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LAKE PETIT DAM

State ID No. 112-009-00462

NID No. GA00685

Summary of Visual Assessment

Prepared for:

Big Canoe® Property Owners Association, Inc.
10586 Big Canoe
Jasper, GA 30143

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TABLE OF CONTENTS

1. INTRODUCTION	1
1.1 Background	1
2. OBSERVATIONS	3
2.1 Overview	3
2.2 Upstream Face	3
2.3 Downstream Face	4
2.4 Spillway	7
2.5 Low Level Drain	7
2.6 Drainage Discharge Pipes	7
3. SUMMARY OF RECOMMENDED ACTIONS	9

LIST OF TABLES

Table 2-1	Vibrating Wire Piezometer Data
Table 2-2	Standpipe Piezometer Water Elevation Data

LIST OF FIGURES

Figure 2-1	Site Plan and Field Observations
Figure 2-2	Summary of Vibrating Wire Piezometer Data, Piezometers P-2A, B, C
Figure 2-3	Summary of Vibrating Wire Piezometer Data, Piezometers P-4A, B, C
Figure 2-4	Summary of Vibrating Wire Piezometer Data, Piezometers P-6A, B, C
Figure 2-5	Summary of Vibrating Wire Piezometer Data, Piezometers P-7A, B, C
Figure 2-6	Summary of Standpipe Piezometer Data

LIST OF APPENDICES

Appendix A	Georgia EPD Safe Dams Program Embankment (Earth) Dam Inspection Form
Appendix B	Photograph Log

1. INTRODUCTION

This Summary of Visual Assessment (Report) was prepared by Geosyntec Consultants, Inc. (Geosyntec) of Chattanooga, Tennessee under the direction of Conrad Ginther, P.E. on behalf of the Big Canoe® Property Owners Association, Inc. (POA or Owner), Jasper, Georgia.

On 09 and 10 March 2020, representatives from Geosyntec, including Mr. Edison Avila, E.I., and Mr. Conrad Ginther, P.E., performed an engineer-led visual assessment (i.e., inspection) of the Lake Petit Dam (Dam) State Identification (ID) Number (No.) 112-009-00462 and National Inventory of Dams (NID) No. GA00685. Geosyntec walked the upstream face and crest of the Dam, the downstream face including each bench on the downstream face of the Dam, the toe and outfall of the downstream slope, and the overflow spillway during the inspection. In addition to a visual inspection of the Dam, Geosyntec personnel collected readings on the conventional standpipe piezometers (PZs) and the vibrating wire piezometers (VWPs). A follow up inspection to inspect the final configuration of maintenance repairs to the rip rap shoreline protection, nuisance seepage repair, and repairs to the overflow spillway was performed on 18 and 19 April 2022.

General observations were noted in the Georgia Environmental Protection Division's (GA EPD) Safe Dams Program Embankment (Earth) Dam Inspection Form (Inspection Form), included in Appendix A. The remainder of this Report provides additional details of the Dam inspection, including: (i) site observations; (ii) an annotated site plan and photograph log; (iii) summary and review of historical and new piezometer data; and (iv) recommendations for ongoing maintenance.

1.1 Background

Lake Petit Dam is located within the Big Canoe development on Petit Creek, approximately 5.8 miles upstream of Marble Hill, Georgia. The reservoir formed by the Dam has a surface area of approximately 105 acres at a normal pool elevation of 1,635.5 feet (ft) mean sea level (MSL), vertical datum North American Vertical Datum of 1988 (NAVD88). According to 2016 data from the NID, the normal storage for the reservoir is approximately 4,600 acre-ft. The Dam is permitted as a Category I Dam under Chapter 391-3-8 of the Georgia State Code "Rules for Dam Safety".

Lake Petit Dam was constructed in 1972 as a zoned earth embankment consisting of a central clayey silt core with predominantly silty sand upstream and downstream embankment shells. According to the NID, the Dam has a maximum height of 126 ft measured as the vertical difference from crest to the current streambed, a crest length of approximately 908 ft, and a crest width of approximately 35 ft. The upstream slope of the Dam is inclined at 3.5 horizontal to 1.0 vertical (3.5H:1V). The downstream shell is inclined at 2.5H:1V with 10 ft wide benches at approximate 20 ft vertical intervals. Wolfscratch Drive runs parallel to the downstream toe of the embankment. Water conveyance is provided by a Low Level Outlet (LLO) in the reservoir discharging through a conduit under the embankment and an overflow spillway separate from the embankment in the left abutment. Design drawings for the Dam were prepared by Baldwin and Cranston Associates in 1971.

The remainder of this Report is organized as follows:

- Section 2 presents a summary of our findings relative to the observations made during inspections in March and April 2022.
- Section 3 presents a summary of our recommended actions.
- Appendix A presents a copy of the 2022 GA EPD Safe Dams Inspection Form completed by Geosyntec for this inspection and other quarterly Owner Inspection Forms completed by Geosyntec on behalf of the Owner conducted since the last update to GA EPD (i.e., Quarterly inspections from Q2, Q3, and Q4 of 2021);
- Appendix B presents a photograph log of the observations made during this Visual Assessment.

2. OBSERVATIONS

2.1 Overview

Visual observations of the downstream face of the Dam and the overflow spillway were made on 09 and 10 March 2020. At the time of this inspection, the reservoir level was lowered between 3 and 4 feet from normal pool to facilitate maintenance repairs to the rip rap shoreline protection on the upstream face of the Dam and to the spillway on the left abutment. The visible portions of the embankment, overflow spillway, and the performance of maintenance repairs were observed. The low-level outlet gate and conduit were not observed as these are located below normal pool elevation. In addition, Geosyntec collected a round of measurements from piezometers located on the downstream face of the Dam. A graphical layout of the Dam including identified areas of interest and piezometer locations is presented in Figure 2-1. This section of the Report presents the findings of our observations together with a summary of the piezometer data.

2.2 Upstream Face

The upstream face of the Dam was observed by walking the upstream slope and crest. Photographs were taken to record the general condition of the Dam. Representative photographs are presented in Appendix B of this Report. Maintenance repairs to the shoreline protection to improve areas of minor shoreline erosion and “beaching” were underway at the time of initial inspection and had been completed at the time of the follow up inspection. These repairs are discussed in Section 2.2.1. Outside of the area being actively repaired, the upstream face of the Dam was found to be in good condition with adequate vegetal cover and no signs of distress such as sloughs, cracks, soft areas, or depressions.

2.2.1 Rip Rap Shoreline Protection Maintenance Repair

Maintenance repairs to the upstream shoreline protection were performed from 07 March to 14 April 2022. The reservoir level was lowered from the normal pool elevation at 1635.5 ft by a minimum of three feet to facilitate construction. In general, the repairs were performed to provide a consistent layer of rip rap a minimum of 3 feet above and 3 feet below the normal pool. The work was performed first on the left half of the embankment slope and second on the right half of the upstream slope. Temporary access roads along the top of the disturbed areas were incorporated into the repairs as construction proceeded from the middle of the embankment toward the abutments. Repairs to the shoreline protection were performed according to the following general procedure:

- First, the repair area was prepped by trimming the slope to a uniform grade and excavating an anchor trench. Existing rip rap excavated during this step was stockpiled for reuse.
- Second, a heavy geotextile was installed on the cut slope and the anchor trench and slope surface were covered with a bedding layer consisting of a minimum thickness of 6 inches of #4 stone.
- Third, a minimum thickness of 24 inches of rip rap was placed to restore the original upstream slopes to their previous grades. Rip rap placed consisted of a mixture of

previously excavated and stockpiled rip rap and new Georgia DOT Type 1 rip rap with a size range from 8 inches to 20 inches and a median size of 15 inches.

- Fourth, the disturbed areas were seeded and covered with matting to facilitate vegetal growth and limit erosion.

During the initial excavation near the alignment of the gate actuator stem for the LLO the air vent connecting the submerged sluice gate to the gate actuator vault at the center of the embankment crest was observed to be damaged. The vent was repaired and subsequently flushed and verified to be continuous from the vault to the inlet chamber.

Representative photographs of the shoreline protection repairs are included in Appendix B.

2.3 Downstream Face

The downstream face and benches of the Dam were observed by walking each slope and bench. Photographs were taken to record the general condition of the Dam. Representative photographs are presented in Appendix B of this Report. No significant changes were observed based on a comparison of current photographs to previous photographs taken of comparable areas. Construction of a two-stage filter over a seepage area between Bench 1 and Bench 2 on the left abutment was completed prior to this inspection. Construction of this filter is discussed in Section 2.3.2.

In general, the downstream face of the Dam was found to be in good condition, needing only minor maintenance items. Identified areas that should be monitored or repaired as part of routine operations include the following:

- Minor erosion features were identified along the groin between the abutments and main portion of the Dam on the left side of the bench at elevation 1626 (Bench 5). The erosion appears to be due to surface water flow overtopping the bench, or the benches not providing full containment for surface water. The upper benches (Bench 3, 4, and 5), especially near the groins, should be maintained to contain surface water flow, and regraded and reseeded if necessary. Additional debris and vegetation should continue to be removed from the benches and abutments to prevent surface water flow backup.
- An area of poor vegetal cover was identified on Bench 5 near the right abutment. This area should be seeded with turf grass and fertilized to encourage growth.
- The surfaces of the benches at El. 1544 (Bench 1) and El 1562 (Bench 2) were found to have localized areas that were wet and slightly soft. This is an expected seasonal condition during the rainiest part of the year; however, these areas will be evaluated in future quarterly inspections to confirm this expectation.
- The lower two benches of the Dam are partially paved with concrete channels that are intended to collect and convey both surface water and shallow interceptor drain seepage off the face of the Dam. Both channels were observed to be wet with slowly draining flow at the time of inspection. The concrete of these channels has deteriorated in some locations and the joints between adjacent sections of channel are no longer water tight,

though the majority of flow in the channels does appear to drain toward the abutments. These channels should continue to be cleaned out as needed.

- Eleven of the thirteen slope interceptor drains were located during this inspection. The drains have been numbered for identification and their approximate locations are shown on Figure 2-1. Drains 12 and 13 were recently covered by construction of the two-stage filter between Bench 1 and 2 near the left abutment. To facilitate locating these drains in the future a section of rebar was inserted into the end of the drains prior to construction of the filter. Every exposed drain was observed to have clear flow at a rate less than 1 gallon per minute. The condition of the drains at their discharge points is variable, ranging from being partially crushed to open with flow from some of the drains exiting shortly upstream of the end of the pipe instead of dropping directly into the concrete channel. Designs for replacement of the interceptor drains are currently being developed. In the interim before replacement the drains should continue to be maintained and kept free of vegetal growth to ensure performance of these features that are intended to lower the phreatic surface and prevent seepage on the face of the Dam.
- The upper concrete channel from Bench 2 on the left abutment of the Dam was observed to have been undermined and eroded, likely from upstream flow. It is likely that the drainage bench upstream from this point was previously clogged with vegetation, which may have resulted in surface water being directed downslope to the upper concrete channel. The influx of surface water likely overtopped the upper concrete channel and initiated the observed undermining and erosion. The eroded areas should be repaired by placing and compacting clayey soils in the undermined area and establishing vegetation to the extent possible. Debris should be removed from channels on the left abutment above the affected area and all channels on the Dam and abutments should continue to be kept clean of loose debris and vegetation to ensure free flow of water.
- The area downstream and left of the toe of the dam drains poorly and is consistently wet. This area collects the accumulated runoff from the left side of the embankment and left abutment and does not drain toward the nearest drop inlet on the north side of Wolfscratch Drive well. Regrading this area to drain more effectively would improve conditions left of the embankment toe and prevent the left toe from becoming saturated or having ponded water in periods of high precipitation.
- Ant hills and possible animal burrows were observed across the downstream face. Any holes that remain after removal of ant hills or animal burrows must be filled and compacted, and the area should be seeded with turf grass. In recent years the frequency of mowing has been increased which has significantly reduced the frequency of burrows and ant hills.

2.3.1 Nuisance Seepage Repair

By 2021 the size of a wet area on the slope between Bench 1 and Bench 2 near the left abutment had increased and created a potential dam safety issue with unfiltered seepage and an operations and maintenance issue by preventing mowing of the area. To prevent soil migration a two-stage filter consisting of ASTM C-33 sand for the fine filter against the embankment and #89 stone for

the coarse filter was designed and installed on the slope in an area approximately 25-feet wide by 35-feet up the slope. Filter compatibility between the embankment shell and fine filter and between the fine and coarse filters was analyzed to ensure adequate flow capacity and filtration capacity in the constructed system. The seepage repair was constructed by stripping the area of vegetation and loose or soft material, capping the exposed slope with fine filter material, and encapsulating the fine filter with coarse filter material. A perforated PVC drain pipe wrapped with geotextile was installed in the existing concrete channel to ensure flow could pass to the discharge point on the left abutment.

Representative photographs of the seepage repair are included in Appendix B.

2.3.2 Instrumentation Data

Two types of piezometers have been installed on the Dam: (i) conventional PZs that consist of PVC casings with screened sections strategically located to facilitate direct measurement of water levels within the shell of the Dam; and (ii) VWPs that consist of electrical pressure transducers that provide a means of measuring water pressures at discrete locations within the shell. Both types of piezometer provide an excellent means of monitoring the level of water at discrete points through the Dam. In addition, changes in water levels and pressures provide useful information regarding the effectiveness of the Dam's internal drainage system. In general, consistent water level and pressure data indicates that internal conditions have likely not changed significantly, whereas sustained changes may be indicative of potential issues.

Since 2019, piezometer data has been collected on a quarterly basis concurrent with visual inspections of the embankment. Geosyntec collected data from the PZs on 14 March 2022 and VWPs on 10 March 2022. VWP and PZ data are summarized in Tables 2-1 and 2-2, respectively, and are presented graphically on Figures 2-2 through 2-6. None of the piezometric data reviewed indicates a developing dam safety issue. The following sections provide further detail from the review of PZ and VPZ data to date.

2.3.2.1 Conventional PZ Data

Available PZ data beginning from October 1998 was reviewed as part of this assessment. From 1998 to 2016 annual piezometer data collected in the fall is available. Since March 2020 the PZs have been read on a quarterly basis, which allows a more accurate representation of typical seasonal piezometric fluctuations.

In general, data from the standpipe piezometers indicates consistent piezometric levels from 1998 until August 2013 when the data shows a typical increase in the PZs on the order of 2-feet to 5-feet. Subsequent data from 2014 through January 2018 typically shows a return to pre-2013 piezometric levels. The initial data from the period of quarterly measurements in March 2020 indicated a general increase ranging from 2.5-feet to 8-feet over levels measured in January 2018. This increase in piezometric levels has been attributed to a wet period with approximately double the average precipitation in January and February 2020. Data reported for the remainder of 2020 and subsequent years indicate a return to levels slightly higher than the trends prior to 2020.

The PZs across the embankment appear to have similar responses to typical seasonal precipitation including increases during typical wet periods in the first quarter of the calendar year. In the most recent data from 14 March 2022 the data for all PZs except G-2 Deep show an expected seasonal

increase. G-2 Deep shows a approximate 1.5-foot decrease from the previous quarterly measurement. Additionally, PZ G-2 Shallow data tends to be more reactive in a given period, showing fluctuations on the order of twice what the remainder of the PZs exhibit. While these trends are not currently considered a dam safety concern, data for the G-2 series of instruments should be reviewed carefully in subsequent measurement intervals to determine whether the trends accurately reflect conditions in the embankment and subsurface or may be an indication that the instruments are becoming unreliable.

2.3.2.2 VPZ Data

Available VPZ data beginning from February 2004 was reviewed as part of this assessment. The sample interval from these instruments has varied over time including a period of time from May 2008 to July 2011 where no data is available. Currently VPZ data is collected at a minimum quarterly frequency. Recent VPZ data trends indicate relatively stable piezometric levels and seasonal fluctuations in the previous 5 years. The P-4 series of VPZs show a slight increasing trend since 2015 on the order of 3-feet to 4-feet. While this trend is not currently considered a dam safety concern, the data from P-4 A, B, and C should continue to be reviewed to evaluate this trend and to determine the threshold level at which action may be required.

2.4 Spillway

The overflow spillway that conveys water from the lake around the Dam and discharges to the creek at the toe of the Dam was also observed. Photographs of the overflow spillway are included in Appendix B. The overflow spillway is a lightly reinforced gunite (i.e., sprayed concrete) lined stepped chute. The spillway was re-faced with gunite around September 2009.

The spillway was dewatered in December 2021 to enable a detailed inspection of the chute. Observations made during this inspection were used to develop a scope of work for maintenance repairs to the spillway which include grout injection, surface patching of cracks, and full depth repairs of localized areas of several locations. During the follow up inspection repairs to the spillway were being performed. Representative examples of these repairs are shown in the attached photos in Appendix B.

2.5 Low Level Outlet

The LLO is located at the bottom of the upstream pool and was not observed as part of this inspection. A dive inspection of the sluice gate structure which serves as the intake for the LLO was completed in September 2020. A camera inspection of the LLO conduit was completed in December 2020. Both inspections indicated that the inlet structure and pipe are in generally fair to good condition. The sluice gate structure was noted to not have been obstructed by sediment or debris following cleaning by divers during that inspection. The sluice gate structure was noted to have an intact trash rack by the divers. The conduit inspection, following cleanout of sediment in the pipe via jetting, identified a few pipe joints with calcite formations, indicating minor seepage, but otherwise did not identify any apparent leaks or issues with the conduit's overall condition.

2.6 Drainage Discharge Pipes

Several pipes discharge both surface water and internal drainage to the tailwater creek located at the toe of the Dam. In the past this general area was noted to be difficult to access due to vegetation

and waterlogged conditions, however, it has since been cleaned out and maintained to facilitate access and inspection. Several unidentified drainpipes exit into the channel outside of the stilling basin. These pipes have been cleared and were not obstructed or carrying turbid flow at the time of inspection. The exact routing of these drain pipes is not well understood but no observations indicating a potential negative effect on dam safety were made at the time of inspection.

The two internal drainage pipes (8-inch diameter) that outlet into the concrete impact-style stilling basin were observed to be flowing. Accumulated water from the internal drainage pipes and LLO conduit was observed to be minimally flowing into the creek.

3. SUMMARY OF RECOMMENDED ACTIONS

In general, the Dam and associated structures appear to be in a good state of repair, however continued maintenance, as well as inspections and monitoring of the instruments, should be performed to evaluate piezometric trends and changes in the extent or persistence of wet areas. At the time of inspection maintenance repairs to the rip-rap shoreline protection, nuisance seepage on the left abutment, and repairs to the overflow spillway were recently completed or underway. These repair activities close several previous recommendations to improve dam safety and monitoring of Lake Petit Dam and will help to ensure future performance of the facility and protect dam safety. In the short-term, Geosyntec recommends repairs to the following items as part of ongoing maintenance:

- Cleaning of debris and vegetation of the concrete channels on Bench 1 and Bench 2 should be continued as routine maintenance and should extend to the sections of channel on each abutment of the Dam as well.
- The undermined portion of the upper concrete channel on the left abutment should be repaired by placing and compacting clayey soils in the undermined area and establishing vegetation to the extent possible.
- Erosion features, burrows, and ant hills on the downstream face of the Dam should continue to be repaired as they occur and vegetated with turf grass. Repairs that have been previously made to eroded areas which were observed to not have vegetation growing should be reseeded and monitored to ensure vegetation growth and additional erosion does not occur. The unlined drainage swales on Benches 3, 4, and 5 should continue to have debris removed and be periodically regraded to promote positive drainage and to ensure stormwater is contained.
- The area downstream and left of the left toe of the embankment should be graded to drain to the adjacent drop inlet more effectively.

We further recommend that the following items should be addressed:

- Continued quarterly piezometer readings are recommended to further define piezometric trends and possible changes over time.
- Repair or replace the shallow interceptor drains which discharge to the lowest concrete channel. Replacement drainage features are currently under design. The drains should continue to be monitored and maintained to prevent plugging and ensure continued flow. Continue to monitor soft and wet areas following maintenance activities.
- Prior to implementation of the previous item, GA EPD Safe Dams Program should be contacted to assure consensus with the proposed course of action and repairs.

TABLES

Table 2-1
Vibrating Wire Piezometer Data
Lake Petit Dam, Big Canoe, GA

Piezometer ID: P-2A							
Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)
2/6/2004	1623.0	1/19/2005	1623.8	6/16/2006	1622.7	3/17/2015	1626.5
2/13/2004	1623.1	2/4/2005	1623.5	6/23/2006	1622.7	6/15/2015	1626.9
2/15/2004	1623.3	2/15/2005	1623.4	6/30/2006	1622.6	9/2/2015	1627.0
2/20/2004	1623.2	2/25/2005	1623.4	7/17/2006	1622.7	10/21/2015	1626.0
2/27/2004	1623.3	3/4/2005	1623.6	7/24/2006	1622.6	3/2/2016	1627.3
3/12/2004	1623.4	3/11/2005	1623.8	8/10/2006	1622.5	4/4/2016	1627.3
3/19/2004	1623.4	3/18/2005	1623.8	8/17/2006	1622.4	5/20/2016	1627.3
3/27/2004	1623.3	3/24/2005	1623.8	9/7/2006	1622.4	6/23/2016	1625.8
3/30/2004	1623.3	4/1/2005	1623.9	9/18/2006	1622.3	12/1/2016	1624.8
4/7/2004	1623.1	4/4/2005	1624.0	10/4/2006	1622.2	6/28/2017	1626.3
4/16/2004	1622.9	4/19/2005	1624.2	10/13/2006	1622.2	1/26/2018	1626.4
4/22/2004	1622.9	4/29/2005	1623.1	10/19/2006	1622.2	12/14/2018	1626.4
4/30/2004	1622.8	5/6/2005	1623.7	11/10/2006	1622.3	4/3/2019	1627.3
5/7/2004	1622.7	5/13/2005	1623.6	11/17/2006	1622.3	7/15/2019	1626.1
5/13/2004	1622.7	5/19/2005	1623.5	11/23/2006	1622.3	3/9/2020	1627.0
5/21/2004	1622.7	5/27/2005	1623.4	11/29/2006	1622.2	5/12/2020	1626.9
6/2/2004	1622.7	6/14/2005	1623.1	12/12/2006	1622.7	6/17/2020	1626.7
6/18/2004	1622.6	6/22/2005	1623.2	12/20/2006	1622.7	7/21/2020	1626.0
6/29/2004	1622.7	7/18/2005	1623.3	1/3/2007	1623.0	11/20/2020	1626.2
7/6/2004	1622.7	8/5/2005	1623.5	1/12/2007	1623.2	3/10/2021	1626.6
7/22/2004	1623.0	8/19/2005	1623.3	5/15/2007	1622.4	6/18/2021	1626.1
7/26/2004	1623.0	9/7/2005	1623.3	5/31/2007	1622.4	7/1/2021	1625.8
8/6/2004	1623.0	9/28/2005	1623.1	6/29/2007	1622.4	9/3/2021	1626.2
8/12/2004	1623.0	10/12/2005	1623.0	8/8/2007	1622.4	12/13/2021	1626.1
8/16/2004	1622.9	10/21/2005	1622.9	9/11/2007	1622.4	3/10/2022	1626.6
8/26/2004	1622.9	11/4/2005	1623.1	11/2/2007	1622.0		
9/3/2004	1622.9	11/17/2005	1622.8	12/14/2007	1623.2		
9/10/2004	1622.9	12/29/2005	1622.7	1/25/2008	1622.2		
9/27/2004	1623.1	1/27/2006	1623.0	3/4/2008	1622.5		
10/7/2004	1623.2	2/1/2005	1622.9	5/16/2008	1623.0		
10/15/2004	1623.2	2/10/2006	1622.8	5/22/2008	1623.0		
11/1/2004	1623.1	2/17/2006	1623.0	7/26/2011	1622.9		
11/11/2004	1623.1	2/21/2006	1623.4	5/8/2012	1624.8		
11/19/2004	1623.3	3/1/2006	1623.5	8/2/2012	1635.8		
11/23/2004	1623.4	3/9/2006	1623.5	11/8/2012	1625.9		
12/3/2004	1623.6	3/13/2006	1623.4	8/15/2013	1627.3		
12/17/2004	1624.1	4/7/2006	1623.3	8/20/2013	1627.3		
12/22/2004	1624.1	4/14/2006	1623.2	6/6/2014	1626.7		
12/30/2004	1624.0	4/21/2006	1623.1	9/5/2014	1626.1		
1/4/2005	1624.0	4/28/2006	1623.1	10/15/2014	1625.7		
1/13/2005	1623.9	5/8/2006	1623.1	1/27/2015	1626.3		

