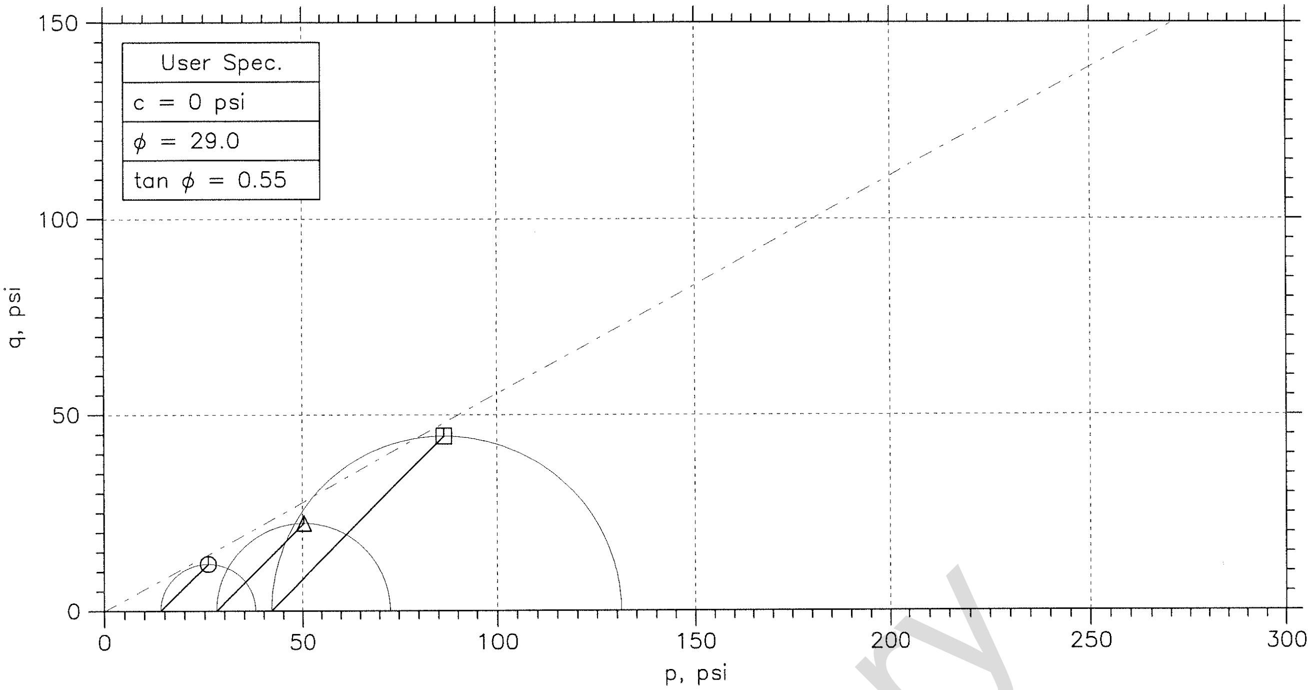


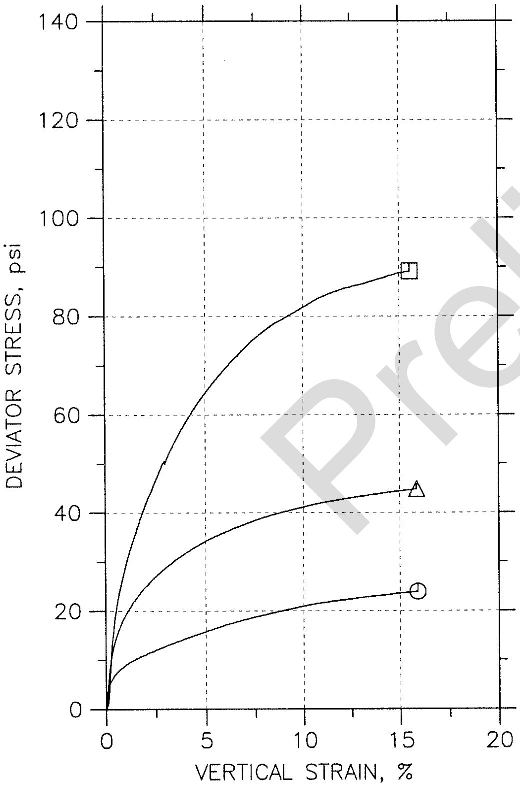
	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
○	UD	10352.1	51-53 ft	JW	7/23/10			10352.1a_2581.dat
△	UD	10352.2	51-53 ft	JW	7/23/10			10352.2a_2582.dat
□	UD	10352.3	51-53 ft	JW	7/23/10			10352.3a_2583.dat

MACTEC

Project: Plant Wansley Ash Pond
Location: D-1
Project No.: 6152100244
Boring No.: D-1
Sample Type: Undisturbed
Description: Brown Silty Sand
Remarks: ASTM D4767-04

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

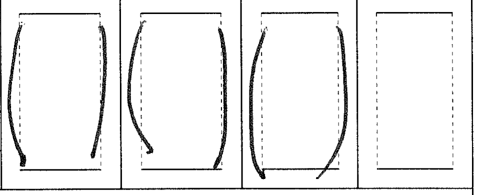




Symbol		○	△	□	
Sample No.		UD	UD	UD	
Test No.		10352.1	10352.2	10352.3	
Depth		51-53 ft	51-53 ft	51-53 ft	
Initial	Diameter, in	2.843	2.872	2.872	
	Height, in	5.56	5.955	5.562	
	Water Content, %	23.3	22.5	19.3	
	Dry Density, pcf	97.62	99.59	107.4	
	Saturation, %	88.9	90.2	94.8	
	Void Ratio	0.695	0.661	0.54	
Before Shear	Water Content, %	25.5	23.9	20.1	
	Dry Density, pcf	98.7	101.3	108.	
	Saturation*, %	100.0	100.0	100.0	
	Void Ratio	0.676	0.633	0.532	
	Back Press., psi	120.	110.	100.	
Ver. Eff. Cons. Stress, psi		14.	27.99	42.	
Shear Strength, psi		11.93	22.38	44.54	
Strain at Failure, %		15.9	15.8	15.5	
Strain Rate, %/min		0.05	0.05	0.05	
B-Value		0.96	0.92	0.96	
Estimated Specific Gravity		2.65	2.65	2.65	
Liquid Limit		---	---	---	
Plastic Limit		---	---	---	

MACTEC

Project: Plant Wansley Ash Pond
Location: D-1
Project No.: 6152100244
Boring No.: D-1
Sample Type: Undisturbed
Description: Brown Silty Sand
Remarks: ASTM D4767-04



Phase calculations based on start and end of test.
* Saturation is set to 100% for phase calculations.

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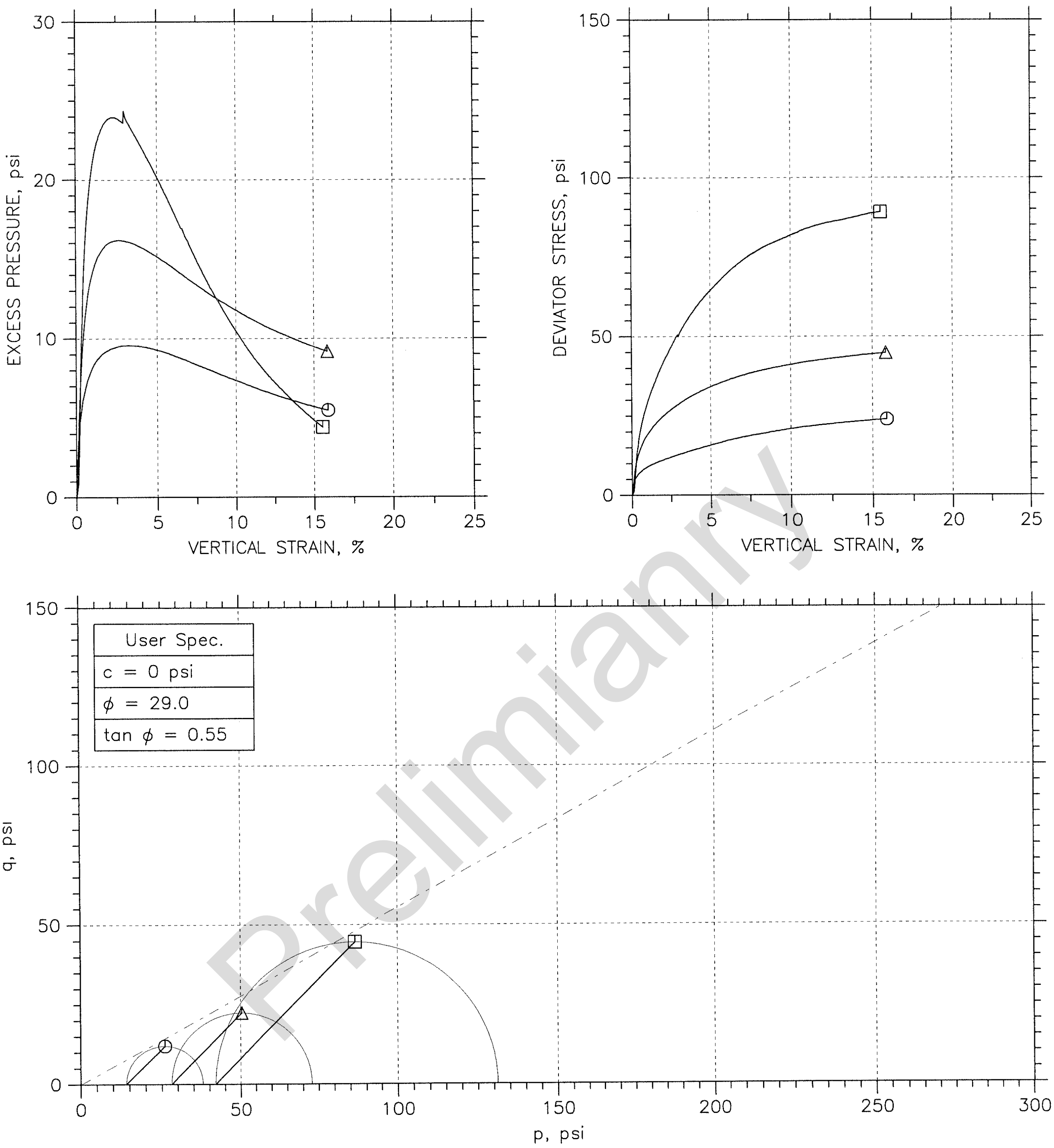
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

