Alabama State Port Authority

Addendum to R&P or Specification Booklet

Project Name ASPA Logistics Park Civil Infrastructure Improvements

Project No. 11271 **Task No.** 01 **Addendum No.** 4

To: Prospective Bidders **Date:** 5/15/2025

The following items are clarifications to questions received. These items are hereby included in the bid documents by this addendum.

Item	Description
1.	Bid date will be moved to **Thursday, May 22, 2025, at 2 pm in the Killian Room**. No new questions will be taken.
2.	**Question:** Can as-builts be provided for the existing 36" force main running parallel to the proposed 84" RCP? **Answer:** The existing 36" force main is not a Port Asset and as such, the as-builts will need to be obtained from MAWSS. The Port will endeavor to obtain the as-builts from MAWSS prior to construction.
3.	**Question:** Please confirm all items will be measured and paid at the submitted unit prices. **Answer:** Items will be paid for by the contract.
4.	**Question:** There appears to be potential removal of both existing wire cable and chain link fence due conflict with proposed scope. Can pay items be added to account the removal and replacement of this work? **Answer:** Existing wire cable and existing fence is not anticipated to be removed for this project but in the event removal is required, it will be considered subsidiary to the work requiring its removal.
5.	**Question:** Can geotech and borings be provided for this project? Particularly at the 84" RCP location. **Answer:** Geotechnical Report can be provided. See attached report and addendum.
6.	**Question:** Regarding Bid Additive 1, how many pipes can be taken out of service at a time to either complete the Pipe Plugs and CIPPs? **Answer:** Adequate flow to facilitate drainage must be maintained at all times. The number of pipes taken out of service is dependent on the current site conditions at the time the work takes place and must be approved by the Port.
7.	**Question:** Note 5, of the project notes, states that "All shoring proposed by the Contractor shall be reviewed and approved by the Project Geotechnical Engineer". Can approved methods of shoring be provided for bidding purposes, or will this be the Contractor's responsibility to determine means and methods? **Answer:** Shoring is Contractor's responsibility to determine their own means and methods.
8.	**Question:** Can an NTP date be provided to better understand the timing of this project? This date plays into the sequencing of the work and equipment moves as all clearing must be completed

	between July 16th and April 30th to protect the tricolored bats as stated in Environmental Note 12. **Answer:** NTP will be determined when all contracts have been accepted, signed, and funding available.
9.	**Question:** It is assumed that the quantity for Unclassified Excavation covers the subgrade excavation for the proposed new entrance and the asphalt removal at Intermodal Rail Drive shown in the Summary of Quantities. Does any additional removal or excavation scope get paid under the pay item? **Answer:** See Section 210 in the ALDOT Standard Specifications For Highway Construction.

Please indicate your receipt of this addendum by adding the addendum number in the appropriate place in your Requisition & Proposal or Specification Book.

Sean Kelly 05/15/2025

Sean Kelly, P.E. **Date**
Project Manager

GEOTECHNICAL ENGINEERING TESTING, INC.

~ Geotechnical Evaluations ~ Construction Materials Testing ~ Geosciences ~ Infrastructure Management Services ~

SOILS EXPLORATIONS AND GEOTECHNICAL ENGINEERING STUDIES FOR THE PROPOSED ALABAMA STATE PORT AUTHORITY LOGISTICS PARK - PHASE 1 REDIRECT CITY OF MOBILE DRAINAGE MOBILE, ALABAMA

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Geotechnical Engineering-Testing, Inc.

PROFESSIONAL ENGINEERS

Geotechnical Evaluations - Geosciences - Construction Materials - Pavement Management

July 10, 2023

Hank Eubanks, PE
Civil/Aviation Manager
Volkert, Inc.
1110 Montlimar Dr., Suite 1050
Mobile, AL 36609

Via Email: harold.eubanks@volkert.com

Re: Soils Explorations and Geotechnical Engineering Studies for the Alabama State port Authority (ASPA) Logistics Park Phase 1 - Redirect of City of Mobile Drainage in Mobile, Alabama (GET Project No. 23-112)

Mr. Eubanks:

Geotechnical Engineering-Testing, Inc. (GET) is pleased to submit this report of our soils explorations and geotechnical engineering evaluations for the proposed design and construction of the redirect of the City of Mobile drainage for the Phase 1 development of the ASPA Logistics Park in Mobile, Alabama. This report includes the results of the soils explorations program and our recommendations for site preparations and drainage culvert foundation. The soils explorations and geotechnical design services were performed in general accordance with the proposed scope of work submitted on January 10, 2023.

The recommendations provided in the attached report are based in part on the project information provided to GET and only apply to the specific project and site discussed in the report.

Please call Curt Doyle, P.E. if you have any questions regarding this report.

Sincerely,

GEOTECHNICAL ENGINEERING-TESTING, INC.

Curt Doyle, P.E.
Principal Engineer
Alabama License No. 25733
Date: 7/10/2023

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APPENDICES

INTRODUCTION

Geotechnical Engineering-Testing, Inc. (GET) has completed the authorized soils explorations and geotechnical engineering studies for the proposed redirection of the drainage at the Alabama State Port Authority's Logistics Park to be located along Baker Street in Mobile, Alabama. The soils explorations for this project have included fifteen soil test borings, visual descriptions of the soils encountered, and laboratory tests on selected soil samples. The results from four additional soil test borings from previous investigations on this site have also been reviewed and boring logs are included with this report. The engineering study has included the planning, coordination, and supervision of the soils explorations program, evaluations of the results of the soils explorations, development of design soil parameters, recommendations for culvert foundation preparation and backfill, and the preparation of this report of findings and recommendations. Our professional services for this project have been performed, findings obtained, and recommendations prepared in accordance with generally accepted local geotechnical engineering principles and practices. This warranty is in lieu of all other warranties, either expressed or implied.

This report presents the results of the geotechnical field exploration and laboratory testing programs and provides recommendations for the drainage structure foundations.

Details of our findings and recommendations are set forth in the following sections of this report.

OBJECTIVES/SCOPE OF WORK

The soils explorations phase of the study was developed based upon the request made by Mr. Hank Eubanks with Volkert, Inc. At the time of the request, the type of drainage structure to be constructed was unknown. Therefore, soils explorations were performed deep enough to evaluate several different alternates if required. The soils explorations and geotechnical design services were performed in general accordance with the proposed scope of work submitted on January 10, 2023 and authorized by Mr. Drew Davis of Volkert on February 2, 2023.

The scope of soils explorations and geotechnical services deemed appropriate for this study, based upon the project requirements, our understanding of the project as summarized herein, and with reliance on our knowledge of the local geology and with similar project parameters, included the following:

- Perform fifteen (15) soil test borings to depths of 7.5 to 35 ft below the existing ground surface with the area to be evaluated.
- Visual classifications of recovered soil specimens.
- Laboratory soil testing program.
- Assessment of groundwater conditions.
- Compile previous soils information data collected on the site.
- Review preliminary project plans provided by Ms. Karman Richardson of Volkert, Inc.
- Perform foundation and construction engineering evaluations and develop recommendations for the proposed structure.
- Preparation of this report of findings and recommendations.

PROJECT DESCRIPTION

The proposed project site lies on the south side of Baker St, approximately 0.25 miles east of Broad Street in Mobile, Alabama. The project title sheet from the 50% plan submittal and a Highway Location Map showing the general location of the project is provided in Appendix A of this report.

The project will consist of constructing a box culvert to redirect drainage water. The culvert will begin at a point approximately 200 ft west of the existing entrance road to the APM Intermodal Container Transfer Facility (ICTF) (station 100+75) and extend approximately 2400 ft northwest (parallel to Baker St.) before turning east and extending an additional 650 to a point where it will outlet to an existing open drainage channel (about station 131+15). The drainage structure will begin as a double 12 ft by 8 ft (CD128) box culvert that will tie to an existing double 6 ft by 4 ft culvert at the beginning point. After about 200 ft, a single 6 ft by 4 ft culvert will discharge to the proposed culvert. At about station 108+35 a 72-inch reinforced concrete pipe will tie to the box culvert. At this point the culvert will be expanded to a triple 12 ft by 8 ft (CT128) box culvert.

Based upon the preliminary plans provided, the proposed flow line of the culvert begins at elevation +0.36 ft and outlets at elevation -0.84.

SITE DESCRIPTION

General Site Description

The first approximately 150 ft of the proposed alignment is clear and grassed. The culvert will then cross the entrance road to the APM ICTF facility. From approximately station 103+50 to about 113+00, the alignment is wooded with underbrush. Within this area, the culvert will cross two abandoned roadways and an abandoned rail line. From about 113+00 to about 115+50, the alignment crosses the edge of an old stockpile consisting predominantly of crushed concrete and other debris. The remainder of the alignment is mostly clear.

Site Topography

Based upon the topographic information provided, the existing ground surface elevation generally varies between about +10 ft and +15 ft along the alignment. The elevations in the area of the stockpile is about +18 to +20 ft with the total stockpile height reaching about elevation +28 ft.

SOILS EXPLORATIONS PROGRAM

The procedures for the field exploration and laboratory testing programs utilized on this project are summarized in the following sections of this report.

Boring Locations

The locations of the borings performed for this project were selected by GET personnel based upon the approximate project area to be evaluated identified on the drawings received on January 10, 2023. In the field, boring locations were established using a network rover submeter GPS unit. Approximate soil boring locations are shown on an Aerial Location Plan and on the project plan sheets included in Appendix B of this report. Soil borings from two previous investigations performed by GET in this area are also shown on the Aerial Location Plan and plan sheets.

Field Explorations

The soils explorations for this project included fifteen soil test borings within the study area. Three of these borings (B-13 through B-15) fell outside the limits of the current alignment. The soil borings generally extended to depths of about 7.5 ft to 35 ft below ground surface. The borings were performed with a track-mounted Mobile B37 core-boring rig. The boreholes were advanced using the mud rotary method of drilling. When performing the mud rotary method of drilling, a bentonite drilling fluid was circulated through the drilling rods and boreholes to return the soil cuttings to the ground surface and to provide a positive head on the walls and bottom of the boreholes.

The soil test borings were conducted in general accordance with standard drilling and sampling procedures. Standard penetration tests were performed and split spoon soil samples were collected continuously to a depth of 7.5 ft, at 2.5 ft center-to-center intervals from 7.5 ft to 20 ft, and then at 5 ft center-to-center intervals to the boring termination depths. This closer than standard sampling was performed to better delineate the stratification for evaluating the near surface foundation soils. Where cohesive soils were encountered, undisturbed tube samples were collected or attempted with 3-inch diameter thin-walled tube samplers in lieu of or between the SPT sample intervals.

Soil samples collected with the split spoon sampler during the boring operations were visually described, logged, placed in moisture tight plastic bags and, along with the sealed tube samples, transported to the laboratory. At the laboratory, the samples were visually examined to confirm or adjust field classifications. Selected samples were laboratory tested to determine some engineering properties to aid in analyses.

Logs of Boring for the soil test borings have been prepared using visual classifications of the soils and/or laboratory test results. These Logs of Boring are included in Appendix C of this report. The Logs of Borings from previous investigations at this site are also included with this report.

Soil profiles illustrating the materials encountered along or nearest the centerline are shown on the Drainage Cross Section sheets included in Appendix D of this report.

Laboratory Testing

The laboratory testing program included performing physical laboratory soil mechanics tests on selected soil samples that were recovered from the borings. Tests included moisture content, percent passing the #200 sieve, grain size distribution analysis, Atterberg limits, dry unit weight, specific gravity, one point triaxial shear with sample confined near the overburden pressure, and three point triaxial shear test. Tests were performed in general accordance with applicable laboratory soil testing standards. Some test results are shown on the Logs of Boring opposite the respective samples tested. A summary of classification test results and other test reports are included in Appendix E of this report.

GENERAL SUBSURFACE CONDITIONS

Site Geology

Based upon a review of the Quaternary Geologic Map of the Mobile Quadrangle dated 1988, the project site lies within the alluvial, coastal, delta and low-terrace deposits of the quaternary system. The delta deposit is light-gray, yellowish-gray, and brownish-gray clay, silt and sand, intermixed and interbedded. The deposit is poorly sorted to well-sorted, weakly bedded; locally includes thin stringers of well-rounded quartz granule gravel, discontinuous lenses of peat and scattered shell debris. Mapped areas include small, younger alluvial, colluvial, and swamp deposits of the Holocene age. A geologic map is included with the project location maps in Appendix A.

Subsurface Soil Conditions

The subsurface soils encountered by the boring operations generally consisted of loose silty sands (SM), silty clayey sands (SC-SM) and clayey sands (SC) from the ground surface to about elevation +5 ft. From about elevation +5 ft to about elevation -7 ft, very soft sandy clay (CL) soils with some pockets of very loose clayey sands (SC) were encountered. Isolated peat layers were also encountered within the very soft clay soils. From elevation -7 ft to about elevation -15 ft, loose silty sands (SM) were generally encountered. The soils then transitioned to firm sands in the deeper borings. Boring B-6 could not be advanced past 7.5 ft due to encountering crushed concrete. Several different attempts made within 15 ft of the planned location encountered shallow obstructions.

Details of the soils encountered are presented by the Logs of Boring. The soil boring logs provided with this report are representative of subsurface conditions at their respective locations and for their respective vertical reaches. However, local variations characteristic of the subsurface materials of the region may be encountered during construction. The boring logs and related information are based on the driller's logs and visual examination of soil samples in the laboratory. The delineation between soil types shown on the logs is approximate and the description represents the interpretation of subsurface conditions at the designated boring location on the date drilled.

Groundwater measurements were made several days after the borings were completed. Groundwater was generally measured at about 2 to 6 ft below ground surface. This elevated water is an indication that groundwater is likely perched above the shallower clayey sands in some areas. The true ground water level should be near the water elevation in nearby Garrows Bend.

Groundwater elevations shown on the boring logs represent the highest groundwater surface measured. Fluctuations in water table levels should be anticipated throughout the year. Absence of groundwater data on certain borings implies that no data is available but does not necessarily mean that groundwater will not be encountered at these locations or within the vertical reaches of these borings in the future.

GEOTECHNICAL EVALUATIONS AND RECOMMENDATIONS

The recommendations provided below are based upon our understanding of the project as described above, the subsurface data collected, our engineering evaluations regarding the geotechnical matters, our past experience on projects in proximity to this site and the typical climate conditions of the area. If our understanding of the project is incorrect, we should be provided accurate information and should be provided the opportunity to review our recommendations taking into consideration the new project information.

Generalized Site Stratigraphy and Engineering Properties

Based on the results of the soils explorations and our engineering experience, we recommend that, where appropriate, the design parameters shown below be assigned to the respective subsurface soils.

RECOMMENDED DESIGN SOIL PARAMETERS							
Soil Type	Elevation	Total Unit Weight	Internal Angle of Friction	Cohesive Shear Strength	Lateral Pressure Coefficients		
					Active	Passive	At-Rest
Silty Sand	Surface - +5'	105 pcf	28°	-	$K_a = 0.36$	$K_p = 2.77$	$K_o = 0.53$
Clay	+5' – -7'	100 pcf	8°	200 psf	-	-	$K_o = 0.68$
Sand	-7' – -15'	125 pcf	28°	-	$K_a = 0.36$	$K_p = 2.77$	$K_o = 0.53$
Sand	-15' – 30'	125 pcf	32°	-	$K_a = 0.31$	$K_p = 3.23$	$K_o = 0.47$

Settlement Evaluations

Although the structure will be constructed on a soft clay layer, the load of the structure will be less than the load of the existing soils, therefore significant additional long-term consolidation of the very soft clay soils should not occur. We understand that the logistics park area is being developed for the construction of warehouses and large paved parking areas. While parking areas can be constructed above the proposed culvert structure without detrimental effects, we recommend that there be a minimum 15 ft setback for any building construction. Nearby building loads could stress the soils enough to cause long-term settlement. Furthermore, it is also recommended that future pavements not be constructed more than a couple of feet above the existing grades around the culvert structure.

Culvert Foundation Recommendations

Based upon the flow line elevation of the proposed culvert structure provided in the preliminary plans, the bottom of the culvert structure will be founded on the weak clay soils present at this site. To provide adequate support for the culvert structure, distribute the loads more evenly across pockets of weaker soils and provide a suitable work surface for the construction of the culvert, we recommend the following:

- Soft clay soils shall be excavated to a depth of two (2) ft below the bottom of the proposed culvert structure. This excavation should extend at least 3 ft beyond the outside walls of the culvert.
- A layer of Tensar InterAx FilterGrid NX750-FG (or equivalent) should be placed on the bottom of the excavation. (The filter grid is a composite geosynthetic consisting of geogrid

bonded to a nonwoven geotextile. This product combines the additional stabilization obtained from a geogrid with the added functionality of a nonwoven separation geotextile.)

- Above the NX750-FG, we recommend that 12 inches of Foundation Backfill, Commercial be placed. Foundation backfill shall be deposited uniformly for the full width of the excavation in horizontal layers not to exceed 6 inches in thickness with each layer compacted to the satisfaction of the geotechnical engineer.
- It is recommended that a layer of Tensar InterAx NX750 (or equivalent) geogrid be placed above the first 12 inches of Foundation Backfill placed.
- Above this layer of geogrid, 12 additional inches of Foundation Backfill, Commercial should be placed. The material shall also be placed in 6 inch layers and compacted to the satisfaction of the geotechnical engineer.