Table 2-1
Vibrating Wire Piezometer Data
Lake Petit Dam, Big Canoe, GA

Piezometer ID: P-4A							
Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)
2/6/2004	1586.5	1/19/2005	1589.4	6/16/2006	1584.7	3/17/2015	1588.6
2/13/2004	1587.0	2/4/2005	1588.3	6/23/2006	1584.6	6/15/2015	1587.2
2/15/2004	1588.2	2/15/2005	1587.9	6/30/2006	1584.4	9/2/2015	1585.0
2/20/2004	1587.6	2/25/2005	1588.5	7/17/2006	1583.9	10/21/2015	1586.0
2/27/2004	1588.1	3/4/2005	1589.8	7/24/2006	1583.9	3/2/2016	1592.3
3/12/2004	1588.5	3/11/2005	1589.9	8/10/2006	1583.2	4/4/2016	1589.1
3/19/2004	1588.5	3/18/2005	1589.9	8/17/2006	1583.1	5/20/2016	1586.5
3/27/2004	1588.4	3/24/2005	1589.9	9/7/2006	1583.0	6/23/2016	1585.1
3/30/2004	1588.0	4/1/2005	1591.6	9/18/2006	1582.3	12/1/2016	1581.4
4/7/2004	1587.4	4/4/2005	1592.5	10/4/2006	1582.3	6/28/2017	1591.1
4/16/2004	1587.2	4/19/2005	1591.5	10/13/2006	1581.9	1/26/2018	1587.0
4/22/2004	1587.0	4/29/2005	1590.2	10/19/2006	1581.8	12/14/2018	1591.0
4/30/2004	1587.0	5/6/2005	1589.9	11/10/2006	1581.7	4/3/2019	1591.7
5/7/2004	1586.8	5/13/2005	1589.4	11/17/2006	1581.7	7/15/2019	1586.6
5/13/2004	1586.7	5/19/2005	1588.9	11/23/2006	1581.8	3/9/2020	1594.4
5/21/2004	1586.6	5/27/2005	1589.1	11/29/2006	1581.9	5/12/2020	1590.3
6/2/2004	1586.2	6/14/2005	1587.3	12/12/2006	1582.9	6/17/2020	1588.2
6/18/2004	1585.8	6/22/2005	1621.5	12/20/2006	1583.2	7/21/2020	1586.6
6/29/2004	1585.6	7/18/2005	1589.6	1/3/2007	1583.7	11/20/2020	1588.9
7/6/2004	1585.5	8/5/2005	1588.9	1/12/2007	1584.7	3/10/2021	1590.7
7/22/2004	1586.6	8/19/2005	1588.0	5/15/2007	1585.0	6/18/2021	1587.4
7/26/2004	1586.8	9/7/2005	1587.3	5/31/2007	1584.3	7/1/2021	1588.5
8/6/2004	1586.5	9/28/2005	1586.2	6/29/2007	1583.6	9/3/2021	1591.6
8/12/2004	1586.4	10/12/2005	1586.0	8/8/2007	1582.6	12/13/2021	1587.3
8/16/2004	1586.4	10/21/2005	1585.1	9/11/2007	1582.2	3/10/2022	1590.8
8/26/2004	1586.0	11/4/2005	1585.4	11/2/2007	1581.9		
9/3/2004	1588.2	11/17/2005	1584.5	12/14/2007	1581.5		
9/10/2004	1585.5	12/29/2005	1583.8	1/25/2008	1581.4		
9/27/2004	1586.9	1/27/2006	1584.7	3/4/2008	1581.7		
10/7/2004	1587.8	2/1/2005	1584.6	5/16/2008	1585.7		
10/15/2004	1587.2	2/10/2006	1584.8	5/22/2008	1585.6		
11/1/2004	1586.7	2/17/2006	1585.1	7/26/2011	1585.0		
11/11/2004	1587.0	2/21/2006	1586.7	5/8/2012	1587.1		
11/19/2004	1587.4	3/1/2006	1586.9	8/2/2012	1585.0		
11/23/2004	1587.6	3/9/2006	1586.9	11/8/2012	1582.8		
12/3/2004	1589.1	3/13/2006	1586.9	8/15/2013	1592.8		
12/17/2004	1591.2	4/7/2006	1586.7	8/20/2013	1592.6		
12/22/2004	1590.7	4/14/2006	1586.8	6/6/2014	1587.4		
12/30/2004	1590.7	4/21/2006	1586.6	9/5/2014	1584.7		
1/4/2005	1590.3	4/28/2006	1586.1	10/15/2014	1583.5		
1/13/2005	1589.5	5/8/2006	1585.8	1/27/2015	1587.6		

Table 2-1
Vibrating Wire Piezometer Data
Lake Petit Dam, Big Canoe, GA

Piezometer ID: P-6A							
Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)
2/6/2004	1557.4	1/13/2005	1557.6	4/28/2006	1556.1	9/5/2014	1554.2
2/13/2004	1557.6	1/19/2005	1558.2	5/8/2006	1556.1	10/15/2014	1554.7
2/15/2004	1557.6	2/4/2005	1557.8	6/16/2006	1555.1	1/27/2015	1555.4
2/20/2004	1557.4	2/15/2005	1557.6	6/23/2006	1555.3	3/17/2015	1555.6
2/27/2004	1557.4	2/25/2005	1557.8	6/30/2006	1555.5	6/15/2015	1555.0
3/12/2004	1557.5	3/4/2005	1557.8	7/17/2006	1555.1	9/2/2015	1554.0
3/19/2004	1557.4	3/11/2005	1557.6	7/24/2006	1555.2	10/21/2015	1554.8
3/27/2004	1557.4	3/18/2005	1557.8	8/10/2006	1555.0	3/2/2016	1556.6
3/30/2004	1557.2	3/24/2005	1557.9	8/17/2006	1555.1	4/4/2016	1555.7
4/7/2004	1556.8	4/1/2005	1558.3	9/7/2006	1555.1	5/20/2016	1554.6
4/16/2004	1557.2	4/4/2005	1558.4	9/18/2006	1554.8	6/23/2016	1553.4
4/22/2004	1556.8	4/19/2005	1558.0	10/4/2006	1554.8	12/1/2016	1552.9
4/30/2004	1557.0	4/29/2005	1557.8	10/13/2006	1554.6	6/28/2017	1555.6
5/7/2004	1557.0	5/6/2005	1557.9	10/19/2006	1555.3	1/26/2018	1555.0
5/13/2004	1557.0	5/13/2005	1557.5	11/10/2006	1555.3	12/14/2018	1556.0
5/21/2004	1557.0	5/19/2005	1557.2	11/17/2006	1555.2	4/3/2019	1556.1
6/2/2004	1556.7	5/27/2005	1557.1	11/23/2006	1555.2	7/15/2019	1554.3
6/18/2004	1556.9	6/14/2005	1557.5	11/29/2006	1555.1	3/9/2020	1557.0
6/29/2004	1557.0	6/22/2005	1557.1	12/12/2006	1555.9	5/12/2020	1555.6
7/6/2004	1557.0	7/18/2005	1557.8	12/20/2006	1555.8	6/17/2020	1554.9
7/22/2004	1556.6	8/5/2005	1557.2	1/3/2007	1556.5	7/21/2020	1554.0
7/26/2004	1556.7	8/19/2005	1557.2	1/12/2007	1556.9	11/20/2020	1555.4
8/6/2004	1556.4	9/7/2005	1556.8	5/15/2007	1555.0	3/10/2021	1555.8
8/12/2004	1556.3	9/28/2005	1556.3	5/31/2007	1554.5	6/18/2021	1554.6
8/16/2004	1556.6	10/12/2005	1556.3	6/29/2007	1554.5	7/1/2021	1555.0
8/26/2004	1556.6	10/21/2005	1555.8	8/8/2007	1554.5	9/3/2021	1555.8
9/3/2004	1557.5	11/4/2005	1555.8	9/11/2007	1553.9	12/13/2021	1555.5
9/10/2004	1556.9	11/17/2005	1556.1	11/2/2007	1553.9	3/10/2022	1555.9
9/27/2004	1557.0	12/29/2005	1556.1	12/14/2007	1553.9		
10/7/2004	1557.4	1/27/2006	1557.0	1/25/2008	1555.1		
10/15/2004	1556.8	2/1/2005	1556.9	3/4/2008	1555.3		
11/1/2004	1557.0	2/10/2006	1556.9	5/16/2008	1555.8		
11/11/2004	1557.4	2/17/2006	1556.8	5/22/2008	1555.4		
11/19/2004	1557.4	2/21/2006	1556.8	7/26/2011	1554.4		
11/23/2004	1557.6	3/1/2006	1556.8	5/8/2012	1555.2		
12/3/2004	1557.7	3/9/2006	1556.5	8/2/2012	1554.3		
12/17/2004	1558.1	3/13/2006	1556.7	11/8/2012	1553.6		
12/22/2004	1557.9	4/7/2006	1556.4	8/15/2013	1556.7		
12/30/2004	1558.2	4/14/2006	1556.4	8/20/2013	1556.8		
1/4/2005	1558.0	4/21/2006	1556.3	6/6/2014	1555.2		

Table 2-1
Vibrating Wire Piezometer Data
Lake Petit Dam, Big Canoe, GA

Piezometer ID: P-7A							
Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)
2/6/2004	1536.9	1/13/2005	1537.3	4/28/2006	1536.3	9/5/2014	1535.8
2/13/2004	1537.2	1/19/2005	1537.5	5/8/2006	1536.3	10/15/2014	1536.3
2/15/2004	1537.2	2/4/2005	1537.5	6/16/2006	1535.8	1/27/2015	1536.1
2/20/2004	1537.1	2/15/2005	1537.3	6/23/2006	1535.7	3/17/2015	1536.1
2/27/2004	1536.7	2/25/2005	1537.7	6/30/2006	1536.6	6/15/2015	1536.3
3/12/2004	1536.9	3/4/2005	1537.4	7/17/2006	1536.5	9/2/2015	1536.3
3/19/2004	1536.6	3/11/2005	1537.2	7/24/2006	1536.4	10/21/2015	1536.2
3/27/2004	1536.7	3/18/2005	1537.3	8/10/2006	1536.3	3/2/2016	1536.5
3/30/2004	1536.5	3/24/2005	1537.3	8/17/2006	1536.5	4/4/2016	1536.0
4/7/2004	1536.3	4/1/2005	1537.5	9/7/2006	1536.6	5/20/2016	1535.9
4/16/2004	1536.6	4/4/2005	1537.7	9/18/2006	1536.6	6/23/2016	1535.5
4/22/2004	1536.5	4/19/2005	1537.3	10/4/2006	1536.6	12/1/2016	1535.9
4/30/2004	1536.7	4/29/2005	1537.2	10/13/2006	-	6/28/2017	1536.6
5/7/2004	1536.7	5/6/2005	1537.4	10/19/2006	1536.6	1/26/2018	1536.2
5/13/2004	1536.6	5/13/2005	1537.1	11/10/2006	1536.7	12/14/2018	1536.7
5/21/2004	1536.8	5/19/2005	1537.0	11/17/2006	1536.8	4/3/2019	1536.1
6/2/2004	1536.5	5/27/2005	1537.1	11/23/2006	1536.7	7/15/2019	1536.0
6/18/2004	1536.9	6/14/2005	1537.8	11/29/2006	1536.8	3/9/2020	1536.9
6/29/2004	1537.2	6/22/2005	1537.4	12/12/2006	1536.8	5/12/2020	1536.0
7/6/2004	1537.3	7/18/2005	1537.9	12/20/2006	1536.6	6/17/2020	1535.8
7/22/2004	1537.0	8/5/2005	1537.4	1/3/2007	1537.2	7/21/2020	1535.8
7/26/2004	1536.9	8/19/2005	1537.7	1/12/2007	1537.5	11/20/2020	1536.5
8/6/2004	1536.9	9/7/2005	1537.5	5/15/2007	1535.6	3/10/2021	1536.4
8/12/2004	1536.9	9/28/2005	1536.3	5/31/2007	1535.6	6/18/2021	1536.3
8/16/2004	1537.1	10/12/2005	1536.8	6/29/2007	1536.2	7/1/2021	1536.7
8/26/2004	1537.2	10/21/2005	1536.6	8/8/2007	1536.5	9/3/2021	1536.7
9/3/2004	1537.0	11/4/2005	1536.6	9/11/2007	1535.9	12/13/2021	1536.0
9/10/2004	1537.6	11/17/2005	1536.5	11/2/2007	1536.2	3/10/2022	1536.3
9/27/2004	1537.4	12/29/2005	1536.7	12/14/2007	1536.0		
10/7/2004	1537.4	1/27/2006	1537.0	1/25/2008	1536.3		
10/15/2004	1537.2	2/1/2005	1536.9	3/4/2008	1536.4		
11/1/2004	1537.4	2/10/2006	1536.8	5/16/2008	1536.1		
11/11/2004	1537.6	2/17/2006	1536.7	5/22/2008	1536.3		
11/19/2004	1537.7	2/21/2006	1536.6	7/26/2011	1536.1		
11/23/2004	1537.7	3/1/2006	1536.6	5/8/2012	1535.6		
12/3/2004	1537.7	3/9/2006	1536.3	8/2/2012	1536.1		
12/17/2004	1537.7	3/13/2006	1536.4	11/8/2012	1535.9		
12/22/2004	1537.4	4/7/2006	1536.3	8/15/2013	-		
12/30/2004	1537.5	4/14/2006	1536.2	8/20/2013	1537.4		
1/4/2005	1537.5	4/21/2006	1536.2	6/6/2014	1536.4		

Table 2-1
Vibrating Wire Piezometer Data
Lake Petit Dam, Big Canoe, GA

Piezometer ID: P-2B							
Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)
2/6/2004	1609.3	1/19/2005	1610.5	6/16/2006	1608.9	3/17/2015	1612.6
2/13/2004	1609.4	2/4/2005	1610.1	6/23/2006	1609.2	6/15/2015	1612.7
2/15/2004	1609.6	2/15/2005	1609.9	6/30/2006	1608.8	9/2/2015	1612.1
2/20/2004	1609.5	2/25/2005	1609.9	7/17/2006	1608.8	10/21/2015	1612.3
2/27/2004	1609.4	3/4/2005	1609.9	7/24/2006	1608.7	3/2/2016	1613.6
3/12/2004	1609.6	3/11/2005	1609.9	8/10/2006	1608.4	4/4/2016	1613.2
3/19/2004	1609.6	3/18/2005	1609.9	8/17/2006	1608.3	5/20/2016	1612.4
3/27/2004	1609.7	3/24/2005	1610.0	9/7/2006	1608.2	6/23/2016	1612.1
3/30/2004	1609.7	4/1/2005	1610.1	9/18/2006	1608.1	12/1/2016	1602.2
4/7/2004	1609.6	4/4/2005	1610.2	10/4/2006	1607.7	6/28/2017	1612.3
4/16/2004	1609.4	4/19/2005	1610.7	10/13/2006	1607.5	1/26/2018	1611.4
4/22/2004	1609.5	4/29/2005	1610.6	10/19/2006	1607.5	12/14/2018	1611.6
4/30/2004	1609.4	5/6/2005	1610.5	11/10/2006	1607.6	4/3/2019	1607.1
5/7/2004	1609.4	5/13/2005	1610.4	11/17/2006	1607.7	7/15/2019	1611.0
5/13/2004	1609.4	5/19/2005	1610.3	11/23/2006	1607.7	3/9/2020	1613.2
5/21/2004	1609.4	5/27/2005	1610.3	11/29/2006	1607.6	5/12/2020	1611.9
6/2/2004	1609.2	6/14/2005	1609.8	12/12/2006	1608.1	6/17/2020	1611.4
6/18/2004	1609.1	6/22/2005	1609.7	12/20/2006	1608.1	7/21/2020	1610.9
6/29/2004	1609.1	7/18/2005	1609.8	1/3/2007	1608.3	11/20/2020	1611.4
7/6/2004	1609.1	8/5/2005	1610.1	1/12/2007	1608.7	3/10/2021	1611.7
7/22/2004	1609.1	8/19/2005	1610.1	5/15/2007	1608.9	6/18/2021	1611.1
7/26/2004	1609.1	9/7/2005	1609.8	5/31/2007	1608.9	7/1/2021	1611.0
8/6/2004	1609.1	9/28/2005	1609.7	6/29/2007	1608.9	9/3/2021	1611.6
8/12/2004	1609.2	10/12/2005	1609.5	8/8/2007	1641.6	12/13/2021	1610.5
8/16/2004	1609.2	10/21/2005	1609.4	9/11/2007	1608.3	3/10/2022	1609.9
8/26/2004	1609.2	11/4/2005	1603.8	11/2/2007	1608.0		
9/3/2004	1609.6	11/17/2005	1609.2	12/14/2007	1608.7		
9/10/2004	1609.1	12/29/2005	1609.0	1/25/2008	1607.7		
9/27/2004	1609.4	1/27/2006	1608.8	3/4/2008	1608.0		
10/7/2004	1609.4	2/1/2005	1608.8	5/16/2008	1609.4		
10/15/2004	1609.5	2/10/2006	1609.0	5/22/2008	1609.4		
11/1/2004	1609.5	2/17/2006	1608.9	7/26/2011	1610.9		
11/11/2004	1609.6	2/21/2006	1609.0	5/8/2012	1612.0		
11/19/2004	1609.7	3/1/2006	1609.1	8/2/2012	1602.2		
11/23/2004	1609.7	3/9/2006	1609.2	11/8/2012	-		
12/3/2004	1609.8	3/13/2006	1609.2	8/15/2013	1613.8		
12/17/2004	1610.2	4/7/2006	1609.3	8/20/2013	1613.9		
12/22/2004	1610.3	4/14/2006	1609.1	6/6/2014	1612.7		
12/30/2004	1610.5	4/21/2006	1609.0	9/5/2014	1612.0		
1/4/2005	1610.6	4/28/2006	1603.4	10/15/2014	1611.8		
1/13/2005	1610.5	5/8/2006	1609.2	1/27/2015	1612.3		

Table 2-1
Vibrating Wire Piezometer Data
Lake Petit Dam, Big Canoe, GA

Piezometer ID: P-4B							
Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)
2/6/2004	1572.3	1/19/2005	1574.8	6/16/2006	1570.5	3/17/2015	1572.8
2/13/2004	1572.7	2/4/2005	1574.1	6/23/2006	1570.4	6/15/2015	1572.3
2/15/2004	1573.6	2/15/2005	1573.7	6/30/2006	1570.3	9/2/2015	1570.1
2/20/2004	1573.1	2/25/2005	1574.1	7/17/2006	1570.0	10/21/2015	1570.7
2/27/2004	1573.3	3/4/2005	1574.7	7/24/2006	1570.0	3/2/2016	1576.2
3/12/2004	1573.7	3/11/2005	1574.8	8/10/2006	1569.7	4/4/2016	1573.8
3/19/2004	1573.7	3/18/2005	1574.8	8/17/2006	1569.3	5/20/2016	1571.5
3/27/2004	1573.7	3/24/2005	1574.8	9/7/2006	1569.2	6/23/2016	1570.2
3/30/2004	1573.5	4/1/2005	1575.5	9/18/2006	1569.1	12/1/2016	1567.1
4/7/2004	1573.1	4/4/2005	1576.3	10/4/2006	1568.8	6/28/2017	1574.2
4/16/2004	1572.7	4/19/2005	1576.3	10/13/2006	1568.5	1/26/2018	1571.4
4/22/2004	1572.7	4/29/2005	1575.4	10/19/2006	1568.5	12/14/2018	1574.4
4/30/2004	1572.6	5/6/2005	1575.3	11/10/2006	1568.8	4/3/2019	1576.0
5/7/2004	1572.5	5/13/2005	1574.8	11/17/2006	1568.9	7/15/2019	1571.5
5/13/2004	1572.5	5/19/2005	1574.4	11/23/2006	1568.8	3/9/2020	1577.9
5/21/2004	1572.5	5/27/2005	1574.4	11/29/2006	1568.8	5/12/2020	1574.5
6/2/2004	1572.0	6/14/2005	1573.3	12/12/2006	1570.0	6/17/2020	1572.7
6/18/2004	1571.8	6/22/2005	1553.5	12/20/2006	1570.0	7/21/2020	1571.4
6/29/2004	1571.8	7/18/2005	1574.6	1/3/2007	1570.3	11/20/2020	1572.8
7/6/2004	1572.0	8/5/2005	1574.2	1/12/2007	1567.0	3/10/2021	1574.2
7/22/2004	1572.4	8/19/2005	1573.9	5/15/2007	1570.5	6/18/2021	1572.3
7/26/2004	1572.4	9/7/2005	1573.1	5/31/2007	1570.2	7/1/2021	1572.8
8/6/2004	1572.1	9/28/2005	1572.1	6/29/2007	1569.6	9/3/2021	1574.8
8/12/2004	1572.0	10/12/2005	1571.5	8/8/2007	1568.9	12/13/2021	1572.3
8/16/2004	1571.9	10/21/2005	1571.3	9/11/2007	1568.6	3/10/2022	1574.7
8/26/2004	1571.7	11/4/2005	1571.6	11/2/2007	1568.0		
9/3/2004	1573.5	11/17/2005	1570.6	12/14/2007	1567.9		
9/10/2004	1571.4	12/29/2005	1570.3	1/25/2008	1568.3		
9/27/2004	1572.9	1/27/2006	1571.2	3/4/2008	1569.0		
10/7/2004	1573.5	2/1/2005	1571.2	5/16/2008	1571.4		
10/15/2004	1573.2	2/10/2006	1571.4	5/22/2008	1571.3		
11/1/2004	1572.8	2/17/2006	1571.4	7/26/2011	1570.4		
11/11/2004	1573.0	2/21/2006	1572.2	5/8/2012	1572.2		
11/19/2004	1573.3	3/1/2006	1572.0	8/2/2012	1570.4		
11/23/2004	1573.3	3/9/2006	1572.3	11/8/2012	1568.6		
12/3/2004	1574.0	3/13/2006	1572.3	8/15/2013	1555.2		
12/17/2004	1575.6	4/7/2006	1572.3	8/20/2013	1576.6		
12/22/2004	1575.5	4/14/2006	1572.1	6/6/2014	1572.4		
12/30/2004	1575.6	4/21/2006	1571.9	9/5/2014	1569.7		
1/4/2005	1575.5	4/28/2006	1571.7	10/15/2014	1569.0		
1/13/2005	1574.9	5/8/2006	1571.5	1/27/2015	1572.2		

Table 2-1
Vibrating Wire Piezometer Data
Lake Petit Dam, Big Canoe, GA

Piezometer ID: P-6B							
Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)
2/6/2004	1539.6	1/13/2005	1540.5	4/28/2006	1539.8	9/5/2014	1537.8
2/13/2004	1540.0	1/19/2005	1540.4	5/8/2006	1539.8	10/15/2014	1537.6
2/15/2004	1540.5	2/4/2005	1540.0	6/16/2006	1538.9	1/27/2015	1539.2
2/20/2004	1540.1	2/15/2005	1540.5	6/23/2006	1539.0	3/17/2015	1538.9
2/27/2004	1540.1	2/25/2005	1540.6	6/30/2006	1539.0	6/15/2015	1546.4
3/12/2004	1540.6	3/4/2005	1540.9	7/17/2006	1538.9	9/2/2015	1538.5
3/19/2004	1540.7	3/11/2005	1540.8	7/24/2006	1539.0	10/21/2015	1538.6
3/27/2004	1540.7	3/18/2005	1540.6	8/10/2006	1538.2	3/2/2016	1540.6
3/30/2004	1540.6	3/24/2005	1540.6	8/17/2006	1538.0	4/4/2016	1540.1
4/7/2004	1540.2	4/1/2005	1540.5	9/7/2006	1537.6	5/20/2016	1539.0
4/16/2004	1540.0	4/4/2005	1540.6	9/18/2006	1537.5	6/23/2016	1538.2
4/22/2004	1557.4	4/19/2005	1540.5	10/4/2006	1537.2	12/1/2016	1537.1
4/30/2004	1540.3	4/29/2005	1540.7	10/13/2006	1537.1	6/28/2017	1539.1
5/7/2004	1540.4	5/6/2005	1541.2	10/19/2006	1536.9	1/26/2018	1538.8
5/13/2004	1540.4	5/13/2005	1540.6	11/10/2006	1537.5	12/14/2018	1539.3
5/21/2004	1540.5	5/19/2005	1540.2	11/17/2006	1537.6	4/3/2019	1540.1
6/2/2004	1539.9	5/27/2005	1540.1	11/23/2006	1537.5	7/15/2019	1538.5
6/18/2004	1557.4	6/14/2005	1540.6	11/29/2006	1537.5	3/9/2020	1540.4
6/29/2004	1557.6	6/22/2005	1540.7	12/12/2006	1538.6	5/12/2020	1539.2
7/6/2004	1540.1	7/18/2005	1540.9	12/20/2006	1538.8	6/17/2020	1538.8
7/22/2004	1540.0	8/5/2005	1540.3	1/3/2007	1539.0	7/21/2020	1538.5
7/26/2004	1540.0	8/19/2005	1540.0	1/12/2007	1539.6	11/20/2020	1538.8
8/6/2004	1539.7	9/7/2005	1540.1	5/15/2007	1538.7	3/10/2021	1540.0
8/12/2004	1539.6	9/28/2005	1539.4	5/31/2007	1538.4	6/18/2021	1538.7
8/16/2004	1539.6	10/12/2005	1539.0	6/29/2007	1538.1	7/1/2021	1538.4
8/26/2004	1539.6	10/21/2005	1538.8	8/8/2007	1538.1	9/3/2021	1539.1
9/3/2004	1540.4	11/4/2005	1538.8	9/11/2007	1537.2	12/13/2021	1539.1
9/10/2004	1539.5	11/17/2005	1538.3	11/2/2007	1537.2	3/10/2022	1540.1
9/27/2004	1540.1	12/29/2005	1537.8	12/14/2007	1537.3		
10/7/2004	1540.2	1/27/2006	1538.7	1/25/2008	1538.1		
10/15/2004	1540.1	2/1/2006	1538.8	3/4/2008	1540.7		
11/1/2004	1540.2	2/10/2006	1538.7	5/16/2008	1538.6		
11/11/2004	1540.4	2/17/2006	1538.8	5/22/2008	1538.4		
11/19/2004	1540.7	2/21/2006	1539.3	7/26/2011	1538.8		
11/23/2004	1540.6	3/1/2006	1539.5	5/8/2012	1538.7		
12/3/2004	1540.9	3/9/2006	1539.6	8/2/2012	1538.9		
12/17/2004	1541.0	3/13/2006	1539.6	11/8/2012	1537.6		
12/22/2004	1540.9	4/7/2006	1539.9	8/15/2013	1540.4		
12/30/2004	1541.0	4/14/2006	1539.9	8/20/2013	1540.3		
1/4/2005	1540.9	4/21/2006	1539.8	6/6/2014	1539.4		