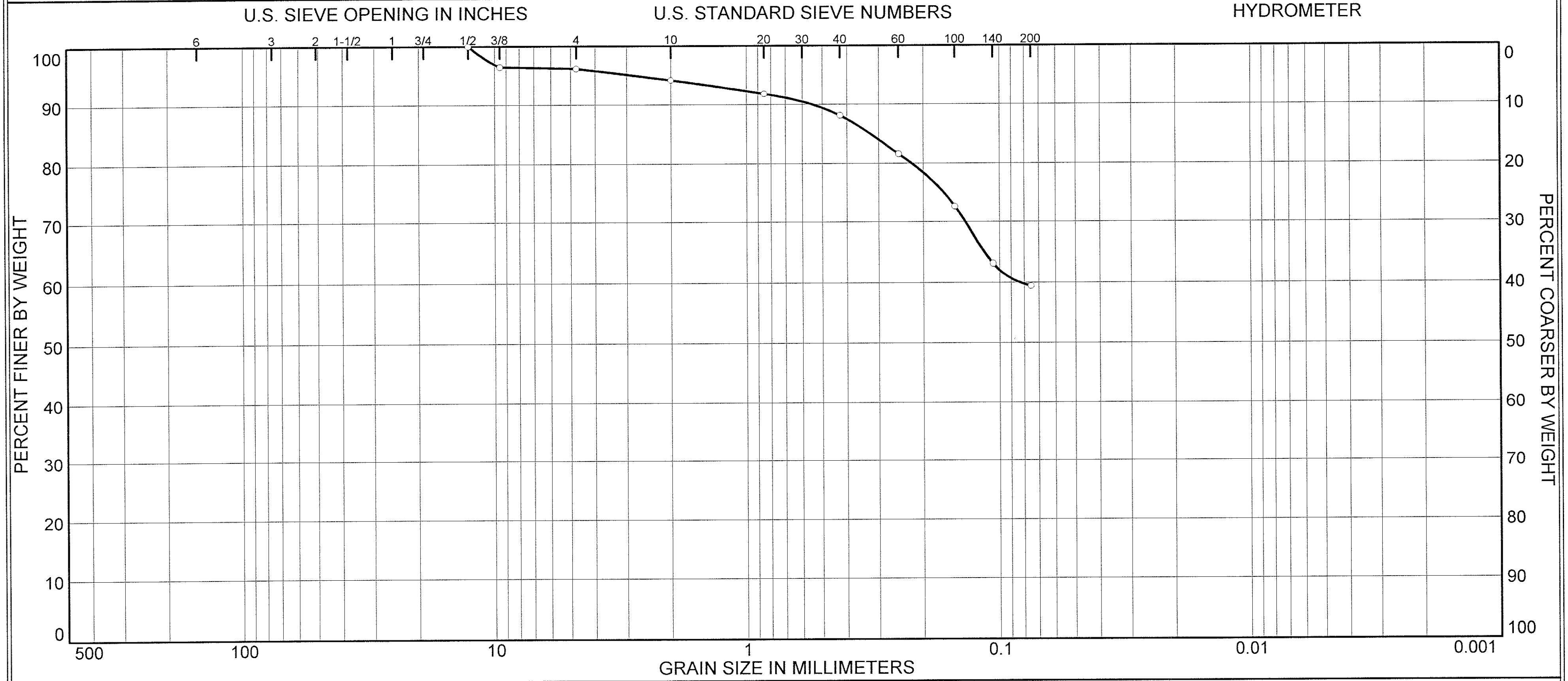


	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
○	UD	10352.1	51-53 ft	JW	7/23/10			10352.1a_2581.dat
△	UD	10352.2	51-53 ft	JW	7/23/10			10352.2a_2582.dat
□	UD	10352.3	51-53 ft	JW	7/23/10			10352.3a_2583.dat

MACTEC

Project: Plant Wansley Ash Pond
Location: D-1
Project No.: 6152100244
Boring No.: D-1
Sample Type: Undisturbed
Description: Brown Silty Sand
Remarks: ASTM D4767-04

Particle Size Distribution ASTM D422-63 (2007)



	% COBBLES	% GRAVEL		% SAND			% FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
○	0.0	0.0	3.8	2.0	6.1	28.7	59.4	

	SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
○	D-1	UD	21-23.3 ft	8/4/10		Brown Silty Sand			

Client

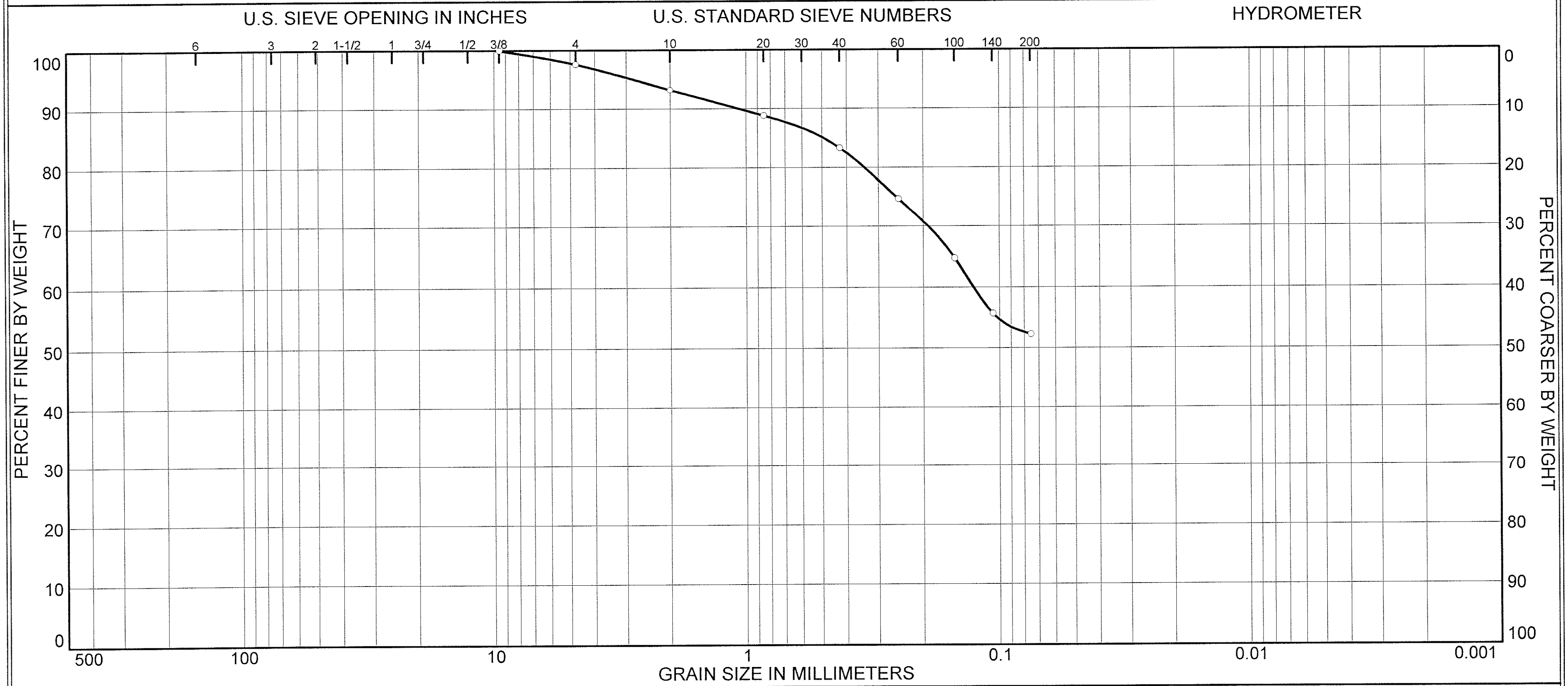
Project Plant Wansley Ash Pond

Project No. 6152-10-0244 10353

MACTEC ENGINEERING AND CONSULTING, INC.

○ Tested By: EH Reviewed By: JW

Particle Size Distribution ASTM D422-63 (2007)



	% COBBLES	% GRAVEL		% SAND			% FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
○	0.0	0.0	2.4	4.4	9.9	31.0	52.3	

	SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
○	D-1	UD	51-53 ft	8/4/10		Brown Silty Sand			