This combination of geogrid and Foundation Backfill will provide a stable load transfer platform that should maintain the culvert in proper alignment, sustain the loads imposed and minimize any differential movement along the length of the culvert structure.

The culvert should be constructed in accordance with ALDOT specifications 214 and 524.

Culvert Backfill Recommendations

In general, the in-situ silty sand (SM) soils encountered above about elevation +5 ft should be suitable backfill materials around and above the culvert provided that these materials contain no organics or other deleterious materials. However, these materials will likely be somewhat moisture sensitive and may require proper moisture conditioning to obtain compaction. It is recommended that these materials be placed in loose layers no thicker than 8 inches prior to compaction.

The sandy clay (CL) and clayey sand (SC) soils encountered below about elevation +5 ft are generally considered unsuitable and should not be reused for backfill.

We recommend that any offsite borrow materials utilized for backfill beside or above the structure be non-plastic granular soils that are free of organics or deleterious materials with no more than about 20 percent passing a #200 sieve.

All backfill materials should be compacted to 95 percent standard Proctor density. It is recommended that each lift of backfill soils placed on each side and above the culvert structure be tested for compaction every 150 linear foot of culvert structure.

CONSTRUCTION CONSIDERATIONS

Dewatering

It should be noted that based upon the flow line elevation of the structure, dewatering will likely be required for construction of the proposed drainage system. The design, maintenance and operation of the appropriate dewatering system will be the responsibility of the contractor. Prior to discharge, all dewatering discharges shall be properly captured and treated.

Excavations

The contractor will be required to perform all excavations in accordance with OSHA regulations. Should temporary sheet pile be required or utilized, the piling shall be driven to an adequate depth and/or so braced or tied back as to protect the work from damage and workmen from danger of injury and to also protect the newly constructed work from failure. The design shall be in accordance with the current AASHTO Standard Specifications for Highway Bridges.

Engineering Services During Construction

The engineering recommendations provided in this report are based on the information obtained from the soils explorations, laboratory testing program, and experience on similar projects. Regardless of the thoroughness of a geotechnical exploration program, there is always a possibility that conditions at locations remote from borings will be different from those at specific boring locations and that conditions will not be as anticipated by the designers or constructors. In addition, the construction process may itself alter soil conditions. Therefore, we recommend that a representative of the geotechnical engineer of record observe and document the construction procedures used and the conditions encountered. Unanticipated conditions and inadequate procedures should be reported to the design team along with timely recommendations to address such conditions.

CONCLUSION

This report concludes the authorized design phase geotechnical engineering services for the redirection of the City of Mobile drainage at the Alabama State Port Authority's Logistics Park in Mobile, Alabama. This geotechnical report has been prepared for the exclusive use of the Alabama State Port Authority and other members of the design/construction team for the specific project discussed in this document. In the event that any changes in the design or location or elevation of any of the project elements as outlined in this geotechnical report are planned, or if any structures are included or added that are not discussed in this document, the conclusions and recommendations contained herein shall not be considered valid unless the changes are reviewed and the conclusions and recommendations modified or validated by GET.

Our evaluations for the project were based upon the project data received on January 10, 2023 and subsequent plans and drawings received through July 5, 2023 and discussions with Mr. Eubanks and Ms. Richardson with Volkert. Additional assumptions have been outlined in the discussions contained in previous sections of this report.

GET should be provided with the opportunity to review final foundation and earthwork specifications and drawings in order to ascertain whether our recommendations have been properly interpreted and implemented.

LIMITATIONS

The evaluations and recommendations presented by this report are based on the data obtained from the soil borings drilled at the locations shown on the boring location plan and the laboratory testing program performed. The nature or extent of variations throughout the subsurface profile may not become evident until the time of construction. If variations then appear evident, it may be necessary to reevaluate our recommendations as provided in this geotechnical report.

We prepared this report to aid in the evaluation of this site and to assist in the design of the project. The recommendations provided are based in part on the project information provided to GET and only apply to the specific project and site discussed in this report. If the project description or stated assumptions are incorrect or if additional information is available, correct or additional

information should be conveyed to GET for review. Recommendations can then be modified if warranted.

Our professional services for this project have been performed, findings obtained, and recommendations prepared in accordance with generally accepted engineering principles and practices. The services identified herein were completed in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality and under similar conditions as this project. No other representation, expressed or implied, is included or intended, and no warranty or guarantee is included or intended in this report or any other instrument of service.

APPENDIX A

PROJECT LOCATION MAPS

ALABAMA STATE PORT AUTHORITY

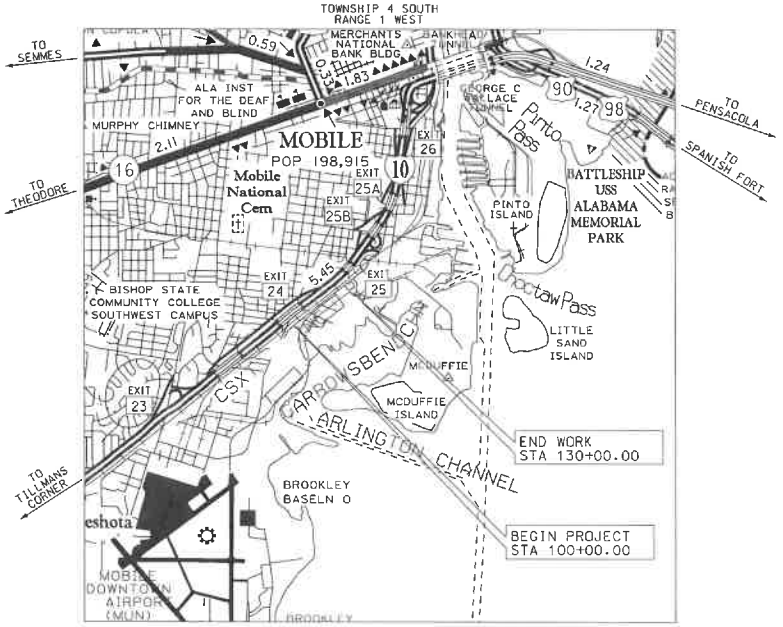
PLANS OF PROPOSED PROJECT

PROJECT NO.: 1159208
ASPA LOGISTICS PARK
PHASE 1 – REDIRECT CITY OF MOBILE DRAINAGE

MOBILE COUNTY

STATE	REFERENCE PROJECT NO.	FISCAL YEAR	SHEET NO	LAST SHEET NO
AL	1159208	2023	1	83

These plans have been prepared to conform with the Alabama Department of Transportation Standard Specifications for Highway Construction, 2022 Edition.



NTS

PREPARED AND RECOMMENDED BY

VOLKERT, INC.

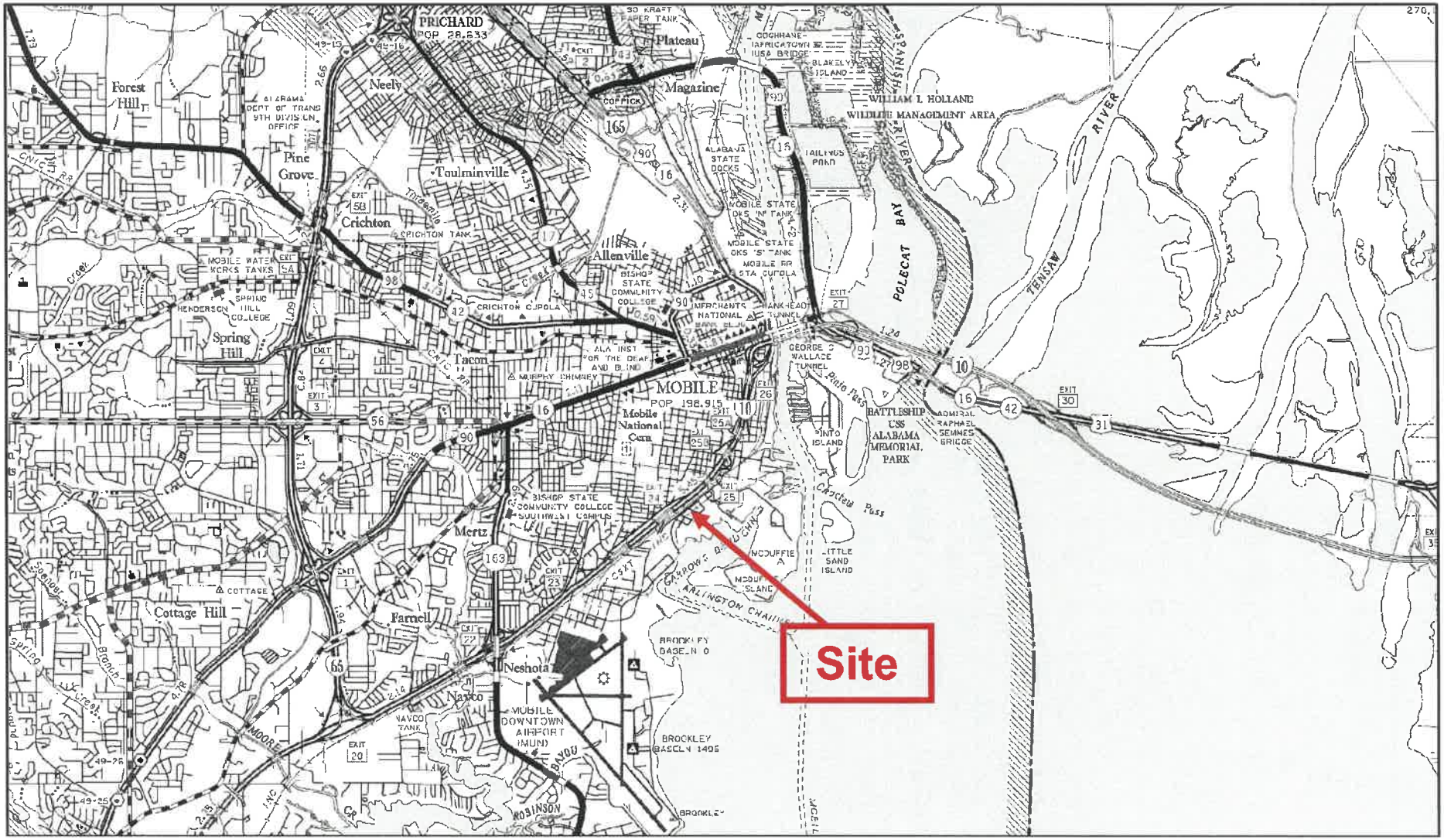
CONSULTING ENGINEERS

PRELIMINARY NOT FOR CONSTRUCTION

50% SUBMITTAL

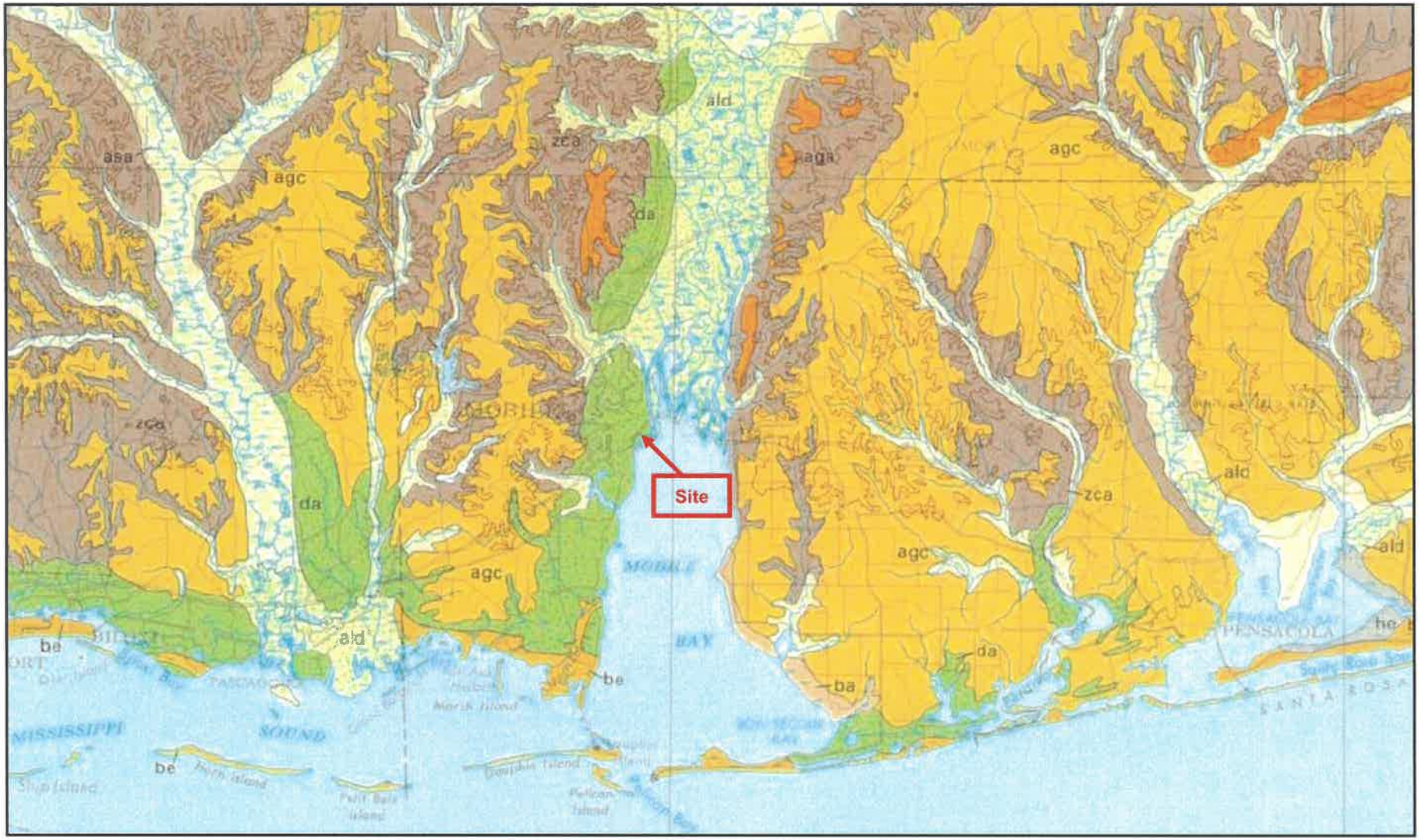
APPROVED _____ DATE _____
PROJECT MANAGER

REGISTRATION NO. _____



Source – General Highway Map Mobile County, Alabama, Alabama Dept. of Transportation, 2011

GEOTECHNICAL ENGINEERING TESTING, INC.	ASPA Logistics Park Phase 1 Redirect City of Mobile Drainage Mobile, Alabama	Highway Location Map



Source – Quaternary Geologic Map of the Mobile 4° x 6° Quadrangle, United States, USGS, 1988

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DELTA DEPOSIT - Light-gray, yellowish-gray, and brownish-gray clay, silt and sand, intermixed and interbedded. Deposit is poorly sorted to well-sorted, weakly bedded; locally includes thin stringers of well-rounded quartz granule gravel, discontinuous lenses of peat and scattered shell debris. Mapped areas include small, younger alluvial, colluvial, and swamp deposits of the Holocene age.