Table 2-1
Vibrating Wire Piezometer Data
Lake Petit Dam, Big Canoe, GA

Piezometer ID: P-7B							
Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)
2/6/2004	1523.2	1/13/2005	1523.2	4/28/2006	1522.6	9/5/2014	1522.0
2/13/2004	1523.3	1/19/2005	1523.5	5/8/2006	1522.7	10/15/2014	1521.7
2/15/2004	1523.5	2/4/2005	1523.4	6/16/2006	1522.7	1/27/2015	1522.0
2/20/2004	1523.3	2/15/2005	1523.3	6/23/2006	1522.7	3/17/2015	1522.2
2/27/2004		2/25/2005	1523.3	6/30/2006	1522.7	6/15/2015	1522.2
3/12/2004	1523.5	3/4/2005	1523.3	7/17/2006	1522.6	9/2/2015	1522.0
3/19/2004	1523.6	3/11/2005	1523.1	7/24/2006	1522.5	10/21/2015	1522.2
3/27/2004	1523.7	3/18/2005	1523.2	8/10/2006	1522.4	3/2/2016	1522.8
3/30/2004	1523.2	3/24/2005	1523.2	8/17/2006	1522.6	4/4/2016	1522.4
4/7/2004	1523.1	4/1/2005	-	9/7/2006	1522.6	5/20/2016	1522.1
4/16/2004	1523.4	4/4/2005	1523.6	9/18/2006	1522.6	6/23/2016	1522.0
4/22/2004	1523.2	4/19/2005	1523.6	10/4/2006	1522.6	12/1/2016	1521.9
4/30/2004	1523.3	4/29/2005	1523.2	10/13/2006	-	6/28/2017	1528.1
5/7/2004	1523.3	5/6/2005	1523.2	10/19/2006	1522.4	1/26/2018	1522.6
5/13/2004	1523.3	5/13/2005	1523.2	11/10/2006	1522.5	12/14/2018	1522.7
5/21/2004	1523.2	5/19/2005	1523.0	11/17/2006	1522.6	4/3/2019	1522.8
6/2/2004	1523.1	5/27/2005	-	11/23/2006	1522.5	7/15/2019	1522.1
6/18/2004	1523.1	6/14/2005	1522.8	11/29/2006	-	3/9/2020	1523.7
6/29/2004	1523.2	6/22/2005	1523.0	12/12/2006	1523.0	5/12/2020	1522.7
7/6/2004	1523.2	7/18/2005	1523.2	12/20/2006	1522.8	6/17/2020	1522.3
7/22/2004	1523.1	8/5/2005	1523.1	1/3/2007	1523.0	7/21/2020	1522.1
7/26/2004	1523.1	8/19/2005	1523.0	1/12/2007	1523.3	11/20/2020	1522.6
8/6/2004	1522.8	9/7/2005	1523.1	5/15/2007	1522.4	3/10/2021	1523.1
8/12/2004	1522.8	9/28/2005	1522.8	5/31/2007	1522.1	6/18/2021	1522.4
8/16/2004	1523.2	10/12/2005	1522.8	6/29/2007	1522.1	7/1/2021	1522.4
8/26/2004	1523.1	10/21/2005	1522.6	8/8/2007	1522.4	9/3/2021	1522.5
9/3/2004	1523.4	11/4/2005	1522.6	9/11/2007	1522.1	12/13/2021	1522.6
9/10/2004	1523.1	11/17/2005	1522.9	11/2/2007	1522.1	3/10/2022	1522.8
9/27/2004	1523.0	12/29/2005	1522.5	12/14/2007	1522.2		
10/7/2004	1523.4	1/27/2006	1523.2	1/25/2008	1522.5		
10/15/2004	1522.7	2/1/2006	1523.2	3/4/2008	1522.6		
11/1/2004	1523.1	2/10/2006	1523.0	5/16/2008	1522.3		
11/11/2004	1523.3	2/17/2006	1523.0	5/22/2008	1522.2		
11/19/2004	1523.2	2/21/2006	1522.9	7/26/2011	1521.9		
11/23/2004	1523.0	3/1/2006	1522.8	5/8/2012	1522.2		
12/3/2004	1523.3	3/9/2006	1522.7	8/2/2012	1522.0		
12/17/2004	1523.8	3/13/2006	1522.8	11/8/2012	1522.1		
12/22/2004	1523.7	4/7/2006	1522.7	8/15/2013	-		
12/30/2004	1523.8	4/14/2006	1522.6	8/20/2013	1523.0		
1/4/2005	1523.7	4/21/2006	1522.5	6/6/2014	1522.1		

Table 2-1
Vibrating Wire Piezometer Data
Lake Petit Dam, Big Canoe, GA

Piezometer ID: P-2C							
Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)
2/6/2004	1594.7	1/19/2005	1595.7	6/16/2006	1594.4	3/17/2015	1595.5
2/13/2004	1594.6	2/4/2005	1595.6	6/23/2006	1594.5	6/15/2015	1606.8
2/15/2004	1594.8	2/15/2005	1595.5	6/30/2006	1594.4	9/2/2015	1595.0
2/20/2004	1594.7	2/25/2005	1595.4	7/17/2006	1594.3	10/21/2015	1595.0
2/27/2004	1594.7	3/4/2005	1595.3	7/24/2006	1594.2	3/2/2016	1596.9
3/12/2004	1594.9	3/11/2005	1595.3	8/10/2006	1594.0	4/4/2016	1596.5
3/19/2004	1594.9	3/18/2005	1595.3	8/17/2006	1594.0	5/20/2016	1595.8
3/27/2004	1594.9	3/24/2005	1595.3	9/7/2006	1593.8	6/23/2016	1595.3
3/30/2004	1595.0	4/1/2005	1595.4	9/18/2006	1593.6	12/1/2016	1593.4
4/7/2004	1595.0	4/4/2005	1595.4	10/4/2006	1593.4	6/28/2017	1595.8
4/16/2004	1594.9	4/19/2005	1595.7	10/13/2006	1593.3	1/26/2018	1595.5
4/22/2004	1594.9	4/29/2005	1596.0	10/19/2006	1593.3	12/14/2018	1595.7
4/30/2004	1594.9	5/6/2005	1595.9	11/10/2006	1593.2	4/3/2019	1604.2
5/7/2004	1594.9	5/13/2005	1595.9	11/17/2006	1593.1	7/15/2019	1595.9
5/13/2004	1594.9	5/19/2005	1595.8	11/23/2006	1593.1	3/9/2020	1597.6
5/21/2004	1594.9	5/27/2005	1595.9	11/29/2006	1593.0	5/12/2020	1596.9
6/2/2004	1594.8	6/14/2005	1595.4	12/12/2006	1593.5	6/17/2020	1596.4
6/18/2004	1594.7	6/22/2005	1595.3	12/20/2006	1593.6	7/21/2020	1595.9
6/29/2004	1594.6	7/18/2005	1595.2	1/3/2007	1593.6	11/20/2020	1596.0
7/6/2004	1594.5	8/5/2005	1595.4	1/12/2007	1593.8	3/10/2021	1596.4
7/22/2004	1594.7	8/19/2005	1595.5	5/15/2007	1594.1	6/18/2021	1595.8
7/26/2004	1594.7	9/7/2005	1595.4	5/31/2007	1594.1	7/1/2021	1596.1
8/6/2004	1594.6	9/28/2005	1595.3	6/29/2007	1593.8	9/3/2021	1596.5
8/12/2004	1594.8	10/12/2005	1595.1	8/8/2007	1593.8	12/13/2021	1596.2
8/16/2004	1594.7	10/21/2005	1595.0	9/11/2007	1593.5	3/10/2022	1595.6
8/26/2004	1594.6	11/4/2005	1595.1	11/2/2007	1593.1		
9/3/2004	1594.8	11/17/2005	1594.7	12/14/2007	1593.8		
9/10/2004	1594.6	12/29/2005	1594.6	1/25/2008	1592.9		
9/27/2004	1594.7	1/27/2006	1594.3	3/4/2008	1592.9		
10/7/2004	1594.8	2/1/2005	1594.3	5/16/2008	1590.7		
10/15/2004	1594.9	2/10/2006	1594.3	5/22/2008	1594.3		
11/1/2004	1595.0	2/17/2006	1594.2	7/26/2011	1594.8		
11/11/2004	1595.0	2/21/2006	1594.4	5/8/2012	1595.6		
11/19/2004	1595.1	3/1/2006	1594.5	8/2/2012	1595.1		
11/23/2004	1595.1	3/9/2006	1594.5	11/8/2012	1595.1		
12/3/2004	1595.2	3/13/2006	1594.5	8/15/2013	1596.9		
12/17/2004	1595.4	4/7/2006	1594.7	8/20/2013	1596.9		
12/22/2004	1595.5	4/14/2006	-	6/6/2014	1596.0		
12/30/2004	1595.6	4/21/2006	-	9/5/2014	1595.0		
1/4/2005	1595.7	4/28/2006	1601.2	10/15/2014	1594.7		
1/13/2005	1595.8	5/8/2006	1594.7	1/27/2015	1595.1		

Table 2-1
Vibrating Wire Piezometer Data
Lake Petit Dam, Big Canoe, GA

Piezometer ID: P-4C							
Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)
2/6/2004	1571.0	1/13/2005	1572.8	4/28/2006	1570.6	9/5/2014	1568.7
2/13/2004	1571.2	1/19/2005	1572.7	5/8/2006	1570.5	10/15/2014	1568.3
2/15/2004	1571.7	2/4/2005	1572.2	6/16/2006	1569.8	1/27/2015	1569.7
2/20/2004	1571.4	2/15/2005	1571.9	6/23/2006	1569.9	3/17/2015	1573.3
2/27/2004	1571.5	2/25/2005	1571.9	6/30/2006	1569.6	6/15/2015	1601.6
3/12/2004	1571.8	3/4/2005	1572.1	7/17/2006	1569.5	9/2/2015	1568.8
3/19/2004	1571.8	3/11/2005	1572.3	7/24/2006	1569.6	10/21/2015	1568.8
3/27/2004	1571.8	3/18/2005	1572.4	8/10/2006	1569.1	3/2/2016	1572.6
3/30/2004	1571.8	3/24/2005	1572.4	8/17/2006	1569.0	4/4/2016	1571.4
4/7/2004	1571.6	4/1/2005	1572.6	9/7/2006	1568.8	5/20/2016	1569.9
4/16/2004	1571.4	4/4/2005	1572.8	9/18/2006	1568.7	6/23/2016	1569.0
4/22/2004	1571.4	4/19/2005	1573.6	10/4/2006	1568.6	12/1/2016	1567.1
4/30/2004	1571.3	4/29/2005	1573.2	10/13/2006	1568.5	6/28/2017	1571.1
5/7/2004	1571.2	5/6/2005	1573.0	10/19/2006	1568.5	1/26/2018	1569.6
5/13/2004	1571.2	5/13/2005	1572.7	11/10/2006	1568.7	12/14/2018	1584.7
5/21/2004	1571.2	5/19/2005	1572.5	11/17/2006	1568.5	4/3/2019	1573.3
6/2/2004	1571.0	5/27/2005	1572.5	11/23/2006	1568.6	7/15/2019	1569.8
6/18/2004	1570.8	6/14/2005	1571.5	11/29/2006	1568.5	3/9/2020	1574.1
6/29/2004	1570.8	6/22/2005	1558.3	12/12/2006	1569.2	5/12/2020	1571.8
7/6/2004	1570.9	7/18/2005	1571.7	12/20/2006	1569.3	6/17/2020	1570.6
7/22/2004	1571.0	8/5/2005	1572.3	1/3/2007	1569.3	7/21/2020	1569.7
7/26/2004	1571.1	8/19/2005	1572.0	1/12/2007	1569.6	11/20/2020	1570.2
8/6/2004	1571.0	9/7/2005	1571.6	5/15/2007	1569.7	3/10/2021	1571.2
8/12/2004	1570.9	9/28/2005	-	5/31/2007	1569.4	6/18/2021	1570.3
8/16/2004	1570.9	10/12/2005	1570.8	6/29/2007	1568.8	7/1/2021	1570.3
8/26/2004	1570.8	10/21/2005	1570.5	8/8/2007	1568.8	9/3/2021	1571.2
9/3/2004	1571.6	11/4/2005	1570.5	9/11/2007	1568.5	12/13/2021	1570.3
9/10/2004	1570.6	11/17/2005	1570.1	11/2/2007	1568.2	3/10/2022	1571.5
9/27/2004	1571.1	12/29/2005	1569.9	12/14/2007	1567.9		
10/7/2004	1571.5	1/27/2006	1570.0	1/25/2008	1567.9		
10/15/2004	1571.5	2/1/2005	1570.0	3/4/2008	1568.4		
11/1/2004	1571.4	2/10/2006	1570.2	5/16/2008	1569.9		
11/11/2004	1571.4	2/17/2006	1570.3	5/22/2008	1569.8		
11/19/2004	1571.6	2/21/2006	1570.5	7/26/2011	1569.1		
11/23/2004	1571.6	3/1/2006	1570.7	5/8/2012	1570.4		
12/3/2004	1571.9	3/9/2006	1570.7	8/2/2012	1569.3		
12/17/2004	1572.6	3/13/2006	1570.7	11/8/2012	1568.2		
12/22/2004	1572.9	4/7/2006	1570.8	8/15/2013	1561.0		
12/30/2004	1573.0	4/14/2006	1570.8	8/20/2013	1573.1		
1/4/2005	1573.1	4/21/2006	1570.6	6/6/2014	1570.5		

Table 2-1
Vibrating Wire Piezometer Data
Lake Petit Dam, Big Canoe, GA

Piezometer ID: P-6C							
Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)
2/6/2004	1556.2	1/13/2005	1556.6	4/28/2006	1555.2	9/5/2014	1553.2
2/13/2004	1556.5	1/19/2005	1556.9	5/8/2006	1555.0	10/15/2014	1553.6
2/15/2004	1556.6	2/4/2005	1556.8	6/16/2006	1554.0	1/27/2015	1554.5
2/20/2004	1556.4	2/15/2005	1556.5	6/23/2006	1554.0	3/17/2015	1554.7
2/27/2004	1556.4	2/25/2005	1556.8	6/30/2006	1554.4	6/15/2015	1554.0
3/12/2004	1556.4	3/4/2005	1556.8	7/17/2006	1554.0	9/2/2015	1553.1
3/19/2004	1556.2	3/11/2005	1556.7	7/24/2006	1554.1	10/21/2015	1553.8
3/27/2004	1556.4	3/18/2005	1556.8	8/10/2006	1553.3	3/2/2016	1555.7
3/30/2004	1556.1	3/24/2005	1556.8	8/17/2006	1553.6	4/4/2016	1554.8
4/7/2004	1555.7	4/1/2005	1559.8	9/7/2006	1553.6	5/20/2016	1553.6
4/16/2004	1556.1	4/4/2005	1557.4	9/18/2006	1553.7	6/23/2016	1552.5
4/22/2004	1540.0	4/19/2005	1557.0	10/4/2006	1553.6	12/1/2016	1551.9
4/30/2004	1556.0	4/29/2005	1556.8	10/13/2006	-	6/28/2017	1554.7
5/7/2004	1555.9	5/6/2005	1556.9	10/19/2006	1554.0	1/26/2018	1554.0
5/13/2004	1555.9	5/13/2005	1556.4	11/10/2006	1554.0	12/14/2018	1555.1
5/21/2004	1555.9	5/19/2005	1556.2	11/17/2006	1554.1	4/3/2019	1555.2
6/2/2004	1555.6	5/27/2005	1556.1	11/23/2006	1554.1	7/15/2019	1553.3
6/18/2004	1539.6	6/14/2005	1556.4	11/29/2006	1554.2	3/9/2020	1556.1
6/29/2004	1539.7	6/22/2005	1556.0	12/12/2006	1554.7	5/12/2020	1554.7
7/6/2004	1556.0	7/18/2005	1556.8	12/20/2006	1554.5	6/17/2020	1554.0
7/22/2004	1555.5	8/5/2005	1556.1	1/3/2007	1555.3	7/21/2020	1553.0
7/26/2004	1555.6	8/19/2005	1556.1	1/12/2007	1555.7	11/20/2020	1554.4
8/6/2004	1555.3	9/7/2005	1555.7	5/15/2007	1553.8	3/10/2021	1554.8
8/12/2004	1555.1	9/28/2005	1555.2	5/31/2007	1553.3	6/18/2021	1553.7
8/16/2004	1555.5	10/12/2005	1555.1	6/29/2007	1553.3	7/1/2021	1554.1
8/26/2004	1555.5	10/21/2005	1554.7	8/8/2007	1553.5	9/3/2021	1554.8
9/3/2004	1556.5	11/4/2005	1554.7	9/11/2007	1553.0	12/13/2021	1554.4
9/10/2004	1555.7	11/17/2005	1554.9	11/2/2007	1552.8	3/10/2022	1555.0
9/27/2004	1555.9	12/29/2005	1554.9	12/14/2007	1553.0		
10/7/2004	1556.2	1/27/2006	1555.9	1/25/2008	1553.8		
10/15/2004	1555.7	2/1/2005	1556.0	3/4/2008	1554.1		
11/1/2004	1555.9	2/10/2006	1555.9	5/16/2008	1554.7		
11/11/2004	1556.2	2/17/2006	1555.8	5/22/2008	1554.3		
11/19/2004	1556.3	2/21/2006	1555.7	7/26/2011	1553.3		
11/23/2004	1556.4	3/1/2006	1555.7	5/8/2012	1554.2		
12/3/2004	1556.6	3/9/2006	1555.5	8/2/2012	1553.3		
12/17/2004	1557.1	3/13/2006	1555.6	11/8/2012	1552.6		
12/22/2004	1556.9	4/7/2006	1555.3	8/15/2013	1555.9		
12/30/2004	1557.1	4/14/2006	1555.3	8/20/2013	1556.0		
1/4/2005	1557.0	4/21/2006	1555.3	6/6/2014	1554.3		

Table 2-1
Vibrating Wire Piezometer Data
Lake Petit Dam, Big Canoe, GA

Piezometer ID: P-7C							
Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)	Date of reading	Water Elevation (ft. MSL)
2/6/2004	1528.4	1/19/2005	1528.6	6/16/2006	1527.1	3/17/2015	1527.5
2/13/2004	1528.6	2/4/2005	1528.6	6/23/2006	1527.1	6/15/2015	1527.3
2/15/2004	1528.2	2/15/2005	1528.6	6/30/2006	1527.5	9/2/2015	1527.2
2/20/2004	1528.7	2/25/2005	1528.8	7/17/2006	1527.7	10/21/2015	1527.4
2/27/2004	1527.7	3/4/2005	1528.8	7/24/2006	1527.8	3/2/2016	1529.0
3/12/2004	1528.2	3/11/2005	1528.8	8/10/2006	1527.4	4/4/2016	1527.3
3/19/2004	1528.2	3/18/2005	1528.8	8/17/2006	1527.5	5/20/2016	1527.1
3/27/2004	1528.2	3/24/2005	1528.9	9/7/2006	1527.7	6/23/2016	1526.5
3/30/2004	1528.1	4/1/2005	1530.5	9/18/2006	1527.6	12/1/2016	1527.0
4/7/2004	1528.0	4/4/2005	1527.9	10/4/2006	1527.7	6/28/2017	1527.4
4/16/2004	1528.0	4/19/2005	1528.3	10/13/2006	-	1/26/2018	1527.6
4/22/2004	1527.6	4/29/2005	1528.1	10/19/2006	1527.5	12/14/2018	1527.8
4/30/2004	1527.8	5/6/2005	1528.2	11/10/2006	1527.7	4/3/2019	1528.0
5/7/2004	1528.0	5/13/2005	1528.2	11/17/2006	1527.8	7/15/2019	1527.3
5/13/2004	1528.0	5/19/2005	1528.1	11/23/2006	1527.8	3/9/2020	1528.4
5/21/2004	1528.2	5/27/2005	1528.0	11/29/2006	1527.7	5/12/2020	1527.8
6/2/2004	1527.4	6/14/2005	1528.5	12/12/2006	1528.0	6/17/2020	1527.7
6/18/2004	1528.0	6/22/2005	1528.6	12/20/2006	1527.9	7/21/2020	1526.9
6/29/2004	1528.3	7/18/2005	1528.6	1/3/2007	1528.0	11/20/2020	1527.4
7/6/2004	1528.5	8/5/2005	1528.0	1/12/2007	1528.3	3/10/2021	1528.0
7/22/2004	1527.6	8/19/2005	1528.5	5/15/2007	1526.6	6/18/2021	1527.2
7/26/2004	1527.7	9/7/2005	1528.1	5/31/2007	1526.9	7/1/2021	1527.7
8/6/2004	1527.8	9/28/2005	1527.5	6/29/2007	1527.4	9/3/2021	1527.7
8/12/2004	1527.9	10/12/2005	1527.9	8/8/2007	1527.2	12/13/2021	1527.4
8/16/2004	1528.0	10/21/2005	1528.1	9/11/2007	1527.2	3/10/2022	1528.2
8/26/2004	1528.2	11/4/2005	1528.2	11/2/2007	1527.4		
9/3/2004	1528.0	11/17/2005	1527.8	12/14/2007	1527.2		
9/10/2004	1527.9	12/29/2005	1527.7	1/25/2008	1527.3		
9/27/2004	1528.4	1/27/2006	1528.0	3/4/2008	1527.1		
10/7/2004	1527.8	2/1/2005	1528.0	5/16/2008	1527.4		
10/15/2004	1527.9	2/10/2006	1527.9	5/22/2008	1527.4		
11/1/2004	1528.2	2/17/2006	1527.8	7/26/2011	1527.0		
11/11/2004	1528.0	2/21/2006	1528.0	5/8/2012	1527.0		
11/19/2004	1528.3	3/1/2006	1528.1	8/2/2012	1527.4		
11/23/2004	1528.3	3/9/2006	1528.1	11/8/2012	1527.0		
12/3/2004	1528.5	3/13/2006	1528.0	8/15/2013	-		
12/17/2004	1528.3	4/7/2006	1527.9	8/20/2013	1528.2		
12/22/2004	1528.3	4/14/2006	1527.9	6/6/2014	1527.3		
12/30/2004	1528.5	4/21/2006	1527.8	9/5/2014	1527.1		
1/4/2005	1528.6	4/28/2006	1527.5	10/15/2014	1527.1		
1/13/2005	1528.5	5/8/2006	1527.4	1/27/2015	1527.2		

**Table 2-2
Standpipe Piezometer Water Elevation Data**

	22-Oct-98	23-Oct-98	26-Oct-98	29-Oct-98	3-Jan-07	19-Jan-07	22-May-08	20-Aug-13	15-Nov-14	20-Oct-15
Water Elevation (ft MSL)										
G-1A Shallow	1593.68	1593.43	1593.42	1593.67	1592.84	1592.84	1593.73	1599.59	1594.43	1594.00
G-1A Deep	1577.07	1576.93	1576.51	1576.92	1575.59	1575.59	1577.81	1581.31	1576.46	1576.46
G-1B	1580.87	1583.84	1583.85	1583.89	1583.44	1583.44	1583.98	-- ^a	1582.85	1583.07
G-2 Shallow	1566.23	1566.12	1566.06	1566.07	1566.70	1569.25	1567.50	1571.20	1565.52	1567.79
G-2 Intermediate	1588.90	1558.68	1558.81	1559.00	1534.17	*	1553.65	1557.40	1560.36	1555.68
G-2 Deep	1553.41	1553.71	1553.52	1553.75	1518.64	*	1554.00	1553.77	1554.46	1552.96
G-3	1531.94	1531.93	1531.92	1531.95	N/A	1533.82	1533.64	1535.49	1533.04	1533.08
	23-Jun-16	26-Jan-18	9-Mar-20	12-May-20	17-Jun-20	21-Jul-20	20-Nov-20	11-Mar-21	1-Jul-21	3-Sep-21
Water Elevation (ft MSL)										
G-1A Shallow	1595.86	1596.72	1601.9	1600.11	1598.68	1597.45	1597.86	1600.25	1598.20	1599.90
G-1A Deep	1577.10	1577.45	1582.08	1580.99	1579.61	1578.44	1579.23	1580.54	1579.64	1579.64
G-1B	1582.85	1582.93	1586.32	1586.41	1585.61	1584.93	1584.93	1585.84	1585.22	1586.04
G-2 Shallow	1566.51	1567.78	1575.95	1571.95	1569.88	1568.22	1569.98	1571.45	1570.28	1574.30
G-2 Intermediate	1556.22	1558.56	1562.62	1561.28	1559.33	1559.53	1559.70	1559.78	1560.11	1560.95
G-2 Deep	1553.09	1552.99	1555.39	1553.82	1553.82	1552.89	1553.35	1554.05	1553.38	1553.86
G-3	1533.24	1533.48	1536.84	1534.77	1534.77	1533.44	1533.73	1535.4	1534.24	1534.73
	13-Dec-21	14-Mar-22								
Water Elevation (ft MSL)										
G-1A Shallow	1597.82	1599.7								
G-1A Deep	1579.18	1580.64								
G-1B	1584.80	1585.16								
G-2 Shallow	1569.52	1573.20								
G-2 Intermediate	1569.52	1573.20								
G-2 Deep	1559.97	1560.97								
G-3	1553.09	1551.56								