Client

Project Plant Wansley Ash Pond

Project No. 6152-10-0244 10352

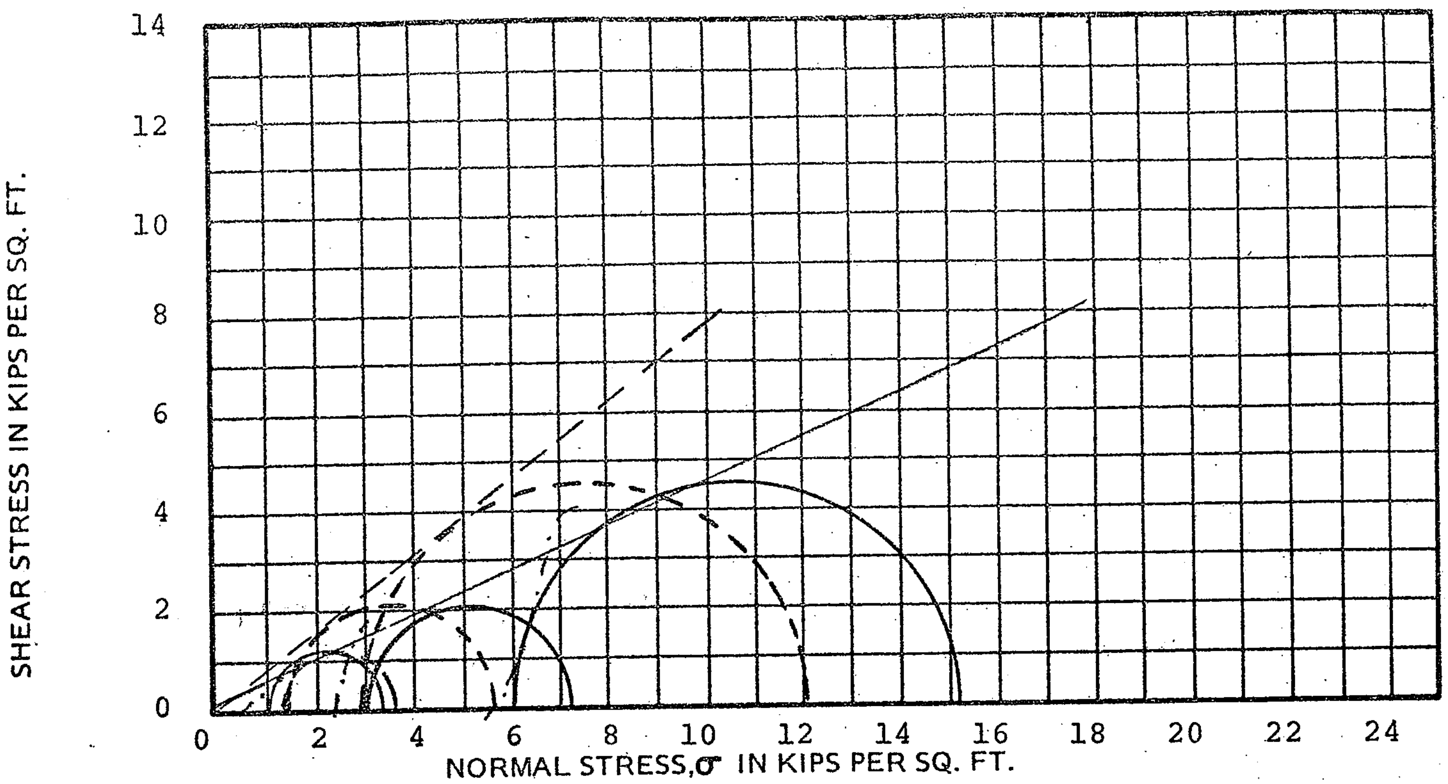
MACTEC ENGINEERING AND CONSULTING, INC.

○ Tested By: EH Reviewed By: JW

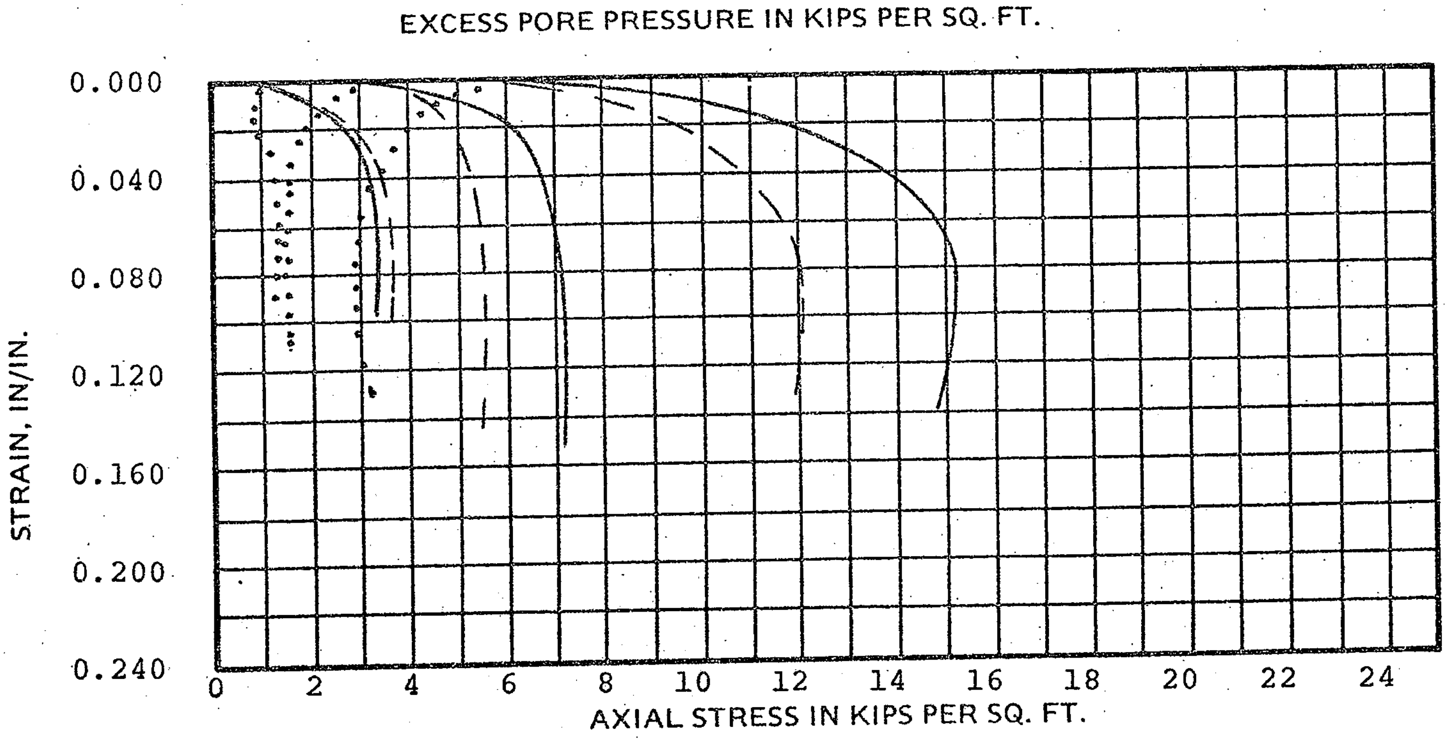
Confidential Business Information

Attachment D

Historic Soil Laboratory Analyses by Law Engineering Testing Company



MOHR DIAGRAMS



STRESS-STRAIN AND PORE PRESSURE-STRAIN CURVES

EFFECTIVE COHESION, $\bar{c}$ 0

EFFECTIVE SHEAR ANGLE, $\bar{\Phi}$ 37.5

TOTAL COHESION, c 0.08 KSF

TOTAL SHEAR ANGLE, Φ 24

————	Total σ_1
--------	Effective σ_1
········	Effective σ_3
	Stress Path

SATURATED, CONSOLIDATED
UNDRAINED TRIAXIAL SHEAR
TEST WITH PORE PRESSURE
MEASUREMENTS

SAMPLE NO. UD BORING NO B-8.12

DEPTH 14-16 JOB NO SA-268

[redacted]

LAW ENGINEERING TESTING COMPANY

Calculation Cover Sheet

Southern Company Generation

	Calculation Number SH-WN10911-01
Project Wansley	Discipline Hydro Services
Objective	___Number

Subject/Title
Evaluate Stormwater Capacity of Ash Pond

Originator's Signature	Date 8/4/2010	Last Page Number 10

Contents

Topic	Page	Attachments (Computer Printouts, Technical Papers, Sketches, Correspondence, etc.)	Number of Pages
Purpose of Calculation/ Summary of Conclusions	1		
Criteria	1		
Major Equation Sources/ Derivation Methods	1		
Assumptions	1		
Listed References	1		
Body of Calculations	2-10		

Record of Revisions

Rev. No.	Description	Originator / Date	Reviewer / Date	Approver / Date
0	Initial Calcs	FLG 8/4/10	CRO 8/6/10	DJG 8-6-10

NOTES:

Form No. 9-363F

See Back for Instructions

SOUTHERN COMPANY
Energy to Serve Your World™

Design Calculations

Project Plant Wansley	Prepared By Fred L. Cox, Jr.	Date 8/1/2010
Subject/Title Evaluate Stormwater capacity of Ash Pond	Reviewed By Courtenay O'Mara	Date 8/4/2010
	Calculation Number SH-WN10911-01	Sheet 1 of 10

1.0 Purpose of Calculation:

Determine the storm water handling capacity of the Wansley Ash Pond

2.0 Summary of Conclusions:

The Wansley Ash Pond can handle a 24 hour rainfall runoff of: 1) 16.9 inches of rainfall runoff, which is 2.13 times the 100 year storm, at the level of the emergency spillway crest, and 2) 23.5 inches of rain, which is 2.96 times the 100 year storm, at a level one foot below the crest of the dike. The probability of occurrence of these storms is exceedingly low. Based on these data and Georgia Power's tolerance for risk of this type of storm occurring, it is concluded that the capacity of the ash pond is far more than adequate.

3.0 Criteria:

See Section 7.0

4.0 References:

1. Georgia EPD Safe Dam Program Rules for Dam Safety
2. Dwg. 10-209-B1008, Plant Wansley Ash Pond Area-Volume Curve
3. Dwg. 10-209-E1C11102, Short Term Gypsum Disposal, General Arrangement and Site Plan
4. Georgia Stormwater Management Manual, Rainfall Table for Peachtree City
5. 4th Quarter - 2009 report on Dam Safety Surveillance for Plant Wansley
6. 2002 NPDES Co-Treatment Calculations

5.0 Assumptions:

See Section 7.0

6.0 Major Equation Sources/Derivation of Methods:

See Section 7.0

7.0 Body of Calculations

Ash Pond Data:

The Plant Wansley Ash Pond is not a Category I structure according to the Georgia EPD Safe Dam Program Rules for Dam Safety. Because of this; it is not required to pass the PMF, or some fraction of the PMF. A lesser storm event is acceptable.

