

Monthly Construction Progress Report

Date: 13 December 2024

To: David Griffin, P.E., Georgia Safe Dams Program (GSDP)

From: Jamey Dotson, P.E., Geosyntec Consultants (Geosyntec)

Subject: Lake Petit Dam Seepage Collection System Modifications CQA

Work Period:

This report summarizes work performed for this project at Lake Petit Dam (Dam) for the period of 11 November 2024 (start of work) through 30 November 2024.

Summary:

Work during this reporting period (11 November through 30 November 2024) generally consisted of Contractor mobilization, erosion and sediment control setup, and initial demolition activities to remove the existing concrete drainage channel on Bench Number (No.) 1. Attachment 1 presents a general photograph log of work activities that occurred during this reporting period. Figure 1 presents the general site layout as well as site features located to-date. The primary on-site project activities during this reporting period included:

- Construction Kickoff Meeting and work began on 11 November 2024.
- Installation of silt fence across the crest of Bench No. 1.
- Relocation of the silt fence at the toe of the Dam.
- Delivery of materials including:
 - ADS N-10 perforated pipe sections for installation in the drainage ditch.
 - Four (4) Nyloplast Catch Basins.
 - Georgia Department of Transportation (GDOT) SM10 Sand (meeting ASTM C-33 specifications) and GDOT No. 89 Stone for use as backfill in the drainage channel around the perforated pipe.
- Removal of the concrete drainage channel from Bench No. 1.
- Cutting of trees from the left abutment.

Weather conditions for the three-week period (11 November through 30 November 2024) consisted of clear to overcast skies, light to strong winds, mild to cold weather, with multiple rain

events. Total precipitation during this period was approximately 3.9 inches (in.). Daily temperature ranged between approximately 35 and 80°F.

Demolition of the concrete drainage channel was delayed on 14, 19, and 20 November 2024 due to rain events and wet site conditions. Due to delays in construction, a decision was made to suspend work from 24 November 2024 through 02 December 2024. This decision was made to avoid leaving an open excavation in the Dam over the Thanksgiving holiday. Prior to demobilization, efforts were made to ensure that erosion controls measures were functioning properly and that no obstructions were present to restrict stormwater flows off the Dam.

Work Activities:

Erosion and Sediment Control:

The double row silt fence was installed to maintain the required minimum distance between silt fences. The first row was placed on the downstream side of Bench No. 1 (1544 Bench). The second row was placed along the toe of the Dam (noted in Drawing Markups). Additionally, 811 and a private utility locate identified telecommunication lines along the downstream toe of the Dam. The Contractor excavated holes along the length of the toe by hand to confirm the location of the utility. The activity showed the tracer wire was very well centered along the utility locate marks. Therefore, the silt fence was installed approximately 3 feet upstream of the markings. Additional silt fence was installed around existing Drop Inlet 2 at the toe of the Dam.

Filter fabric was placed over the Drop Inlets 2 through 4 (see Figure 1).

Construction entrances consisting of at least 6 in. of GDOT No. 34 stone were installed at the toe of the Dam near the left and right abutments.

Clearing and Grubbing:

During the Construction Kickoff Meeting (11 November 2024), the Owner's representative confirmed property lines and approved trees for removal. The engineering team, Owner, and Contractor's representative marked trees approved for removal along the left and right abutments. The Contractor began cutting trees from the left abutment on 23 November 2024. Trees that were previously marked for removal were generally removed. However, the stumps and root balls of trees that were cut down were not removed during this reporting period.

Subgrade:

No excavations to planned subgrade elevations took place during this work period. Planned excavations along Bench No. 1 were delayed during this work period to avoid leaving an open excavation in the Dam over the Thanksgiving holiday.

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Drains:

On 15 November 2024, the Contractor began removing concrete from the drainage channel on Bench No. 1 starting from the center of the Dam and working toward the right abutment. A jackhammer mounted on the boom arm of a mini excavator was used to break the concrete into pieces which were then removed using a bucket and hydraulic thumb on the mini excavator. Concrete pieces were loaded into the bucket of a skid steer and taken from the bench to the construction entrances where they were placed into the bucket of a front-end loader and then placed into the bed of a dump truck. Removed concrete was taken offsite for disposal. On 22 November 2024, the Contractor completed removing the concrete from the drainage channel between the left abutment and the drainage basin at the right abutment. A section of the concrete drainage channel (at approximate Station 5+10) was left in place as planned in the design drawings.

During the compilation of this report, excavation of the embankment began and a 10-in. diameter, corrugated metal pipe (CMP) was encountered during the excavation at approximately Station 3+00 (near proposed Catch Basin No. 2). This CMP was not noted in historical construction records of the Dam. The pipe generally appeared to run in the same direction of the planned excavation and approved bench drain. A short section of the CMP was exposed, removed, and inspected by the engineering team. The CMP contained perforations and appeared to part of a previously installed and undocumented internal drainage system. Additionally, the CMP appeared to be approaching the end of its service life. The engineering team notified GSDP about the CMP and the intentions to remove the deteriorated pipe as part of the approved installation of the new bench drain system.

Further details are being developed and will be included in the next reporting period report. Any major changes to planned design will be communicated to the GSDP.

Earthwork:

Due to delays in the project schedule from heavy rainfall events, no earthwork took place at the site before demobilization for the Thanksgiving holiday and end of the reporting period.