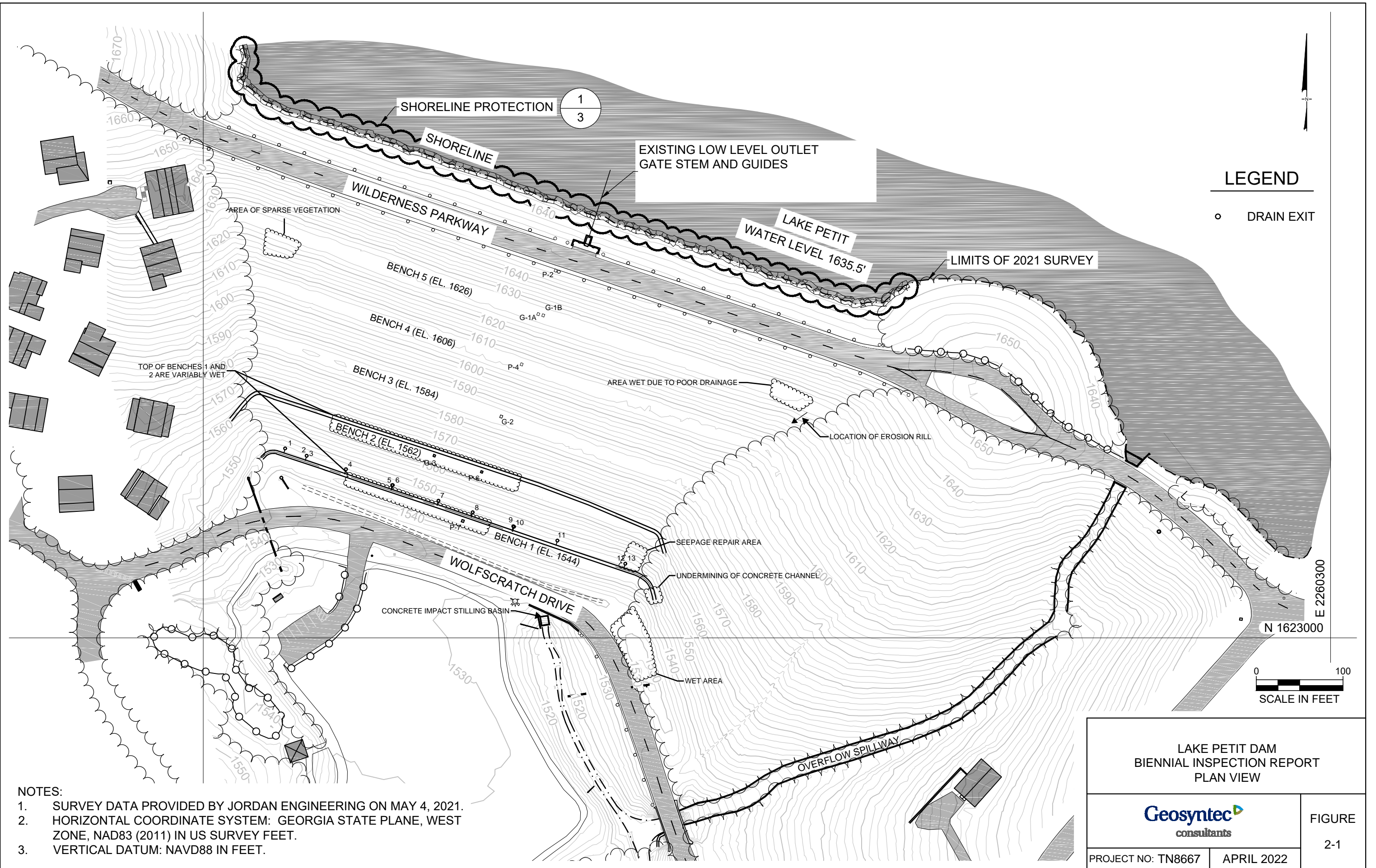
Note:

* water levels noted as anomolous on 3 Jan 2007. Re-measured 19 Jan 2007, and levels more consistent with previous readings

a - No measurement in standpipe G-1B on 20 August 2013. Unable to locate due to overgrown grass

FIGURES

L:\CADD\BIG CADD\DRAWINGS\17833 PH. 09 - SHORELINE PROTECTION\17833 9-C02 - Last Saved by: CBerdar on 8/19/21



- NOTES:
1. SURVEY DATA PROVIDED BY JORDAN ENGINEERING ON MAY 4, 2021.
 2. HORIZONTAL COORDINATE SYSTEM: GEORGIA STATE PLANE, WEST ZONE, NAD83 (2011) IN US SURVEY FEET.
 3. VERTICAL DATUM: NAVD88 IN FEET.

LEGEND

○ DRAIN EXIT

LAKE PETIT DAM
 BIENNIAL INSPECTION REPORT
 PLAN VIEW



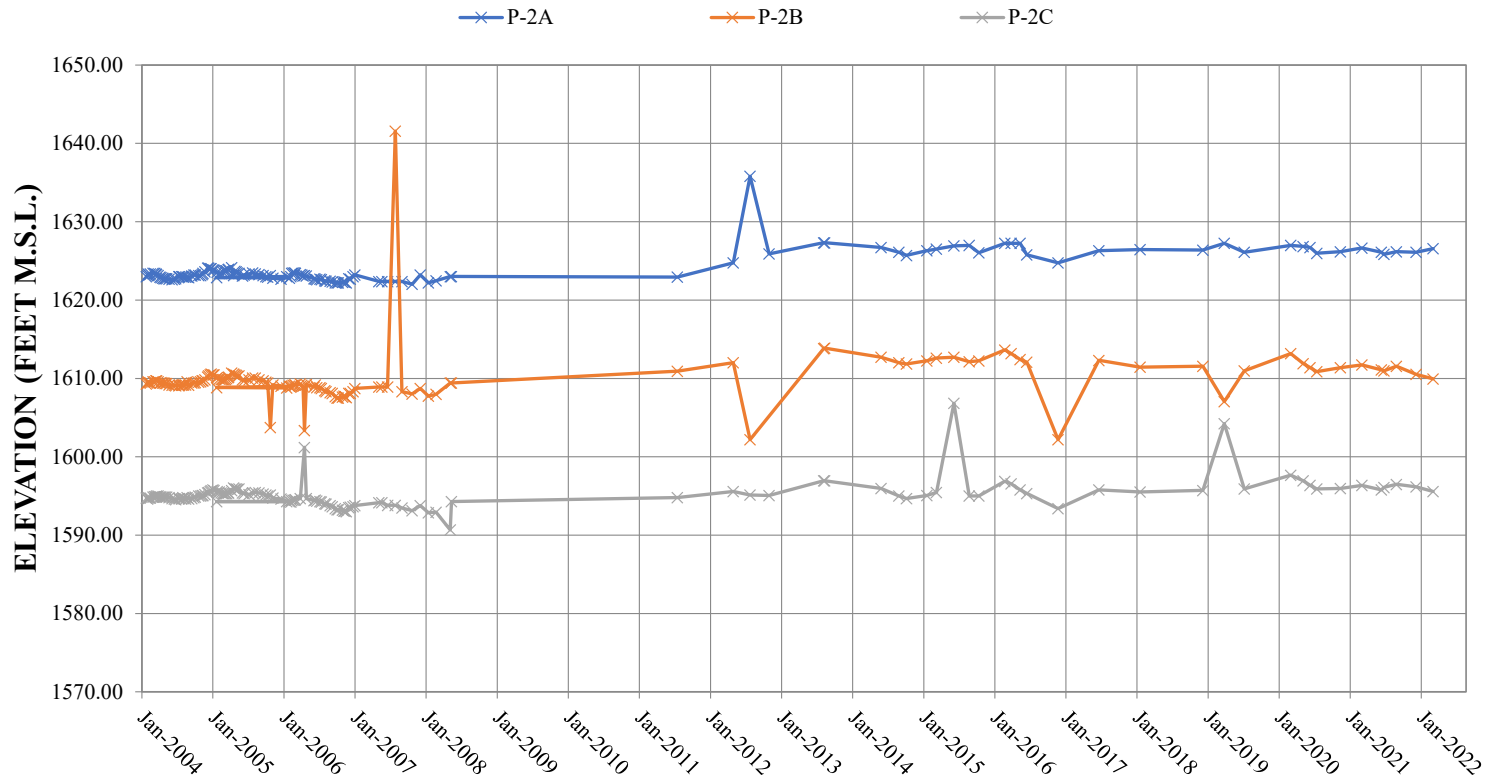
FIGURE

2-1

PROJECT NO: TN8667

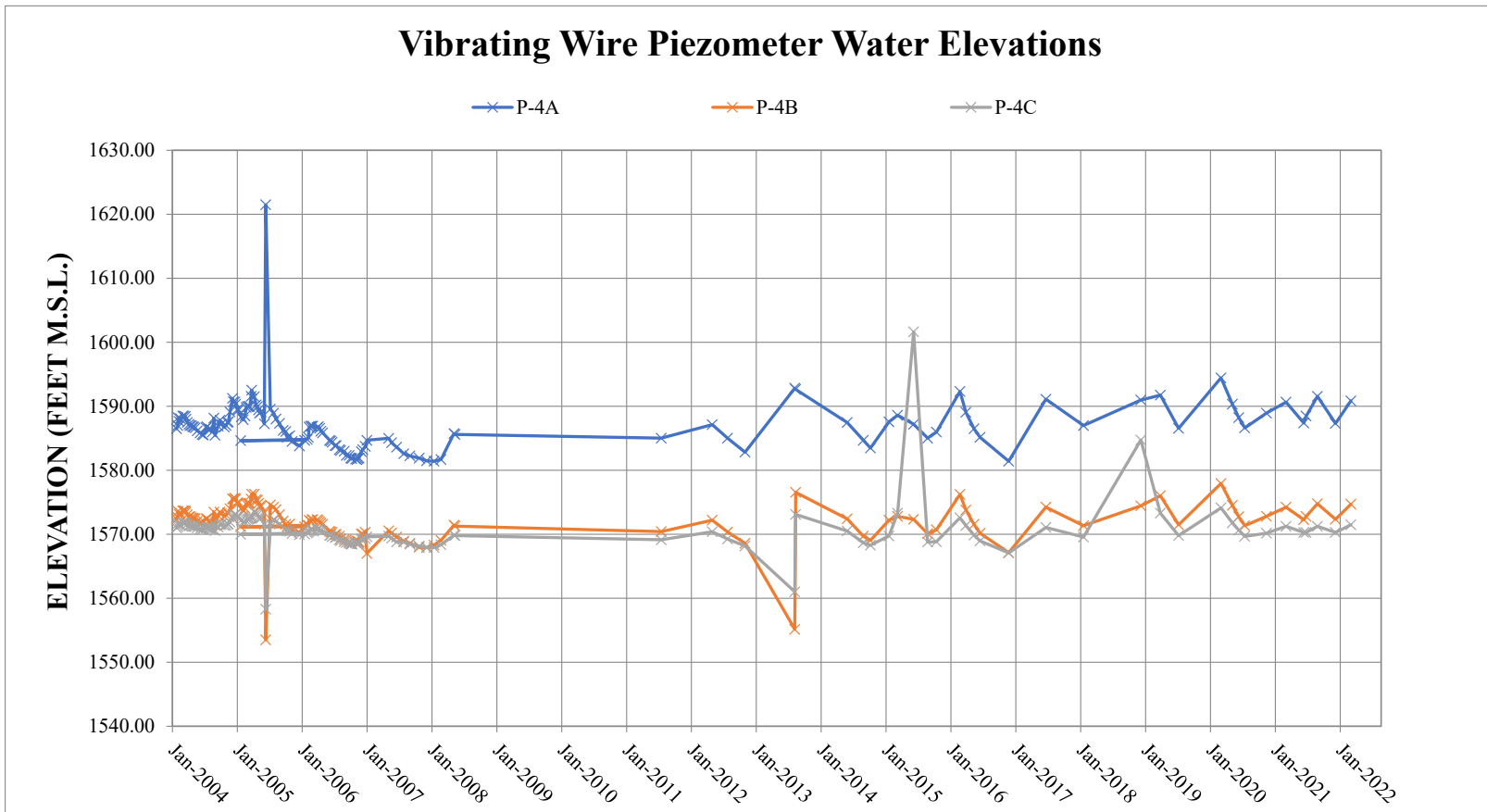
APRIL 2022

Vibrating Wire Piezometer Water Elevations



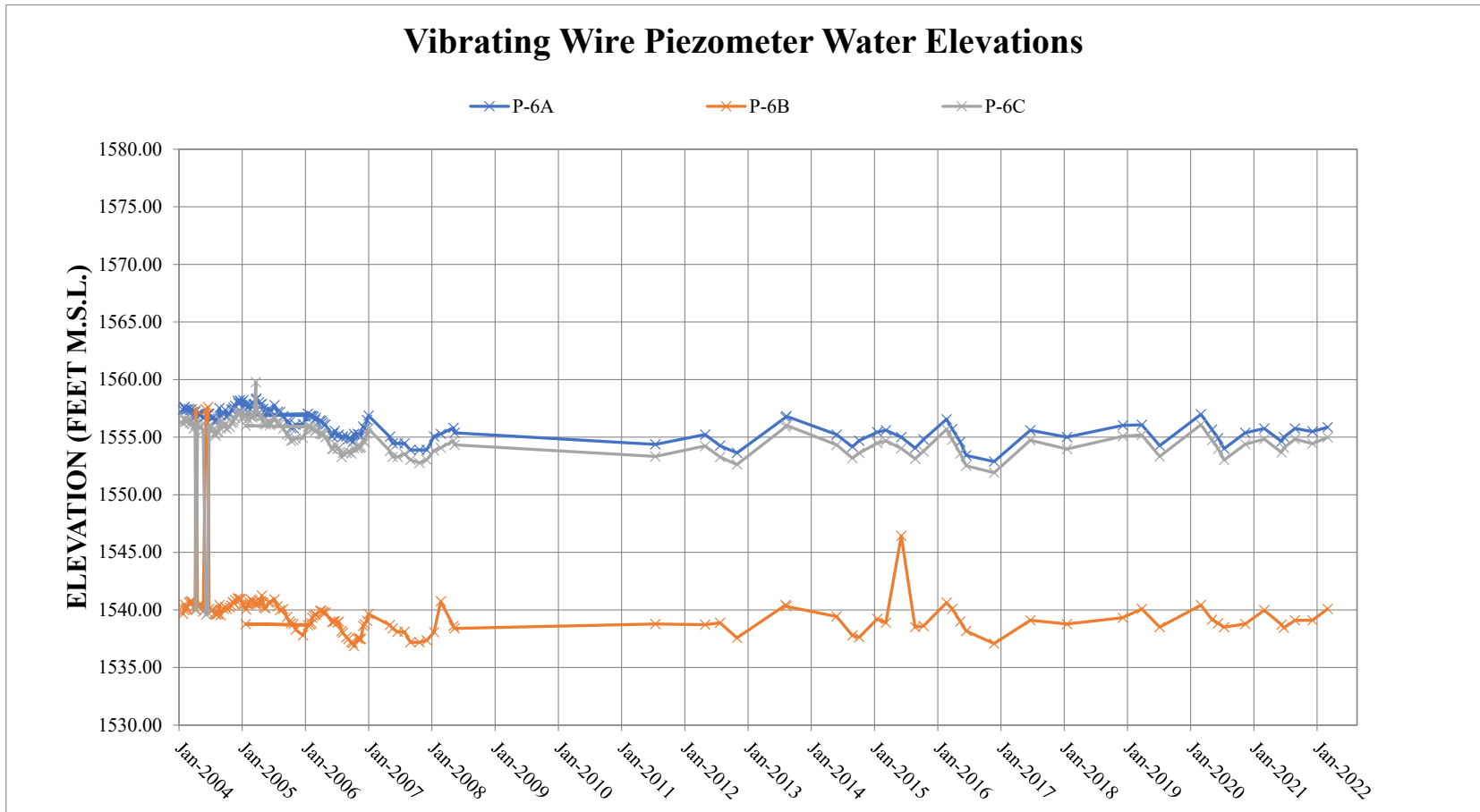
Note: Historical data anomalies generally appear to be the result of transcription errors.

Figure 2-2. Summary of Vibrating Wire Piezometer Data, P-2A, B, C (Feb 2004 through March 2022) - Lake Petit Dam, Big Canoe, GA



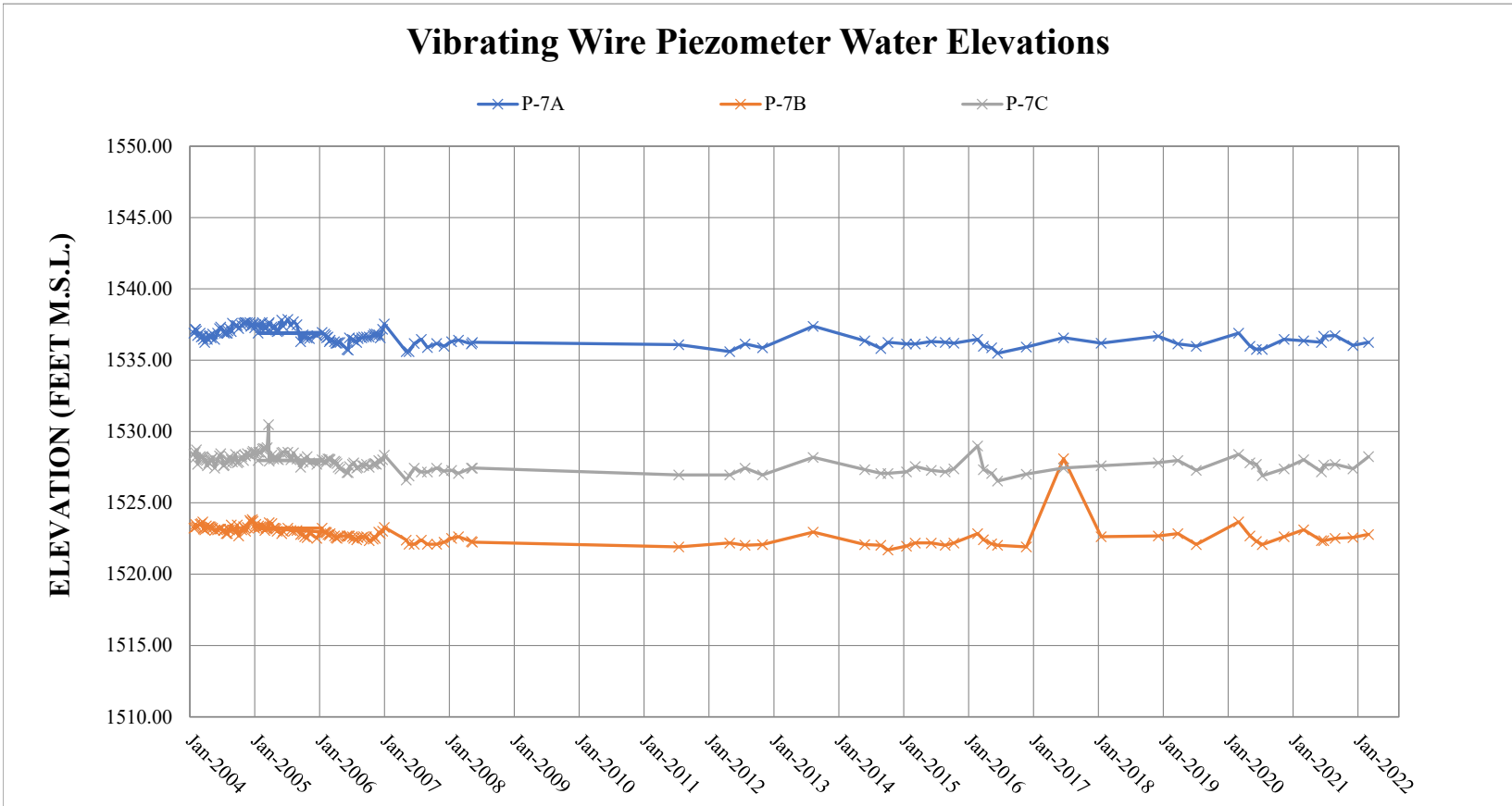
Note: Historical data anomalies generally appear to be the result of transcription errors.

Figure 2-3. Summary of Vibrating Wire Piezometer Data, P-4A, B, C (Feb 2004 through March 2022) - Lake Petit Dam, Big Canoe, GA



Note: Historical data anomalies generally appear to be the result of transcription errors.

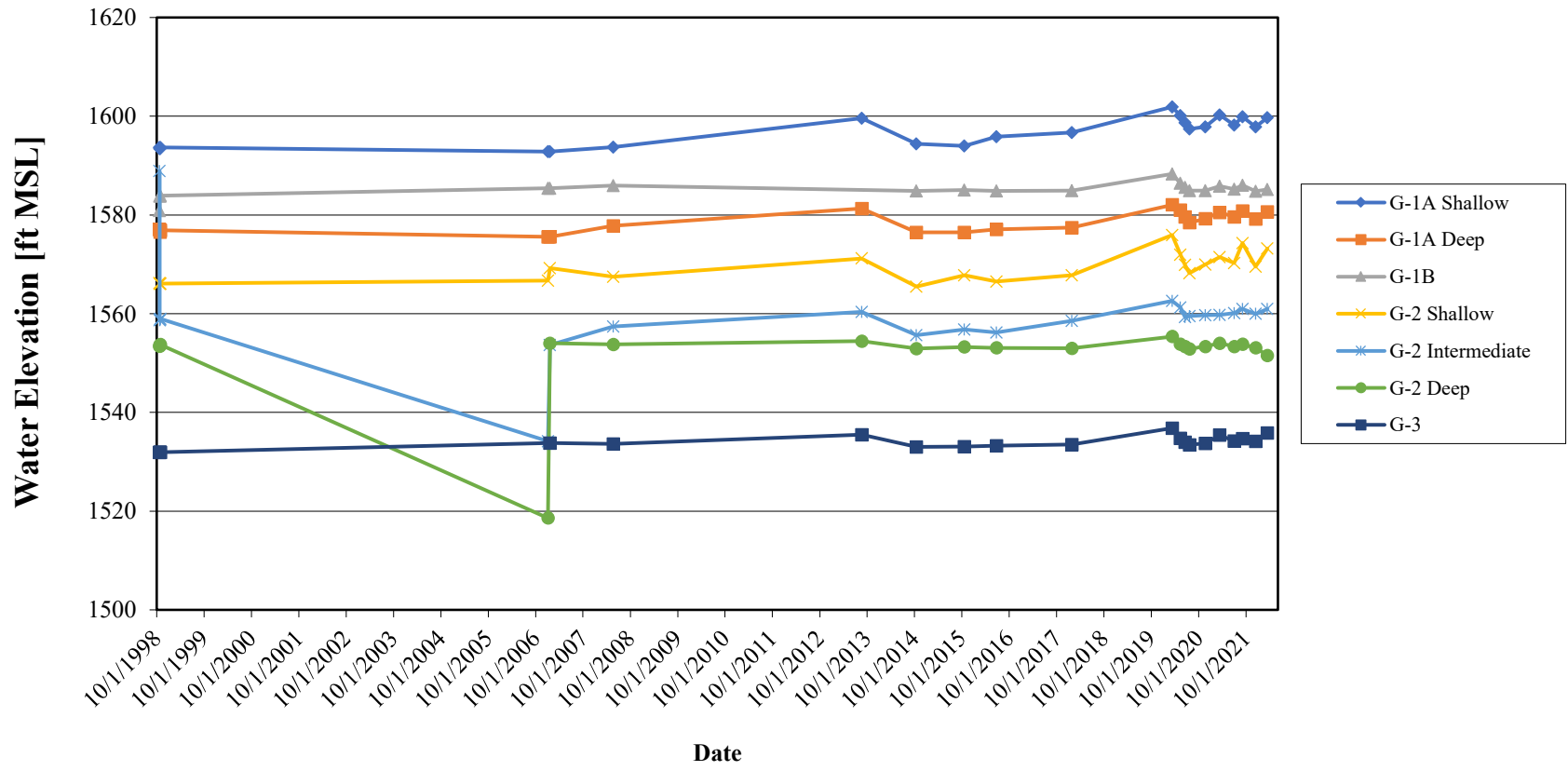
Figure 2-4. Summary of Vibrating Wire Piezometer Data, P-6A, B, C (Feb 2004 through March 2022) - Lake Petit Dam, Big Canoe, GA



Note: Historical data anomalies generally appear to be the result of transcription errors.