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Design Calculations

Project Plant Wansley	Prepared By Fred L. Cox, Jr.	Date 8/1/2010
Subject/Title Evaluate Stormwater capacity of Ash Pond	Reviewed By Courtenay O'Mara	Date 8/4/2010
	Calculation Number SH-WN10911-01	Sheet 2 of 10

Elevation – Volume – Area Data
(Drawing. 10-209-B10008) (See Figure 1, page 5)

Elevation	Volume Ac-Ft	Area Ac
790	12300	312
795	14000	333
800	15700	354
805	17400	375

Top of Dike: 805

Emergency Spillway Crest: 802.6

Pond Operating Level: See attached of 2000-2009 levels from 2009 4th Qtr Inspection Report. The Ash Pond level generally fluctuates between 795 and 799. (See Figure 2, page 6)

Drainage Area: 711 Acres (2002 Co-Treatment calculations)

Rainfall Data: From the Georgia Stormwater Management Manual rainfall tables, the closest city is Peachtree City (See Figure 3, page 7)

Return Period Yrs	24 Hour Intensity Inches/hour	24 Hour Rainfall Inches
2	.17	4.08
5	.21	5.04
10	.24	5.76
25	.28	6.72
50	.30	7.20
100	.33	7.92

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Design Calculations

Project Plant Wansley	Prepared By Fred L. Cox, Jr.	Date 8/1/2010
Subject/Title Evaluate Stormwater capacity of Ash Pond	Reviewed By Courtenay O'Mara	Date 8/4/2010
	Calculation Number SH-WN10911-01	Sheet 3 of 10

Gypsum Stacking Area in Ash Pond:

In 2007 a 62 acre gypsum stacking area was established in the Ash Pond. The gypsum is stacked above the pond surface. The volume used by this stack must be deducted from the available storage volume in the pond. See Figure 4, page 8, for a drawing of the stack and Figure 5, page 9, for an aerial photo of the ash pond and gypsum stack.

Analysis

Determine how man inches of runoff can be stored up to the crest of the emergency spillway.

Assume a conservatively high starting ash pond level of 799 (see Figure 2, page 6, for a plot of ash pond levels from 2000 – 2009).

Original volume from 799 to 802.6 (crest of emergency spillway) = 1224 ac-ft

Adjustment for gypsum stack = 1224 – (3.6ft x 62 acres) = 1000.8 ac-ft

Assuming 100 % runoff determine how many inches of rain can be stored

1000.8 ac-ft of storage / 711 ac of drainage = 1.408 ft of rain runoff storage available = 16.9 inches of rain storage available

16.9 inches of rain is 2.13 times the 100 year 24 hour rain (7.92 inches)

Determine how man inches of runoff can be stored up one foot of the top of the dike

Original volume from 799 to 804 (one foot below top dike) = 1700 ac-ft

Adjustment for gypsum stack = 1700 – (5ft x 62 ac) = 1390 ac-ft

Assuming 100 % runoff & neglecting emergency spillway discharge

1390 ac-ft of storage / 711 ac of drainage = 1.955 ft of rain runoff storage available = 23.5 inches of rain storage available

23.5 inches of rain is 2.96 times the 100 year 24 hour rain (7.92 inches)

This analysis conservatively neglects spillway discharge during the storm

Design Calculations

Project Plant Wansley	Prepared By Fred L. Cox, Jr.	Date 8/1/2010
Subject/Title Evaluate Stormwater capacity of Ash Pond	Reviewed By Courtenay O'Mara CAO	Date 8/4/2010
	Calculation Number SH-WN10911-01	Sheet 4 of 10

Summary

The Wansley Ash Pond can handle a 24 hour rainfall runoff of: 1) 16.9 inches of rainfall runoff, which is 2.13 times the 100 year storm, at the level of the emergency spillway crest, and 2) 23.5 inches of rain, which is 2.96 times the 100 year storm, at a level one foot below the crest of the dike.

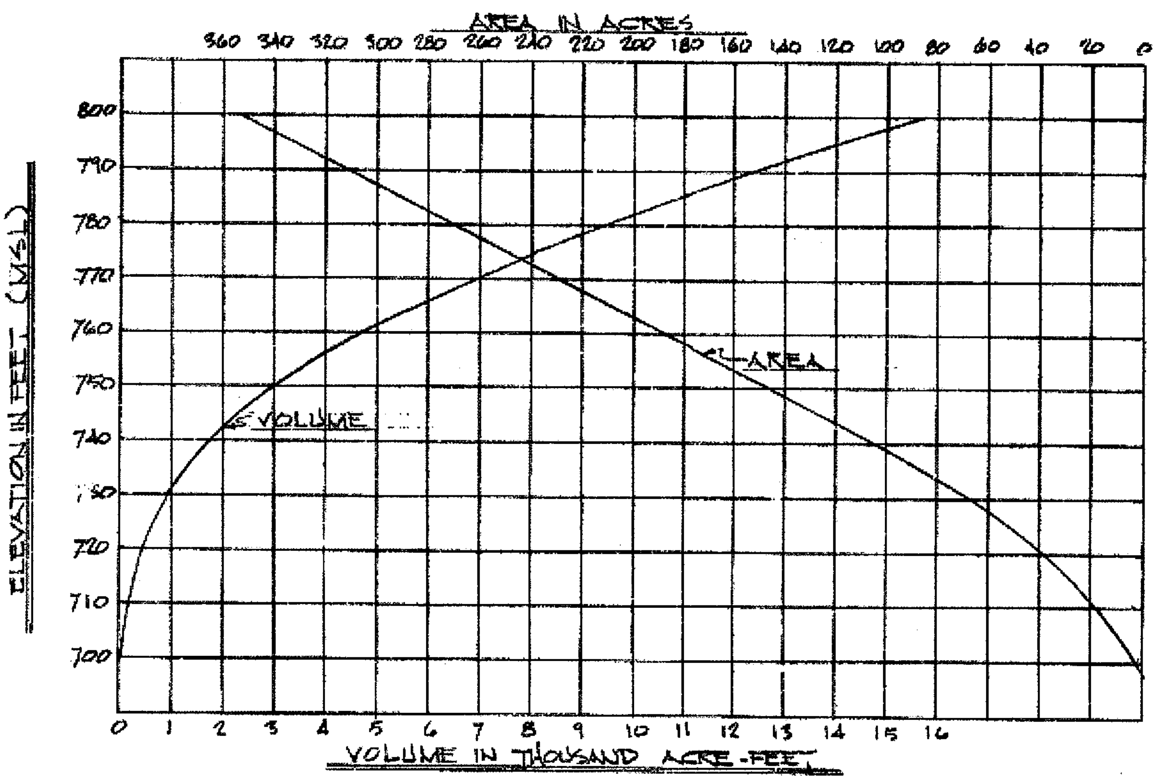
Figure 6 (see page 10) is a semilog plot of the 2 to 100 year 24 hour rainfall with a line fit extended out to 200 years. It is obvious from this plot that the 16.9 inch runoff capacity up to the crest of the emergency spillway, and the 23.5 inch runoff capacity up to one foot below the crest of the dike, have very low probabilities of occurrence (probability of occurrence in a given year = the inverse of the return period).

The probability of occurrence of these storms is exceedingly low. Based on these data and Georgia Power's tolerance for risk of this type of storm occurring, it is concluded that the capacity of the ash pond is far more than adequate.

Design Calculations

Project Plant Wansley	Prepared By Fred L. Cox, Jr.	Date 8/1/2010
Subject/Title Evaluate Stormwater capacity of Ash Pond	Reviewed By Courtenay O'Mara CRO	Date 8/4/2010
	Calculation Number SH-WN10911-01	Sheet 5 of 10

Figure 1:



GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT

GEORGIA POWER COMPANY
PLANT WANSLEY
ASH POND AREA-VOLUME CURVE

DRAWN BY JAS DATE 1-3-73
TRACED BY SCALE
APPROVED
REVISIONS
NUMBER
LOCATION 10-209
SHEET NO. B10008

SOUTHERN COMPANY
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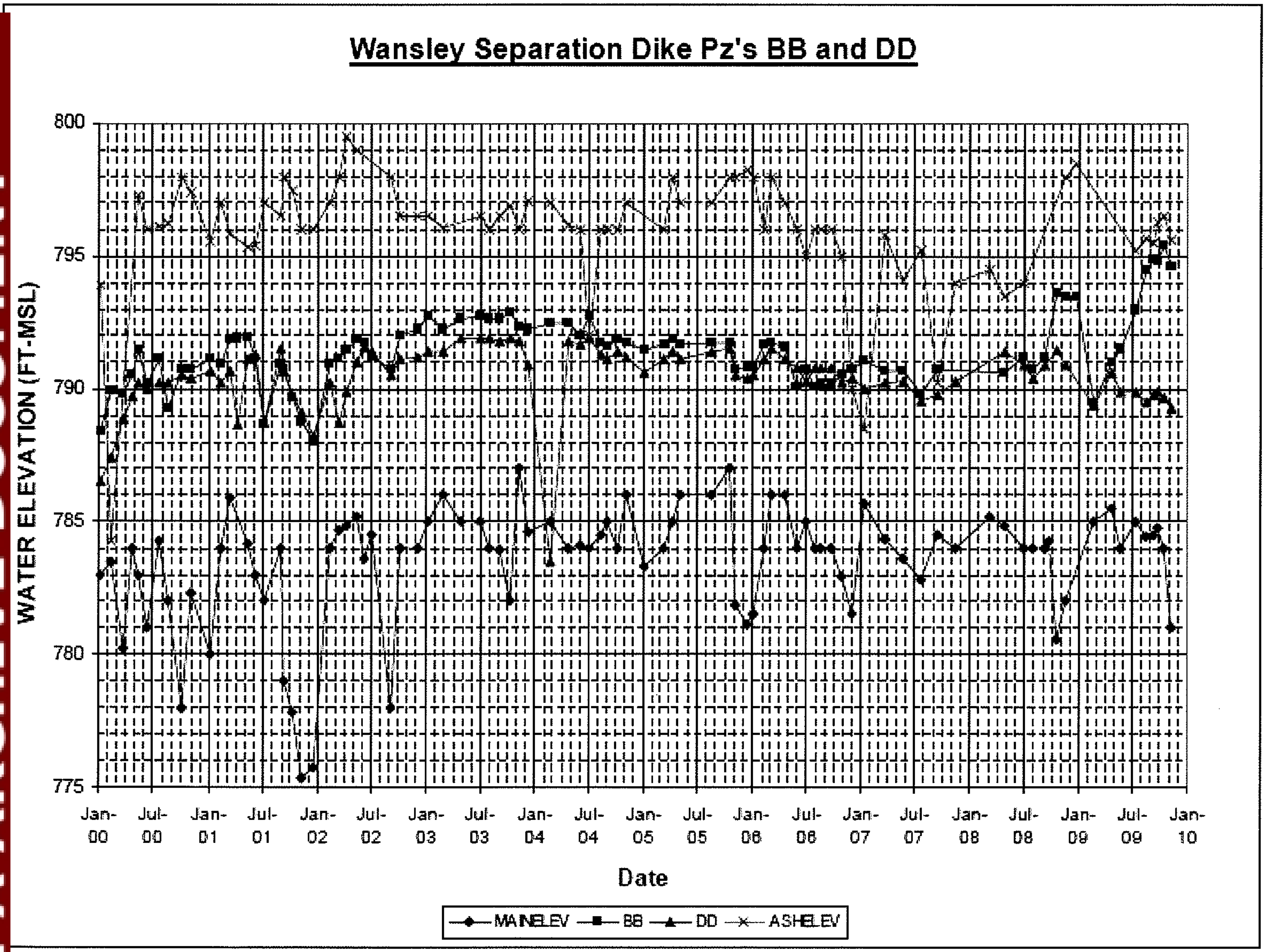
Design Calculations