GEOTECHNICAL ENGINEERING TESTING, INC.	**ASPA Logistics Park Phase 1** **Redirect City of Mobile Drainage** **Mobile, Alabama**	**Geologic Location Map**

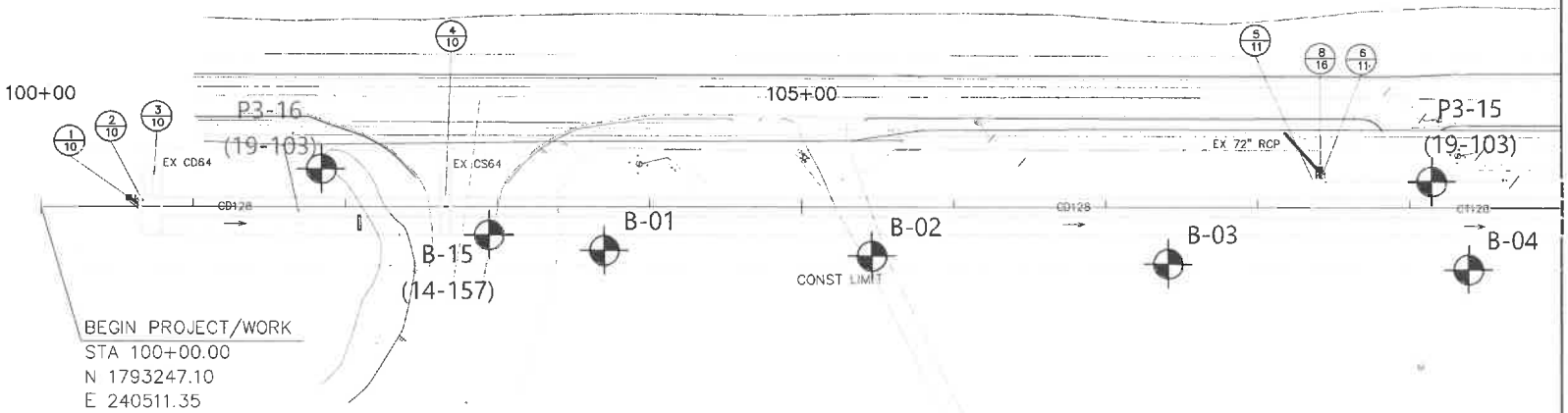
APPENDIX B

BORING LOCATION PLAN AND PLAN SHEETS

GEOTECHNICAL ENGINEERING TESTING, INC.	**ASPA Logistics Park Phase 1** **Redirect City of Mobile Drainage** **Mobile, Alabama**	**Boring Location Plan**

PLAN SHEET

REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO
1159208	2023	4



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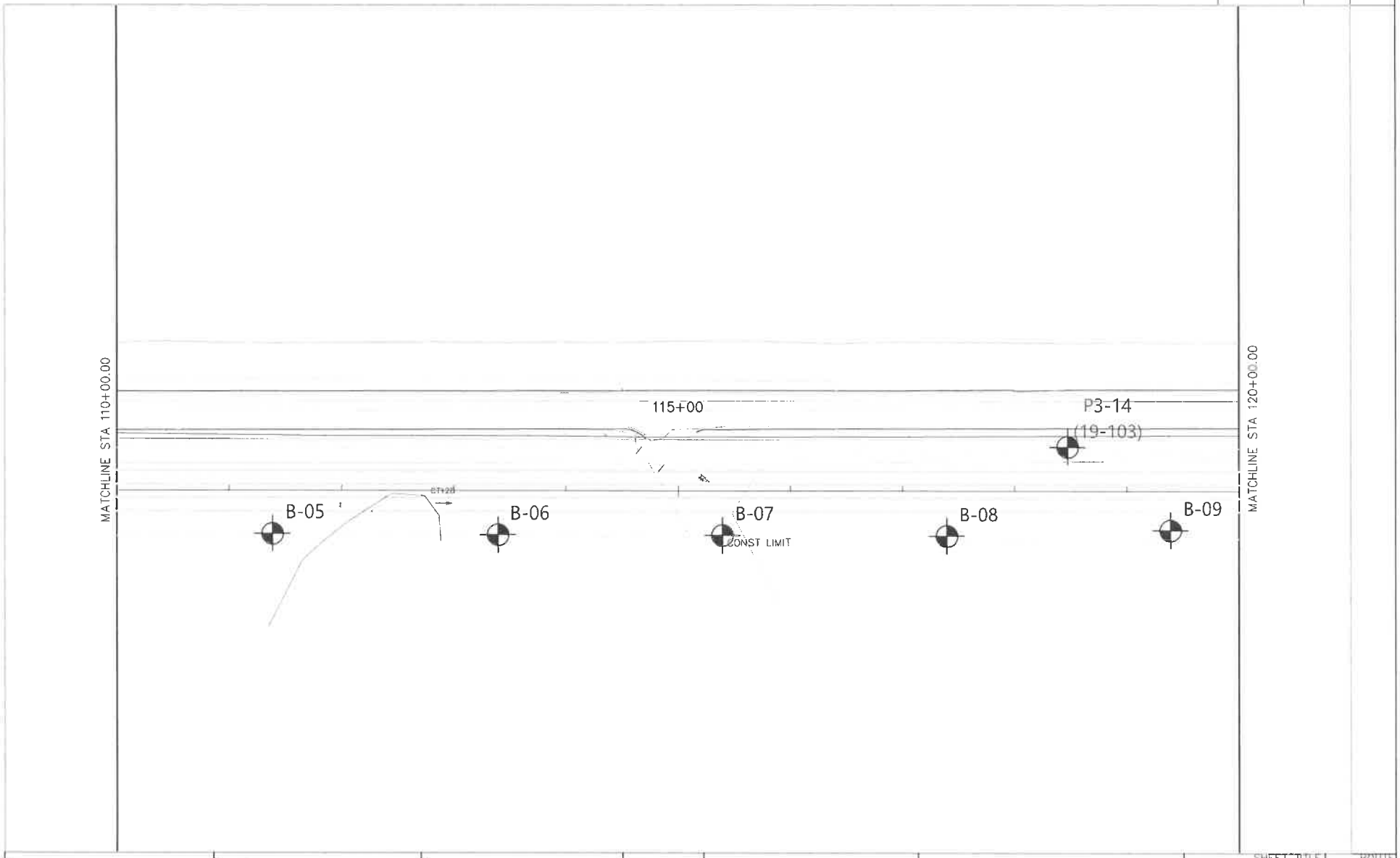

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PLAN SHEET

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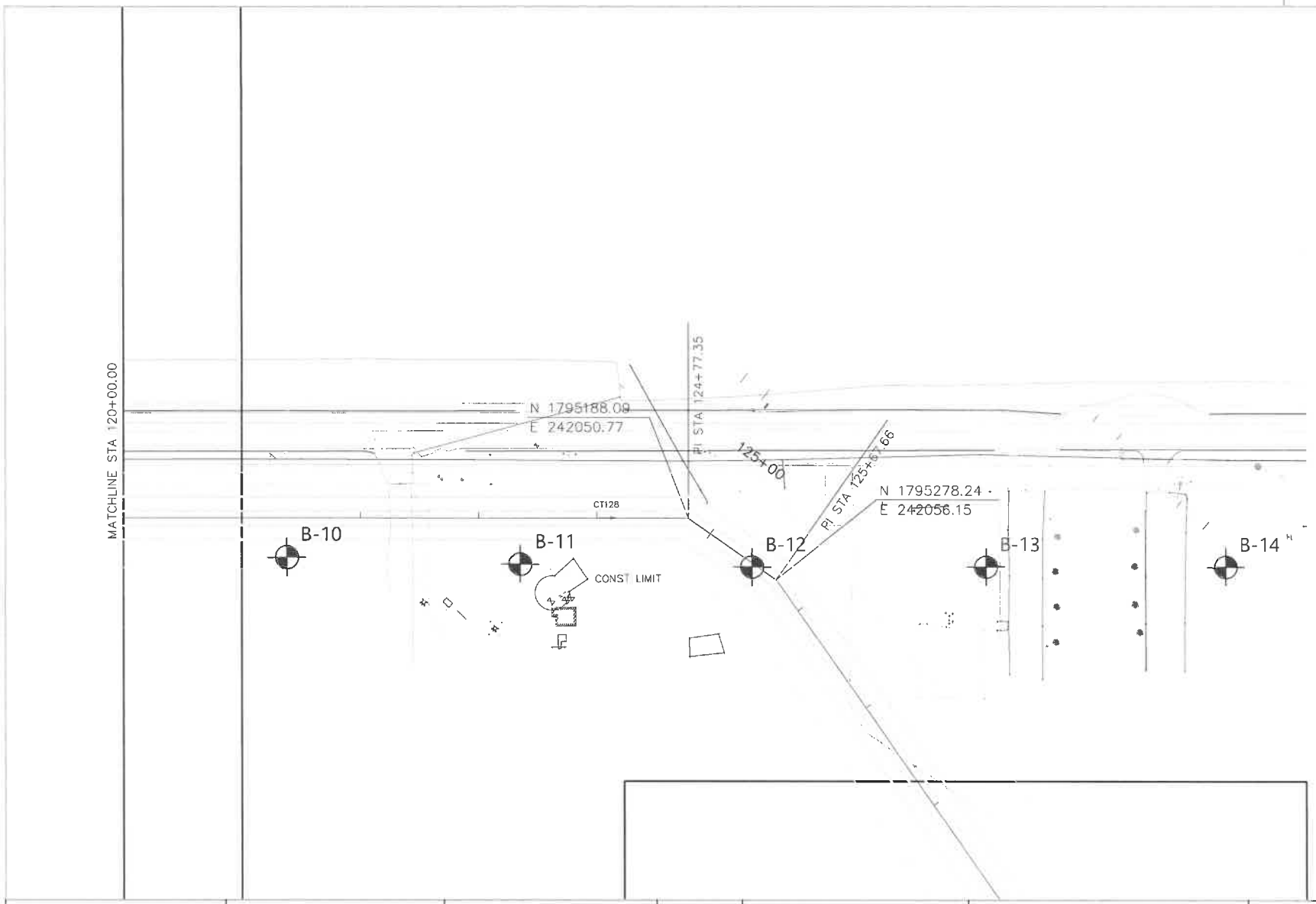

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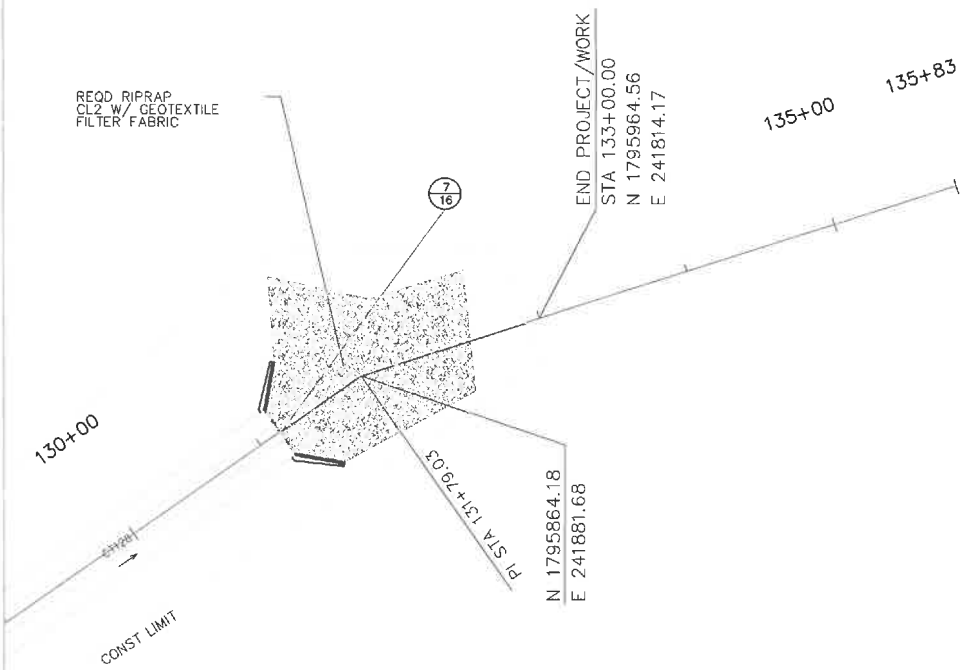

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APPENDIX C

BORING LOGS

PROJECT NAME:

G.E.T. PROJ. NUMBER:

PROJECT LOCATION:

DRILL RIG:

DRILL METHOD:

DRILL CREW:

DATE DRILLED:

BORING DEPTH: 0 FT.

BORING ELEV.:

DATUM:

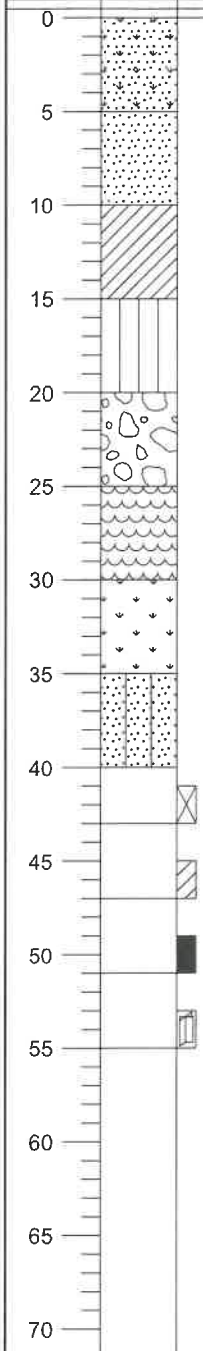
WATER DEPTH:

REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: LEGEND

BORING LOCATION:



DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
				N_f - Standard penetration test value determined in the field - ASTM D1586 (WOH indicates penetration of sampler under weight of 104 lb hammer)	Nc - Standard penetration test value of sand corrected for overburden by Peck-Hansen-Thornburn, 1974	w.c. % - Percent water content based on dry soil weight	L.L. - Liquid Limit	P.I. - Plasticity Index	Unit Wt., pcf - Dry unit weight of soil, pounds per cubic ft	% Minus #200 - Percent by weight of soils finer than #200 sieve	c - Cohesion, tons per square ft Φ- Angle of Internal fiction, degrees s - Vane shear strength, tons per square ft c*- Values measure with a pocket penetrometer	Classification according to the Unified Classification System

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: MOBILE B37

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 2/8/23

BORING DEPTH: 25 FT.

BORING ELEV.: 8.85 FT.

DATUM:

WATER DEPTH: 2.75 FT.

DRILL CREW: ES, BT, RS(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-1

BORING LOCATION: STA 103+70 28' RT OF CL

N: 240719 **E:** 1793555

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		2" Topsoil	1	2							c*=0.65	
		Soft gray silty clay with sand	2	3								
		Loose gray silty sand	3	4							c*=0.38	
5			4	2								
		Very loose brown silty sand	5	3		20	21	8		30.4		SC
		Very loose light gray and black silty sand	6	3								
10		Loose light gray and light brown silty sand	7	4								
			8	5		54	57	39		82.0	c*=0.10	CH
15		Medium consistency reddish yellow, light gray, and brown silty clay	T-1									
			10	7							c*=0.18	
20												
		Firm light brown sand	11	25								
25		B.T. @ 25 FT										
30												
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES & N-E 23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: MOBILE B37

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 2/8/23

BORING DEPTH: 25 FT.

BORING ELEV.: 11.25 FT.

DATUM:

WATER DEPTH: 3.67 FT.

DRILL CREW: ES, BT, RS(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-2

BORING LOCATION: STA 105+41 40' RT OF CL

N: 240817 **E:** 1793695

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		4" Topsoil	1									
			2									
		Firm brown silty sand and crushed concrete	3	14								
5			4	15								
			5	WOH							c*=0.20	
			6	2							c*=0.10	
10		Very soft to soft gray silty clay										
			T-1			36	48	30	86	57.2	c=0.34	CL
			8	3								
15		Soft gray, light gray, and yellowish red silty clay	9	3							c*=0.25	
			10	5		27	23	4		26.4	c*=0.13	SC-SM
20		Loose light brown silty sand										
		Dense light brown silty sand	11	31								
25		B.T. @ 25 FT										
30												
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES & N-E 23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: MOBILE B37

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 2/7/23

BORING DEPTH: 25 FT.

BORING ELEV.: 12.0 FT.

DATUM:

WATER DEPTH: 4 FT.

DRILL CREW: ES, BT, RS(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-3

BORING LOCATION: STA 106+42 37' RT OF CL

N: 240943 **E:** 1793851

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Very loose dark gray organic silty sand	1	3								
		Very loose dark gray and light brown silty sand	2	3							c*=0.50	
			3	4							c*=0.30	
5		Loose yellowish red, light gray, and light brown clayey sand	4	7								
		Loose brown and light gray clayey sand	5	6								
			6	3							c*=0.13	
10		Soft to medium gray silty clay with sand	7	2		33	34	9		49.5		SM
			8	5								
15		Medium consistency gray silty sandy clay	9	4								
		Loose light gray and light brown silty sand	10	4								
20												
		Firm light brown silty sand	11	27								
25		B.T. @ 25 FT										
30												
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES & N-E 23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: MOBILE B37

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 2/7/23

BORING DEPTH: 25 FT.

BORING ELEV.: 14.5 FT.

DATUM:

WATER DEPTH: CAVED AT 2.75 FT

DRILL CREW: ES, BT, RS(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-4

BORING LOCATION: STA 109+39 40' RT OF CL

N: 241063 **E:** 1794008

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_r	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Soft brown and gray silty sandy clay	1	2							c*=0.38	
			2	3							c*=0.15	
		Loose to firm brown and gray silty sand	3	7							c*=0.15	
5			4	11								
		Loose brown, yellowish brown, and light gray clayey sand	5	8		21	29	16		29.0		SC
			6	2							c*=0.15	
10		Soft gray silty sandy clay										
			7	3								
			8	4								
15		Soft gray silty clay with sand										
			9	3								
			10	4								
20		Soft gray silty sandy clay										
		Firm light brown, brownish yellow, and gray sand	11	13								
25		B.T. @ 25 FT										
30												
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES & N-E 23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: MOBILE B37

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 2/7/23

BORING DEPTH: 25 FT.

BORING ELEV.: 14.5 FT.

DATUM:

WATER DEPTH: 1.33 FT.

DRILL CREW: ES, BT, RS(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-5

BORING LOCATION: STA 111+38 38' RT OF CL

N: 241189 **E:** 1794163

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Very loose to loose dark gray silty sandy	1	3								
			2	4								
		Firm light gray and light brown silty sand	3	13								
5			4	10								
			5	2		31				23.3		
		Very loose gray silty sand	6	2								
10		Very loose gray silty clayey sand	7	3								
		Very soft gray clay	8	WOH		44	49	35	77	65.4	c=0.14 c*=0.40	CL
15		Medium consistency silty clay with organics	9	5							c*=0.25	
			10	3							c*=0.30	
20		Soft organic silty clay										
		Firm light brown sand	11	21								
25		B.T. @ 25 FT										
30												
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES & N-E 23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: MOBILE B37

DRILL METHOD: MUD ROTARY

REMARKS: Lost mud in several holes @ 7.5'

DATE DRILLED: 2/7/23

BORING DEPTH: 7.5 FT.