Figure 2-5. Summary of Vibrating Wire Piezometer Data, P-7A, B, C (Feb 2004 through March 2022) - Lake Petit Dam, Big Canoe, GA

Standpipe Piezometer Water Elevations



Note: G-2 water levels noted as anomolous on 3 Jan 2007. Re-measured 19 Jan 2007, and levels more consistent with previous readings.

**Figure 2-6. Summary of Standpipe Piezometer Data
(Oct 1998 through March 2022) - Lake Petit Dam, Big Canoe, GA.**

APPENDIX A
Georgia EPD Safe Dams Program Embankment
(Earth) Dam Inspection Forms

Georgia EPD Safe Dams Program Embankment (Earth) Dam Inspection Form – 2022 Engineer Inspection

Embankment (Earth) Dam Inspection Form

Name of Dam: Lake Petit Dam Date: 09 to 10 March 2022

Location of Dam (County): Pickens County Weather: Sunny, 70 degrees F

Inspected by (Print Name): Conrad Ginther, PE, Edisson O. Avila, E.I.

If an inspection item requires further action on your part, place a check mark to the left of the number of the item

A. Crest (refer to Glossary for description)

1. How would you describe the vegetation on the crest? (Check all that apply)
Recently Mowed X Overgrown _____ Good Cover X Sparse _____
Other/Corrective Action (describe): The crest of the dam is an asphalt paved road. Vegetation on either side of the road was observed to be well-maintained.
2. Are there any trees or other inappropriate or excessive vegetation on the crest? Yes _____ No X
If yes, describe (type of vegetation, size, location, etc.)/Corrective Action: N/A
3. Is there a paved road or driveway on the crest? Yes X No _____
If yes, describe the condition (for example, good condition, numerous cracks, newly paved)/Corrective Action: Good condition. Paved in 2012.
4. Are there any depressions, ruts or holes on the crest? Yes _____ No X
If yes, describe (size, location, etc.)/Corrective Action: N/A
5. Are there any cracks on the crest? Yes X No _____
If yes, describe (length and width, location, direction of cracking, etc.)/Corrective Action: Minor pavement cracks associated with normal pavement wear were noted. These cracks are not associated with embankment deformations.
6. Other observations on the crest/Corrective Action: Maintenance repairs to the shoreline protection on the upstream slope had begun at the time of inspection. Disturbed areas along the crest will be stabilized and seeded upon conclusion of repairs. See photos.

B. Upstream Slope (refer to Glossary for description)

1. What is the reservoir level today? At Normal Pool ___ Above Normal Pool ___ Feet Below Normal Pool 3.4 Feet
2. How would you describe the vegetation on the upstream slope? (Check all that apply)
Recently Mowed X Overgrown _____ Good Cover X Sparse _____
Other/Corrective Action (describe): This area is well-seeded and maintained short grass. Repairs to the shoreline protection were underway at the time of inspection. Disturbance to vegetation will be stabilized and reseeded on conclusion of repairs. See photos.
3. Are there any trees or other inappropriate or excessive vegetation on the slope? Yes _____ No X
If yes, describe (type of vegetation, size, location, etc.)/Corrective Action: N/A
4. Are there any depressions, bulges, ruts or holes (such as animal burrows) on the slope? Yes _____ No X
If yes, describe (size, location, etc.)/Corrective Action: N/A
5. Are there any eroded areas on the slope (such as wave erosion along the shoreline)? Yes X No _____
If yes, describe (size of area, location, severity, etc.)/Corrective Action: Repairs to re-establish shoreline protection on the upstream slope and repair beaching were underway at the time of inspection (see item B.7)

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam

Date: 09 to 10 March 2022

B. Upstream Slope (continued)

- 6. Are there any cracks, sloughs or slides (vertical cliffs) on the slope? Yes _____ No X
If yes, describe (length, width, height, location, etc.)/Corrective Action: N/A

- 7. Is there any type of slope protection along the shoreline (such as rip rap)? Yes X No _____
If yes, describe what type and its condition (for example, rip rap - adequate, inadequate, sparse)/Corrective Action: _____
Reservoir level was reduced 3.4 feet and repairs to the shoreline protection were underway on the left half of the upstream slope at the time of inspection. Upon completion repairs will provide a consistent layer of rip rap 5 feet above and 3 feet below the normal reservoir level.
Update 18 April 2022: Repairs to shoreline protection were completed 14 April 2022. See enclosed photos.

- 8. Other observations on the upstream slope/Corrective Action: No other observations.

C. Downstream Slope (refer to Glossary for description)

- 1. How would you describe the vegetation on the downstream slope? (Check all that apply)
Recently Mowed X Overgrown _____ Good Cover X Sparse _____
Other/Corrective Action (describe): Grass observed to provide generally good cover. Continue to mow at an increased frequency to prevent the establishment of unwanted vegetation and animal burrows. One area on the 5th (El. 1626) bench near the right abutment was observed to have light vegetal cover and should have topsoil added and be seeded.

- 2. Are there any trees or other inappropriate or excessive vegetation on the slope? Yes _____ No X
If yes, describe (type of vegetation, size, location, etc.)/Corrective Action: Continue to maintain abutment contacts and monitor health of adjacent trees.

- 3. Are there any depressions, bulges, ruts or holes (such as animal burrows) on the slope? Yes X No _____
If yes, describe (size, location, etc.)/Corrective Action: Several minor animal burrows/digging locations, ant hills and one post hole where a sign has been removed were observed on the downstream face. Continued normal maintenance and filling of holes/burrows is required.

- 4. Are there any eroded areas on the slope (such as along abutment contacts)? Yes X No _____
If yes, describe (size of area, location, severity, etc.)/Corrective Action: Minor erosion exists on the abutments off of the embankment where surface drainage concentrates/discharges.

- 5. Are there any cracks, sloughs or slides (vertical cliffs) on the slope? Yes _____ No X
If yes, describe (length, width, height, location, etc.)/Corrective Action: N/A

- 6. Are there any wet areas or areas of hydrophilic (lush, water-loving) vegetation? Yes X No _____
If yes, describe (size of area, location, etc.)/Corrective Action: Prior to this inspection a previously identified seepage area between the benches at El. 1544 and El. 1562 had been repaired by stripping vegetation and wet soil and placement of a two-stage filter on the slope.
Portions of the top of the benches at El 1544 and 1562 were wet and slightly soft. The concrete gutters on these benches have areas of deteriorated concrete and open joints that likely contribute to the localized wet areas on these benches during rainy periods. Designs for drainage improvements on these benches are underway. On the other benches the earthen swales

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam

Date: 09 to 10 March 2022

that convey surface drainage to either abutment had some areas of ponded water at the time of inspection. While this is not an immediate dam safety issue, the swales are very flat and slow draining and would benefit from periodic regrading to ensure positive drainage is maintained.

On the left abutment near the embankment toe a persistent wet area has been noted. The area collects most of the surface runoff from the left side of the embankment and doesn't drain well to an inlet further left along Wolfscratch Rd. Regrading the area to facilitate drainage to the inlet would improve conditions.

7. Do any wet areas indicate seepage through the dam (such as rust-colored, stained water)? Yes _____ No X N/A _____
If yes, describe (for example, new area of seepage, no change from past observations, size of area, location) /Corrective Action: See discussion of seepage repair in item C.6.

8. Are there any leaks (flowing water) from the slope or beyond the toe of the dam? Yes X No _____
If yes, describe (location, rate of flow, turbidity of flow)/Corrective Action: Small volume flows of clear water continue to issue from the interceptor drains along Bench 1 (El. 1544). Continue to monitor the drains and weirs for changes in flow amount and turbidity.

9. Other observations on the downstream slope/Corrective Action: The weirs on the left and right abutments were located. Both weirs were flowing slightly and were generally clean. The left weir has a tendency to become clogged with vegetation/debris (sediment) and requires cleaning out regularly.

D. Plunge Pool (refer to Glossary for description)

1. Is there any type of erosion protection around the plunge pool (such as rip rap)? Yes _____ No X
If yes, describe what type and its condition (for example, rip rap - adequate, inadequate, obstructed by vegetation) /Corrective Action: There is no plunge pool. Downstream from the impact-type stilling basin there is not rip rap, however, based on current operations it does not appear to be needed.

2. Is there any erosion and or seeps around or going into the plunge pool? Yes _____ No X
If yes, describe (size of area, location, severity, etc.) /Corrective Action: A drainpipe right of the stilling basin observed to be discharging clear water.

3. Other observations around the plunge pool/Corrective Action: The area of the stilling basin and downstream channel has been recently cleared.

E. Principal and Emergency Spillways (refer to Glossary for description)

1. What types of spillways does the dam have (such as corrugated metal, concrete or siphon pipe; concrete or earth channel)?
Principal Spillway Gunite, Stepped Spillway Emergency Spillway None, other than a low-level outlet pipe.
Other/Corrective Action: N/A

2. Has the emergency spillway activated (had flow) since the last inspection? Yes _____ No X
If yes describe (date(s) of flow, reason for activation, depth of flow) /Corrective Action: A dive inspection of the sluice gate structure which serves as the intake for the low-level outlet was completed in September 2020. A camera inspection of the low-level outlet conduit was completed in December 2020. Both inspections indicated that the inlet structure and pipe are in generally fair to good condition.

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam Date: 09 to 10 March 2022

- 3. For pipe spillways, is the intake obstructed in any way (such as with excessive debris)? Yes _____ No X
If yes, describe (type of debris, reason for obstruction, etc.)/Corrective Action: The intake for the low-level outlet is not visible from the surface, but was inspected by a dive team in September 2020. The sluice gate structure was noted to not have been obstructed by sediment or debris following cleaning by divers during that inspection.

- 4. For pipe spillways, what is the condition of any trash racks (for example, adequate, inadequate, damaged)? /Corrective Action: The intake for the low-level outlet is not visible from the surface but was inspected by a dive team in September 2020. The sluice gate structure was noted to have an intact trash rack by the divers.

- 5. For pipe spillways, are there any visible cracks, separations or holes in the pipe(s) (intake or outlet)? Yes _____ No X
If yes, describe (location, width of crack or separation, etc.)/Corrective Action: Recent dive inspections of the pipe's inlet did not identify any cracks, separations, or holes. The recent camera inspection rated the pipe in fair to good condition.

- 6. For pipe spillways, are there any apparent leaks in the pipe(s)? Yes _____ No X
If yes, describe (location, rate of flow from leak, etc.)/Corrective Action: A camera inspection of the low-level outlet pipe was completed in December 2020. The inspection identified a few pipe joints with calcite formations, indicating minor seepage, but otherwise did not identify any apparent leaks or issues with the conduit's overall condition.

- 7. For pipe spillways, how would you describe the overall condition of the pipe(s)? (Check all that apply)
Functioning Normally X Not Functional _____ Deteriorated _____ Damaged _____ Adequate _____ Inadequate _____

- 8. For concrete or earth channel spillways, is the entrance or channel obstructed in any way? Yes _____ No X
If yes, describe (type of obstruction, location, etc.)/Corrective Action: Some accumulation of leaves and pine needles were observed along the spillway crest, but these did not appear to impact the function of the spillway as it was observed to be functioning normally.

- 9. For earth channel spillways, how would you describe the vegetation in the spillway? (Check all that apply)
Recently Mowed _____ Overgrown _____ Good Cover _____ Sparse _____
Other (describe)/Corrective Action: N/A

- 10. For earth channel spillways, are there any trees or other inappropriate vegetation in the spillway? Yes _____ No _____
If yes, describe (type of vegetation, size, location, etc.)/Corrective Action: N/A

E. Principal and Emergency Spillways (continued)

- 11. For earth channel spillways, are there any eroded areas in the spillway? Yes _____ No _____
If yes, describe (size of area, location, severity, etc.)/Corrective Action: N/A

- 12. For concrete channel spillways, are there any cracks or holes in the spillway? Yes X No _____
If yes, describe (width of crack or hole, location, etc.)/Corrective Action: The spillway was dewatered in December 2021 to enable a detailed inspection of the chute. Observations made during this inspection were used to develop a scope of work for maintenance repairs to the spillway which include grout injection, surface patching of cracks, and full depth repairs of localized areas of several locations.
Update 18 April 2022: Maintenance repairs to the spillway are expected to be completed by the end of April 2022. See attached photos.

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam

Date: 09 to 10 March 2022

13. For concrete channel spillways, are there any leaks or evidence of undermining (flow under the concrete)? Yes X No
 If yes, describe (location, rate of flow from leak, indicators of undermining, etc.)/Corrective Action: See notes for Item E.12.
14. For earth or concrete channel spillways, how would you describe the overall condition of the spillway? (Check all that apply)
 Functioning Normally X Not Functional Deteriorated Damaged Adequate Inadequate
15. Other observations on the spillways/Corrective Action: Interim maintenance repairs for the spillway were being performed at the time of the follow up inspection.

F. Instrumentation (refer to Glossary for description)

1. Are there any toe drains at the downstream toe or any other seepage drains on the dam? Yes X No
 If yes, describe the condition (for example, clogged, free flowing, deteriorated, good condition) /Corrective Action: The drain at the toe of the dam had flow into it and the interceptor drains along Bench No. 1 (El. 1544) were identified. All interceptor drains, were observed to have minimal clear flow. The final drain at the left abutment contact is now buried in the two-stage filter installed between Bench 1 and 2. A piece of rebar was inserted into this drain prior to construction of the filter to facilitate locating the drain in the future. The underdrain system of the dam outlets in the impact stilling basin, and the two drainpipes appeared to be flowing.
2. For drains, is an animal guard installed at the outlet of each drain? Yes No X
 If no, which drains lack animal guards? /Corrective Action: Animal guards are not installed on interceptor drainpipes, however, they do not appear necessary on the interceptor surface drains or underdrain outlet pipes due to continuous flow and relatively small diameter.

F. Instrumentation (Continued)

3. For drains, measure the rate of flow from each drain and record below (use additional pages if necessary):

Designation/Location of Drain	Flow Rate	Flow Rate in GPM*	Turbidity of Flow (describe – clear, muddy, etc.)
Interceptor Drains on Bench No. 1	Very low	<1 GPM	clear
Underdrain Outlets	½" height of flow over the weir of the impact-style outlet structure	--	--

4. Are there any piezometers on the dam? Yes X No
 If yes, describe the condition (for example, good condition, damaged, etc.)/Corrective Action: The piezometers are generally in good condition.
5. For piezometers, does each piezometer have a cap with a lock? Yes No X
 If no, which piezometers need caps (to prevent rain water intrusion) and/or locks (to prevent tampering)? /Corrective Action: Individual piezometers have caps to prevent water from intruding but no locks. Monument covers have bolted lids to prevent tampering. Lid bolts have been replaced since last inspection.
6. For piezometers, are you able to take a measurement (depth to water) in each piezometer? Yes X No
 If yes, record depth to water (in feet) in each piezometer, record on a separate page, and attach to this form.

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam Date: 09 to 10 March 2022

7. Are there any other monitoring devices on the dam? Yes _____ No X

If yes, describe what type and the condition (for example, monitoring wells - good condition, damaged) /Corrective Action:

N/A

8. Other observations on instrumentation/Corrective Action: No other observations.

G. Photographs

At a minimum, photographs should be taken of the crest, upstream slope, downstream slope and any other notable features.

List of photographs (be sure to date stamp the photos): Photographs have been attached to this inspection report.

**GPM (gallons per minute): to convert from oz/sec multiply by 0.4688; to convert from ml/sec multiply by 0.01585*

Georgia EPD Safe Dams Program Embankment
(Earth) Dam Inspection Forms – 2021 Quarterly
Owners Inspections (Q2, Q3, and Q4)

Embankment (Earth) Dam Inspection Form

Name of Dam: Lake Petit Dam

Date: 18 June 2021

Location of Dam (County): Pickens County

Weather: Sunny, 88 degrees F

Inspected by (Print Name): Max Cange, P.G.(TN)

If an inspection item requires further action on your part, place a check mark to the left of the number of the item

A. Crest (refer to Glossary for description)

1. How would you describe the vegetation on the crest? (Check all that apply)

Recently Mowed X Overgrown _____ Good Cover X Sparse _____

Other/Corrective Action (describe): The crest of the dam is an asphalt paved road. Vegetation on either side of the road was observed to be well-maintained.

2. Are there any trees or other inappropriate or excessive vegetation on the crest? Yes _____ No X

If yes, describe (type of vegetation, size, location, etc.)/Corrective Action: N/A

3. Is there a paved road or driveway on the crest? Yes X No _____

If yes, describe the condition (for example, good condition, numerous cracks, newly paved)/Corrective Action: Good condition. Paved in 2012.

4. Are there any depressions, ruts or holes on the crest? Yes _____ No X

If yes, describe (size, location, etc.)/Corrective Action: N/A

5. Are there any cracks on the crest? Yes X No _____

If yes, describe (length and width, location, direction of cracking, etc.)/Corrective Action: Yes, a hairline transverse crack across the asphalt road was observed near the left abutment and towards the center of the embankment, and is believed to be caused by routine stress. This crack was observed in previous inspections; however, no changes were observed with respect to previous inspections. This crack should continue to be monitored.

6. Other observations on the crest/Corrective Action: _____

B. Upstream Slope (refer to Glossary for description)

1. What is the reservoir level today? At Normal Pool X Above Normal Pool _____ Feet Below Normal Pool _____ Feet

2. How would you describe the vegetation on the upstream slope? (Check all that apply)

Recently Mowed X Overgrown _____ Good Cover X Sparse _____

Other/Corrective Action (describe): This area is well-seeded and maintained short grass.

3. Are there any trees or other inappropriate or excessive vegetation on the slope? Yes _____ No X

If yes, describe (type of vegetation, size, location, etc.)/Corrective Action: N/A

4. Are there any depressions, bulges, ruts or holes (such as animal burrows) on the slope? Yes _____ No X

If yes, describe (size, location, etc.)/Corrective Action: N/A

5. Are there any eroded areas on the slope (such as wave erosion along the shoreline)? Yes X No _____

If yes, describe (size of area, location, severity, etc.)/Corrective Action: Slight "beaching" observed/reported in 2008 continued to be observed (filter layer behind rip rap appears to have been eroded). Conditions do not appear to have worsened. Some erosion on the left and right groins due to suspected pedestrian use – no change since previous inspection. A maintenance and repair plan is being prepared that will address these areas, re-establish the shoreline protection, and re-establish/seed to mitigate further erosion.

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam Date: 18 June 2021

B. Upstream Slope (continued)

6. Are there any cracks, sloughs or slides (vertical cliffs) on the slope? Yes _____ No X _____
If yes, describe (length, width, height, location, etc.)/Corrective Action: N/A
7. Is there any type of slope protection along the shoreline (such as riprap)? Yes X _____ No _____
If yes, describe what type and its condition (for example, riprap - adequate, inadequate, sparse)/Corrective Action: See Item #5.
8. Other observations on the upstream slope/Corrective Action: No other observations.
-

C. Downstream Slope (refer to Glossary for description)

1. How would you describe the vegetation on the downstream slope? (Check all that apply)
Recently Mowed _____ Overgrown X _____ Good Cover X _____ Sparse _____
Other/Corrective Action (describe): Grass observed to provide generally good cover but was overgrown throughout the downstream face of the dam. Continue to mow at an increased frequency to prevent the establishment of unwanted vegetation and animal burrows. Grass was subsequently observed to have been mowed after the date of this inspection.
2. Are there any trees or other inappropriate or excessive vegetation on the slope? Yes X _____ No _____
If yes, describe (type of vegetation, size, location, etc.)/Corrective Action: Small sprouting trees were observed on the downstream face of the dam along the right abutment. A large dead tree identified during the previous inspection on Bench No.4, left groin, was observed to still be standing, but may fall onto the downstream slope. This should be monitored and removed in accordance with the maintenance plan that is being prepared.
3. Are there any depressions, bulges, ruts or holes (such as animal burrows) on the slope? Yes X _____ No _____
If yes, describe (size, location, etc.)/Corrective Action: Several animal burrows and ant hills identified during previous inspections were observed throughout the downstream face. These features should be monitored and removed in accordance with the maintenance plan that is being prepared. A minor depression observed in previous inspections at Bench No. 2 (upstream of an observed wet spot located on the slope between Bench No.1 and 2, on the left abutment) was observed to have been backfilled and covered with a mat of new grass. This area should continue to be monitored to ensure vegetation takes hold.
4. Are there any eroded areas on the slope (such as along abutment contacts)? Yes X _____ No _____
If yes, describe (size of area, location, severity, etc.)/Corrective Action: At the left abutments of each bench and scattered throughout the downstream slope (Bench Nos. 3, 4, and 5) there were spots of surficial erosion observed with shallow channels developing due to surface runoff. At the right abutment of Bench Nos. 4 and 5 there were minor spots of sparse vegetation and surficial erosion. Areas of minor surface erosion at the right abutment which were previously covered with hay for erosion control were observed to be sparsely vegetated. A maintenance plan is being prepared that will provide guidance to address these areas and re-establish/seed to mitigate erosion.
5. Are there any cracks, sloughs or slides (vertical cliffs) on the slope? Yes _____ No X _____
If yes, describe (length, width, height, location, etc.)/Corrective Action: N/A
-

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam

Date: 18 June 2021

C. Downstream Slope (continued)

6. Are there any wet areas or areas of hydrophilic (lush, water-loving) vegetation? Yes X No _____

If yes, describe (size of area, location, etc.)/Corrective Action: Two wet areas were observed above Bench No. 1, and these had been noted in previous inspections from 2020 and 2021. The first wet area (near the left abutment) was not observed to have increased in size since the previous inspection; however, the flow of water into the Bench No. 1 concrete channel was observed to have increased and the cover of vegetation diminished from the previous inspection. The second wet area (near the middle of the dam) was observed to have decreased in moisture and saturation (i.e., ground surface was not as soft when walking across the wet area) with respect to the previous inspection and was not observed to have increased in size with respect to the previous inspection. The flow of water seeping slowly from the second wet area was observed to have decreased from previous inspections and continued to drain downslope into the Bench No. 1 concrete channel. A third wet area previously observed at the toe of the dam, near the left abutment, was not observed during this inspection. Wet areas should continue to be monitored for changes. A plan is being created to repair the wet area near the left abutment above Bench No. 1 and another has been proposed to address the wet area near the middle of the dam.

7. Do any wet areas indicate seepage through the dam (such as rust-colored, stained water)? Yes _____ No X N/A _____

If yes, describe (for example, new area of seepage, no change from past observations, size of area, location) /Corrective Action: N/A. No rust-colored or stained water was observed.

8. Are there any leaks (flowing water) from the slope or beyond the toe of the dam? Yes X No _____

If yes, describe (location, rate of flow, turbidity of flow)/Corrective Action: While not a concentrated flow, small amount of water flow from the two wet areas discussed in Section C.6 was observed to flow into the concrete channel located on Bench No. 1. The flow was observed to be very small and could not be measured. Continue to monitor the wet areas and weirs for changes in flow amount and turbidity. A plan is being created to repair the wet area near the left abutment above Bench No. 1.

9. Other observations on the downstream slope/Corrective Action: The weirs on the left and right abutments were located. The left weir was observed to be clogged with vegetation. Inspectors unclogged the weir, but the concrete channel around the weir should be cleaned out and monitored to prevent future clogs. A plan is being created to either modify or replace the current weirs. Minimize the amount of grass clippings directed toward the concrete channel that feeds the weirs to the extent possible.

D. Plunge Pool (refer to Glossary for description)

1. Is there any type of erosion protection around the plunge pool (such as riprap)? Yes _____ No X

If yes, describe what type and its condition (for example, riprap - adequate, inadequate, obstructed by vegetation)

/Corrective Action: There is no plunge pool, but downstream from the impact-type stilling basin there does not appear to be riprap, however, based on current operations it does not appear to be needed.

2. Is there any erosion and or seeps around or going into the plunge pool? Yes _____ No X

If yes, describe (size of area, location, severity, etc.) /Corrective Action: _____

3. Other observations around the plunge pool/Corrective Action: A drainpipe right of the stilling basin observed to be discharging clear water. Other pipes adjacent to and downstream of the stilling basin could not be observed due to overgrown vegetation. Vegetation observed to be overgrown around and downstream of the stilling basin. It is recommended that the overgrown vegetation be mowed/removed to allow ease of dam visual inspections. This area should

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam

Date: 18 June 2021

be mowed at the same time as the mowing of the main embankment dam. A maintenance plan is being prepared that will provide guidance for mowing/vegetation maintenance operations on and near the dam.

E. Principal and Emergency Spillways (refer to Glossary for description)

- 1. What types of spillways does the dam have (such as corrugated metal, concrete or siphon pipe; concrete or earth channel)?
Principal Spillway Gunnite, Stepped Spillway Emergency Spillway Low-level outlet pipe.
Other/Corrective Action: N/A

- 2. Has the emergency spillway activated (had flow) since the last inspection? Yes _____ No X
If yes describe (date(s) of flow, reason for activation, depth of flow) /Corrective Action: A dive inspection of the sluice gate structure which serves as the intake for the low-level outlet pipe was completed in September 2020. A camera inspection of the low-level outlet pipe was completed on December 2020. Both inspections indicated that the inlet structure and pipe are in generally fair to good condition.

- 3. For pipe spillways, is the intake obstructed in any way (such as with excessive debris)? Yes _____ No X
If yes, describe (type of debris, reason for obstruction, etc.) /Corrective Action: The intake for the low-level outlet is not visible from the surface, but was inspected by a dive team in September 2020. The sluice gate structure was noted to not have been obstructed by sediment or debris following cleaning by divers during that inspection.