Project Plant Wansley	Prepared By Fred L. Cox, Jr.	Date 8/1/2010
Subject/Title Evaluate Stormwater capacity of Ash Pond	Reviewed By Courtenay O'Mara	Date 8/4/2010
	Calculation Number SH-WN10911-01	Sheet 6 of 10

Figure 2:



Design Calculations

Project Plant Wansley	Prepared By Fred L. Cox, Jr.	Date 8/1/2010
Subject/Title Evaluate Stormwater capacity of Ash Pond	Reviewed By Courtenay O'Mara	Date 8/4/2010
	Calculation Number SH-WN10911-01	Sheet 7 of 10

Figure 3:

Table A-10
Peachtree City

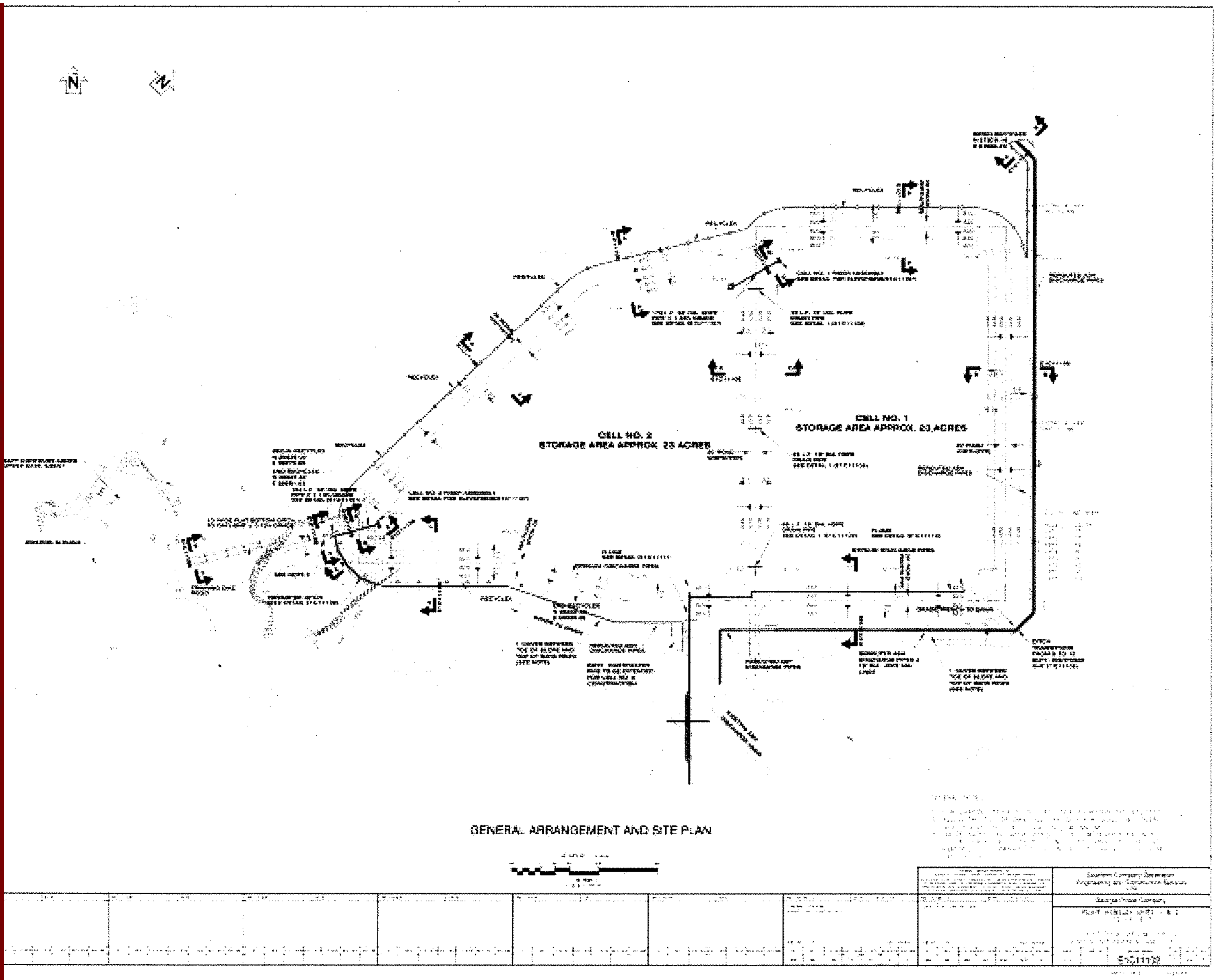
		Return Period						
		1	2	5	10	25	50	100
	n	0.7669	0.8184	0.7769	0.7471	0.7191	0.7243	0.7107
	a	38.81	57.93	61.46	61.89	64.80	74.70	77.93
	b	8	11	12	12	12	13	13
Hours	Minutes	Rainfall Intensity						
0.08	5	5.43	5.99	6.80	7.45	8.45	9.21	9.99
	6	5.13	5.70	6.51	7.14	8.11	8.85	9.61
	7	4.86	5.44	6.24	6.86	7.80	8.53	9.27
	8	4.63	5.20	6.00	6.60	7.52	8.23	8.95
	9	4.42	4.99	5.77	6.36	7.26	7.96	8.66
	10	4.23	4.79	5.57	6.15	7.02	7.71	8.39
	11	4.06	4.62	5.38	5.95	6.80	7.48	8.14
	12	3.90	4.45	5.20	5.76	6.59	7.26	7.91
	13	3.76	4.30	5.04	5.59	6.40	7.05	7.69
	14	3.63	4.16	4.89	5.43	6.22	6.86	7.49
0.25	15	3.50	4.03	4.75	5.28	6.06	6.69	7.30
	16	3.39	3.90	4.62	5.13	5.90	6.52	7.12
	17	3.29	3.79	4.49	5.00	5.75	6.36	6.95
	18	3.19	3.68	4.38	4.88	5.61	6.21	6.79
	19	3.10	3.58	4.27	4.76	5.48	6.07	6.64
	20	3.01	3.49	4.16	4.65	5.36	5.94	6.49
	21	2.93	3.40	4.06	4.54	5.24	5.81	6.36
	22	2.86	3.31	3.97	4.44	5.13	5.69	6.23
	23	2.79	3.23	3.88	4.35	5.03	5.57	6.10
	24	2.72	3.16	3.80	4.25	4.92	5.46	5.99
	25	2.66	3.08	3.72	4.17	4.83	5.36	5.87
	26	2.60	3.02	3.64	4.09	4.74	5.26	5.77
	27	2.54	2.95	3.57	4.01	4.65	5.16	5.66
	28	2.49	2.89	3.50	3.93	4.57	5.07	5.57
	29	2.43	2.83	3.43	3.86	4.49	4.98	5.47
0.50	30	2.38	2.77	3.37	3.79	4.41	4.90	5.38
	31	2.34	2.72	3.31	3.73	4.33	4.82	5.29
	32	2.29	2.67	3.25	3.66	4.26	4.74	5.21
	33	2.25	2.62	3.19	3.60	4.19	4.67	5.13
	34	2.21	2.57	3.14	3.54	4.13	4.59	5.05
	35	2.17	2.52	3.09	3.49	4.07	4.52	4.98
	36	2.13	2.48	3.04	3.43	4.00	4.46	4.90
	37	2.09	2.44	2.99	3.38	3.95	4.39	4.83
	38	2.06	2.40	2.94	3.33	3.89	4.33	4.77
	39	2.03	2.36	2.90	3.28	3.83	4.27	4.70
	40	1.99	2.32	2.85	3.23	3.78	4.21	4.64
	41	1.96	2.28	2.81	3.19	3.73	4.15	4.58
	42	1.93	2.25	2.77	3.14	3.68	4.10	4.52
	43	1.90	2.21	2.73	3.10	3.63	4.05	4.46
	44	1.87	2.18	2.69	3.06	3.58	4.00	4.40
0.75	45	1.85	2.15	2.66	3.02	3.54	3.95	4.35
	46	1.82	2.12	2.62	2.98	3.49	3.90	4.30
	47	1.80	2.09	2.59	2.94	3.45	3.85	4.25
	48	1.77	2.06	2.55	2.90	3.41	3.80	4.20
	49	1.75	2.03	2.52	2.87	3.37	3.76	4.15
	50	1.72	2.00	2.49	2.83	3.33	3.72	4.10
	51	1.70	1.98	2.46	2.80	3.29	3.67	4.06
	52	1.68	1.95	2.43	2.77	3.26	3.63	4.01
	53	1.66	1.93	2.40	2.74	3.22	3.59	3.97
	54	1.64	1.90	2.37	2.71	3.18	3.55	3.93
	55	1.62	1.88	2.34	2.68	3.15	3.52	3.88
	56	1.60	1.86	2.32	2.65	3.12	3.48	3.84
	57	1.58	1.83	2.29	2.62	3.08	3.44	3.81
	58	1.56	1.81	2.27	2.59	3.05	3.41	3.77
	59	1.54	1.79	2.24	2.56	3.02	3.37	3.73
1	60	1.53	1.77	2.22	2.54	2.99	3.34	3.69
2	120	0.97	1.19	1.44	1.60	1.85	2.07	2.24
3	180	0.69	0.82	1.02	1.16	1.33	1.47	1.62
6	360	0.40	0.49	0.61	0.70	0.81	0.91	0.98
12	720	0.24	0.29	0.36	0.42	0.48	0.53	0.58
24	1440	0.14	0.17	0.21	0.24	0.28	0.30	0.33