BORING ELEV.: 20.0 FT.

DATUM:

WATER DEPTH: NWTE

DRILL CREW: ES, BT, RS(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-6

BORING LOCATION: STA 113+39 40' RT OF CL

N: 241313 **E:** 1794321

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_r	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Firm gray silty sand with crushed concrete	1	24								
		Firm brown and gray silty sand with crushed concrete	2	17								
		Loose brown silty sand with crushed concrete	3	4								
5		Loose brown silty sand with crushed concrete	4	6								
			5	5								
		B.T. @ 7.5 FT										
10												
15												
20												
25												
30												
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: MOBILE B37

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 2/7/23

BORING DEPTH: 25 FT.

BORING ELEV.: 14.3 FT.

DATUM:

WATER DEPTH: 5 FT.

DRILL CREW: ES, BT, RS(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-7

BORING LOCATION: STA 115+40 40' RT OF CL

N: 241437 **E:** 1794478

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Dense brown sand with shell	1	45								
		Dense dark gray and brown silty sand with shell and gravel	2	39								
		Firm red silty sand	3	10								
5		Loose gray silty clayey sand	4	8							c*=0.63	
			5	4								
		Very loose gray silty sand	6	3		36	23	3		35.1		SM
10			7	3								
		Soft gray silty clay with sand	8	3							c*=0.30	
15			9									
		Loose brown and gray sandy silt	10	8								
20												
		Stiff brown and gray silty clay with sand	11	12								
25		B.T. @ 25 FT										
30												
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES & N-E 23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: MOBILE B37

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 2/3/23

BORING DEPTH: 25 FT.

BORING ELEV.: 13.5 FT.

DATUM:

WATER DEPTH: 3.5 FT.

DRILL CREW: ES, BT, RS(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-8

BORING LOCATION: STA 117+40 40' RT OF CL

N: 241561 **E:** 1794635

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		2" Topsoil Very loose brown clayey sand	1	3								
		Firm brown and light brown silty sand	2	11								
		Loose brown and light gray silty clayey sand	3	5							c*=0.20	
5			4	5		18	19	4		27.9		SC-SM
		Loose brown clayey sand	5	5								
			6	7							c*=1.13	
10		Medium to very soft gray silty sandy clay	7	WOH							c*=0.25	
			8	WOH							c*=0.20	
15		Very soft gray sandy clay	T-1			31	41	29		49.2	c=0.29	SC
			10	WOH							c*=0.13	
20		Very soft brown clay										
		Loose light brown sand with trace silt	11	5								
25		B.T. @ 25 FT										
30												
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES & N-E 23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: MOBILE B37

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 2/3/23

BORING DEPTH: 30 FT.

BORING ELEV.: 12.5 FT.

DATUM:

WATER DEPTH: BACKFILLED

DRILL CREW: ES, BT, RS(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-9

BORING LOCATION: STA 119+40 35' RT OF CL

N: 241689 **E:** 1794788

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Very loose brown silty clayey sand	1	3								
		Very loose dark brown and reddish yellow silty clayey sand	2	3							c*=0.25	
		Very loose brown silty clayey sand	3	3							c*=0.45	
5		Medium consistency yellowish brown and brown silty clay	4	5								
			5	4							c*=0.38	
		Medium consistency gray and yellowish brown silty sandy clay	6	7							c*=0.73	
10			7	WOH		27	28	13			c*=0.13	
		Soft gray silty sandy clay	8	2							c*=0.13	
15			9	3		30	37	20		45.0	c*=0.13	SC
		Soft gray silty clay with sand	10	2							c*=0.20	
20												
			11	12								
25		Firm to loose yellowish brown and gray sand with silt										
			12	9								
30		B.T. @ 30 FT										
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: MOBILE B37

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 2/2/23

BORING DEPTH: 25 FT.

BORING ELEV.: 12.25 FT.

DATUM:

WATER DEPTH: BACKFILLED

DRILL CREW: ES, BT, RS(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-10

BORING LOCATION: STA 121+38 34' RT OF CL

N: 241814 **E:** 1794943

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Very loose brown silty sand	1	2								
			2	6							c*=0.50	
		Very soft to medium light red, light gray, and brown clay	3	6							c*=0.55	
5			4	4							c*=0.38	
		Medium consistency gray and light gray sandy silt	5	6							c*=0.30	
		Loose light gray and gray silty sand	6	7								
10			7	2						57.2	c*=0.13	
		Soft gray silty sandy clay	8	2		26	23	6		28.1	c*=0.13	SC-SM
15			9	3							c*=0.15	
			T-2 10	WOH								
20		Very soft gray silty clay										
		Firm light gray and brown sand with silt	11	13								
25		B.T. @ 25 FT										
30												
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES & N-E 23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: MOBILE B37

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 2/2/23

BORING DEPTH: 30 FT.

BORING ELEV.: 11.0 FT.

DATUM:

WATER DEPTH: 2.25 FT.

DRILL CREW: ES, BT, RS(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-11

BORING LOCATION: STA 123+36 39' RT OF CL

N: 241932 **E:** 1795101

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		4" Topsoil										
		Loose yellowish brown, brown, and gray silty clayey sand	1	10								
			2	3								
		Very loose gray and light gray silty clayey sand	3	WOH		25	24	3		46.9		SM
5			4	3							c*=0.30	
		Very loose brownish yellow and light gray silty clayey sand	5	WOH							c*=0.05	
		Very loose yellowish red, gray, and brown silty clayey sand	6	2								
10			7	WOH							c*=0.10	
		Very loose gray clayey sand	8	WOH		29	29	11		30.2	c*=0.38	SC
15			9	4								
		Loose gray silty clayey sand	10	5								
20												
			11	9								
25		Loose to firm brownish yellow, brown, and light gray sand										
			12	14								
30		B.T. @ 30 FT										
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES & N-E 23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: MOBILE B37

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 2/2/23

BORING DEPTH: 30 FT.

BORING ELEV.: 13.1 FT.

DATUM:

WATER DEPTH: 1.17 FT.

DRILL CREW: ES, BT, RS(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-12

BORING LOCATION: STA 125+45 3' RT OF CL

N: 242052 **E:** 1795256

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_r	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		4" Topsoil Loose dark brown sandy silty gravel	1	6								
			2	10								
		Firm brown and gray silty sand	3	13							c*=0.25	
5		Firm brown and gray silty clayey sand	4	16							c*=0.63	
		Very soft gray silty sandy clay	5	2								
			6	3								
10			7	WOH							c*=0.13	
		Soft to very soft gray silty clay with sand										
			8	2							c*=0.13	
15			9	2								
			10	WOH								
20		Very soft gray silty clay										
			T-1			32	36	16	101	44.3	c=0.16	SC
		Firm brownish yellow and gray silty sand	11	16								
25												
30		B.T. @ 30 FT										
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES & N-E 23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: MOBILE B37

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 2/1/23

BORING DEPTH: 25 FT.

BORING ELEV.: 12.6 FT.

DATUM:

WATER DEPTH: CAVED AT .75 FT

DRILL CREW: ES, BT, RS(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-13

BORING LOCATION: STA 125+45 193' LT OF CL

N: 242175 **E:** 1795411

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		4" Topsoil	1	2								
		Very loose gray, light brown, and brown silty sand	2	3								
		Firm gray silty sand	3	11								
5		Firm gray silty sand	4	12							c*=0.73	
			5	WOH		33	NP	NP		19.3		SM
		Very loose gray silty sand	6	3								
10			7	WOH							c*=0.13	
		Very soft gray silty clay with organics	8	2							c*=0.13	
15			T-1			46			76	85.3	c=0.10 Ø=8°	
			10	4							c*=0.13	
20		Soft brown and light gray clay										
		Firm light brown and brown sand	11	17								
25		B.T. @ 25 FT										
30												
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES & N-E 23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: MOBILE B37

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 2/1/23

BORING DEPTH: 25 FT.

BORING ELEV.: 12.25 FT.

DATUM:

WATER DEPTH: CAVED AT 1.17 FT

DRILL CREW: ES, BT, RS(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-14

BORING LOCATION: STA 125+45 396' LT OF CL

N: 242301 **E:** 1795570

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_r	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		3" Topsoil										
		Loose brown and dark gray silty sand	1	8							c*=0.30	
		Firm brown silty sand	2	10								
		Loose gray and yellowish brown silty sand	3	8								
5			4	1								
			5	WOH		33				41.2		
		Very loose gray silty sand										
			6	1								
10												
		Very loose gray and brown silty sand	7	3								
			8	WOH							c*=0.38	
15												
		Very soft gray and dark gray organic clay	T-1				57	39		70.8		CH
			10	1							c*=0.38	
20												
		Loose light brown sand	11	9								
25		B.T. @ 25 FT										
30												
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: MOBILE B37

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 2/1/23

BORING DEPTH: 35 FT.

BORING ELEV.: 9.5 FT.

DATUM:

WATER DEPTH: 4.92 FT.

DRILL CREW: ES, BT, RS(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-15

BORING LOCATION: STA 125+45 609' LT OF CL

N: 242434 **E:** 1795737

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Loose light brown, brown, and gray silty sand	1	5								
		Loose brownish gray silty sand	2	4								
		Stiff to medium brown, light red, and yellowish red clay	3	9							c*=0.70	
5		Very loose light brown fine to medium sand w/ wood	4	5								
			5	2							c*=0.70	
		Soft light gray, brown, light red, and yellowish red clay	6	2							c*=0.58	
10		Medium consistency gray clay w/ sand										
			T-2			22	42	24		25.1		SC
			8	19								
15		Firm brownish yellow sand with silt	9	17								
			10	19								
20												
			11	WOH							c*=0.20	
25		Very soft to soft gray silty clay										
			12	3							c*=0.13	
30												
		Firm light brown sand	13	22								
35		B.T. @ 35 FT										

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: SIMCO 2400

DRILL METHOD: SOLID STEM AUGER

REMARKS:

DATE DRILLED: 1/2/15

BORING DEPTH: 10 FT.

BORING ELEV.: 11.0 FT.

DATUM:

WATER DEPTH: 1.4 FT.

DRILL CREW: SW, RS(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: B-15 (14-157)

BORING LOCATION: STA 103+00 14' RT OF CL

N: 240686 **E:** 1793490

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Loose dark brown & red silty sand w/ organics	1	4								
		Firm brown & light brown silty sand	2	10		21	NP	NP		16.1		SM
		Loose light brown fine to medium sand	3	4								
5		Very loose light brown fine to medium sand w/ wood	4	3		29						
		Loose light gray silty sand w/ clay	5	7								
		Medium consistency gray clay w/ sand	6	6		46						
10		B.T. @ 10 FT										
15												
20												
25												
30												
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES & N-E 23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 5/7/19

BORING DEPTH: 20 FT.

BORING ELEV.: 13.7 FT.

DATUM:

WATER DEPTH: 7 FT.

DRILL CREW: SW,LJ, JH(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: P3-14 (19-103)

BORING LOCATION: STA 118+48 39' LT OF CL

N: 241690 **E:** 1794670

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Silty sand (SM), fine to coarse, loose, dark brown & dark gray, w/ organics & little fine gravel	1	5								
			2	9		14						
5		Silty sand (SM), fine, loose, light grayish brown	3	4								
			4	5		30				34.0		
10			5	2								
			6	2		25				33.5		
15		Clayey sand (SC), fine, very loose, dark gray	7	2		30	37	25		45.5		SC
			8	2								
20		B.T. @ 20 FT										
25												
30												
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES & N-E 23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 5/7/19

BORING DEPTH: 20 FT.

BORING ELEV.: 14 FT.

DATUM:

WATER DEPTH: 8 FT.

DRILL CREW: SW,LJ, JH(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: P3-15 (19-103)

BORING LOCATION: STA 109+14 17' LT OF CL

N: 241093 **E:** 1793953

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Silty sand (SM), fine, firm, brown & gray, w/ some coarse sand & fine gravel	1	18								
		Interbedded pockets of fine sand and lean clay (SP/CL), gray & brown, w/ organics	2	21		27						
5			3	2								
		Silty clayey sand (SC-SM), fine, very loose, gray	4	2		32				46.2		
10			5	2								
		Sandy clay (CLS), soft to medium consistency, gray, w/ small sand pockets & w/ organics	6	2		36	50	22		53.7		CH
15			7	5								
		Poorly graded sand (SP), fine, firm, gray	8	12		26						
20		B.T. @ 20 FT										
25												
30												
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

MOD DEEP BORING LOG W/O NC VALUES & N-E 23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 5/9/19

BORING DEPTH: 40 FT.

BORING ELEV.: 11.1 FT.

DATUM:

WATER DEPTH: 5.5 FT.

DRILL CREW: SW,LJ, JH(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: P3-16 (19-103)

BORING LOCATION: STA 101+91 18' LT OF CL

N: 240644 **E:** 1793385

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
0		Silty clayey sand (SC-SM), fine, firm, brown & reddish brown	1	11								
		Silty sand (SM), fine, firm, light gray	2	12		22						
5												
		Silty clayey sand (SC-SM), fine, very loose, brownish gray	3	2		30				50.0		
10												
		Organic clay (CL-OL), medium consistency, dark gray, with wood	4	4		98						
15												
		Fat clay (CH), medium consistency, gray, light gray, reddish brown, w/ lenses of fine sand & w/ reddish brown sandstone seam	5	4		54	87	64				
			6	7								
20		Poorly graded sand (SP), fine, firm, light brown & reddish brown	7	18		28						
			8	19		24				11.1		
25		Poorly graded sand with silty (SP-SM), fine, firm, light brown	9	22								
			10	18		26				7.5		
30		Poorly graded sand (SP), fine, firm to dense, light reddish brown	11	42								
			12	22								
35												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

Reviewed By:

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE

G.E.T. PROJ. NUMBER: 23-112

PROJECT LOCATION: MOBILE, AL

DRILL RIG: SIMCO 2400

DRILL METHOD: MUD ROTARY

REMARKS:

DATE DRILLED: 5/9/19

BORING DEPTH: 40 FT.

BORING ELEV.: 11.1 FT.

DATUM:

WATER DEPTH: 5.5 FT.

DRILL CREW: SW,LJ, JH(LOGGER)

GEOTECHNICAL ENGINEERING TESTING, INC.

BORING NUMBER: P3-16 (19-103)

BORING LOCATION: STA 101+91 18' LT OF CL

N: 240644 **E:** 1793385

DEPTH IN FEET	LOG	DESCRIPTION	SAMPLE NO.	S.P.T. N_f	S.P.T. N_c	W.C. %	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	DRY UNIT WT. pcf	% MINUS #200	SHEAR STRENGTH tsf	UNIFIED CLASS
35		Poorly graded sand (SP), fine, firm to dense, light reddish brown	13	42		21						
			14	32								
40		B.T. @ 40 FT										
45												
50												
55												
60												
65												
70												

NOTE: The stratification lines shown represent the approximate boundary between soil types and the transition may be gradual. The groundwater level stated is for conditions at the time of boring and the level may fluctuate large amounts for other conditions or seasons.