Instrumentation:

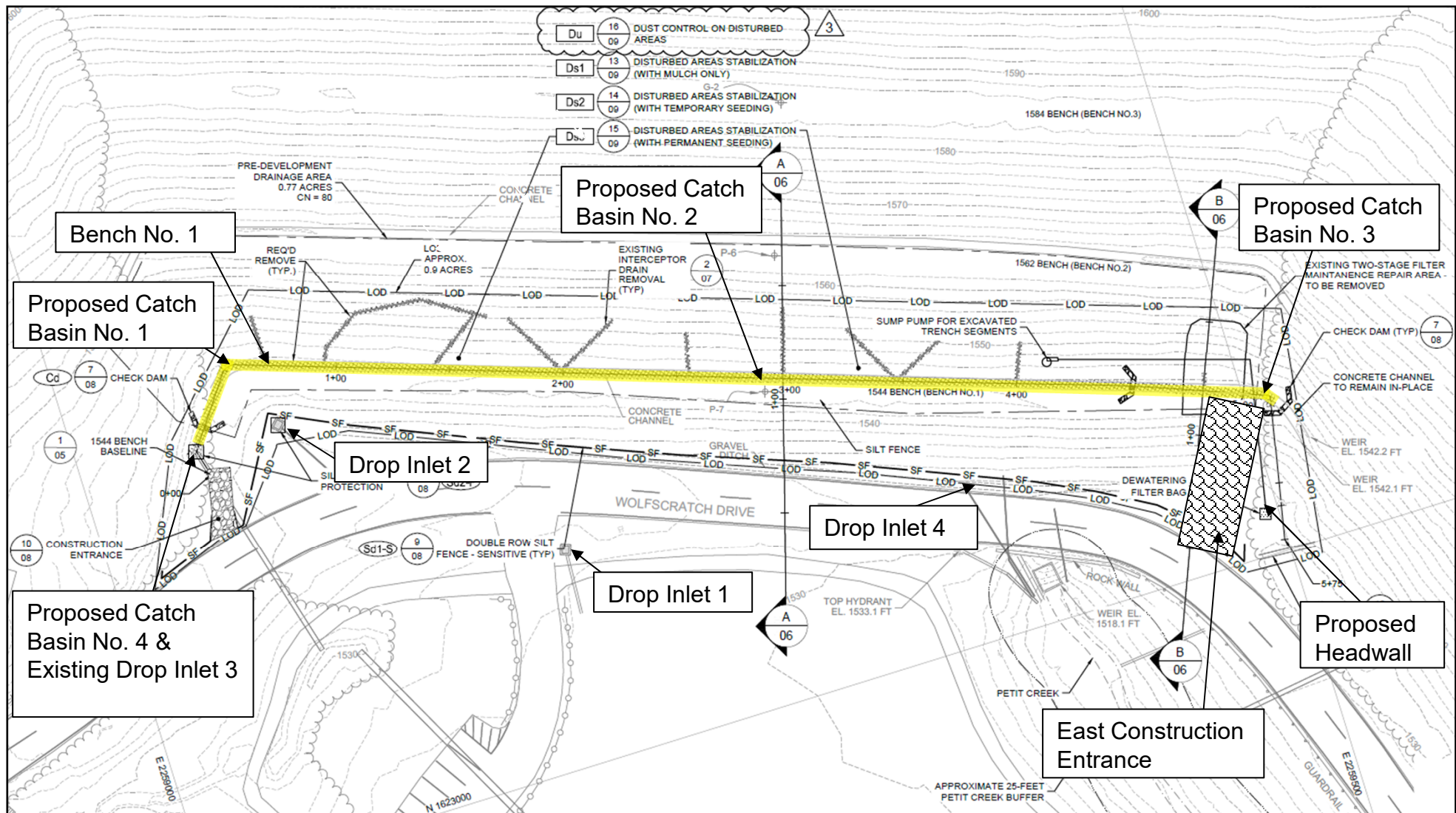
When work was occurring, an Engineer's representative recorded twice-daily readings from vibrating wire piezometers located on Bench No. 1 and Bench No. 2, and daily readings from vibrating wire piezometers and open standpipe piezometers located at Bench No. 3, Bench No. 4, Bench No. 5, and the Crest of the Dam. Records of those readings, as well as readings since November 2019, are provided in plots shown in Attachment 2.

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Laboratory Material Certification:

Specified drainage aggregates were delivered to the Site on 13 November 2024 and the Engineer's representative sampled for these for conformance testing. The materials met the gradation specifications for ASTM C-33 Sand and No. 89 Stone. Results are presented in Attachment 3.

Figure



Note:

1. All locations are considered to be approximate.
2. Image obtained from Sheet 3 of Seepage Collection System Modifications Drawing Set, dated June 2024. Drawings have not been updated to reflect field conditions but are used for informational purposes for this report.

LEGEND

- REMOVED CONCRETE DRAINAGE CHANNEL (CUMULATIVE)



Attachment 1

Photograph Log

Lake Petit Seepage Collection CQA: Monthly Construction Progress Report
November 2024

PHOTOGRAPH LOG		
PROJECT AND SITE INFORMATION		
PROJECT: Lake Petit Dam Seepage Collection CQA	DATE: November 2024 Reporting Period	
DESCRIPTION: Seepage Collection System Modification	PROJECT NO.: TCG11100	TASK NO.: 01/02
Photograph No. 01 Description: View of Site condition prior to construction, taken from right abutment toe (facing east).		
Photograph No. 02 Description: Site condition at the end of workday. Note installation of silt fence near the downstream toe.		