A-12 Georgia Stormwater Management Manual **Volume 2 (Technical Handbook)**

Design Calculations

Project Plant Wansley	Prepared By Fred L. Cox, Jr.	Date 8/1/2010
Subject/Title Evaluate Stormwater capacity of Ash Pond	Reviewed By Courtenay O'Mara	Date 8/4/2010
	Calculation Number SH-WN10911-01	Sheet 8 of 10

Figure 4:

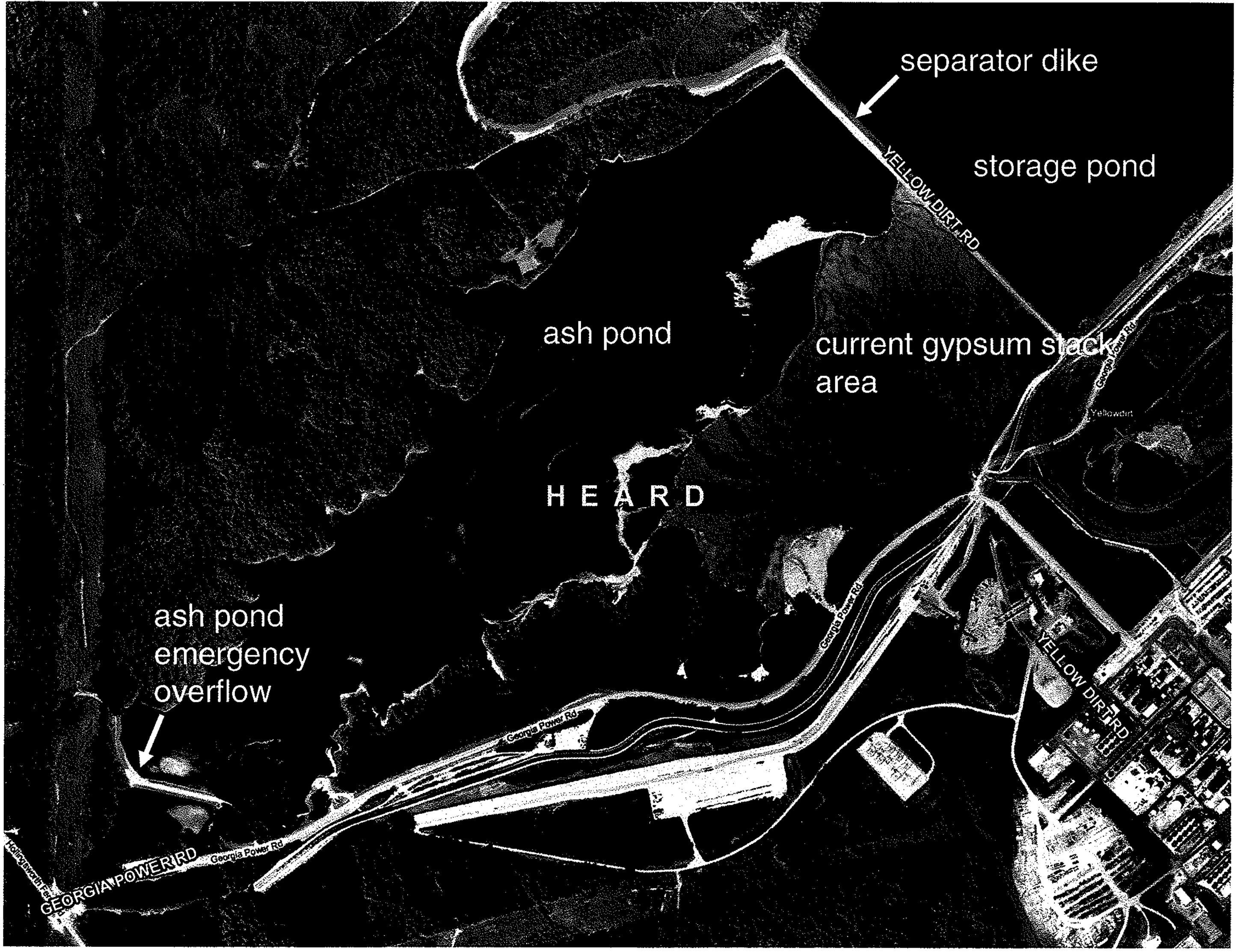


SOUTHERN COMPANY
Energy to Serve Your World™

Design Calculations

Project Plant Wansley	Prepared By Fred L. Cox, Jr.	Date 8/1/2010
Subject/Title Evaluate Stormwater capacity of Ash Pond	Reviewed By Courtenay O'Mara	Date 8/4/2010
	Calculation Number SH-WN10911-01	Sheet 9 of 10

Figure 5:

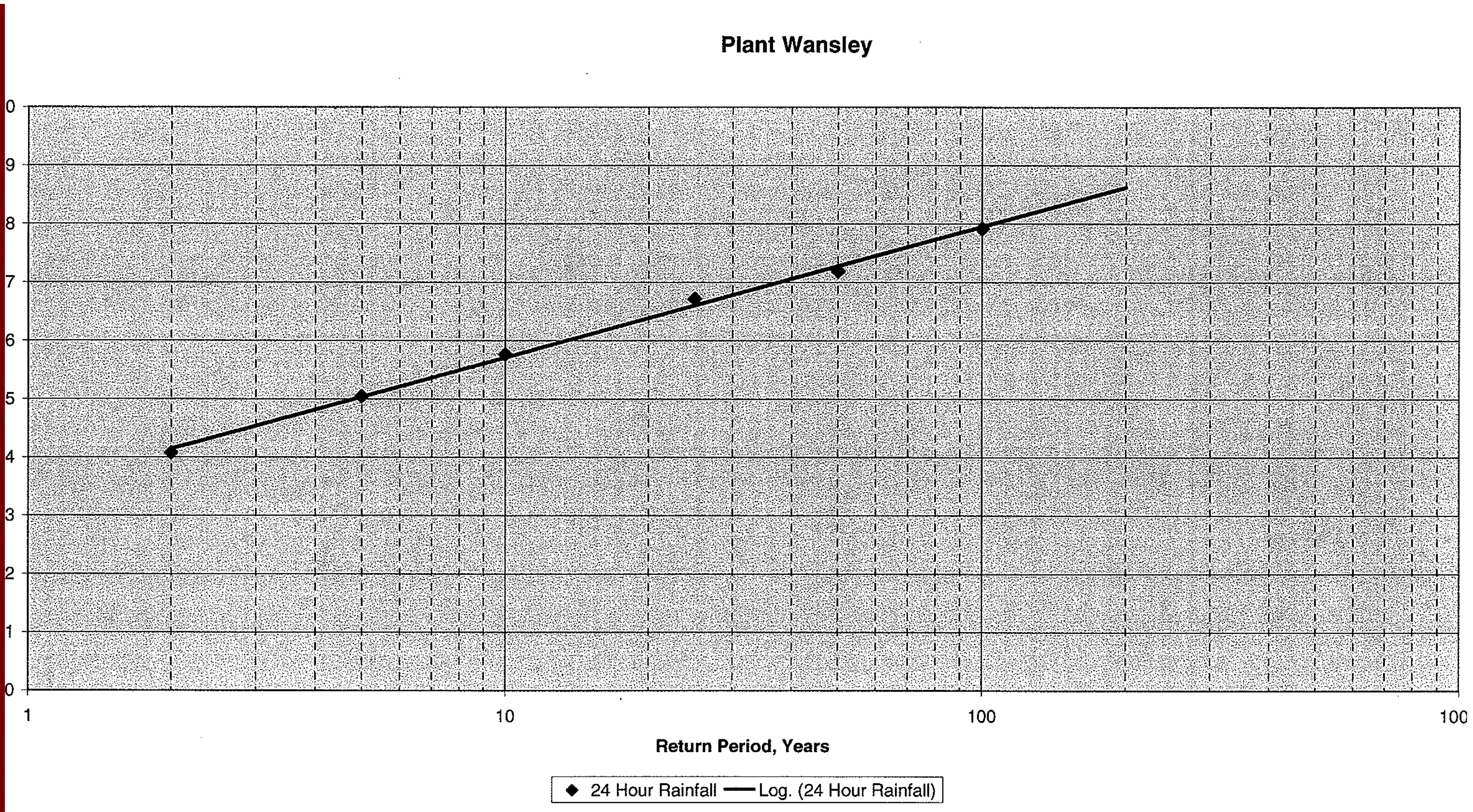


Design Calculations

SOUTHERN COMPANY
Energy to Serve Your World™

Project Plant Wansley	Prepared By Fred L. Cox, Jr.	Date 8/1/2010
Subject/Title Evaluate Stormwater capacity of Ash Pond	Reviewed By Courtenay O'Mara	Date 8/4/2010
	Calculation Number SH-WN10911-01	Sheet 10 of 10

Figure 6:



Coal Combustion Dam Inspection Checklist Form

US Environmental
Protection Agency

Site Name: Georgia Power - Wansley
Date: 30 JUNE 2010
Unit Name: ASH Pond
Operator's Name:
Unit I.D.:
Hazard Potential Classification: High Significant [✓ Low]
Inspector's Name: Frederic SHMURAK & JUSTIN STORY - Dewberry