- 4. For pipe spillways, what is the condition of any trash racks (for example, adequate, inadequate, damaged)? /Corrective Action:
The intake for the low-level outlet is not visible from the surface but was inspected by a dive team in September 2020. The sluice gate structure was noted to have an intact trash rack by the divers.

- 5. For pipe spillways, are there any visible cracks, separations or holes in the pipe(s) (intake or outlet)? Yes _____ No X
If yes, describe (location, width of crack or separation, etc.)/Corrective Action: Recent dive inspections of the pipe's inlet did not identify any cracks, separations, or holes. The recent camera inspection rated the pipe in fair to good condition.

- 6. For pipe spillways, are there any apparent leaks in the pipe(s)? Yes _____ No X
If yes, describe (location, rate of flow from leak, etc.)/Corrective Action: A camera inspection of the low-level outlet pipe was completed in December 2020. The inspection identified a few pipe joints with calcite formations, indicating minor seepage, but otherwise did not identify any apparent leaks or issues with the pipe's overall condition.

- 7. For pipe spillways, how would you describe the overall condition of the pipe(s)? (Check all that apply)
Functioning Normally X Not Functional _____ Deteriorated _____ Damaged _____ Adequate _____ Inadequate _____

- 8. For concrete or earth channel spillways, is the entrance or channel obstructed in any way? Yes _____ No X
If yes, describe (type of obstruction, location, etc.)/Corrective Action: Some accumulation of leaves and tree limbs were observed along the spillway crest, but these did not appear to impact the function of the spillway as it was observed to be functioning normally.

- 9. For earth channel spillways, how would you describe the vegetation in the spillway? (Check all that apply)
Recently Mowed _____ Overgrown _____ Good Cover _____ Sparse _____
Other (describe)/Corrective Action: N/A

- 10. For earth channel spillways, are there any trees or other inappropriate vegetation in the spillway? Yes _____ No _____
If yes, describe (type of vegetation, size, location, etc.)/Corrective Action: N/A

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam

Date: 18 June 2021

E. Principal and Emergency Spillways (continued)

11. For earth channel spillways, are there any eroded areas in the spillway? Yes _____ No _____
If yes, describe (size of area, location, severity, etc.)/Corrective Action: N/A
12. For concrete channel spillways, are there any cracks or holes in the spillway? Yes X No _____
If yes, describe (width of crack or hole, location, etc.)/Corrective Action: Small cracks were observed on the sides and in steps in portions of the spillway, but none were observed at or below the water line. Recommend continue to monitor. A plan to remove water from the spillway is being prepared so that inspection and repair of the spillway can be conducted.
13. For concrete channel spillways, are there any leaks or evidence of undermining (flow under the concrete)? Yes X No _____
If yes, describe (location, rate of flow from leak, indicators of undermining, etc.)/Corrective Action: On the left side of the concrete channel spillway, under the bridge located downstream of the left abutment, clear flowing water was observed behind the concrete lining and daylighting on the soil surface outside the channel. These conditions have been observed and documented in previous inspections (although flowing water has not continuously daylighted outside the channel). The source of the flow of water is unknown but was determined to not be sourced from water treatment pipes in the vicinity. No apparent cracks or defects in the concrete lined channel were observed in the vicinity (i.e., upstream or downstream) of the flowing water. The backfill material behind the sidewall of the concrete-lined channel has indications of erosion as noted previously, but no observable changes were identified during this inspection. The area should continue to be routinely monitored for any progression in the rate of flow or erosion of the backfill material, and the source of this flow be determined and mitigated. A plan to remove water from the spillway is being prepared so that inspection and repair of the spillway can be conducted.
14. For earth or concrete channel spillways, how would you describe the overall condition of the spillway? (Check all that apply)
Functioning Normally X Not Functional _____ Deteriorated X Damaged _____ Adequate _____ Inadequate _____
15. Other observations on the spillways/Corrective Action: Multiple downed trees previously observed to have fallen across or into the spillway were observed to have been removed since the previous inspection. Continue removal of foreign debris (trees, logs, vegetation, etc.) that falls into spillway, and consideration given to cutting back some larger vegetation along the sides of the spillway channel to prevent falling debris from further damaging spillway. Vegetation removal from the spillway will be included in the maintenance plan that is being prepared to provide guidance for maintaining this portion of the dam.

F. Instrumentation (refer to Glossary for description)

1. Are there any toe drains at the downstream toe or any other seepage drains on the dam? Yes X No _____
If yes, describe the condition (for example, clogged, free flowing, deteriorated, good condition) /Corrective Action: The drop inlet near the left abutment at the toe of the dam did not have flow in it. The interceptor drains along Bench No. 1 were identified. Interceptor drain No. 1 was observed to be clogged and dry. Interceptor drain No. 11 was located, however, the corrugated pipe for the drainage needs to be extended to reach the concrete channel to prevent erosion of the surrounding areas. Interceptor drains No. 12 and 13 were observed to be overgrown with vegetation (e.g., moss), although both appeared to have low clear flow. Interceptor drain No. 12 is believed to be collapsed and it is recommended to be replaced (as reported in the previous inspection). All interceptor drains, with the exception of the dry drain No. 1, were observed to have minimal clear flow. A plan has been proposed to modify these interceptor drains and address the observed wet area. The underdrain system of the dam outlets in the impact stilling basin, and the two drainpipes appeared to be flowing. These had been cleaned out prior to the previous inspection.

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam Date: 18 June 2021

2. For drains, is an animal guard installed at the outlet of each drain? Yes _____ No X

If no, which drains lack animal guards? /Corrective Action: Animal guards were not observed on interceptor drainpipes, however, they do not appear necessary on the interceptor surface drains or underdrain outlet pipes, as these appear to continuously flow.

F. Instrumentation (Continued)

3. For drains, measure the rate of flow from each drain and record below (use additional pages if necessary):

Designation/Location of Drain	Flow Rate	Flow Rate in GPM*	Turbidity of Flow (describe – clear, muddy, etc.)
Interceptor Drains on Bench No. 1	Very low	<1 GPM	clear
Underdrain Outlets	½” height of flow over the right edge of weir at the impact-style outlet structure (no change from previous inspection)	>4	clear

4. Are there any piezometers on the dam? Yes X No _____

If yes, describe the condition (for example, good condition, damaged, etc.)/Corrective Action: The piezometers are generally in good condition. Individual piezometers have caps to prevent water from intruding.

5. For piezometers, does each piezometer have a cap with a lock? Yes _____ No X

If no, which piezometers need caps (to prevent rain water intrusion) and/or locks (to prevent tampering)? /Corrective Action: Piezometers have caps, but no locks. They generally have monument covers with a bolted lid to prevent tampering, however, some of the covers are missing a bolt. Lid bolts and seals should be replaced at next inspection. The maintenance of instrumentation will be included in the maintenance plan that is being prepared.

6. For piezometers, are you able to take a measurement (depth to water) in each piezometer? Yes X No _____

If yes, record depth to water (in feet) in each piezometer, record on a separate page, and attach to this form.

7. Are there any other monitoring devices on the dam? Yes _____ No X

If yes, describe what type and the condition (for example, monitoring wells - good condition, damaged) /Corrective Action: N/A

8. Other observations on instrumentation/Corrective Action: No other observations.

G. Photographs

At a minimum, photographs should be taken of the crest, upstream slope, downstream slope and any other notable features.

List of photographs (be sure to date stamp the photos): Photographs have been attached to this inspection report.

*GPM (gallons per minute): to convert from oz/sec multiply by 0.4688; to convert from ml/sec multiply by 0.01585

PROJECT NAME: June 2021 (Q2) Lake Petit Dam Quarterly Owners Inspection

PROJECT NO.: TN7237

CLIENT: Big Canoe Property Owners Association

FILE NAME: Jun2021 Dam Insp



Photograph 1: Upstream Face, Jun. 2021 – localized areas of erosion and beaching along shoreline.



Photograph 2: Downstream Face, Jun. 2021 – overview of downstream face in good condition

PROJECT NAME: June 2021 (Q2) Lake Petit Dam Quarterly Owners Inspection
CLIENT: Big Canoe Property Owners Association

PROJECT NO.: TN7237
FILE NAME: Jun2021 Dam Insp



Photograph 3: Spillway, Jun. 2021 – general view of stepped spillway with moderate flow. Downed trees previously identified across or within the spillway were observed to have been removed.



Photograph 4: Spillway, Jun. 2021 – Area of previously identified water flow behind concrete lined channel. Water flow was observed to continue and daylighted at surface in depicted location.

PROJECT NAME: June 2021 (Q2) Lake Petit Dam Quarterly Owners Inspection

PROJECT NO.: TN7237

CLIENT: Big Canoe Property Owners Association

FILE NAME: Jun2021 Dam Insp



Photograph 5: Downstream face, Jun. 2021 – Previously identified wet area above Bench No. 1 at the left abutment observed to have increased water flow and diminished vegetation from the previous inspection.



Photograph 6: Downstream face, Jun. 2021 – A minor depression previously identified at Bench No. 2 at the left abutment was observed to have been backfilled and covered with a mat of new grass .

PROJECT NAME: June 2021 (Q2) Lake Petit Dam Quarterly Owners Inspection
CLIENT: Big Canoe Property Owners Association

PROJECT NO.: TN7237
FILE NAME: Jun2021 Dam Insp



Photograph 7: Downstream face, Jun. 2021 – Surficial erosion with shallow channels developed at Bench No. 4 left abutment. Large dead tree identified during the previous inspection observed in the background.



Photograph 8: Downstream outlet structure, Jun. 2021 – Normal flow observed exiting drainpipes from the impact-style stilling basin. Clear flow observed from a drainpipe at the lower right of photo (not visible). Other pipes adjacent to and downstream could not be observed due to overgrown vegetation.

Embankment (Earth) Dam Inspection Form

Name of Dam: Lake Petit Dam

Date: 03 September 2021

Location of Dam (County): Pickens County

Weather: Sunny, 81 degrees F

Inspected by (Print Name): Edisson Ortega Avila, E.I.(TN), and Jess Baker

If an inspection item requires further action on your part, place a check mark to the left of the number of the item

A. Crest (refer to Glossary for description)

1. How would you describe the vegetation on the crest? (Check all that apply)

Recently Mowed X Overgrown _____ Good Cover X Sparse _____

Other/Corrective Action (describe): The crest of the dam is an asphalt paved road. Vegetation on either side of the road was observed to be well-maintained.

2. Are there any trees or other inappropriate or excessive vegetation on the crest? Yes _____ No X

If yes, describe (type of vegetation, size, location, etc.)/Corrective Action: N/A

3. Is there a paved road or driveway on the crest? Yes X No _____

If yes, describe the condition (for example, good condition, numerous cracks, newly paved)/Corrective Action: Good condition. Paved in 2012.

4. Are there any depressions, ruts or holes on the crest? Yes X No _____

If yes, describe (size, location, etc.)/Corrective Action: Two small depressions (less than 2 feet wide) were observed on the shoulder (downstream side) of the asphalt at approximate 300 and 600 feet from the right abutment, and are believed to be caused by the subgrade conditions for the construction of the asphalt road along the shoulder of the road. The depressions will be monitored and tracked for any changes in upcoming quarterly inspections.

5. Are there any cracks on the crest? Yes X No _____

If yes, describe (length and width, location, direction of cracking, etc.)/Corrective Action: Several hairline transverse cracks on the asphalt road were observed near the left abutment and center of the embankment, and are believed to be caused by routine use stress. These cracks were observed in previous inspections. No changes were observed with respect to previous inspections.

6. Other observations on the crest/Corrective Action: No other observations.

B. Upstream Slope (refer to Glossary for description)

1. What is the reservoir level today? At Normal Pool _____ Above Normal Pool 1635.6 (0.1 above normal pool level) Feet
Below Normal Pool _____ Feet

2. How would you describe the vegetation on the upstream slope? (Check all that apply)

Recently Mowed X Overgrown _____ Good Cover X Sparse _____

Other/Corrective Action (describe): This area is well-seeded and maintained short grass.

3. Are there any trees or other inappropriate or excessive vegetation on the slope? Yes _____ No X

If yes, describe (type of vegetation, size, location, etc.)/Corrective Action: N/A

4. Are there any depressions, bulges, ruts or holes (such as animal burrows) on the slope? Yes _____ No X

If yes, describe (size, location, etc.)/Corrective Action: N/A

5. Are there any eroded areas on the slope (such as wave erosion along the shoreline)? Yes X No _____

If yes, describe (size of area, location, severity, etc.)/Corrective Action: Slight "beaching" observed/reported in 2008 continued to be observed (filter layer behind rip rap appears to have been eroded). Conditions do not appear to have worsened. Some erosion on the right groin due to pedestrian use – no change since previous inspection. Erosion

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam

Date: 03 September 2021

protections mats were installed on the left groin. A shoreline protection repair was prepared with the aim to address these areas, re-establish the shoreline protection, and re-establish/seed to mitigate further erosion.

6. Are there any cracks, sloughs or slides (vertical cliffs) on the slope? Yes _____ No X

If yes, describe (length, width, height, location, etc.)/Corrective Action: N/A

7. Is there any type of slope protection along the shoreline (such as riprap)? Yes X No _____

If yes, describe what type and its condition (for example, riprap - adequate, inadequate, sparse)/Corrective Action: See Item #5.

8. Other observations on the upstream slope/Corrective Action: No other observations.

C. Downstream Slope (refer to Glossary for description)

1. How would you describe the vegetation on the downstream slope? (Check all that apply)

Recently Mowed _____ Overgrown X Good Cover X Sparse _____

Other/Corrective Action (describe): Grass observed to provide generally good cover but was overgrown throughout the downstream face of the dam (between 6 to 12 inches in height). Approximately a week after quarterly inspection was completed vegetation was mowed down to approximately 2 inches in height.

2. Are there any trees or other inappropriate or excessive vegetation on the slope? Yes X No _____

If yes, describe (type of vegetation, size, location, etc.)/Corrective Action: Small sprouting trees (less than 4 inches in diameter) were observed on the downstream face of the dam along the right abutment, and should be removed in accordance with the Operation and Maintenance (O&M) Plan for Lake Petit. Trees smaller than 4 inches in diameter were removed from the left groin. A large dead tree identified during a previous quarterly inspection on Bench No.4, left groin, was observed to still be standing, but may fall onto the downstream slope. This should be monitored and removed in accordance with the dam owner's technical representative.

3. Are there any depressions, bulges, ruts or holes (such as animal burrows) on the slope? Yes X No _____

If yes, describe (size, location, etc.)/Corrective Action: Several animal burrows and ant hills identified during previous inspections were observed throughout the downstream face. These features should be monitored and removed in accordance with O&M Plan for Lake Petit. No changes observed to the repaired depression observed in previous inspections at Bench No. 2 (upstream of an observed wet spot located on the slope between Bench No.1 and 2, on the left abutment).

4. Are there any eroded areas on the slope (such as along abutment contacts)? Yes X No _____

If yes, describe (size of area, location, severity, etc.)/Corrective Action: Due to the overgrown vegetation on the downstream face of the dam, previously observed surficial erosion on the left abutments of each bench and scattered throughout the downstream slope (Bench Nos. 3, 4, and 5) were not observed during this inspection. At the right side of the embankment (from Bench Nos. 4 and 5) minor spots of sparse vegetation and surficial erosion were observed. Areas of minor surface erosion at the right abutment which were previously covered with hay for erosion control were observed to be sparsely vegetated. These features should be monitored and repaired in accordance with O&M Plan for Lake Petit to address these areas and re-establish/seed to mitigate erosion.

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam

Date: 03 September 2021

C. Downstream Slope (continued)

5. Are there any cracks, sloughs or slides (vertical cliffs) on the slope? Yes _____ No X _____

If yes, describe (length, width, height, location, etc.)/Corrective Action: N/A

6. Are there any wet areas or areas of hydrophilic (lush, water-loving) vegetation? Yes X _____ No _____

If yes, describe (size of area, location, etc.)/Corrective Action: Two wet areas were observed above Bench No. 1. These wet areas were observed in previous inspections from 2020 and 2021. The first wet area (near the left abutment) was not observed to have increased in size since the previous inspection; however, the flow of water into the Bench No. 1 concrete channel was observed to have increased and the cover of vegetation diminished from the previous inspection. The approximate size of the first wet area is approximate 80 ft longitudinally by 10 ft transversely. The second wet area (near the middle of the dam) was observed to have increased in moisture and saturation (i.e., ground surface was softer when walking across the wet area) with respect to the previous inspection. Water from the second wet area flowed into the Bench No. 1 concrete channel. The increase in flow is believed to be associated with precipitation events that took place at the dam a few days prior to the quarterly inspection. By the end of the inspection (i.e., near the end of the day) flow from the second area into the concrete had stopped. The approximate size of the first wet area is approximate 90 ft longitudinally by 10 ft transversely

A third wet area previously observed at the toe of the dam, near the left abutment, was observed during this inspection. During the inspection of the left weir of Bench No.1, it was observed that the water discharged from the weir was flowing into the wet area and ponding at the toe due to the natural grade of the toe. These wet areas should continue to be monitored for changes.

7. Do any wet areas indicate seepage through the dam (such as rust-colored, stained water)? Yes _____ No X _____ N/A _____

If yes, describe (for example, new area of seepage, no change from past observations, size of area, location) /Corrective Action: No rust-colored or stained water was observed. No new seepage or increase in size were observed. The increase in the flows out of the wet areas is believed to be associated with precipitation events that took place at the dam a few days before the quarterly inspection.

8. Are there any leaks (flowing water) from the slope or beyond the toe of the dam? Yes X _____ No _____

If yes, describe (location, rate of flow, turbidity of flow)/Corrective Action: While not a concentrated flow, small amount of water flow from the two wet areas discussed in Item #6 was observed to flow into the concrete channel located on Bench No. 1. The flows were observed to be very small and could not be measured. Continue to monitor the wet areas and weirs for changes in flow amount and turbidity. A plan is being created to repair the wet area near the left abutment above Bench No. 1.

9. Other observations on the downstream slope/Corrective Action: Edging between the vegetation face of the downstream slope and concrete channels on Bench No.1 and No.2 was completed prior to the quarterly inspection. Due to the edging conducted on the upstream side of the concrete channel, select areas where vegetation was removed resulted in some sediment washing into the concrete channels.
-

The weirs on the left and right abutments were inspected. The left weir was observed to be clogged with vegetation and sediment from the edging conducted on the Bench No. 1. Inspectors unclogged the weir, but the concrete channel around the weir should be cleaned out and monitored to prevent future clogs. A plan is being created to either modify or replace the

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam

Date: 03 September 2021

current weirs. Minimize the amount of grass clippings directed toward the concrete channel that feeds the weirs to the extent possible.

D. Plunge Pool (refer to Glossary for description)

- 1. Is there any type of erosion protection around the plunge pool (such as riprap)? Yes _____ No X
If yes, describe what type and its condition (for example, riprap - adequate, inadequate, obstructed by vegetation)
/Corrective Action: There is no plunge pool, but downstream from the impact-type stilling basin there does not appear to be riprap, however, based on current operations it does not appear to be needed.
- 2. Is there any erosion and or seeps around or going into the plunge pool? Yes _____ No X
If yes, describe (size of area, location, severity, etc.) /Corrective Action: A drainpipe right of the stilling basin observed to be discharging clear water. Other pipes adjacent to and downstream of the stilling basin could not be observed due to overgrown vegetation. Vegetation around the drainage pipes on both the left and right side of the stilling basin should be cleared to allow pipes to be observed.
- 3. Other observations around the plunge pool/Corrective Action: Vegetation along the left and right banks was removed downstream of the stilling basin. It is recommended that the overgrown vegetation be mowed/removed to allow ease of dam visual inspections. This area should be mowed at the same time as the mowing of the main embankment dam. Mowing activities should be conducted in accordance with the O&M Plan for Lake petit which provides guidance on the mowing/vegetation maintenance operations on and near the dam.

E. Principal and Emergency Spillways (refer to Glossary for description)

- 1. What types of spillways does the dam have (such as corrugated metal, concrete or siphon pipe; concrete or earth channel)?
Principal Spillway Gunnite, Stepped Spillway Emergency Spillway Low-level outlet pipe.
Other/Corrective Action: N/A
- 2. Has the emergency spillway activated (had flow) since the last inspection? Yes _____ No X
If yes describe (date(s) of flow, reason for activation, depth of flow) /Corrective Action: A dive inspection of the sluice gate structure which serves as the intake for the low-level outlet pipe was completed in September 2020. A camera inspection of the low-level outlet pipe was completed in December 2020. Both inspections indicated that the inlet structure and pipe are in generally fair to good condition.
- 3. For pipe spillways, is the intake obstructed in any way (such as with excessive debris)? Yes _____ No X
If yes, describe (type of debris, reason for obstruction, etc.) /Corrective Action: The intake for the low-level outlet is not visible from the surface, but was inspected by a dive team in September 2020. The sluice gate structure was noted to not have been obstructed by sediment or debris following cleaning by divers during that inspection.
- 4. For pipe spillways, what is the condition of any trash racks (for example, adequate, inadequate, damaged)? /Corrective Action: The intake for the low-level outlet is not visible from the surface but was inspected by a dive team in September 2020. The sluice gate structure was noted to have an intact trash rack by the divers.
- 5. For pipe spillways, are there any visible cracks, separations or holes in the pipe(s) (intake or outlet)? Yes _____ No X
If yes, describe (location, width of crack or separation, etc.)/Corrective Action: Recent dive inspections of the pipe's inlet did not identify any cracks, separations, or holes. The recent camera inspection rated the pipe in fair to good condition.

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam

Date: 03 September 2021

E. Principal and Emergency Spillways (continued)

6. For pipe spillways, are there any apparent leaks in the pipe(s)? Yes _____ No X _____
If yes, describe (location, rate of flow from leak, etc.)/Corrective Action: A camera inspection of the low-level outlet pipe was completed in December 2020. The inspection identified a few pipe joints with calcite formations, indicating minor seepage, but otherwise did not identify any apparent leaks or issues with the pipe's overall condition.
7. For pipe spillways, how would you describe the overall condition of the pipe(s)? (Check all that apply)
Functioning Normally X Not Functional _____ Deteriorated _____ Damaged _____ Adequate _____ Inadequate _____
8. For concrete or earth channel spillways, is the entrance or channel obstructed in any way? Yes _____ No X _____
If yes, describe (type of obstruction, location, etc.)/Corrective Action: Some accumulation of leaves and tree limbs were observed along the spillway crest, but these did not appear to impact the function of the spillway as it was observed to be functioning normally.
9. For earth channel spillways, how would you describe the vegetation in the spillway? (Check all that apply)
Recently Mowed _____ Overgrown _____ Good Cover _____ Sparse _____
Other (describe)/Corrective Action: N/A
10. For earth channel spillways, are there any trees or other inappropriate vegetation in the spillway? Yes _____ No _____
If yes, describe (type of vegetation, size, location, etc.)/Corrective Action: N/A
11. For earth channel spillways, are there any eroded areas in the spillway? Yes _____ No _____
If yes, describe (size of area, location, severity, etc.)/Corrective Action: N/A
12. For concrete channel spillways, are there any cracks or holes in the spillway? Yes X _____ No _____
If yes, describe (width of crack or hole, location, etc.)/Corrective Action: Small cracks were observed on the sides and in steps in portions of the spillway, but none were observed at or below the water line. Recommend continue to monitor.
13. For concrete channel spillways, are there any leaks or evidence of undermining (flow under the concrete)? Yes X No _____
If yes, describe (location, rate of flow from leak, indicators of undermining, etc.)/Corrective Action: On the left side of the concrete channel spillway, under the bridge located downstream of the left abutment, clear flowing water was observed behind the concrete lining and daylighting at the soil surface outside the channel. These conditions have been observed and documented in previous inspections. The source of the flow of water is unknown but was determined to not be sourced from water treatment pipes in the vicinity. No apparent cracks or defects in the concrete lined channel were observed in the vicinity (i.e., upstream or downstream) of the flowing water. The backfill material behind the sidewall of the concrete-lined channel has indications of erosion as noted previously, but no observable changes were identified during this inspection. The area should continue to be routinely monitored for any progression in the rate of flow or erosion of the backfill material, and the source of this flow be determined and mitigated. A plan to remove water from the spillway is being prepared so that inspection and repair of the spillway can be conducted.
14. For earth or concrete channel spillways, how would you describe the overall condition of the spillway? (Check all that apply)
Functioning Normally X Not Functional _____ Deteriorated X Damaged _____ Adequate _____ Inadequate _____
15. Other observations on the spillways/Corrective Action: Multiple downed trees previously observed to have fallen across or into the spillway were observed to have been removed since the previous inspection. Continue removal of foreign debris (trees, logs, vegetation, etc.) that falls into spillway, and consideration should be given to cutting back some larger vegetation along the sides of the spillway channel to prevent falling debris from further damaging spillway. Vegetation removal from the

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam

Date: 03 September 2021

spillway will be included in the maintenance plan that is being prepared to provide guidance for maintaining this portion of the dam.