Lake Petit Seepage Collection CQA: Monthly Construction Progress Report
November 2024



PHOTOGRAPH LOG		
PROJECT AND SITE INFORMATION		
PROJECT: Lake Petit Dam Seepage Collection CQA	DATE: November 2024 Reporting Period	
DESCRIPTION: Seepage Collection System Modification	PROJECT NO.: TCG11100	TASK NO.: 01/02
<p>Photograph No. 03</p> <p>Description: Site conditions at the beginning of the workday, taken from the left abutment. Note installation of silt fence along Bench No. 1 and at toe.</p>	 <p>Lake Petit Seepage Mod CQA 15 Nov 2024, 07:30:21</p>	
<p>Photograph No. 04</p> <p>Description: Excavator being used to remove the concrete drainage channel.</p>	 <p>Lake Petit Seepage Mod CQA 15 Nov 2024, 11:02:45</p>	

Lake Petit Seepage Collection CQA: Monthly Construction Progress Report
November 2024

PHOTOGRAPH LOG		
PROJECT AND SITE INFORMATION		
PROJECT: Lake Petit Dam Seepage Collection CQA	DATE: November 2024 Reporting Period	
DESCRIPTION: Seepage Collection System Modification	PROJECT NO.: TCG11100	TASK NO.: 01/02
<p>Photograph No. 05</p> <p>Description: View of left abutment area where trees were cut.</p>		
<p>Photograph No. 06</p> <p>Description: View of the existing Drop Inlet 3 at the end of the Bench 1 drainage channel near the right abutment.</p>		

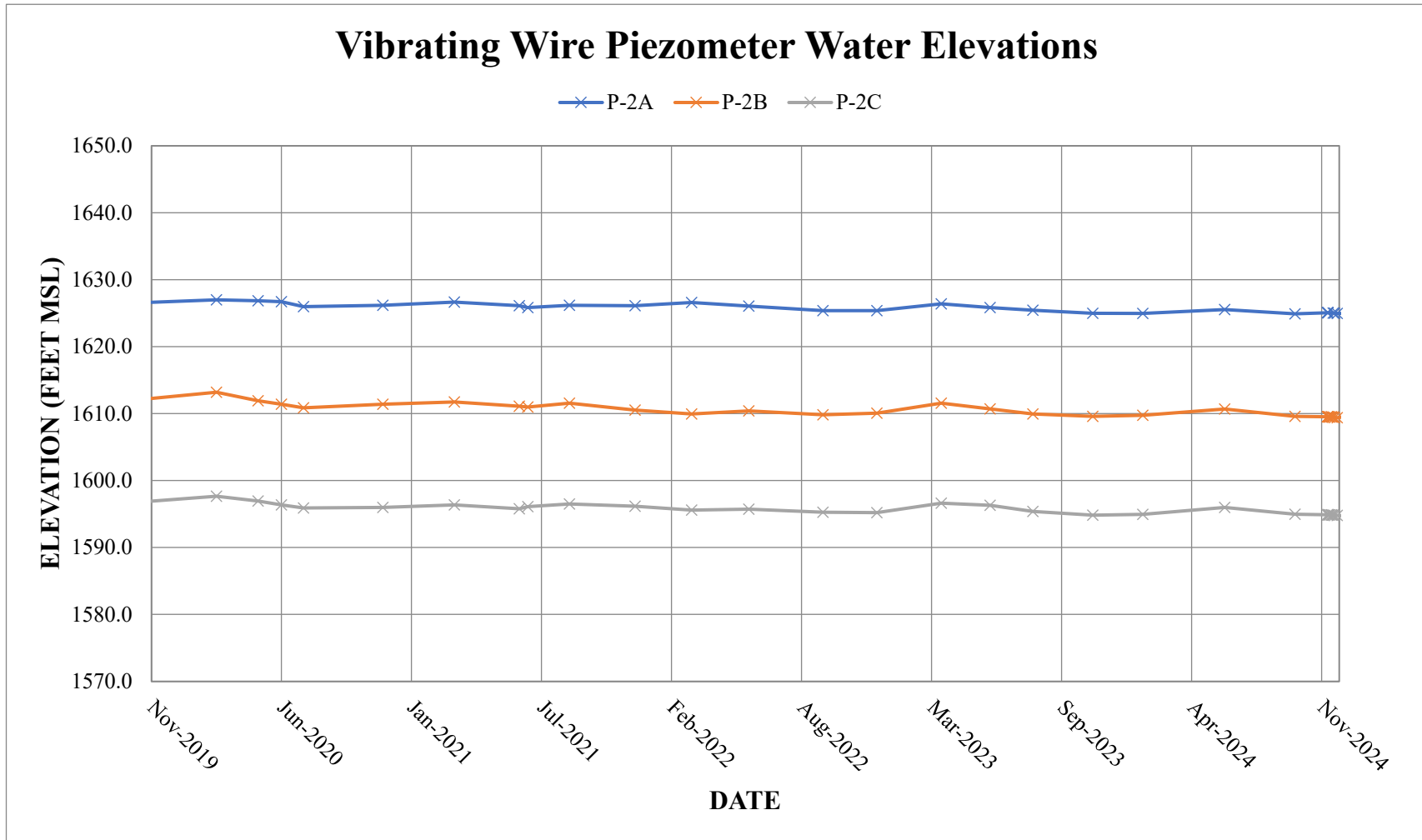
Lake Petit Seepage Collection CQA: Monthly Construction Progress Report