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?	✓		18. Sloughing or bulging on slopes?		✓
2. Pool elevation (operator records)?	796.5		19. Major erosion or slope deterioration?		✓
3. Decant inlet elevation (operator records)?	800.29		20. Decant Pipes:	■	■
4. Open channel spillway elevation (operator records)?	802.57		Is water entering inlet, but not exiting outlet?		N/A
5. Lowest dam crest elevation (operator records)?	805.0		Is water exiting outlet, but not entering inlet?		N/A
6. If instrumentation is present, are readings recorded (operator records)?	✓	Monthly	Is water exiting outlet flowing clear?		N/A
7. Is the embankment currently under construction?		✓	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)?		N/A	From underdrain?		N/A
9. Trees growing on embankment? (If so, indicate largest diameter below)		✓	At isolated points on embankment slopes?		✓
10. Cracks or scarps on crest?		✓	At natural hillside in the embankment area?		✓
11. Is there significant settlement along the crest?		✓	Over widespread areas?		✓
12. Are decant trashracks clear and in place?		N/A	From downstream foundation area?		✓
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		✓	"Boils" beneath stream or ponded water?		✓
14. Clogged spillways, groin or diversion ditches?		✓	Around the outside of the decant pipe?		✓
15. Are spillway or ditch linings deteriorated?		✓	22. Surface movements in valley bottom or on hillside?		✓
16. Are outlets of decant or underdrains blocked?		✓	23. Water against downstream toe?	✓	
17. Cracks or scarps on slopes?		✓	24. Were Photos taken during the dam inspection?	✓	

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

1. Daily, Weekly, Quarterly, and Annual

2. N.P. WSE 795.0

15. Monitor U/S undermining potential & cracks along concrete channel (NOT A SAFETY ISSUE AT THIS TIME)

20. No discharge from Pond (NONE observed Historically)

23. Cooling Water Pond & Storm Water Management Pond located along D/S TOE of E & W dike respectively

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # GA0026778 INSPECTOR Dewberry
Date 30 JUN 2010

Impoundment Name Ash Pond
Impoundment Company Georgia Power
EPA Region IV
State Agency (Field Office) Addresss

Name of Impoundment Ash Pond
(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New ____ Update ✓

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

IMPOUNDMENT FUNCTION: CCW Settling & Storage

Nearest Downstream Town : Name centralhatchee
Distance from the impoundment 3.6 miles SW (NOT DIRECTLY D/S)
Impoundment
Location:
Longitude N 85 Degrees 02 Minutes 46 Seconds
Latitude W 33 Degrees 25 Minutes 09 Seconds
State GA County HEARD / Carrolton

Does a state agency regulate this impoundment? YES ✓ NO ____

If So Which State Agency? GA Safe Dams Program - category 2 Dam

EPA Form XXXX-XXX, Jan 09

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.

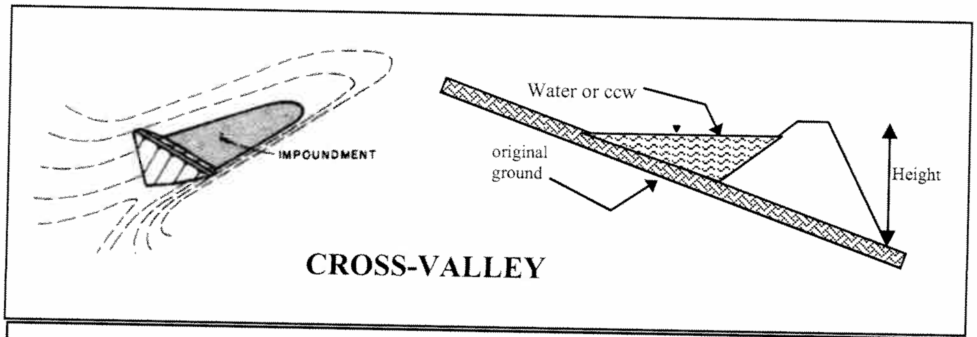
______ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. 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.

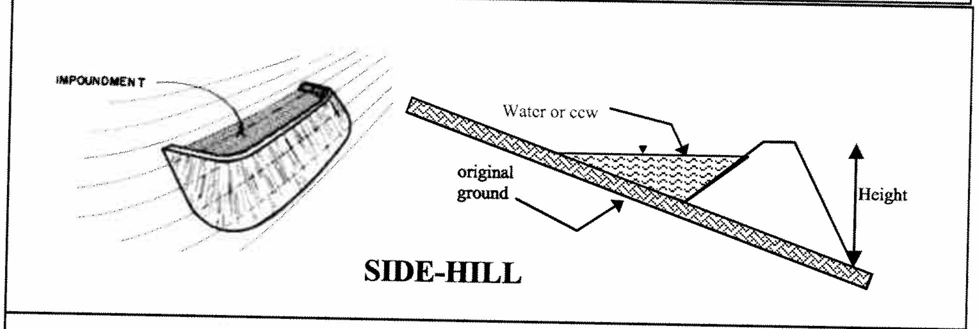
______ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

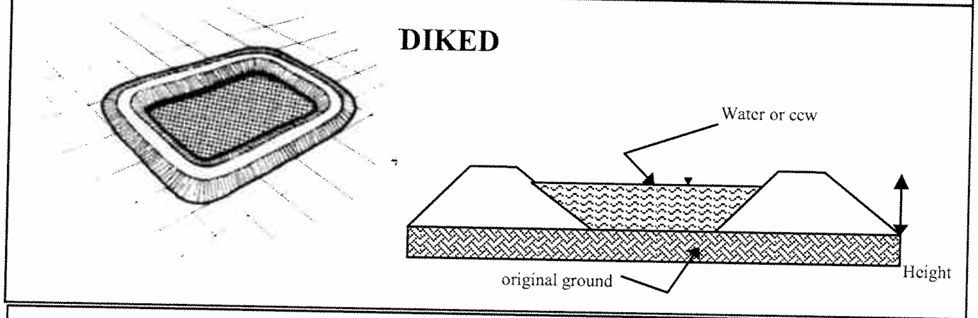
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

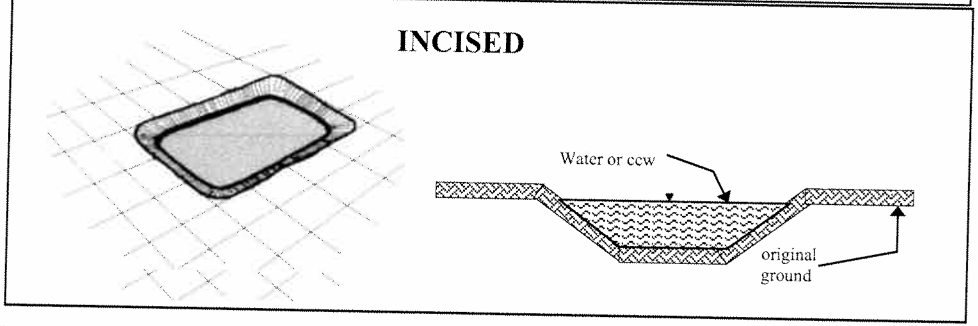
Georgia Safe Dams Program classified embankment system as Low Hazard Potential.

CONFIGURATION:









✓ Cross-Valley
___ Side-Hill
___ Diked
___ Incised (form completion optional)
___ Combination Incised/Diked

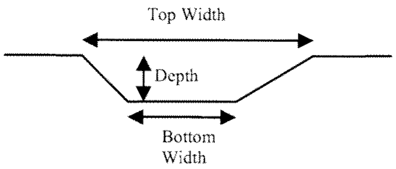
Embankment Height 110 feet
Pool Area 343 acres
Current Freeboard 8.5 feet
Embankment Material Soil
Liner NONE
Liner Permeability N/A

TYPE OF OUTLET (Mark all that apply)

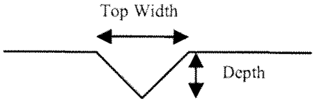
_____ **Open Channel Spillway**
✓ Trapezoidal Emergency spillway
_____ Triangular
_____ Rectangular
_____ Irregular

_____ depth
_____ bottom (or average) width
_____ top width

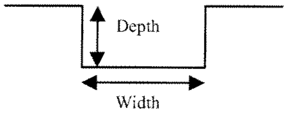
TRAPEZOIDAL



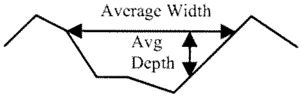
TRIANGULAR



RECTANGULAR

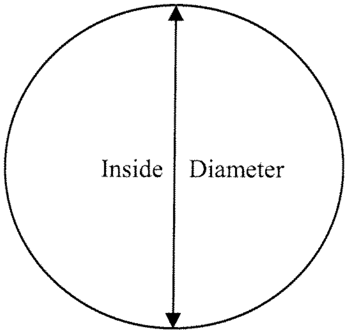


IRREGULAR



_____ **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) Broad crest concrete weir and RCP culvert.
Primary spillway