F. Instrumentation (refer to Glossary for description)

1. Are there any toe drains at the downstream toe or any other seepage drains on the dam? Yes X No _____

If yes, describe the condition (for example, clogged, free flowing, deteriorated, good condition) /Corrective Action: The drop inlet near the left abutment at the toe of the dam did not have flow in it. The interceptor drains along Bench No. 1 were identified. Due to the edging conducted along Bench No.1, an existing not previously recorded interceptor drain was discovered. Interceptor No. 1 was observed to be clogged and dry. All interceptor drains, with the exception of the dry drain No. 1, were observed to have minimal clear flow. The underdrain system of the dam outlets in the impact stilling basin, and the two drainpipes appeared to be flowing. These had been cleaned out in 2020.

2. For drains, is an animal guard installed at the outlet of each drain? Yes _____ No X

If no, which drains lack animal guards? /Corrective Action: Animal guards were not observed on interceptor drainpipes, however, they do not appear necessary on the interceptor surface drains or underdrain outlet pipes, as these appear to continuously flow.

F. Instrumentation (Continued)

3. For drains, measure the rate of flow from each drain and record below (use additional pages if necessary):

Designation/Location of Drain	Flow Rate	Flow Rate in GPM*	Turbidity of Flow (describe – clear, muddy, etc.)
Interceptor Drains on Bench No. 1	Very low	<0.2	clear
Underdrain Outlets	Unable to measure the flow out of the distilling basin due to grass clapping in the distilling basin.	--	clear
Drain on the left side of the Distilling Basin	Very Low, “rhythmic” (i.e., water squirted out of the drain every second)	0.3	clear
Corrugated Drain No. 1 on the right side of the Distilling Basin (No. 1 is closer to the Distilling Basin)	Low	0.5	clear
Corrugated Drain No. 2 on the right side of the Distilling Basin (No. 2 is the further most from the Distilling Basin)	Low	0.8	clear

4. Are there any piezometers on the dam? Yes X No _____

If yes, describe the condition (for example, good condition, damaged, etc.)/Corrective Action: The piezometers are generally in good condition. Individual piezometers have caps to prevent water from intruding.

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam Date: 03 September 2021

F. Instrumentation (continued)

5. For piezometers, does each piezometer have a cap with a lock? Yes _____ No X

If no, which piezometers need caps (to prevent rain water intrusion) and/or locks (to prevent tampering)? /Corrective Action: Piezometers have caps, but no locks. They generally have monument covers with a bolted lid to prevent tampering; however, all are missing a bolt. Lid bolts and seals should be replaced. Maintenance of the piezometers should be completed in accordance with the O&M Plan of Lake Petit.

6. For piezometers, are you able to take a measurement (depth to water) in each piezometer? Yes X No _____

If yes, record depth to water (in feet) in each piezometer, record on a separate page, and attach to this form.

7. Are there any other monitoring devices on the dam? Yes _____ No X

If yes, describe what type and the condition (for example, monitoring wells - good condition, damaged) /Corrective Action: N/A

8. Other observations on instrumentation/Corrective Action: No other observations.

G. Photographs

At a minimum, photographs should be taken of the crest, upstream slope, downstream slope, and any other notable features.

List of photographs (be sure to date stamp the photos): Photographs have been attached to this inspection report.

**GPM (gallons per minute): to convert from oz/sec multiply by 0.4688; to convert from ml/sec multiply by 0.01585*

PROJECT NAME: Sept 2021 (Q3) Lake Petit Dam Quarterly Owners Inspection

PROJECT NO.: TN7833

CLIENT: Big Canoe Property Owners Association

FILE NAME: Sept 2021 Dam Insp



Photograph 1: Upstream Face, Sept. 2021 – localized areas of erosion repaired; beaching observed along shoreline.



Photograph 2: Downstream Face, Sept. 2021 – overview of downstream face in good condition

PROJECT NAME: Sept 2021 (Q3) Lake Petit Dam Quarterly Owners Inspection

PROJECT NO.: TN7833

CLIENT: Big Canoe Property Owners Association

FILE NAME: Sept 2021 Dam Insp



Photograph 3: Spillway, Sept. 2021 – general view of stepped spillway with moderate flow.



Photograph 4: Spillway, Sept. 2021 – Area of previously identified water flow behind concrete lined channel. Water flow was observed to continue.

PROJECT NAME: Sept 2021 (Q3) Lake Petit Dam Quarterly Owners Inspection

PROJECT NO.: TN7833

CLIENT: Big Canoe Property Owners Association

FILE NAME: Sept 2021 Dam Insp



Photograph 5: Downstream face, Sept. 2021 – Previously identified wet area above Bench No. 1 at the left abutment observed to have increased water flow and diminished vegetation from the previous inspection.



Photograph 6: Concrete distilling basin, Sept. 2021 – Vegetation clearing was conducted along the left and right banks.

PROJECT NAME: Sept 2021 (Q3) Lake Petit Dam Quarterly Owners Inspection

PROJECT NO.: TN7833

CLIENT: Big Canoe Property Owners Association

FILE NAME: Sept 2021 Dam Insp



Photograph 7: Downstream toe, Sept. 2021 – Wet area observed at the downstream toe of the dam. The water ponding in the area is believed to be water discharging from the left weir on Bench No. 1.



Photograph 8: Edging performed on the concrete channels located on Bench No.1 and Bench No.2

Embankment (Earth) Dam Inspection Form

Name of Dam: Lake Petit Dam Date: 13 December 2021

Location of Dam (County): Pickens County Weather: Sunny, 60 degrees F

Inspected by (Print Name): Edisson Ortega Avila, E.I.(TN)

If an inspection item requires further action on your part, place a check mark to the left of the number of the item

A. Crest (refer to Glossary for description)

1. How would you describe the vegetation on the crest? (Check all that apply)
Recently Mowed X Overgrown _____ Good Cover X Sparse _____
Other/Corrective Action (describe): The crest of the dam is an asphalt paved road. Vegetation on either side of the road was observed to be well-maintained. Wheel ruts observed on downstream shoulder of the crest.
2. Are there any trees or other inappropriate or excessive vegetation on the crest? Yes _____ No X
If yes, describe (type of vegetation, size, location, etc.)/Corrective Action: N/A
3. Is there a paved road or driveway on the crest? Yes X No _____
If yes, describe the condition (for example, good condition, numerous cracks, newly paved)/Corrective Action: Good condition. Paved in 2012.
4. Are there any depressions, ruts or holes on the crest? Yes X No _____
If yes, describe (size, location, etc.)/Corrective Action: Two small depressions (less than 2 feet wide) were observed on the shoulder (downstream side) of the asphalt at approximately 300 and 600 feet from the right abutment, during the Q3 inspection. These shallow depressions are caused by the subgrade conditions for the construction of the asphalt road along the shoulder of the road and not a threat to dam safety There have been no changes in these depressions since the Q3 inspection and will be monitored and tracked for any changes.
5. Are there any cracks on the crest? Yes X No _____
If yes, describe (length and width, location, direction of cracking, etc.)/Corrective Action: A total of 12 hairline transverse cracks on the asphalt road were observed on the paved road located on the crest of the dam, and are believed to be caused by routine use stress. These cracks were observed in previous inspections. No changes were observed with respect to previous inspections.
6. Other observations on the crest/Corrective Action: No other observations.

B. Upstream Slope (refer to Glossary for description)

1. What is the reservoir level today? At Normal Pool ___ Above Normal Pool ___ Feet Below Normal Pool ≈ 1 Feet
2. How would you describe the vegetation on the upstream slope? (Check all that apply)
Recently Mowed X Overgrown _____ Good Cover X Sparse _____
Other/Corrective Action (describe): This area is well-seeded and maintained short grass.
3. Are there any trees or other inappropriate or excessive vegetation on the slope? Yes _____ No X
If yes, describe (type of vegetation, size, location, etc.)/Corrective Action: N/A
4. Are there any depressions, bulges, ruts or holes (such as animal burrows) on the slope? Yes _____ No X
If yes, describe (size, location, etc.)/Corrective Action: N/A
5. Are there any eroded areas on the slope (such as wave erosion along the shoreline)? Yes X No _____
If yes, describe (size of area, location, severity, etc.)/Corrective Action: Slight "beaching" observed/reported in 2008 continued to be observed (filter layer behind rip rap appears to have been eroded). Conditions do not appear to have changed compared to previous inspections. Erosion protections mats were installed on the left groin on previously eroded

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam

Date: 13 December 2021

area. Due to pedestrian traffic over the erosion protection mats, the mats have moved around and require upkeep. A maintenance and repair plan has been prepared that will re-establish the shoreline protection and is currently scheduled to be completed in early 2022.

6. Are there any cracks, sloughs or slides (vertical cliffs) on the slope? Yes _____ No X
If yes, describe (length, width, height, location, etc.)/Corrective Action: N/A

7. Is there any type of slope protection along the shoreline (such as riprap)? Yes X No _____
If yes, describe what type and its condition (for example, riprap - adequate, inadequate, sparse)/Corrective Action: See Item B.5.

8. Other observations on the upstream slope/Corrective Action: No other observations.

C. Downstream Slope (refer to Glossary for description)

1. How would you describe the vegetation on the downstream slope? (Check all that apply)
Recently Mowed _____ Overgrown X Good Cover X Sparse _____
Other/Corrective Action (describe): Grass observed to provide generally good cover. Vegetation was approximately 3 to 4 inches in height.

2. Are there any trees or other inappropriate or excessive vegetation on the slope? Yes X No _____
If yes, describe (type of vegetation, size, location, etc.)/Corrective Action: Small sprouting trees (less than 4 inches in diameter) were observed on the downstream face of the dam along the right abutment, and should be removed in accordance with the Lake Petit Dam Operation and Maintenance (O&M) Plan.

3. Are there any depressions, bulges, ruts or holes (such as animal burrows) on the slope? Yes X No _____
If yes, describe (size, location, etc.)/Corrective Action: Several animal burrows and ant hills identified during previous inspections were observed throughout the downstream face. These features should be monitored and removed in accordance with the O&M Plan. No changes observed to the repaired depression observed in previous inspections at Bench No. 2 (upstream of an observed wet spot located on the slope between Bench No.1 and 2, on the left abutment) with respect to previous inspections.

4. Are there any eroded areas on the slope (such as along abutment contacts)? Yes X No _____
If yes, describe (size of area, location, severity, etc.)/Corrective Action: At the right side of the embankment (between Bench Nos. 4 and 5) minor spots of sparse vegetation and surficial erosion were documented in previous inspections. Areas of minor surface erosion at the right abutment which were previously covered with hay for erosion control were observed to be sparsely vegetated. These features should be monitored and repaired in accordance with the O&M Plan to address these areas and re-establish/seed to mitigate erosion. The bedding material for the concrete channel located on Bench 2 (Left Rim) has eroded away and should be repaired to prevent damage to the concrete channel. Two shallow erosional rills were observed (300 ft from right groin on Bench No. 5, and 60 ft from right groin on Bench No. 4) and should be repaired in accordance with the O&M Plan.

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam

Date: 13 December 2021

C. Downstream Slope (continued)

5. Are there any cracks, sloughs or slides (vertical cliffs) on the slope? Yes _____ No X _____

If yes, describe (length, width, height, location, etc.)/Corrective Action: N/A

6. Are there any wet areas or areas of hydrophilic (lush, water-loving) vegetation? Yes X _____ No _____

If yes, describe (size of area, location, etc.)/Corrective Action: Three wet areas were observed above Bench No. 1. Wet areas have been documented above Bench No.1 in previous inspections from 2020 and 2021. The first wet area (near the left abutment) has been observed in previous inspections and was observed to have not increased in size since the previous inspection; however, the flow of water into the Bench No. 1 concrete channel was observed to have increased. The approximate size of the first wet area is approximate 7 ft longitudinally by 20 ft transversely. The second wet area (starts near the first wet area and extends to Drain No. 9) was observed to have not changed in moisture or saturation levels with respect to the previous inspection. Water from the second wet area flowed into the Bench No. 1 concrete channel. The approximate size of the second wet area is approximately 180 ft longitudinally by 5 ft transversely. Both areas observed during this inspection appear to have decreased in size with respect to the previous inspection. A third wet area (between Drain No. 7 and 8) was observed during this inspection. The approximate size of the third wet area is approximate 6 ft longitudinally by 10 ft transversely. The observed flow in the third wet area is believed to be associated with precipitation events that took place at the dam a few days prior to the quarterly inspection.

A fourth wet area, previously observed at the toe of the dam near the left abutment, was observed during this inspection. During the inspection of the left weir and channel of Bench No.1, it was observed that the water was flowing off this channel, downstream via a natural channel, and ponding at the toe . This area should be regraded to facilitate drainage to the inlet to improve conditions. These wet areas should continue to be monitored for changes.

7. Do any wet areas indicate seepage through the dam (such as rust-colored, stained water)? Yes _____ No X _____ N/A _____

If yes, describe (for example, new area of seepage, no change from past observations, size of area, location) /Corrective Action: No rust-colored or stained water was observed. No new seepage or increase in size were observed. The observed flows out of the wet areas are believed to be associated with precipitation events that took place at the dam a few days before the quarterly inspection.

8. Are there any leaks (flowing water) from the slope or beyond the toe of the dam? Yes X _____ No _____

If yes, describe (location, rate of flow, turbidity of flow)/Corrective Action: While not a concentrated flow, small amount of water flow from the wet areas discussed in Item No. C.6 was observed to flow into the concrete channel located on Bench No. 1. The flows were observed to be very small and could not be measured. Continue to monitor the wet areas and weirs for changes in flow amount and turbidity. A plan has been created to repair the wet area near the left abutment above Bench No. 1.

9. Other observations on the downstream slope/Corrective Action: The weirs on the left and right abutments were inspected. The left weir was observed to be clogged with vegetation and sediment. The sediment is believed to be surficial erosion collected from the left abutment. Inspectors unclogged the weir, but the concrete channel around the weir should be cleaned out and monitored to prevent future clogs.
-

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam Date: 13 December 2021

D. Plunge Pool (refer to Glossary for description)

1. Is there any type of erosion protection around the plunge pool (such as riprap)? Yes _____ No X
If yes, describe what type and its condition (for example, riprap - adequate, inadequate, obstructed by vegetation)
/Corrective Action: There is no plunge pool, but downstream from the impact-type stilling basin there does not appear to be riprap, however, based on current operations it does not appear to be needed.
2. Is there any erosion and or seeps around or going into the plunge pool? Yes _____ No X
If yes, describe (size of area, location, severity, etc.) /Corrective Action: _____
3. Other observations around the plunge pool/Corrective Action: Two drainpipes on the right and one to the left of stilling basin were observed to be discharging clear water. Vegetation along the banks of the stilling basin have been cleared and should continue to be mowed to allow ease of dam visual inspections. These areas should be mowed at the same time as the mowing of the main embankment dam.

E. Principal and Emergency Spillways (refer to Glossary for description)

1. What types of spillways does the dam have (such as corrugated metal, concrete or siphon pipe; concrete or earth channel)?
Principal Spillway Gunnite, Stepped Spillway Emergency Spillway Low-level outlet pipe.
Other/Corrective Action: N/A.
2. Has the emergency spillway activated (had flow) since the last inspection? Yes _____ No X
If yes describe (date(s) of flow, reason for activation, depth of flow) /Corrective Action: _____
3. For pipe spillways, is the intake obstructed in any way (such as with excessive debris)? Yes _____ No X
If yes, describe (type of debris, reason for obstruction, etc.) /Corrective Action: The intake for the low-level outlet is not visible from the surface, but was inspected by a dive team in September 2020. The sluice gate structure was noted to not have been obstructed by sediment or debris following cleaning by divers during that inspection.
4. For pipe spillways, what is the condition of any trash racks (for example, adequate, inadequate, damaged)? /Corrective Action:
The intake for the low-level outlet is not visible from the surface but was inspected by a dive team in September 2020. The sluice gate structure was noted to have an intact trash rack by the divers.
5. For pipe spillways, are there any visible cracks, separations or holes in the pipe(s) (intake or outlet)? Yes _____ No X
If yes, describe (location, width of crack or separation, etc.)/Corrective Action: Recent dive inspections of the pipe's inlet did not identify any cracks, separations, or holes. The recent camera inspection rated the pipe in fair to good condition.
6. For pipe spillways, are there any apparent leaks in the pipe(s)? Yes _____ No X
If yes, describe (location, rate of flow from leak, etc.)/Corrective Action: A camera inspection of the low-level outlet pipe was completed in December 2020. The inspection identified a few pipe joints with calcite formations, indicating minor seepage, but otherwise did not identify any apparent leaks.
7. For pipe spillways, how would you describe the overall condition of the pipe(s)? (Check all that apply)
Functioning Normally X Not Functional _____ Deteriorated _____ Damaged _____ Adequate _____ Inadequate _____

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam

Date: 13 December 2021

E. Principal and Emergency Spillways (continued)

8. For concrete or earth channel spillways, is the entrance or channel obstructed in any way? Yes _____ No X
If yes, describe (type of obstruction, location, etc.)/Corrective Action: _____
9. For earth channel spillways, how would you describe the vegetation in the spillway? (Check all that apply)
Recently Mowed _____ Overgrown _____ Good Cover _____ Sparse _____
Other (describe)/Corrective Action: N/A
10. For earth channel spillways, are there any trees or other inappropriate vegetation in the spillway? Yes _____ No _____
If yes, describe (type of vegetation, size, location, etc.)/Corrective Action: N/A
11. For earth channel spillways, are there any eroded areas in the spillway? Yes _____ No _____
If yes, describe (size of area, location, severity, etc.)/Corrective Action: N/A
12. For concrete channel spillways, are there any cracks or holes in the spillway? Yes X No _____
If yes, describe (width of crack or hole, location, etc.)/Corrective Action: A spillway inspection was conducted between 13 and 14 December 2021 by Geosyntec Consultants. Cracks and other areas of interest were observed on the sides and in steps in portions of the spillway. Recommend continue to monitor. Maintenance on the spillway to address the observations from the spillway inspection is scheduled to be conducted in early 2022.
13. For concrete channel spillways, are there any leaks or evidence of undermining (flow under the concrete)? Yes X No _____
If yes, describe (location, rate of flow from leak, indicators of undermining, etc.)/Corrective Action: On the left side of the concrete channel spillway, under the bridge located downstream of the left abutment, clear flowing water was observed behind the concrete lining and daylighting at the soil surface outside the channel. These conditions have been documented in previous inspections. The source of the flow of water is unknown but was determined to not be sourced from water treatment pipes in the vicinity. The backfill material behind the sidewall of the concrete-lined channel has indications of erosion as noted previously, but no observable changes were identified during this inspection. The area should continue to be routinely monitored for any progression in the rate of flow or erosion of the backfill material, and the source of this flow be determined and mitigated. As documented in Item E.12, maintenance on the spillway is scheduled to be conducted in early 2022. Additional areas of undermining were observed during the inspection and these features will be incorporated in the overall spillway maintenance repairs that is planned to begin in early 2022.
14. For earth or concrete channel spillways, how would you describe the overall condition of the spillway? (Check all that apply)
Functioning Normally X Not Functional _____ Deteriorated _____ Damaged _____ Adequate _____ Inadequate _____
15. Other observations on the spillways/Corrective Action: Continue to maintain the spillway and remove debris as necessary.

F. Instrumentation (refer to Glossary for description)

1. Are there any toe drains at the downstream toe or any other seepage drains on the dam? Yes X No _____
If yes, describe the condition (for example, clogged, free flowing, deteriorated, good condition) /Corrective Action: The drop inlet near the left abutment at the toe of the dam did not have flow in it. The interceptor drains along Bench No. 1 were identified. Interceptor Drain No. 1 was observed to dry. Drain No. 11 was observed to be collapsed and full of granular sediment. Inspector cleaned out the drain and observed clear flow out of the pipe. All interceptor drains, with the exception of the dry drain No. 1, were observed to have minimal clear flow. The underdrain system of the dam outlets in the impact stilling basin, and the two drainpipes appeared to be flowing. These outlet pipes were cleaned out in 2020.

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam

Date: 13 December 2021

Caution should be exercised when conducting any mowing or edging near the concrete channels to avoid damaging the interceptor drains.

2. For drains, is an animal guard installed at the outlet of each drain? Yes _____ No X

If no, which drains lack animal guards? /Corrective Action: Animal guards were not observed on interceptor drainpipes, however, they do not appear necessary on the interceptor surface drains or underdrain outlet pipes, as these appear to continuously flow.

3. For drains, measure the rate of flow from each drain and record below (use additional pages if necessary):

Designation/Location of Drain	Flow Rate	Flow Rate in GPM*1	Turbidity of Flow (describe – clear, muddy, etc.)
Interceptor Drains on Bench No. 1	Very Low	≤0.1	clear
Underdrain Outlets	Approximately ½ in. of flow observed over the exit sill at the concrete stilling basin.	--	clear
1.) Drain on the left side of the stilling basin	Very Low, “rhythmic” (i.e., water squirted out of the drain every second)	≈0.3	clear
2.) 18-in. HDPE Drain 1 ft from the right side of the stilling basin	Dry	--	N/A
3.) 12-in. Corrugate Pipe, 3 ft from the right side of the stilling basin	Very Low	≈0.3	Clear
4.) 12-in. Corrugate Pipe, 4 ft from the right side of the stilling basin	High	≤7.0	Clear

4. Are there any piezometers on the dam? Yes X No _____

If yes, describe the condition (for example, good condition, damaged, etc.)/Corrective Action: The piezometers are generally in good condition. Bolts were installed on all flush mounts. Geosyntec recommended that locks be installed on the stick-up vibrating wire piezometers to prevent wild life from entering and damaging the cables.

5. For piezometers, does each piezometer have a cap with a lock? Yes _____ No X

If no, which piezometers need caps (to prevent rain water intrusion) and/or locks (to prevent tampering)? /Corrective Action: Piezometers have caps, but no locks. . As discussed in Item F.4, bolts were installed on all flush mounts. Seals should be replaced in P-7. Maintenance of the piezometers should be completed in accordance with the O&M Plan.

6. For piezometers, are you able to take a measurement (depth to water) in each piezometer? Yes X No _____

If yes, record depth to water (in feet) in each piezometer, record on a separate page, and attach to this form.

7. Are there any other monitoring devices on the dam? Yes _____ No X

If yes, describe what type and the condition (for example, monitoring wells - good condition, damaged) /Corrective Action:
N/A

Embankment (Earth) Dam Inspection Form (continued)

Name of Dam: Lake Petit Dam Date: 13 December 2021

F. Instrumentation (Continued)

8. Other observations on instrumentation/Corrective Action: No other observations.

G. Photographs

At a minimum, photographs should be taken of the crest, upstream slope, downstream slope, and any other notable features.

List of photographs (be sure to date stamp the photos): Photographs have been attached to this inspection report.

**GPM (gallons per minute): to convert from oz/sec multiply by 0.4688; to convert from ml/sec multiply by 0.01585
1. Flow Rates were measured using a 16 oz measuring cub and timer.*

PROJECT NAME: Dec 2021 (Q4) Lake Petit Dam Quarterly Owners Inspection

PROJECT NO.: TN7833

CLIENT: Big Canoe Property Owners Association

FILE NAME: Dec 2021 Dam Insp



Photograph 1: Upstream Face, Dec. 2021 – Localized areas of surficial erosion previously repaired which require upkeep due to pedestrian traffic.



Photograph 2: Upstream Face, Dec. 2021 – Riprap along the bottom of the upstream face is more exposed than previous inspections – shoreline protection repairs are scheduled for early 2022.

PROJECT NAME: Dec 2021 (Q4) Lake Petit Dam Quarterly Owners Inspection

PROJECT NO.: TN7833

CLIENT: Big Canoe Property Owners Association

FILE NAME: Dec 2021 Dam Insp



Photograph 3: Downstream Face, Dec. 2021 – Surfacial erosion observed between Bench No.4 and No.5 on the right side of the downstream face.



Photograph 4: Left Rim, Dec. 2021 – Foundation material under the concrete channel on Bench No.2 has eroded away, and should be replaced.

PROJECT NAME: Dec 2021 (Q4) Lake Petit Dam Quarterly Owners Inspection

PROJECT NO.: TN7833

CLIENT: Big Canoe Property Owners Association

FILE NAME: Dec 2021 Dam Insp



Photograph 5: Downstream Face, Dec. 2021 – Previously identified wet area above Bench No. 1. No changes observed in the wet spot.



Photograph 6: Downstream Face, Dec. 2021 – Surficial erosion observed on the left abutment, which leads to sediment built in the left weir.