November 2024

PHOTOGRAPH LOG		
PROJECT AND SITE INFORMATION		
PROJECT: Lake Petit Dam Seepage Collection CQA	DATE: November 2024 Reporting Period	
DESCRIPTION: Seepage Collection System Modification	PROJECT NO.: TCG11100	TASK NO.: 01/02
Photograph No. 07 Description: View of general condition of the drainage channel.	 <p> 107°E (T) 34°27'43"N, 84°17'27"W ±13ft ▲ 1557ft </p> <p>Lake Petit Seepage Mod CQA 27 Nov 2024, 09:36:18</p>	
Photograph No. 08 Date 27 Nov 2024 Description: Site conditions as viewed from the left abutment.	 <p> 350°N (T) 34°27'41"N, 84°17'23"W ±13ft ▲ 1541ft </p> <p>Lake Petit Seepage Mod CQA 27 Nov 2024, 09:46:04</p>	

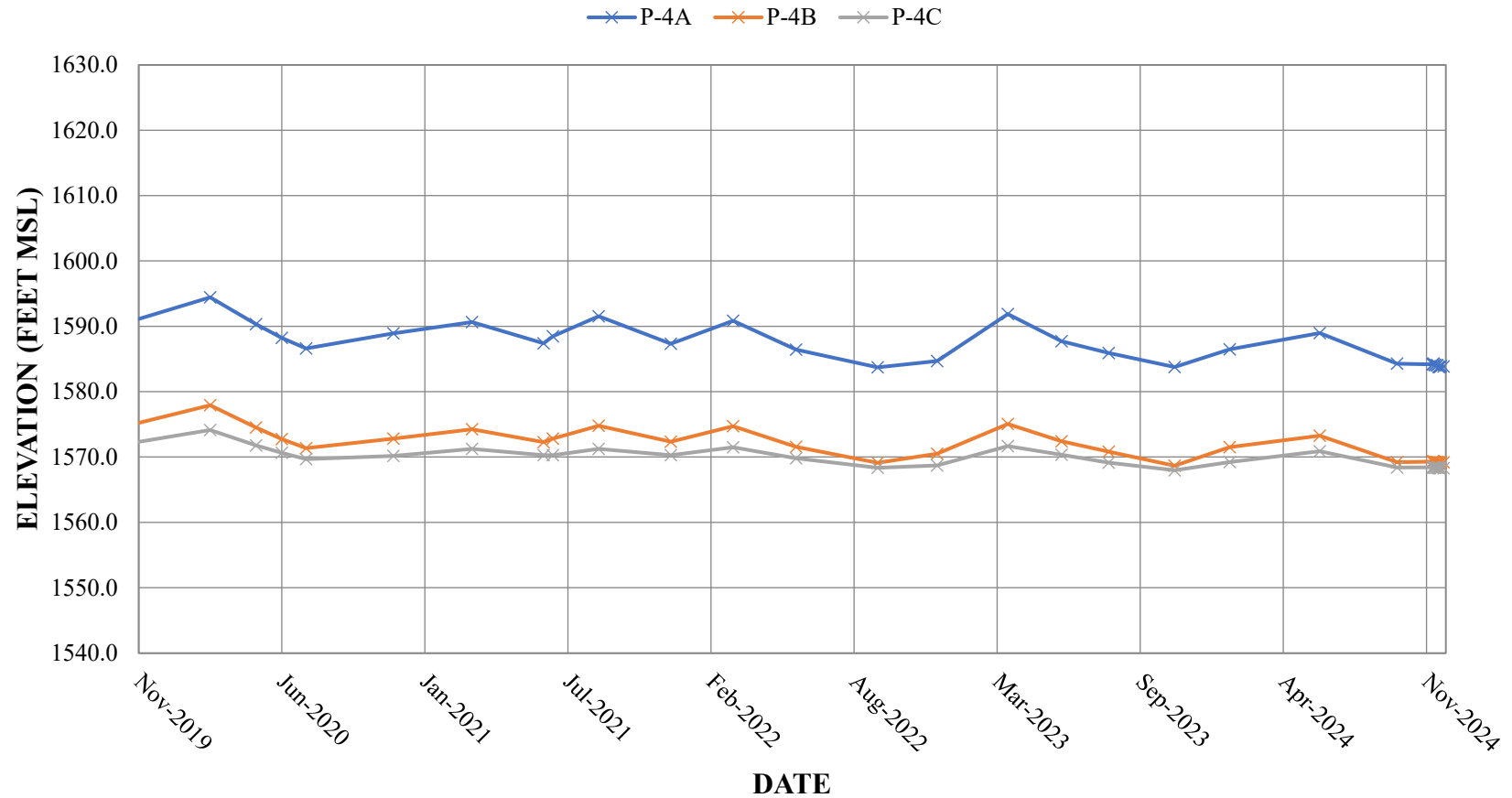
Attachment 2

Instrumentation



**Figure 1. Summary of Vibrating Wire Piezometer Data, P-2A, B, C
Lake Petit Dam, Big Canoe, GA**

Vibrating Wire Piezometer Water Elevations



**Figure 2. Summary of Vibrating Wire Piezometer Data, P-4A, B, C
Lake Petit Dam, Big Canoe, GA**

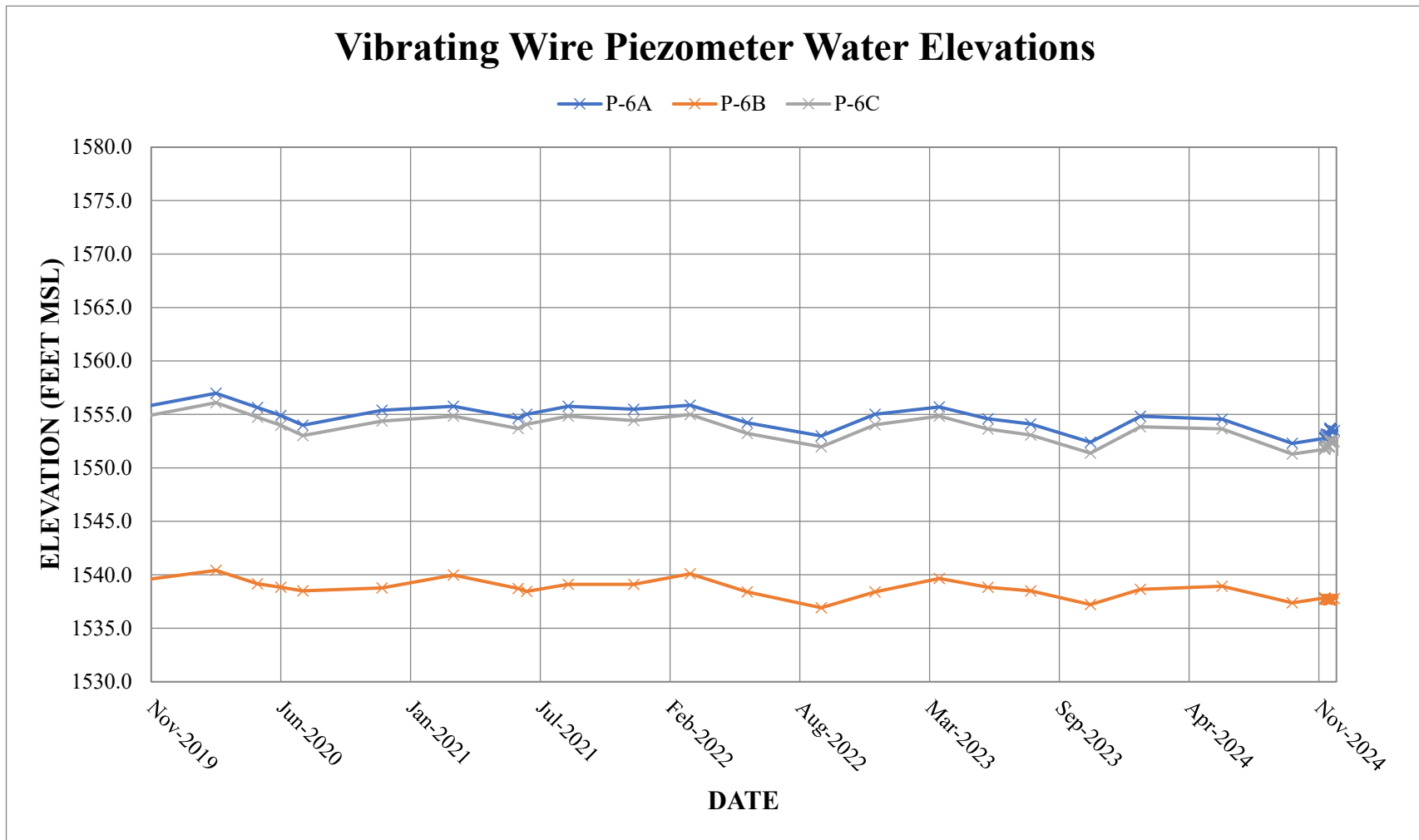
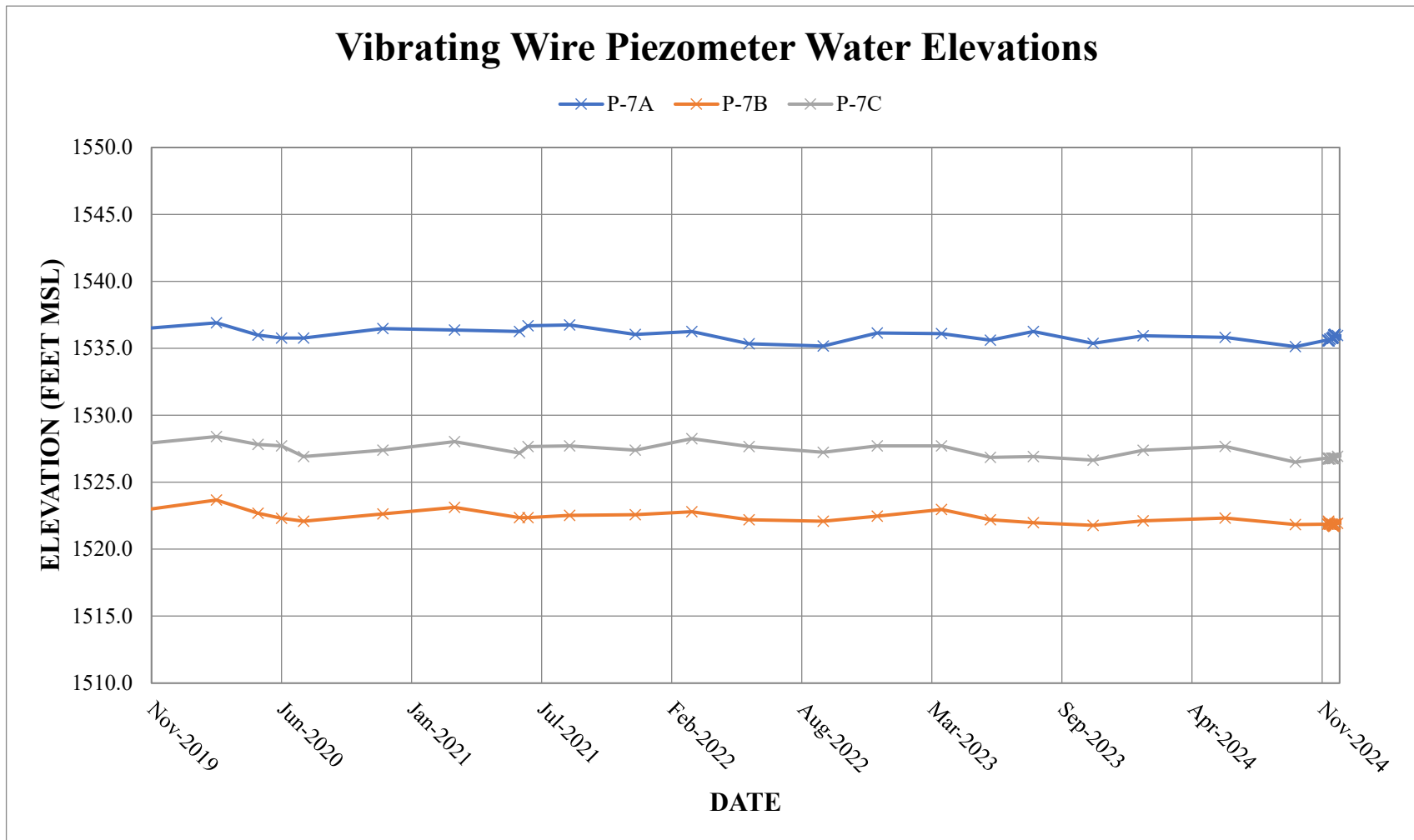