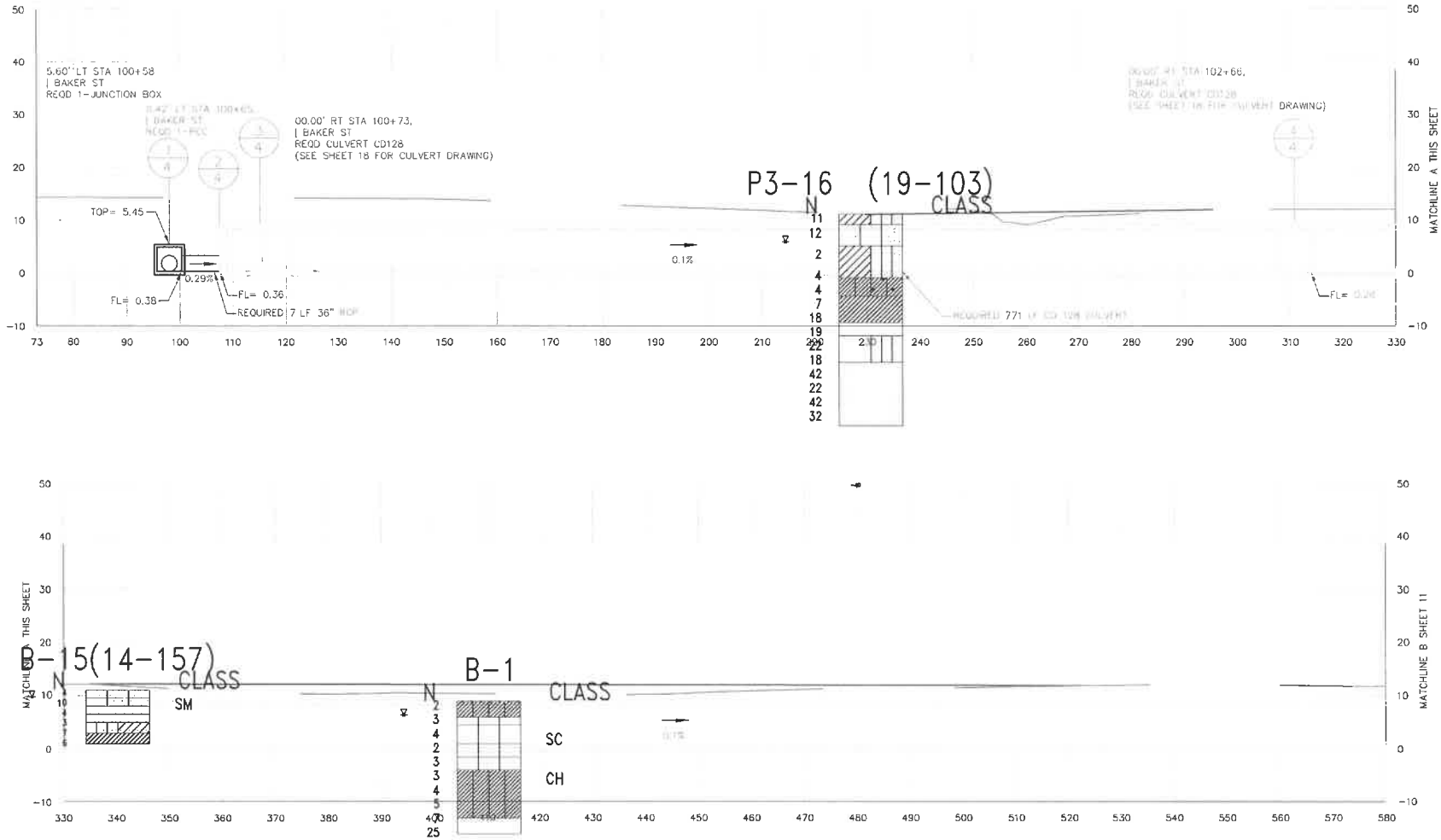
Reviewed By:

APPENDIX D

SOIL PROFILES

DRAINAGE SECTIONS

REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO
1159208	2023	10



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DATE:	DATE:	DATE:				DRAINAGE SECTIONS	

DRAINAGE SECTIONS

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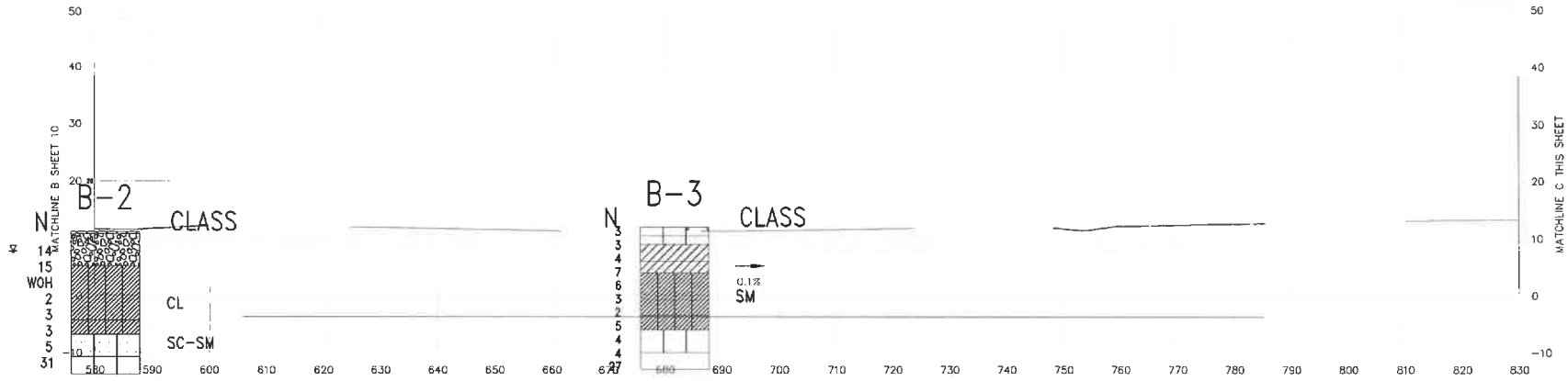
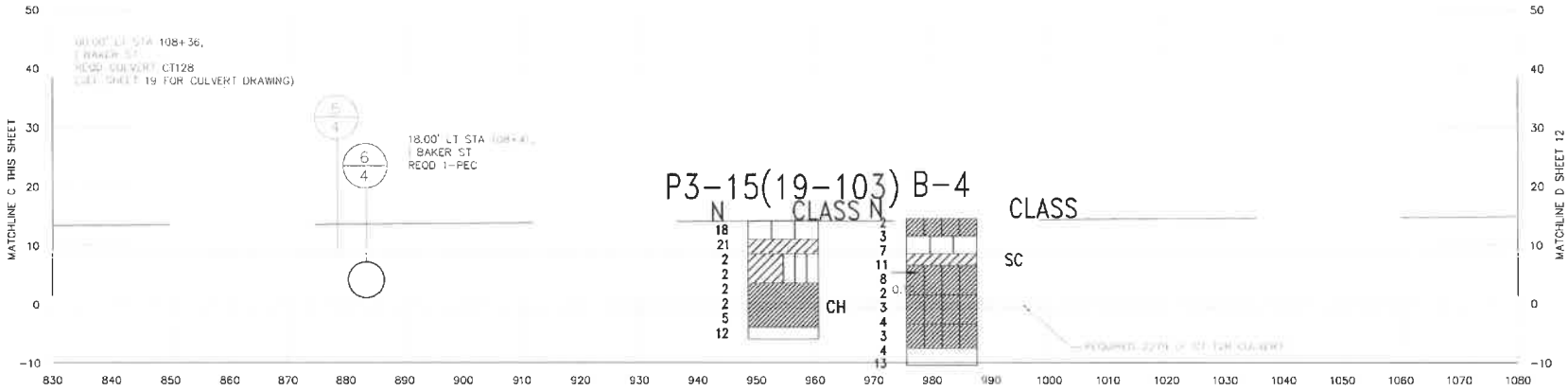
1159208	2023	11





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DATE:	DATE:	DATE:				DRAINAGE SECTIONS	

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DRAINAGE SECTIONS

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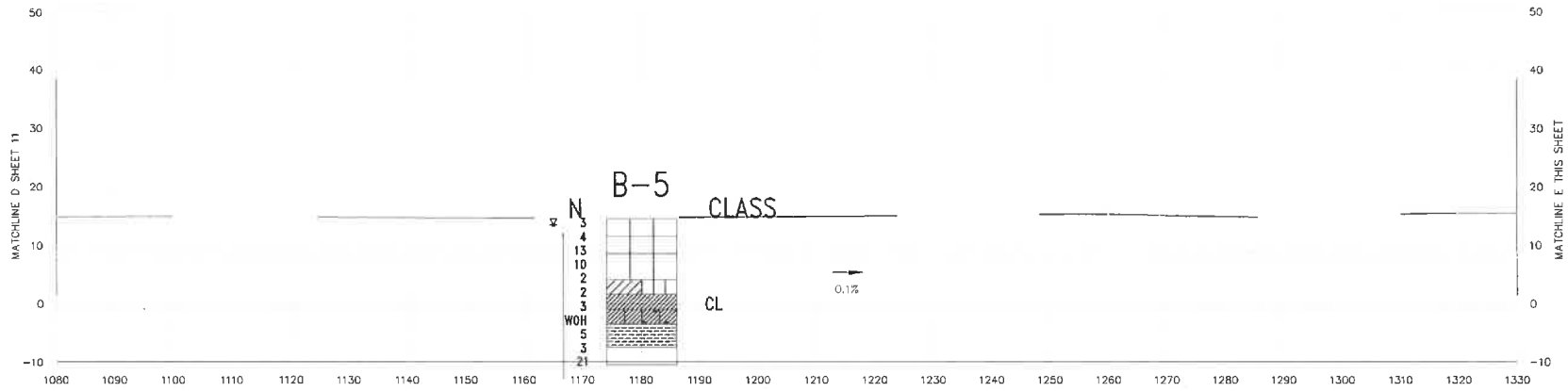

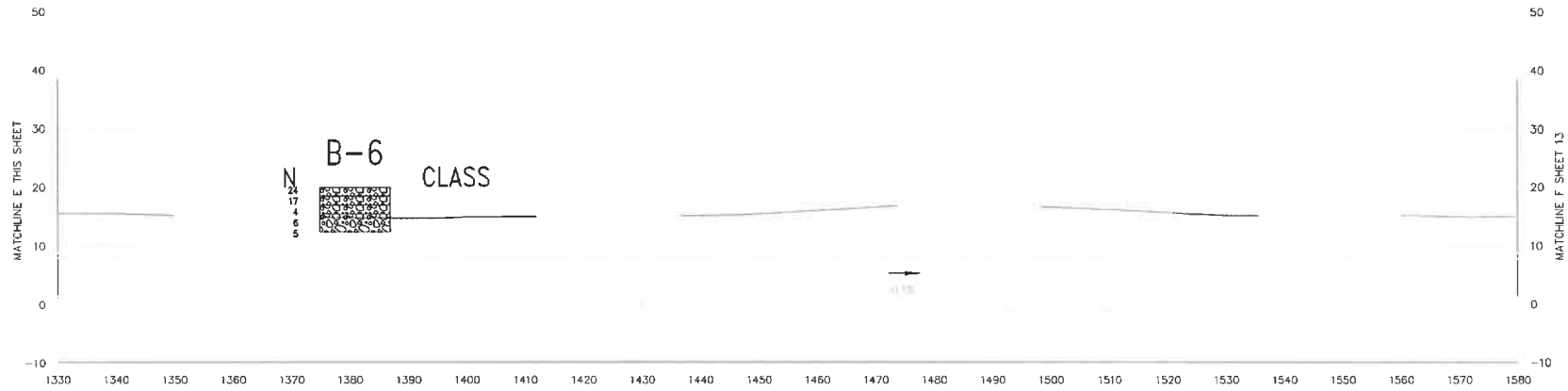

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DATE:	DATE:	DATE:				DRAINAGE SECTIONS	

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DRAINAGE SECTIONS

REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO
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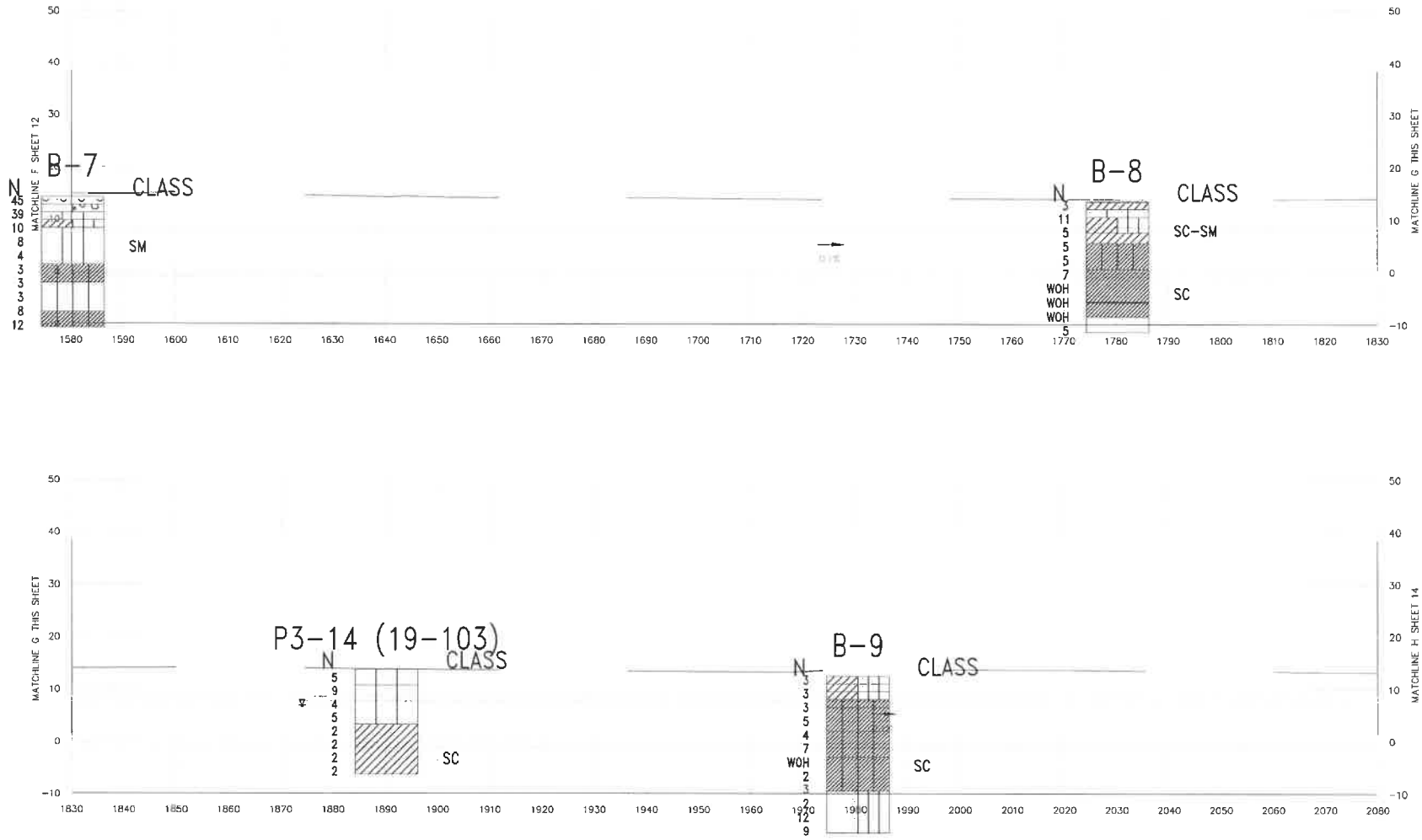

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DATE:	DATE:	DATE:				DRAINAGE SECTIONS	

User is: $$USERNAME$$ dd-mmm-yyyy hh:mm Plot Scale= $$SCALE$$ $$SHEETTABLE$$ $$PENTABLE$$ $$DGN$$

DRAINAGE SECTIONS

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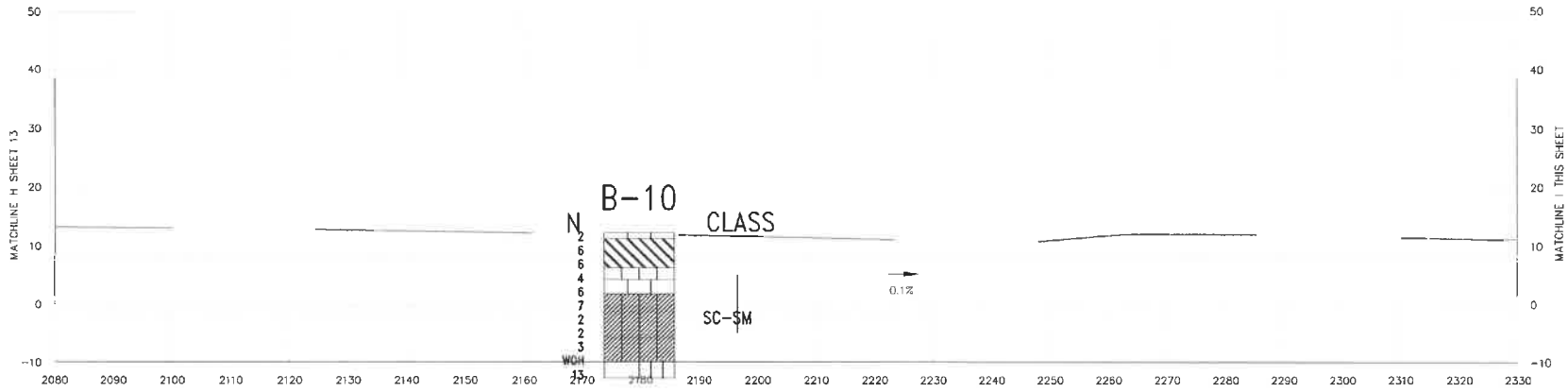

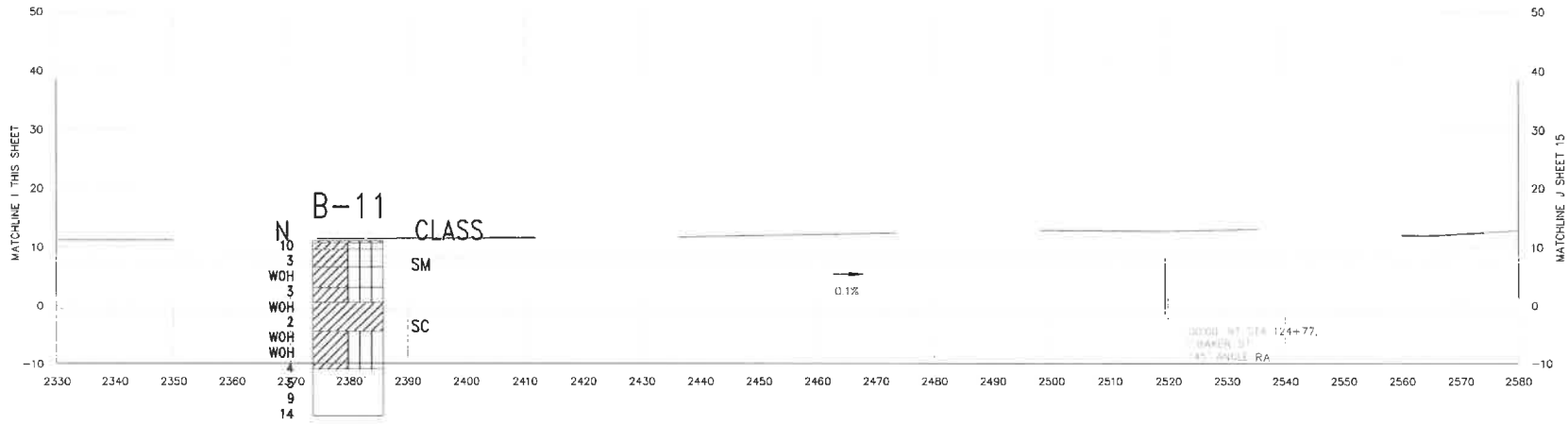

RESPONSIBLE PE:	SUPERVISOR:	DESIGNER:	PLAN SUBMITTAL		NOT TO SCALE	SHEET TITLE	ROUTE
DATE:	DATE:	DATE:				DRAINAGE SECTIONS	