PROJECT NAME: Dec 2021 (Q4) Lake Petit Dam Quarterly Owners Inspection

PROJECT NO.: TN7833

CLIENT: Big Canoe Property Owners Association

FILE NAME: Dec 2021 Dam Insp

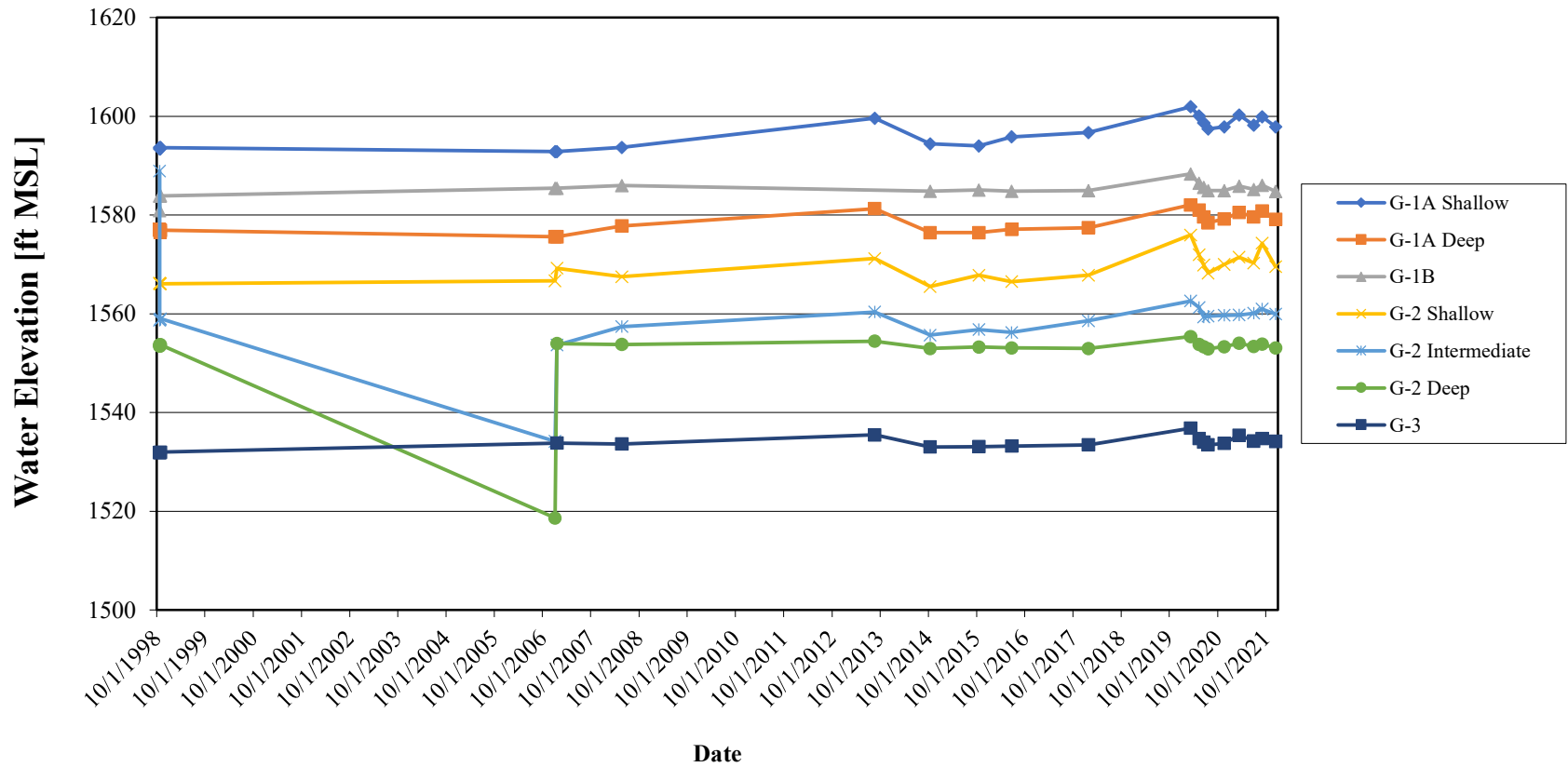


Photograph 7: Concrete Stilling Basin, Dec. 2021 – Flow observed and measured at the drain left of the concrete stilling basin (1), and the two corrugated pipes on the right (3 and 4).



Photograph 8: Spillway, Dec. 2021 – Erosion observed behind the left side of the spillway near the bridge on Wolfscratch Drive. Water was being released via a bypass line operated by Big Canoe to lower the reservoir to conduct a spillway inspection. Maintenance on the spillway is scheduled for early 2022.

Standpipe Piezometer Water Elevations



Note: G-2 Shallow water levels noted as anomolous on 3 Jan 2007. Re-measured 19 Jan 2007, and levels more consistent with previous readings.

**Figure 2-6. Summary of Standpipe Piezometer Data
(Oct 1998 through Dec 2021) - Lake Petit Dam, Big Canoe, GA.**

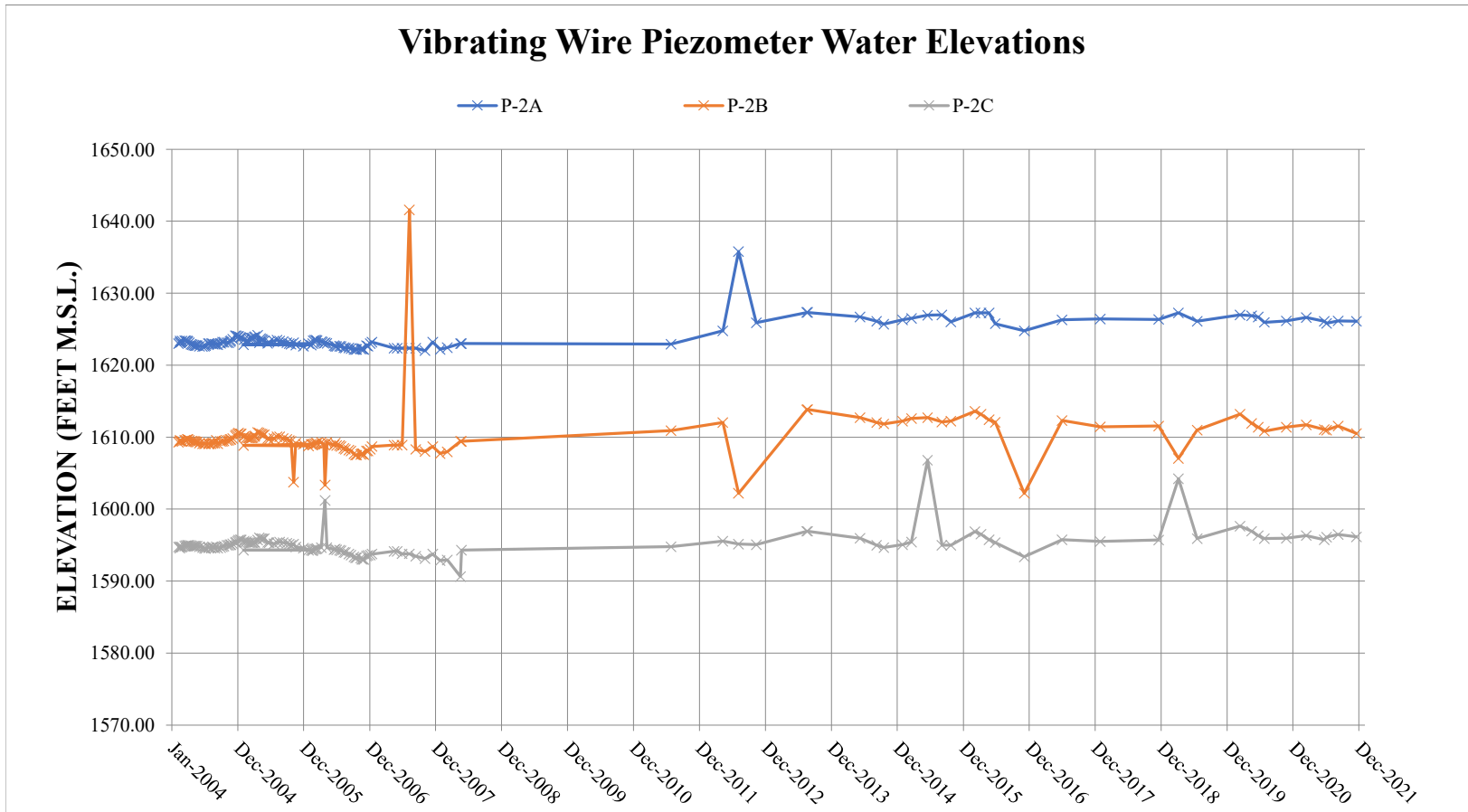
**Table 2-2
Standpipe Piezometer Water Elevation Data**

	22-Oct-98	23-Oct-98	26-Oct-98	29-Oct-98	3-Jan-07	19-Jan-07	22-May-08	20-Aug-13	15-Nov-14	20-Oct-15
Water Elevation (ft MSL)										
G-1A Shallow	1593.68	1593.43	1593.42	1593.67	1592.84	1592.84	1593.73	1599.59	1594.43	1594.00
G-1A Deep	1577.07	1576.93	1576.51	1576.92	1575.59	1575.59	1577.81	1581.31	1576.46	1576.46
G-1B	1580.87	1583.84	1583.85	1583.89	1583.44	1583.44	1583.98	-- ^a	1582.85	1583.07
G-2 Shallow	1566.23	1566.12	1566.06	1566.07	1566.70	1569.25	1567.50	1571.20	1565.52	1567.79
G-2 Intermediate	1588.90	1558.68	1558.81	1559.00	1534.17	* 1553.65	1557.40	1560.36	1555.68	1556.79
G-2 Deep	1553.41	1553.71	1553.52	1553.75	1518.64	* 1554.00	1553.77	1554.46	1552.96	1553.27
G-3	1531.94	1531.93	1531.92	1531.95	N/A	1533.82	1533.64	1535.49	1533.04	1533.08
	23-Jun-16	26-Jan-18	9-Mar-20	12-May-20	17-Jun-20	21-Jul-20	20-Nov-20	11-Mar-21	1-Jul-21	3-Sep-21
Water Elevation (ft MSL)										
G-1A Shallow	1595.86	1596.72	1601.9	1600.11	1598.68	1597.45	1597.86	1600.25	1598.20	1599.90
G-1A Deep	1577.10	1577.45	1582.08	1580.99	1579.61	1578.44	1579.23	1580.54	1579.64	1579.64
G-1B	1582.85	1582.93	1586.32	1586.41	1585.61	1584.93	1584.93	1585.84	1585.22	1586.04
G-2 Shallow	1566.51	1567.78	1575.95	1571.95	1569.88	1568.22	1569.98	1571.45	1570.28	1574.30
G-2 Intermediate	1556.22	1558.56	1562.62	1561.28	1559.33	1559.53	1559.70	1559.78	1560.11	1560.95
G-2 Deep	1553.09	1552.99	1555.39	1553.82	1553.82	1552.89	1553.35	1554.05	1553.38	1553.86
G-3	1533.24	1533.48	1536.84	1534.77	1534.77	1533.44	1533.73	1535.4	1534.24	1534.73
	13-Dec-21									
Water Elevation (ft MSL)										
G-1A Shallow	1597.82									
G-1A Deep	1579.18									
G-1B	1584.80									
G-2 Shallow	1569.52									
G-2 Intermediate	1569.52									
G-2 Deep	1559.97									
G-3	1559.97									

Note:

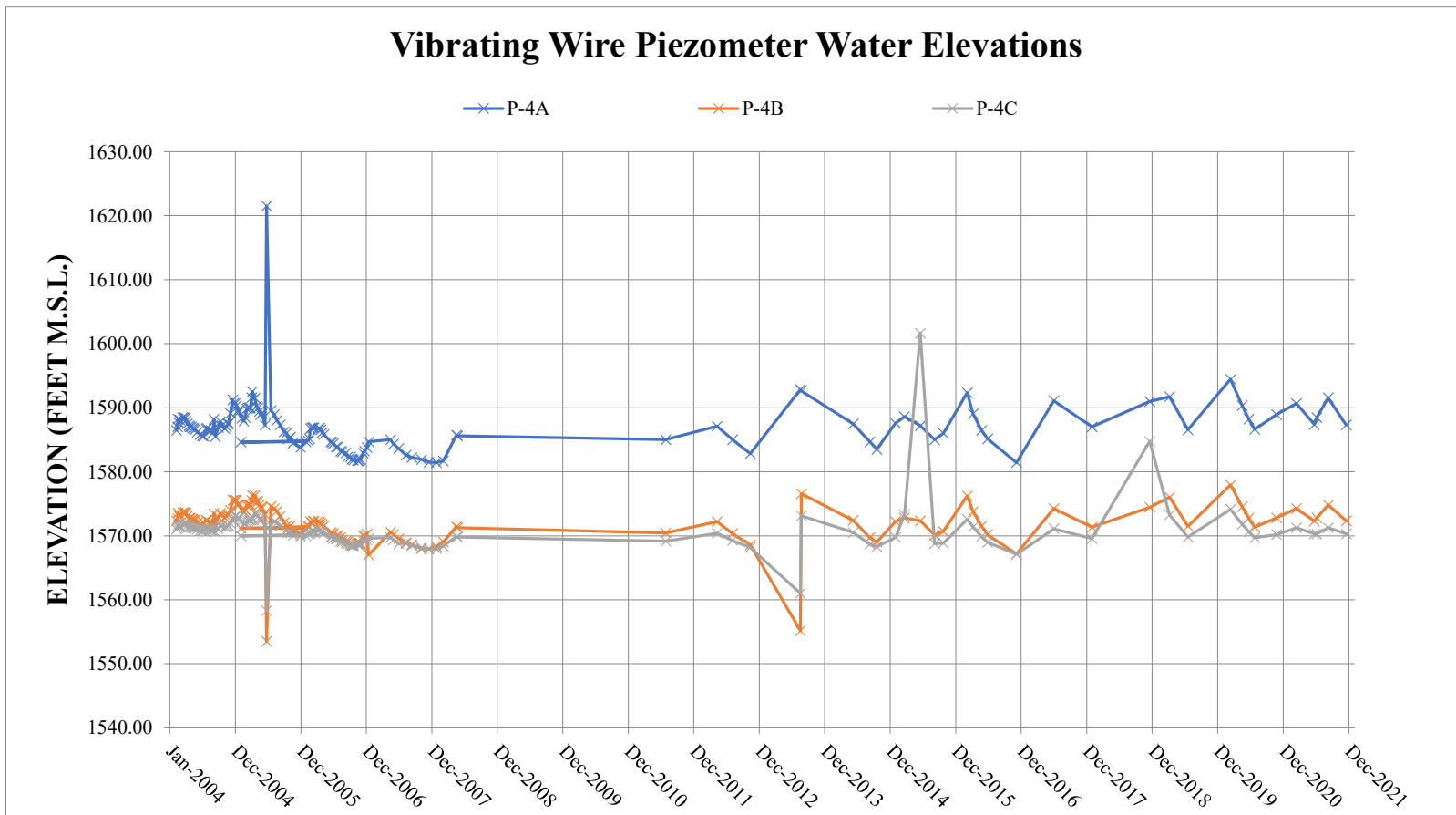
* water levels noted as anomolous on 3 Jan 2007. Re-measured 19 Jan 2007, and levels more consistent with previous readings.

a - No measurement in standpipe G-1B on 20 August 2013. Unable to locate due to overgrown grass.



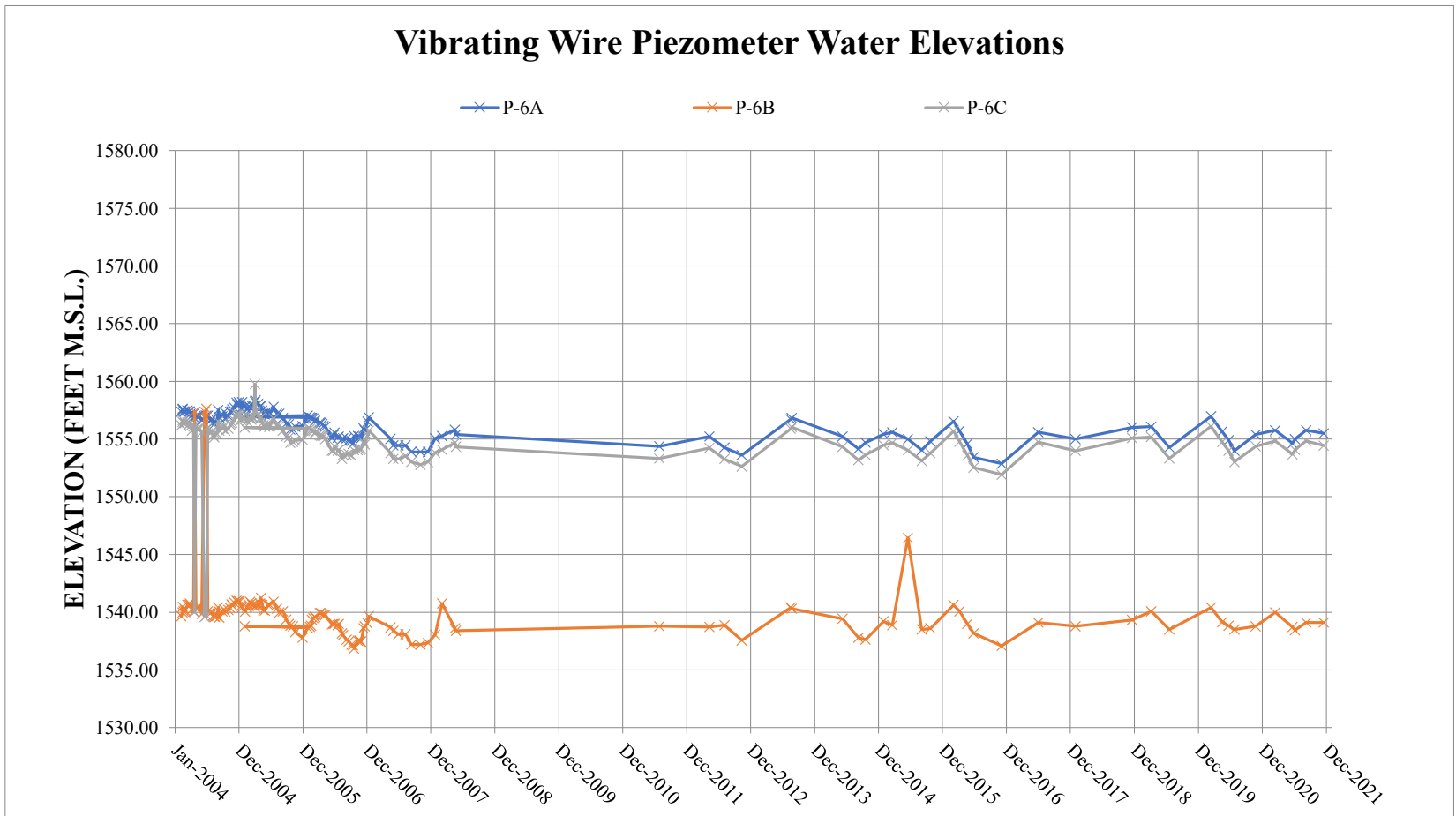
Note: Historical data anomalies generally appear to be the result of transcription errors.

Figure 2-2. Summary of Vibrating Wire Piezometer Data, P-2A, B, C (Feb 2004 through Sept 2021) - Lake Petit Dam, Big Canoe, GA



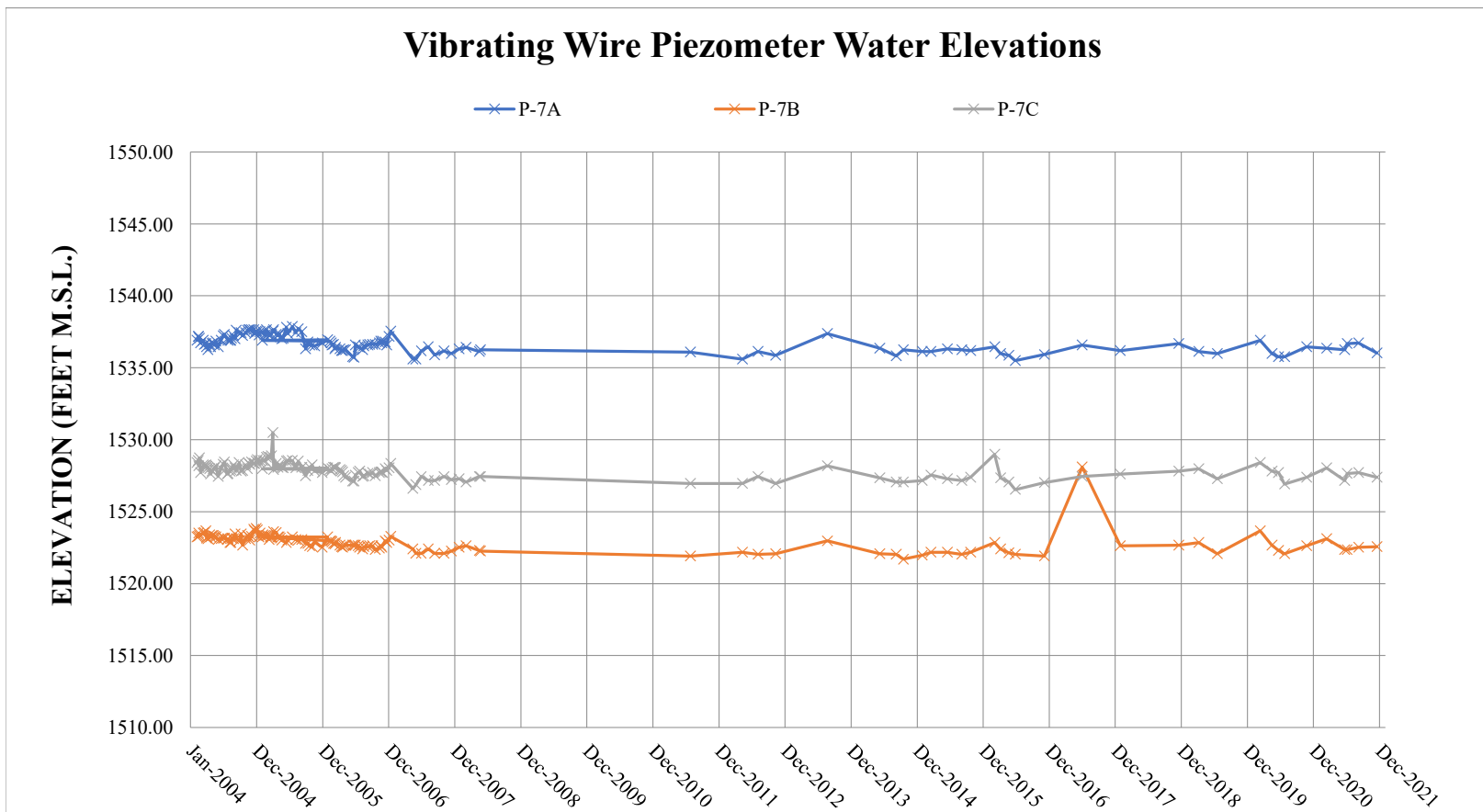
Note: Historical data anomalies generally appear to be the result of transcription errors.

Figure 2-3. Summary of Vibrating Wire Piezometer Data, P-4A, B, C (Feb 2004 through Sept 2021) - Lake Petit Dam, Big Canoe, GA



Note: Historical data anomalies generally appear to be the result of transcription errors.

Figure 2-4. Summary of Vibrating Wire Piezometer Data, P-6A, B, C (Feb 2004 through Sept 2021) - Lake Petit Dam, Big Canoe, GA



Note: Historical data anomalies generally appear to be the result of transcription errors.

Figure 2-5. Summary of Vibrating Wire Piezometer Data, P-7A, B, C (Feb 2004 through Sept 2021) - Lake Petit Dam, Big Canoe, GA

APPENDIX B

Photograph Log



Photograph 1: Beginning of shoreline protection repairs (looking toward left abutment)



Photograph 2: Temporary access road for shoreline protection repairs



Photograph 3: Shoreline protection repairs completed (looking toward right abutment)



Photograph 4: Shoreline protection repairs completed (looking toward left abutment)



Photograph 5: Shoreline protection repairs completed (looking down alignment of gate stem)



Photograph 6: Shoreline protection repairs completed (looking toward right abutment)



Photograph 7: Shoreline protection repairs completed (looking toward left abutment)



Photograph 8: Shoreline protection repairs and new pedestrian access on right abutment



Photograph 9: Right abutment weir



Photograph 10: Downstream slope from right abutment



Photograph 11: Downstream toe from left abutment



Photograph 12: Bench 1 (El. 1544) looking toward right abutment



Photograph 13: Signpost hole in Bench 1 (El. 1544)



Photograph 14: Seepage area repair and site restoration



Photograph 15: Seepage area repair from left abutment



Photograph 16: Seepage Area Repair between Bench 1 (El. 1544) and Bench 2 (El. 1562)



Photograph 17: Interceptor drains 9 and 10 discharge above end of pipe



Photograph 18: Concrete drainage channel on Bench 1 (El. 1544)



Photograph 19: Bench 3 (El. 1584) looking toward right abutment



Photograph 20: Animal digging on Bench 4 (El. 1606)



Photograph 21: Bench 4 (El. 1606) looking downstream from midpoint of alignment



Photograph 22: Bench 5 (El. 1626) minor erosion near left abutment



Photograph 23: Bench 5 (El. 1626) minor erosion and ponded water near left abutment



Photograph 24: Bench 5 (El. 1626) area of light vegetation



Photograph 25: Overflow spillway crest weir and box culvert



Photograph 26: Downstream side of box culvert



Photograph 27: Partially dewatered spillway looking upstream from Step 25



Photograph 28: Spillway bypass line in operation to lower reservoir level for maintenance repairs



Photograph 29: Eroded areas behind spillway concrete



Photograph 30: Overflow Spillway discharge into Petit Creek



Photograph 31: Downstream slope and cleared channel below stilling basin discharge



Photograph 32: Stilling basin discharge area



Photograph 33: Hydrophobic polyurethane grout injection into void under spillway chute



Photograph 34: Cracked area chipped out for patching



Photograph 35: Cracked area patched



Photograph 36: Repair at Step 16 – removal of damaged gunite section



Photograph 37: Repair at Step 16 – rebar installation



Photograph 38: Repair at Step 16 – repair complete