Figure 3 Summary of Vibrating Wire Piezometer Data, P-6A, B, C
Lake Petit Dam, Big Canoe, GA



**Figure 4. Summary of Vibrating Wire Piezometer Data, P-7A, B, C
Lake Petit Dam, Big Canoe, GA**

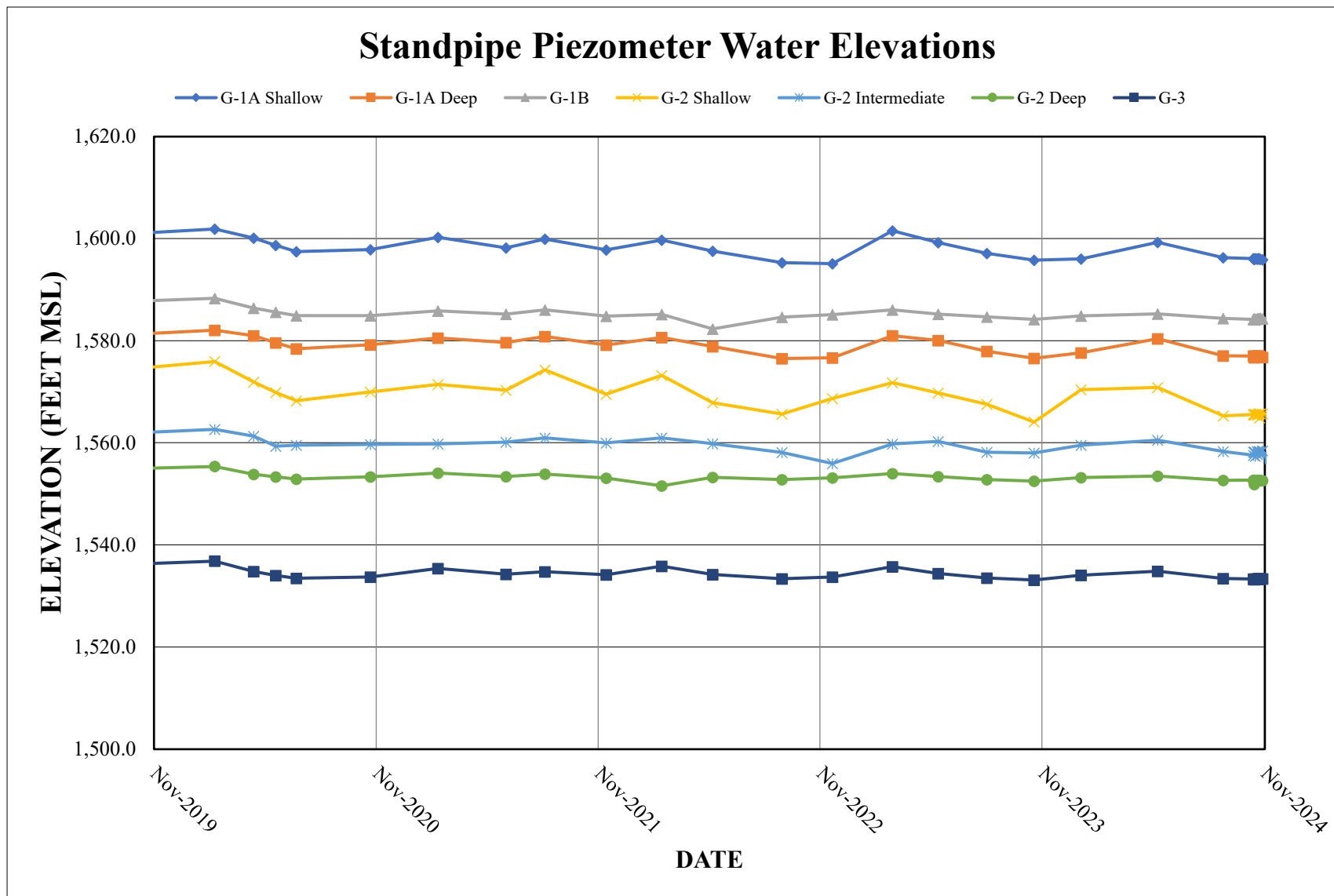


Figure 5. Summary of Standpipe Piezometer Data
(October 1998 through September 2024) - Lake Petit Dam, Big Canoe, GA.

Attachment 3

Laboratory Data

PARTICLE SIZE DISTRIBUTION REPORT

Report Number: E2211122.0003
Service Date: 11/18/24
Report Date: 11/21/24
Task:

Terracon
51 Lost Mound Dr, Ste 135
Chattanooga, TN 37406-1030