User Is: $$USERNAME$$ dd-mmm-yyyy hh:mm Plot Scale= $$SCALE$$ $$ACCOUNTABLE$$ $$PENTABLE$$ $$USER$$

DRAINAGE SECTIONS

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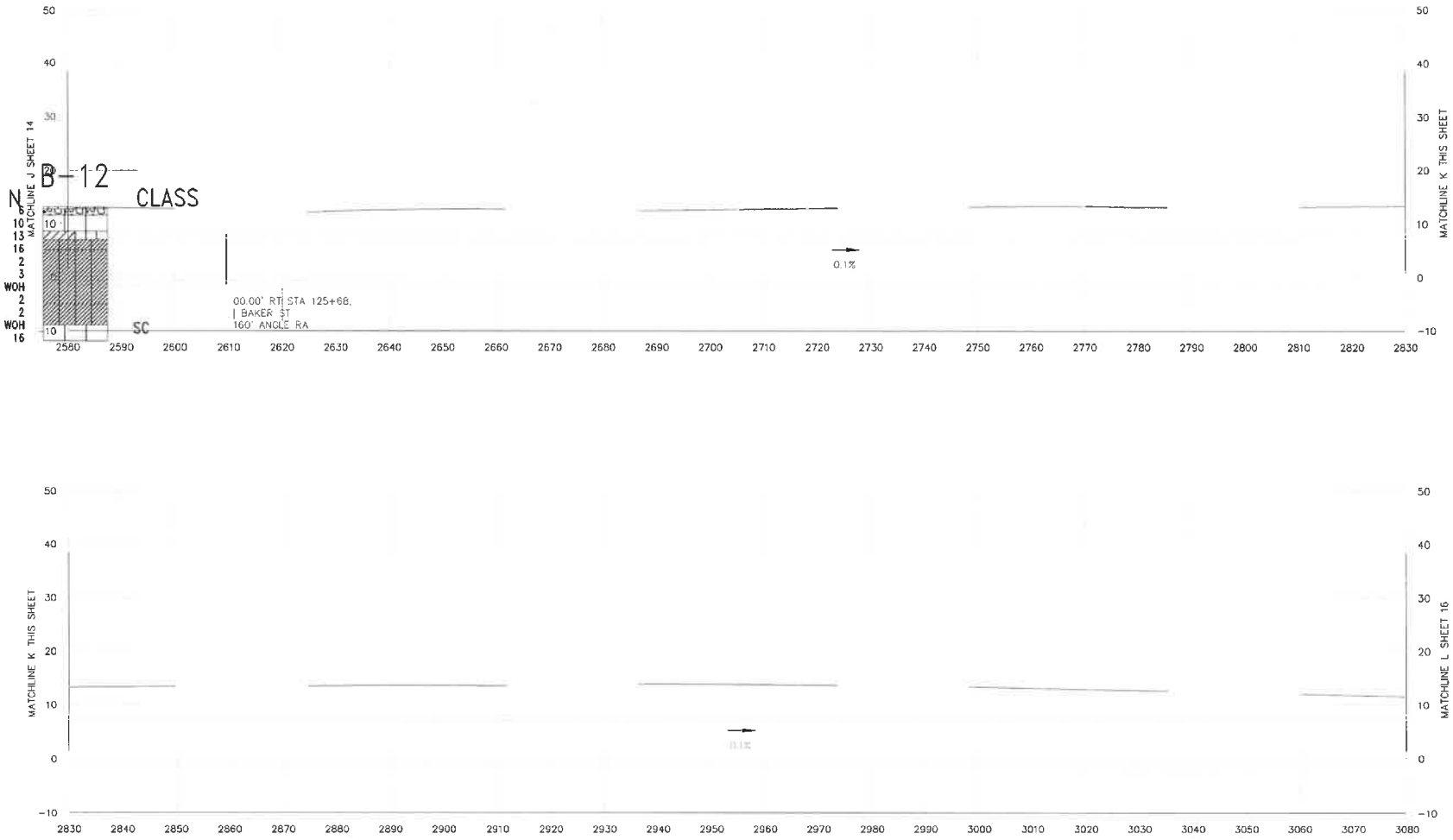

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DATE:	DATE:	DATE:				DRAINAGE SECTIONS	

User: $$USERNAME$$ dd-mmm-yyyy hh:mm Plot Scale= $$SCALE$$ $$COLORTABLE$$ $$PENTABLE$$ $$PENS$$

DRAINAGE SECTIONS

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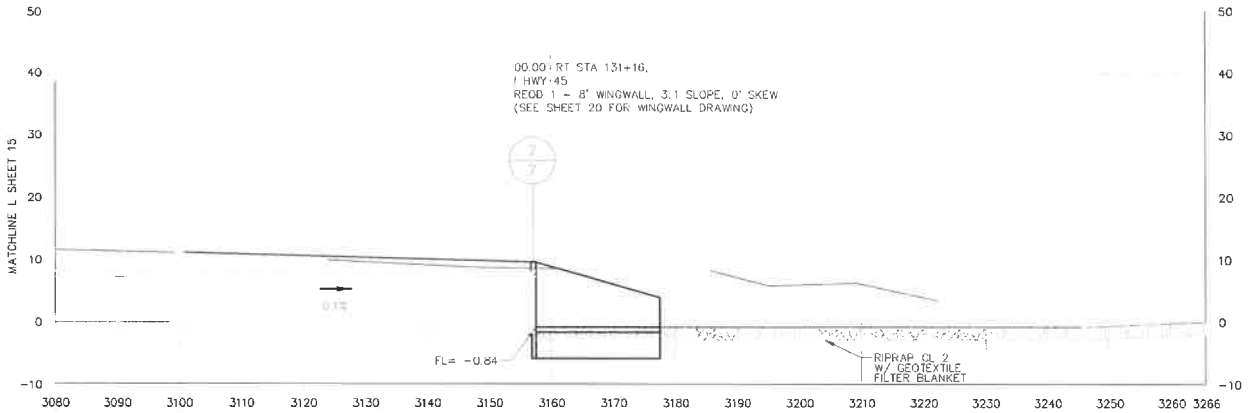
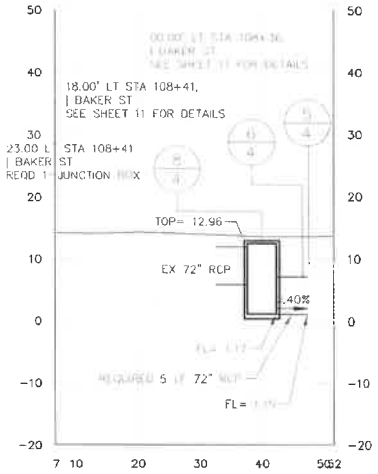




RESPONSIBLE PE:	SUPERVISOR:	DESIGNER:	PLAN SUBMITTAL		NOT TO SCALE	SHEET TITLE	ROUTE
DATE:	DATE:	DATE:				DRAINAGE SECTIONS	

User Id: $$USERNAME$$ dd-mmm-yyyy hh:mm Plot Scale= $$SCALE$$ $$DESCRIPTION$$ $$PENTABLE$$ $$DATE$$

APPENDIX E

LABORATORY TEST RESULTS

Boring Location	Boring No.	Sample ID	Depth (ft)	Water Content (%)	Atterberg Limits			% Gravel	% Sand	% Passing 200 (if hydrometer data available)		D_{50} (mm)	USCS	AASHTO Class
					LL	PL	PI			% Silt	% Clay			
STA 101+91 18' LT OF CL	P3-16 (19-103)	2	4.0	22										
STA 101+91 18' LT OF CL	P3-16 (19-103)	3	9.0	30				0.0	50.0	50.0				
STA 101+91 18' LT OF CL	P3-16 (19-103)	4	14.0	98										
STA 101+91 18' LT OF CL	P3-16 (19-103)	5	16.5	54	87	23	64							
STA 101+91 18' LT OF CL	P3-16 (19-103)	7	21.5	28										
STA 101+91 18' LT OF CL	P3-16 (19-103)	8	24.0	24				0.0	88.9	5.2	5.9	0.149		
STA 101+91 18' LT OF CL	P3-16 (19-103)	10	29.0	26				0.0	92.5	2.6	4.9	0.159		
STA 101+91 18' LT OF CL	P3-16 (19-103)	13	36.5	21										
STA 103+00 14' RT OF CL	B-15 (14-157)	2	2.0	21	NP	NP	NP	0.2	83.8	16.1		0.153	SM	A-2-4 (0)
STA 103+00 14' RT OF CL	B-15 (14-157)	4	5.0	29										
STA 103+00 14' RT OF CL	B-15 (14-157)	6	9.0	46										
STA 103+70 28' RT OF CL	B-1	5	6.5	20	21	13	8	0.0	69.6	30.4		0.241	SC	A-2-4 (0)
STA 103+70 28' RT OF CL	B-1	8	14.0	54	57	18	39	0.0	18.0	82.0			CH	A-7-6 (33)
STA 105+41 40' RT OF CL	B-2	T-1	11.5	36	48	18	30	0.0	42.8	57.2			CL	A-7-6 (14)
STA 105+41 40' RT OF CL	B-2	10	19.0	27	23	19	4	0.0	73.6	26.4		0.102	SC-SM	A-2-4 (0)
STA 106+42 37' RT OF CL	B-3	7	11.5	33	34	25	9	0.0	50.5	49.5		0.075	SM	A-4 (2)

GEOTECHNICAL ENGINEERING TESTING, INC.

SOIL CLASSIFICATION SUMMARY

GET PROJECT NUMBER: 23-112
PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
COUNTY: MOBILE

SOIL CLASSIFICATION SUMMARY 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

Boring Location	Boring No.	Sample ID	Depth (ft)	Water Content (%)	Atterberg Limits			% Gravel	% Sand	% Passing 200 (if hydrometer data available)		D_{50} (mm)	USCS	AASHTO Class
					LL	PL	PI			% Silt	% Clay			
STA 109+14 17' LT OF CL	P3-15 (19-103)	2	4.0	27										
STA 109+14 17' LT OF CL	P3-15 (19-103)	4	9.0	32				0.0	53.8	46.2		0.101		
STA 109+14 17' LT OF CL	P3-15 (19-103)	6	14.0	36	50	28	22	0.0	46.3	53.7			CH	A-7-6 (9)
STA 109+14 17' LT OF CL	P3-15 (19-103)	8	19.0	26										
STA 109+39 40' RT OF CL	B-4	5	6.5	21	29	13	16	0.0	71.0	29.0		0.128	SC	A-2-6 (1)
STA 111+38 38' RT OF CL	B-5	5	6.5	31				0.0	76.7	23.3		0.317		
STA 111+38 38' RT OF CL	B-5	8	14.0	44	49	14	35	0.0	34.6	65.4			CL	A-7-6 (20)
STA 115+40 40' RT OF CL	B-7	6	9.0	36	23	20	3	0.0	64.9	35.1		0.194	SM	A-2-4 (0)
STA 117+40 40' RT OF CL	B-8	4	5.0	18	19	15	4	1.0	71.0	27.9		0.272	SC-SM	A-2-4 (0)
STA 117+40 40' RT OF CL	B-8	T-1	16.5	31	41	12	29	0.0	50.8	25.1	24.1	0.076	SC	A-7-6 (9)
STA 118+48 39' LT OF CL	P3-14 (19-103)	2	4.0	14										
STA 118+48 39' LT OF CL	P3-14 (19-103)	4	9.0	30				0.0	66.0	34.0		0.205		
STA 118+48 39' LT OF CL	P3-14 (19-103)	6	14.0	25				0.0	66.5	33.5		0.21		
STA 118+48 39' LT OF CL	P3-14 (19-103)	7	16.5	30	37	12	25	0.0	54.5	45.5		0.106	SC	A-6 (7)
STA 119+40 35' RT OF CL	B-9	7	11.5	27	28	15	13							
STA 119+40 35' RT OF CL	B-9		12.0					0.0	65.5	34.5		0.122		

GEOTECHNICAL ENGINEERING TESTING, INC.

SOIL CLASSIFICATION SUMMARY

GET PROJECT NUMBER: 23-112
PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
COUNTY: MOBILE

SOIL CLASSIFICATION SUMMARY 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

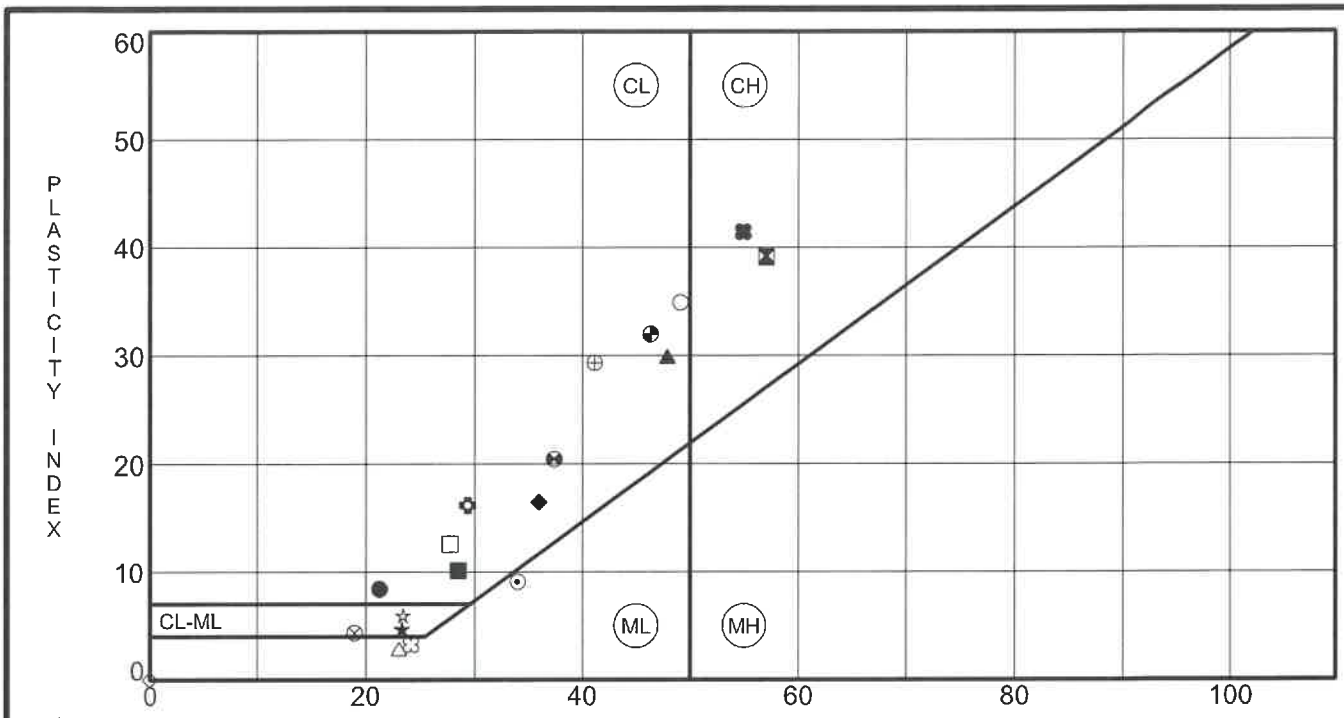
Boring Location	Boring No.	Sample ID	Depth (ft)	Water Content (%)	Atterberg Limits			% Gravel	% Sand	% Passing 200 (if hydrometer data available)		D_{50} (mm)	USCS	AASHTO Class
					LL	PL	PI			% Silt	% Clay			
STA 119+40 35' RT OF CL	B-9	9	16.5	30	37	17	20	0.0	55.0	45.0		0.083	SC	A-6 (5)
STA 121+38 34' RT OF CL	B-10		4.0	19	46	14	32	0.2	49.1	28.3	22.5	0.067	CL	A-7-6 (12)
STA 121+38 34' RT OF CL	B-10		4.5	21				0.0	28.2	35.0	36.8	0.008		
STA 121+38 34' RT OF CL	B-10	7	11.5					0.0	42.8	31.1	26.0	0.036		
STA 121+38 34' RT OF CL	B-10	8	14.0	26	23	17	6	0.0	71.9	28.1		0.143	SC-SM	A-2-4 (0)
STA 123+36 39' RT OF CL	B-11	3	3.5	25	24	21	3	0.0	53.1	46.9		0.096	SM	A-4 (0)
STA 123+36 39' RT OF CL	B-11	8	14.0	29	29	18	11	0.0	69.8	30.2		0.244	SC	A-2-6 (0)
STA 125+45 3' RT OF CL	B-12	T-1	21.5	32	36	20	16	0.0	55.7	24.5	19.8	0.083	SC	A-6 (3)
STA 125+45 193' LT OF CL	B-13	5	6.5	33	NP	NP	NP	0.0	80.7	19.3		0.364	SM	A-2-4 (0)
STA 125+45 193' LT OF CL	B-13	T-1	16.5	46				0.0	14.7	85.3				
STA 125+45 396' LT OF CL	B-14	5	6.5	33				0.0	58.8	41.2		0.139		
STA 125+45 396' LT OF CL	B-14	T-1	16.5		57	18	39	0.0	29.2	70.8			CH	A-7-6 (27)
STA 125+45 396' LT OF CL	B-14		17.0	44										
STA 125+45 609' LT OF CL	B-15		4.0	23	55	13	42	0.0	38.2	24.5	37.3	0.013	CH	A-7-6 (22)
STA 125+45 609' LT OF CL	B-15	T-2	11.5	22	42	18	24	0.0	74.9	25.1		0.137	SC	A-2-7 (1)

GEOTECHNICAL ENGINEERING TESTING, INC.