The Impoundment was Designed By Southern Company Services

Has there ever been a failure at this site? YES ______ NO ✓

If So When? ______

If So Please Describe : ______

Has there ever been significant seepages at this site? YES ________ NO ✓

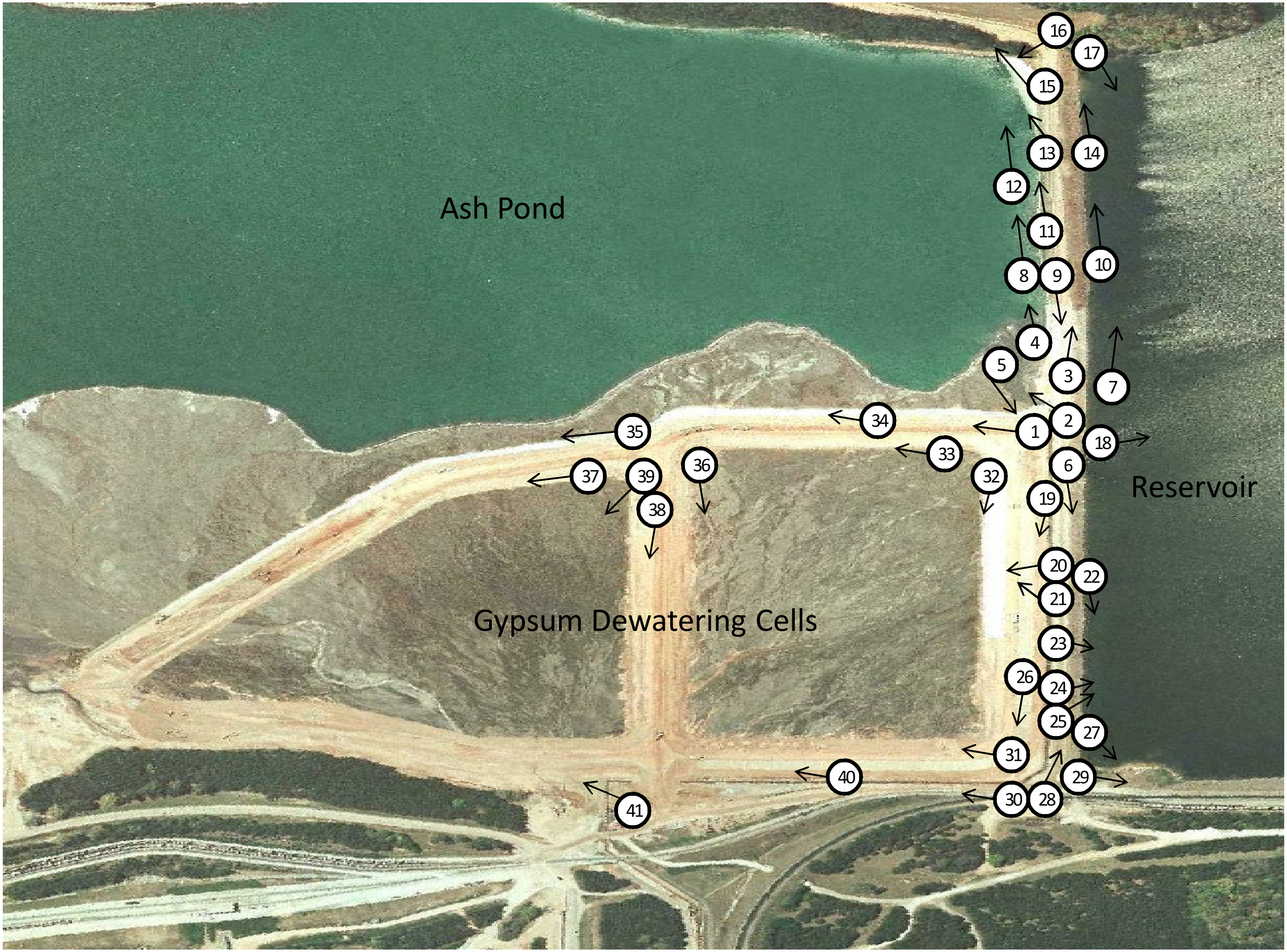
If So When? ____________________

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]

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

If so Please Describe : ________


Ash Pond
Reservoir
Gypsum Dewatering Cells
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
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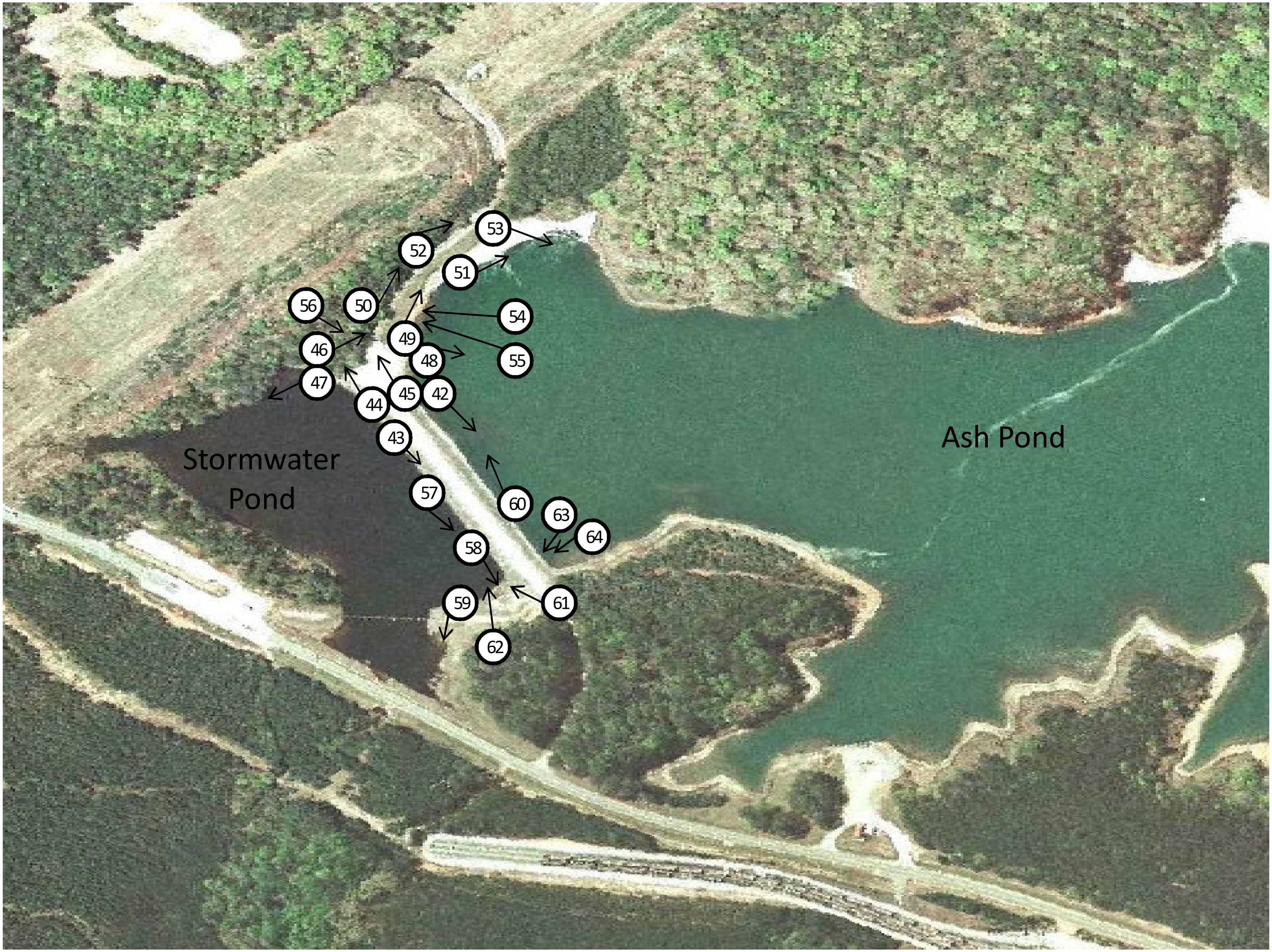
53
52
51
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49
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48
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47
45
42
44
43
Stormwater Pond
Ash Pond
57
60
63
64
58
61
59
62

Photo 1: Upstream Slope adjacent to Gypsum Cells

Photo 2: Ash Pond inlet

Photo 3: Separation Dike Crest facing North

Photo 4: Close up where seeding occurred

Photo 5: Ash Pond Inlet

Photo 6: Separation Dike Crest downstream slope

Photo 7: Separation Dike downstream slope

Photo 8: Separation Dike upstream slope

Photo 9: Separation Dike upstream slope

Photo 10: Separation Dike downstream slope

Photo 11: Separation Dike upstream slope

Photo 12: Concrete ash piping support (not in use)

Photo 13: Separation Dike upstream slope

Photo 13B: Separation Dike upstream slope

Photo 14: Separation Dike downstream slope

Photo 15: Separation Dike left abutment upstream side

Photo 16: Separation Dike left abutment upstream side

Photo 17: Separation Dike left abutment downstream side

Photo 18: Erosion maintenance

Photo 19: Influent piping

Photo 20: Piezometer DD

Photo 21: Piezometer DD

Photo 22: Separation Dike downstream slope

Photo 23: Close up of downstream slope

Photo 24: Downstream slope erosion repair

Photo 25: Reservoir pond levels

Photo 26: Influent piping facing Gypsum Cells

Photo 27: Right abutment downstream slope

Photo 28: Separation Dike downstream slope

Photo 29: Right abutment facing reservoir

Photo 30: Influent piping

Photo 31: Piezometer BB

Photo 32: Gypsum Cell upstream slope

Photo 33: Gypsum Cell upstream slope

Photo 34: Gypsum Cell downstream slope facing Ash Pond

Photo 35: Gypsum Cell downstream slope facing Ash Pond

Photo 36: Gypsum Cell Discharge

Photo 37: Gypsum Cell upstream slope

Photo 38: Gypsum Cell upstream slope

Photo 39: Gypsum Cell upstream slope

Photo 40: Gypsum Cell downstream slope

Photo 41: Gypsum Cell downstream slope

Photo 42: Western Dike downstream slope

Photo 43: Western Dike downstream slope

Photo 44: Western Dike downstream slope

Photo 45: Western Dike overflow spillway

Photo 46: Stormwater channel

Photo 47: Stormwater channel discharge

Photo 48: Western Dike upstream slope

Photo 49: Western Dike upstream slope

Photo 50: Area adjacent to Western Dike

Photo 51: Area adjacent to Western Dike

Photo 52: Stormwater Channel

Photo 53: Western Dike upstream slope

Photo 54: Potential undermining at overflow

Photo 55: Potential undermining at overflow

Photo 56: Cracking along overflow channel

Photo 57: Western Dike downstream slope

Photo 58: Western Dike downstream slope

Photo 59: Stormwater Pond Dam

Photo 60: Stormwater pond

Photo 61: Western Dike outlet at Stormwater pond

Photo 62: Outlet at Stormwater pond

Photo 63: Western Dike outlet

Photo 64: Western Dike upstream slope and outlet