423-499-6111

Client

Geosyntec Consultants
Attn: Michelle Knights
835 Georgia Ave.
Chattanooga, TN 37402

Project

Laboratory Testing for Geosyntec-Chattanooga
835 Georgia Ave.
Chattanooga, TN 37402

Project Number: E2211122

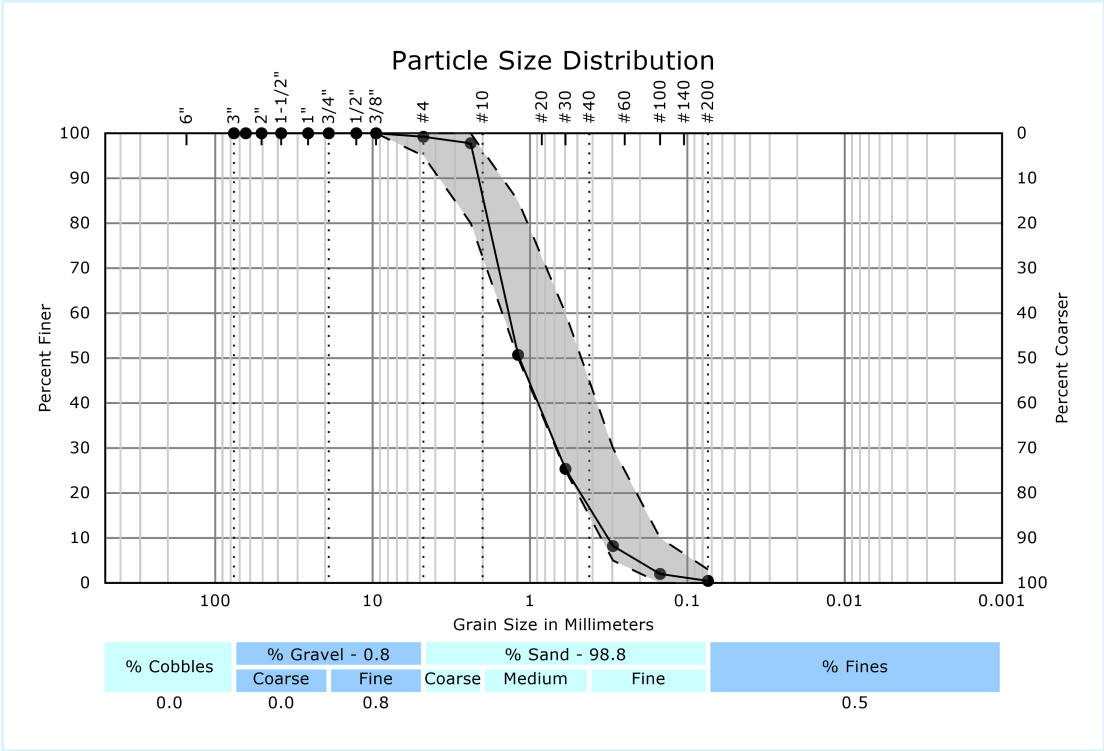
Sample Information

Sample Type: Bulk
Sample Location: Vulcan Quarry, Dalton Plant
Sample Description: C33 Sand

Laboratory Test Data

Test Method: ASTM C136
Method: NA
Atterberg Limits: Non-Plastic
Sample Preparation: As Received
Sieving Method: Single Sieve-Set Sieving