SOIL CLASSIFICATION SUMMARY

GET PROJECT NUMBER: 23-112
PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
COUNTY: MOBILE

SOIL CLASSIFICATION SUMMARY 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23



Test Method: _____

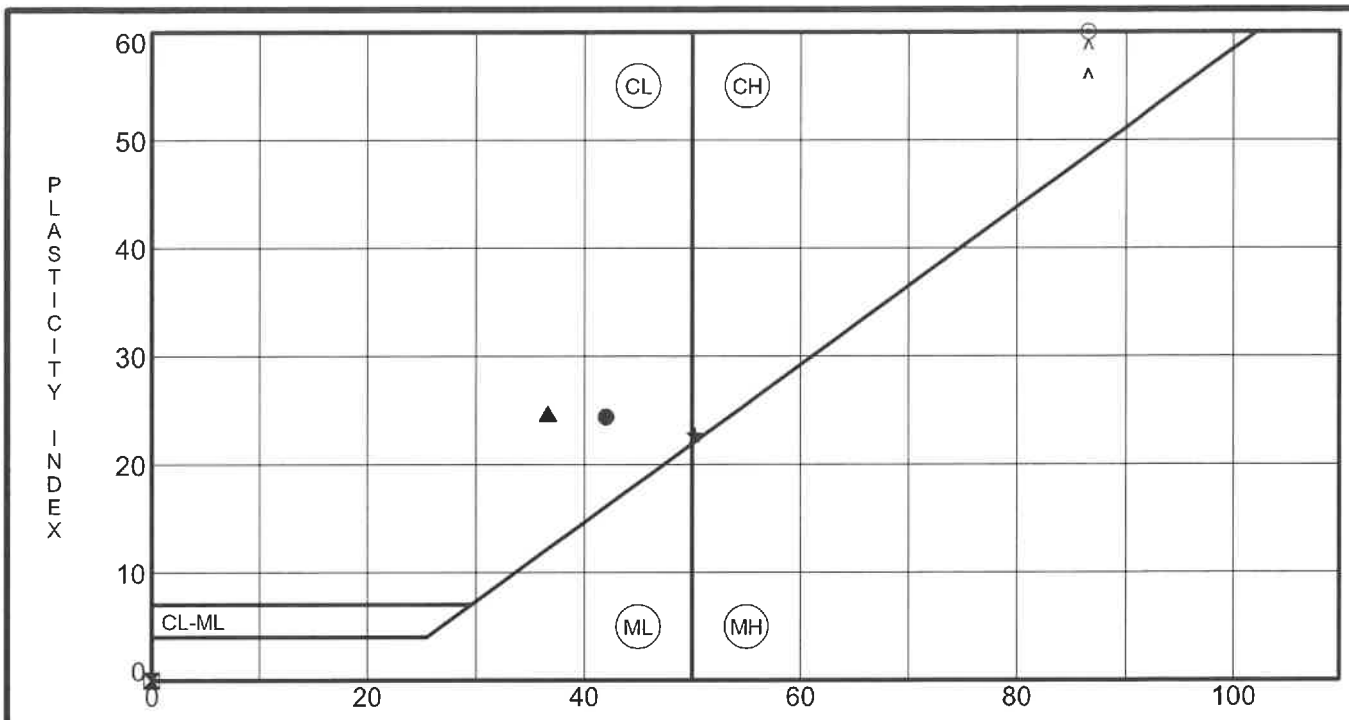
	Boring ID	Depth (ft.)	LL	PL	PI	Fines	Classification
●	B-1	6.5	21	13	8	30.4	CLAYEY SAND (SC)
⊠	B-1	14.0	57	18	39	82.0	FAT CLAY with SAND (CH)
▲	B-2	11.5	48	18	30	57.2	SANDY LEAN CLAY (CL)
★	B-2	19.0	23	19	4	26.4	SILTY, CLAYEY SAND (SC-SM)
⊙	B-3	11.5	34	25	9	49.5	SILTY SAND (SM)
✿	B-4	6.5	29	13	16	29.0	CLAYEY SAND (SC)
○	B-5	14.0	49	14	35	65.4	SANDY LEAN CLAY (CL)
△	B-7	9.0	23	20	3	35.1	SILTY SAND (SM)
⊗	B-8	5.0	19	15	4	27.9	SILTY, CLAYEY SAND (SC-SM)
⊕	B-8	16.5	41	12	29	49.2	CLAYEY SAND (SC)
□	B-9	11.5	28	15	13		
⊛	B-9	16.5	37	17	20	45.0	CLAYEY SAND (SC)
◒	B-10	4.0	46	14	32	50.7	SANDY LEAN CLAY (CL)
☆	B-10	14.0	23	17	6	28.1	SILTY, CLAYEY SAND (SC-SM)
⊠	B-11	3.5	24	21	3	46.9	SILTY SAND (SM)
■	B-11	14.0	29	18	11	30.2	CLAYEY SAND (SC)
◆	B-12	21.5	36	20	16	44.3	CLAYEY SAND (SC)
◇	B-13	6.5	NP	NP	NP	19.3	SILTY SAND (SM)
⊠	B-14	16.5	57	18	39	70.8	FAT CLAY with SAND (CH)
✱	B-15	4.0	55	13	42	61.8	SANDY FAT CLAY (CH)

GEOTECHNICAL ENGINEERING TESTING, INC.

ATTERBERG LIMITS RESULTS

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL

US ATTERBERG LIMITS 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23



Test Method: _____

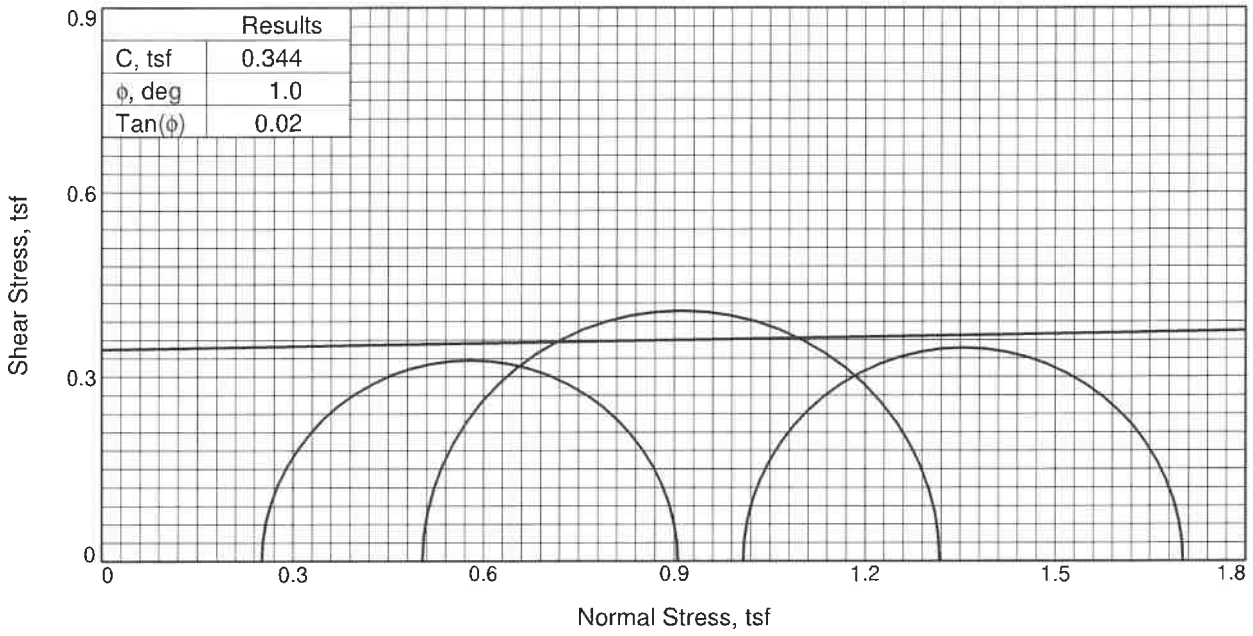
Boring ID	Depth (ft.)	LL	PL	PI	Fines	Classification
● B-15	11.5	42	18	24	25.1	CLAYEY SAND (SC)
⊠ B-15 (14-157)	2.0	NP	NP	NP	16.1	Gray with little Light Gray (SM)
▲ P3-14 (19-103)	16.5	37	12	25	45.5	CLAYEY SAND (SC)
★ P3-15 (19-103)	14.0	50	28	22	53.7	SANDY FAT CLAY (CH)
⊙ P3-16 (19-103)	16.5	87	23	64		

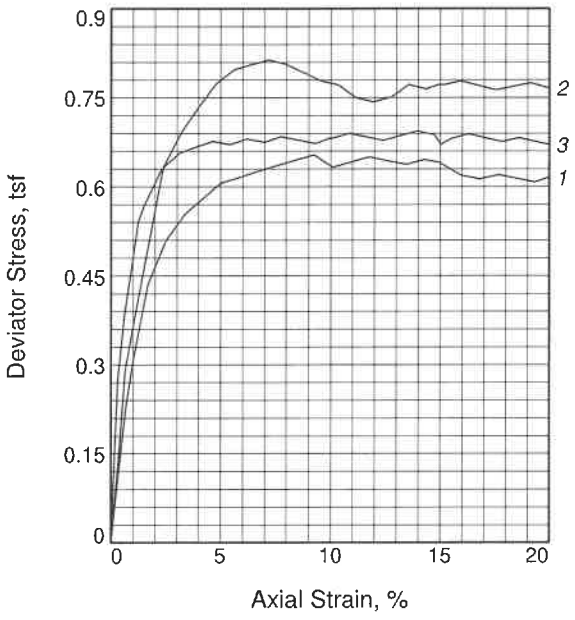
GEOTECHNICAL ENGINEERING TESTING, INC.

ATTERBERG LIMITS RESULTS

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL

US ATTERBERG LIMITS 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23





Sample No.		1	2	3
Initial	Water Content, %	36.4	36.4	36.4
	Dry Density, pcf	85.6	86.5	84.7
	Saturation, %	99.9	99.8	99.2
	Void Ratio	0.9979	1.0210	0.9902
	Diameter, in.	1.37	1.37	1.38
	Height, in.	2.97	3.14	3.22
At Test	Water Content, %	36.4	36.5	36.7
	Dry Density, pcf	85.6	86.5	84.7
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.9979	1.0210	0.9902
	Diameter, in.	1.37	1.37	1.38
	Height, in.	2.97	3.14	3.22
Strain rate, in./min.		0.03	0.03	0.03
Back Pressure, psi		0.00	0.00	0.00
Cell Pressure, psi		3.50	7.00	14.00
Fail. Stress, tsf		0.65	0.81	0.69
Strain, %		9.3	7.2	14.0
Ult. Stress, tsf				
Strain, %				
σ_1 Failure, tsf		0.91	1.32	1.70
σ_3 Failure, tsf		0.25	0.50	1.01

Type of Test:
Unconsolidated Undrained

Sample Type: Undisturbed

Description: Gray clay with sand and organics

Assumed Specific Gravity= 2.74

Remarks: 03-04-2023 Type 2A Shear Failures

Figure _____

Client: ASPA

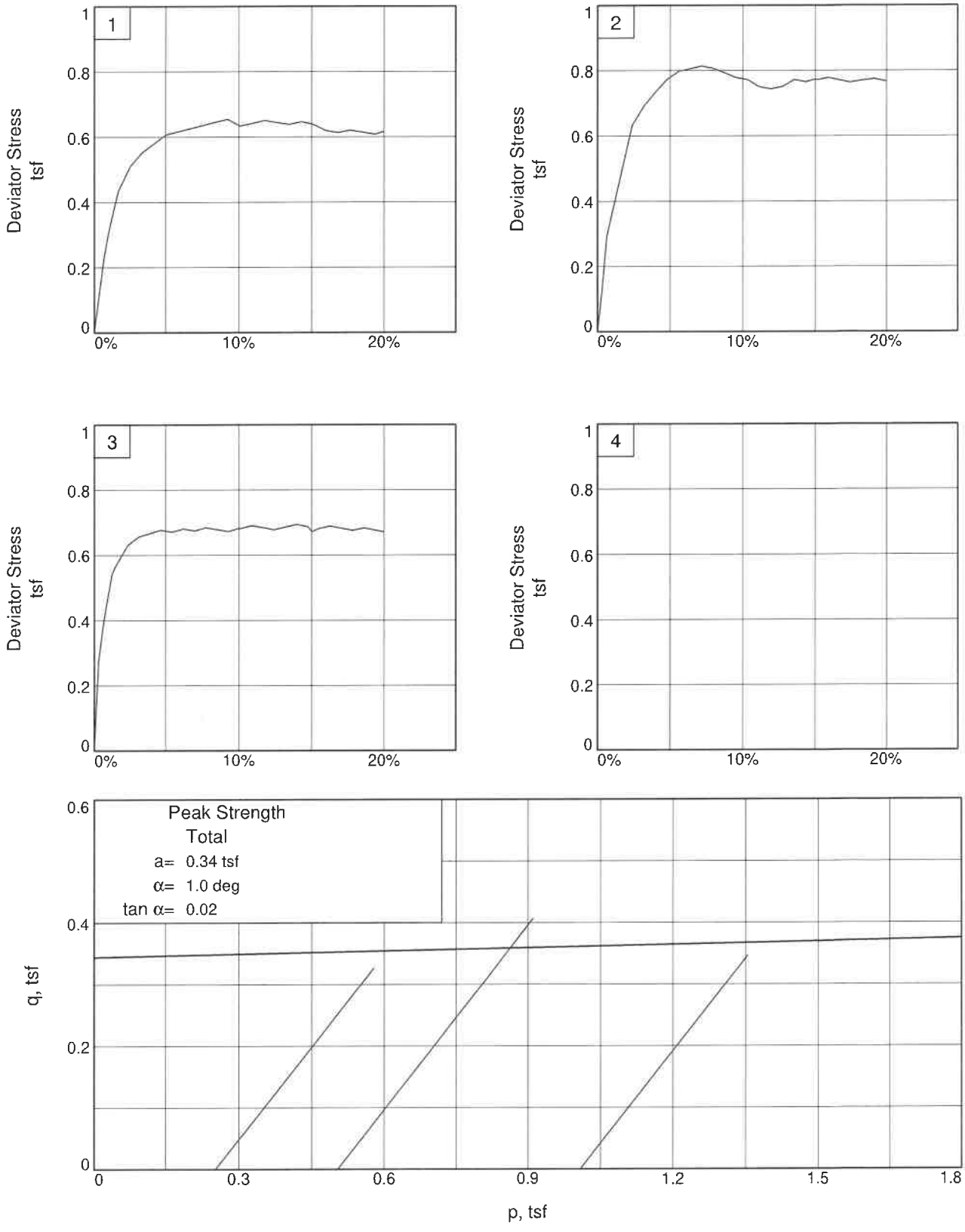
Project: ASPA Logistics Park Drainage

Sample Number: B-2, T-2 **Depth:** 11.5' - 13.5'