Sieve Size	Percent Finer	Spec.*	Pass (X=Fail)
3"	100		
2-1/2"	100		
2"	100		
1-1/2"	100		
1"	100		
3/4"	100		
1/2"	100		
3/8"	100	100	
#4	99	95-100	
#8	98	80-100	
#16	51	50-85	
#30	25	25-60	
#50	8	5-30	
#100	2	0-10	
#200	0.5	0-3	



* C33 Sand

$D_{60} = 1.37$	$D_{30} = 0.67$	$D_{10} = 0.320$	$C_c = 1.0$	$C_u = 4.3$	FM = 3.17
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Comments:

Services: ASTM C136 - Sieve Analysis of Fine and Coarse Aggregates
Terracon Rep.: John Taylor
Reported To:
Contractor: Geosyntec
Report Distribution:
(1) Geosyntec Consultants, Michelle Knights

Reviewed By: John Taylor
Laboratory Manager

Test

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

PARTICLE SIZE DISTRIBUTION REPORT

Report Number: E2211122.0004
Service Date: 11/18/24
Report Date: 11/21/24
Task:

Terracon
51 Lost Mound Dr, Ste 135
Chattanooga, TN 37406-1030
423-499-6111

Client

Geosyntec Consultants
Attn: Michelle Knights
835 Georgia Ave.
Chattanooga, TN 37402

Project

Laboratory Testing for Geosyntec-Chattanooga
835 Georgia Ave.
Chattanooga, TN 37402

Project Number: E2211122

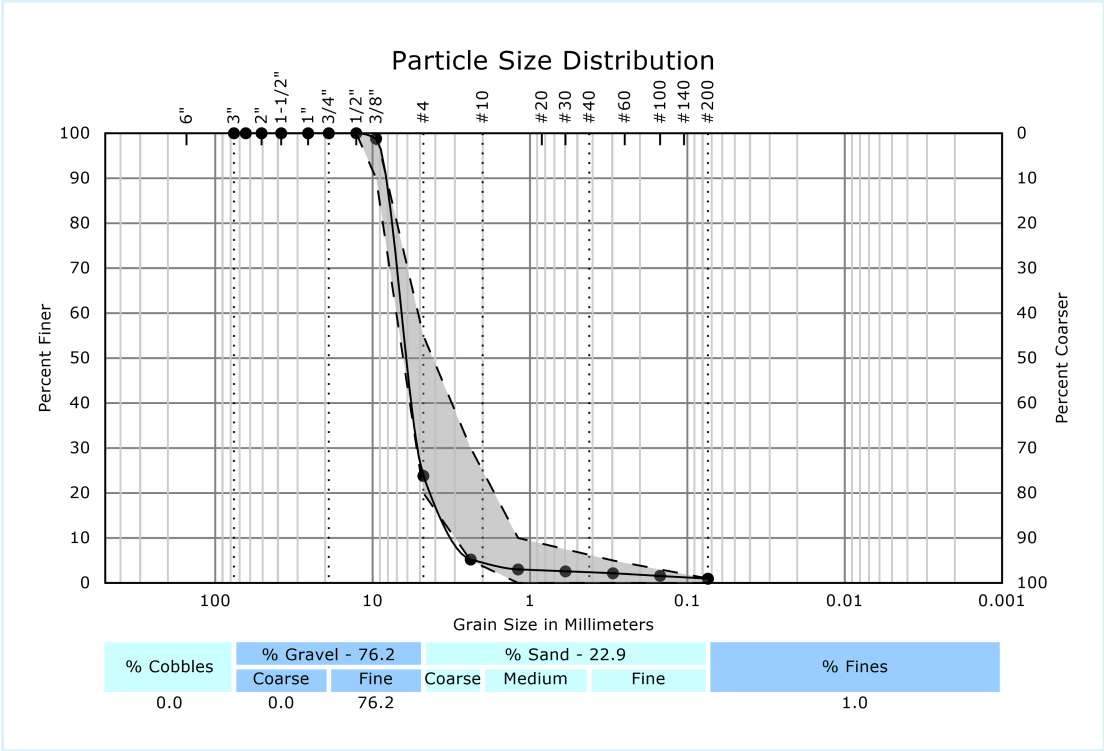
Sample Information

Sample Type: Bulk
Sample Location: Vulcan Materials, Cherokee Plant
Sample Description: #89 Stone

Laboratory Test Data

Test Method: ASTM C136
Method: NA
Atterberg Limits: Non-Plastic
Sample Preparation: As Received
Sieving Method: Single Sieve-Set Sieving

Sieve Size	Percent Finer	Spec.*	Pass (X=Fail)
3"	100		
2-1/2"	100		
2"	100		
1-1/2"	100		
1"	100		
3/4"	100		
1/2"	100	100-100	
3/8"	99	90-100	
#4	24	20-55	
#8	5	5-30	
#16	3	0-10	
#30	3		
#50	2	0-5	
#100	2		
#200	1	0-1	



* 89 Stone	D ₆₀ = 6.54	D ₃₀ = 5.21	D ₁₀ = 3.217	C _c = 1.3	C _u = 2.0	FM = 5.63
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Comments:

Services: ASTM C136 - Sieve Analysis of Fine and Coarse Aggregates
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