Proj. No.: 23-112 **Date Sampled:**

TRIAXIAL SHEAR TEST REPORT
Geotechnical Engineering-Testing, Inc.
Mobile, AL

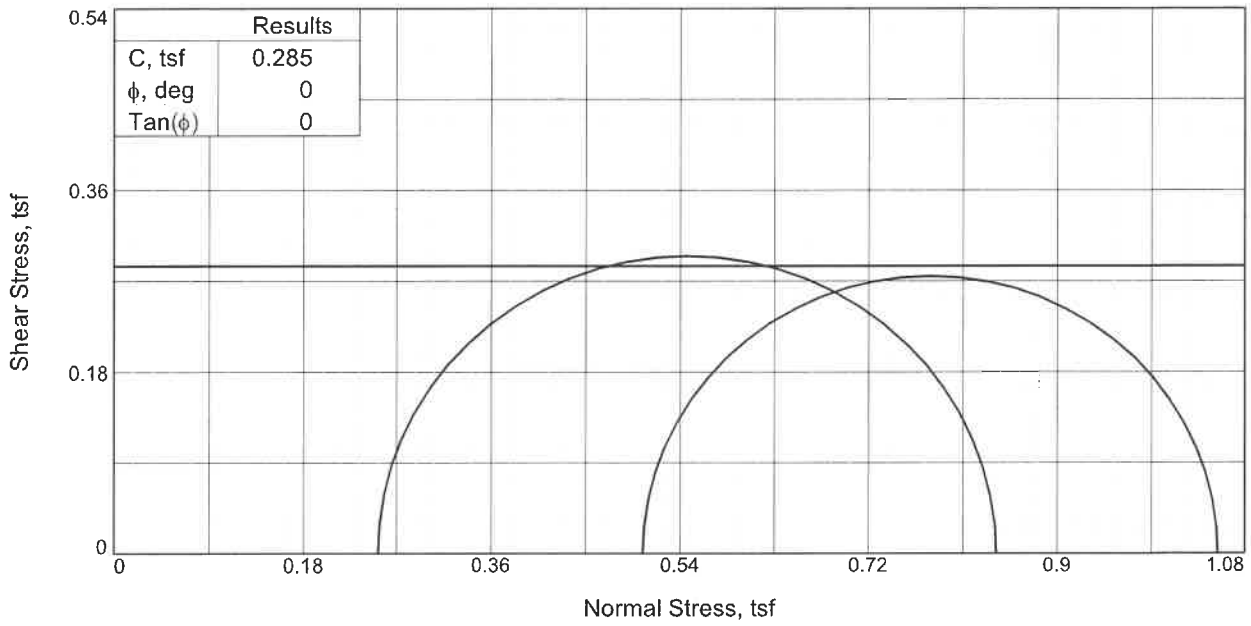
Tested By: ZS

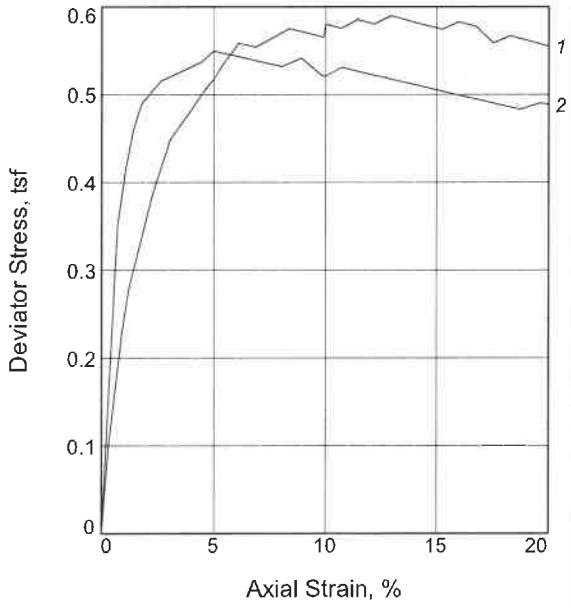


Client: ASPA
Project: ASPA Logistics Park Drainage
Depth: 11.5' - 13.5' **Sample Number:** B-2, T-2
Project No.: 23-112 **Figure** _____

Geotechnical Engineering-Testing, Inc.

Tested By: ZS





Sample No.		1	2
Initial	Water Content, %	30.5	30.5
	Dry Density, pcf	92.5	90.2
	Saturation, %	100.0	94.8
	Void Ratio	0.8230	0.8682
	Diameter, in.	1.36	1.38
	Height, in.	3.28	2.80
At Test	Water Content, %	30.5	32.2
	Dry Density, pcf	92.5	90.2
	Saturation, %	100.0	100.0
	Void Ratio	0.8230	0.8682
	Diameter, in.	1.36	1.38
	Height, in.	3.28	2.80
Strain rate, in./min.		0.03	0.03
Back Pressure, psi		0.00	0.00
Cell Pressure, psi		3.50	7.00
Fail. Stress, tsf		0.59	0.55
Strain, %		13.0	5.0
Ult. Stress, tsf			
Strain, %			
σ_1 Failure, tsf		0.84	1.05
σ_3 Failure, tsf		0.25	0.50

Type of Test:
Unconsolidated Undrained

Sample Type: Undisturbed

Description: Gray clay with sand pockets and organics

Assumed Specific Gravity= 2.7

Remarks: 3-6-2023
Type 1A Bulging Failure

Figure _____

Client: ASPA

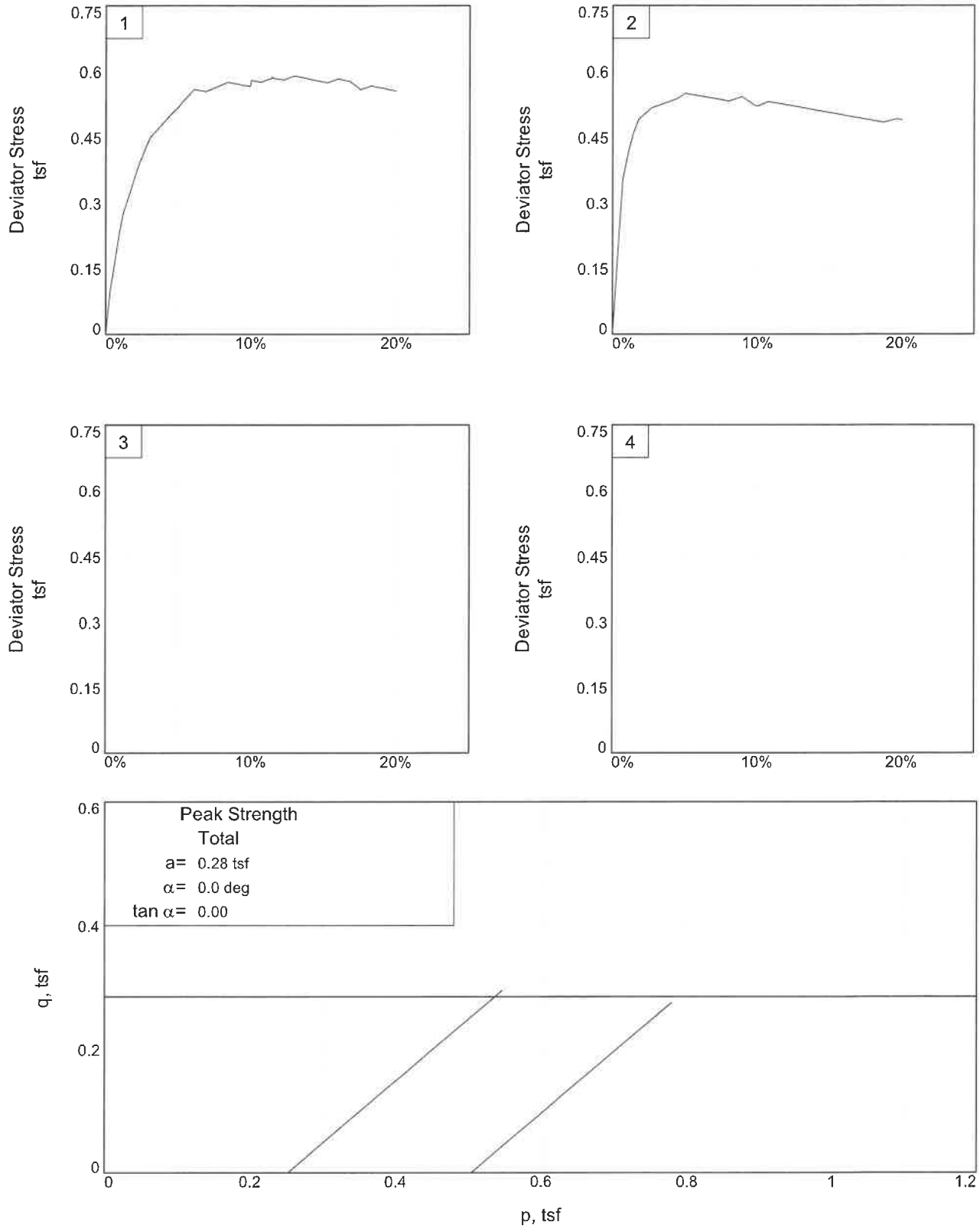
Project: ASPA Logistics Park Drainage

Sample Number: B-3, T-1 **Depth:** 16.5' - 18.5'

Proj. No.: 23-112 **Date Sampled:**

TRIAXIAL SHEAR TEST REPORT
Geotechnical Engineering-Testing, Inc.
Mobile, AL

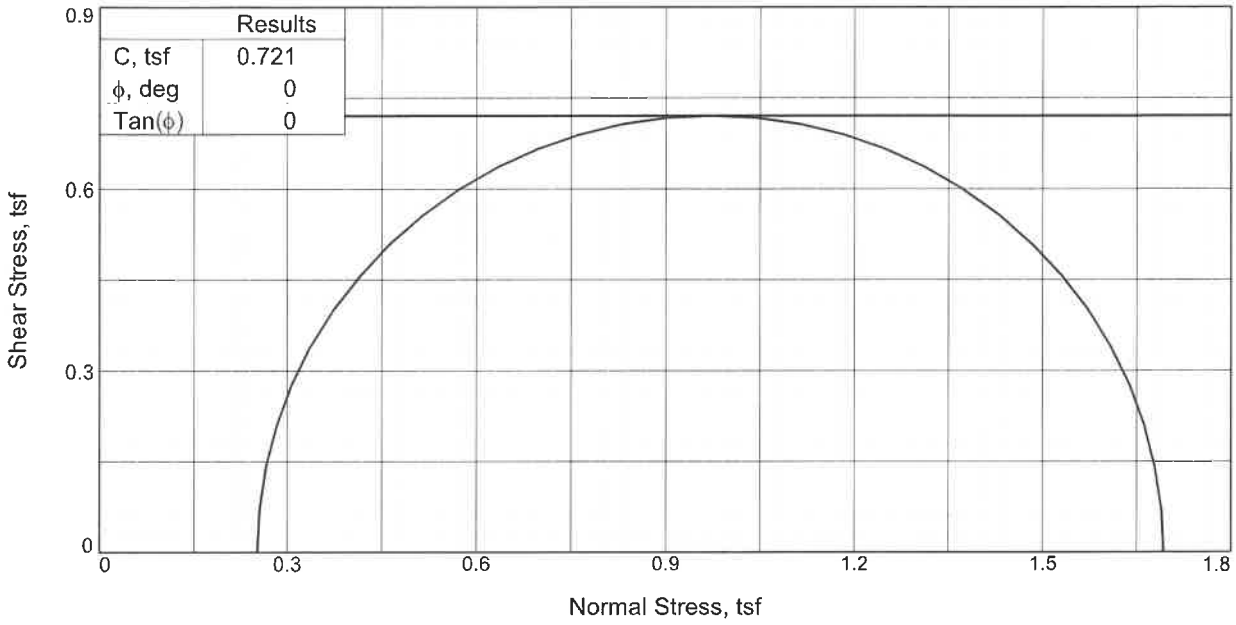
Tested By: ZS/NB

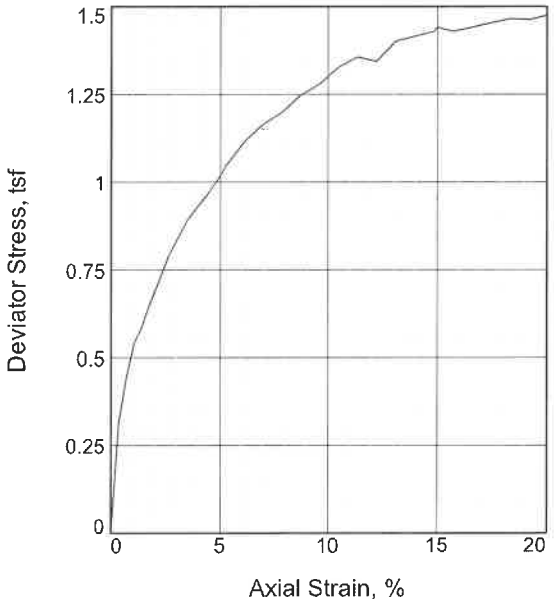


Client: ASPA
Project: ASPA Logistics Park Drainage
Depth: 16.5' - 18.5' **Sample Number:** B-3, T-1
Project No.: 23-112 **Figure** _____

Geotechnical Engineering-Testing, Inc.

Tested By: ZS/NB





Sample No.		1
Initial	Water Content, %	20.8
	Dry Density, pcf	108.2
	Saturation, %	100.0
	Void Ratio	0.5634
	Diameter, in.	1.36
	Height, in.	2.86
At Test	Water Content, %	20.8
	Dry Density, pcf	108.2
	Saturation, %	100.0
	Void Ratio	0.5634
	Diameter, in.	1.36
	Height, in.	2.86
Strain rate, in./min.		0.03
Back Pressure, psi		0.00
Cell Pressure, psi		3.50
Fail. Stress, tsf		1.44
Strain, %		15.0
Ult. Stress, tsf		1.44
Strain, %		
σ_1 Failure, tsf		1.69
σ_3 Failure, tsf		0.25

Type of Test:
Unconsolidated Undrained

Sample Type: Undisturbed

Description: Gray, yellow brown and red clay with sand

Assumed Specific Gravity= 2.71

Remarks: 3-15-2023
Type 1A bulging failure

Figure _____

Client: ASPA

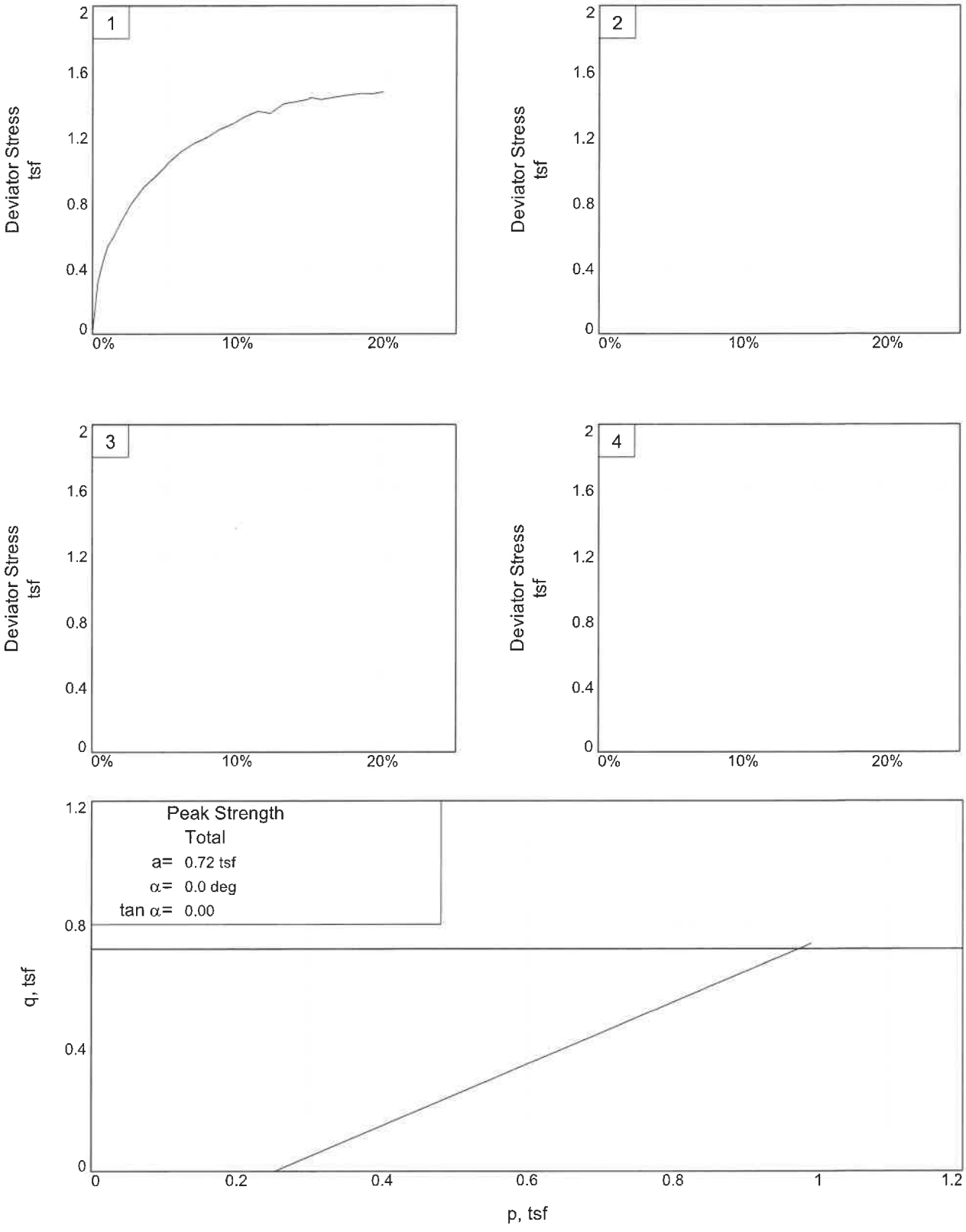
Project: ASPA Logistics Park Drainage

Sample Number: B-10, T-1 **Depth:** 4.0' - 6.0'

Proj. No.: 23-112 **Date Sampled:**

TRIAXIAL SHEAR TEST REPORT
Geotechnical Engineering-Testing, Inc.
Mobile, AL

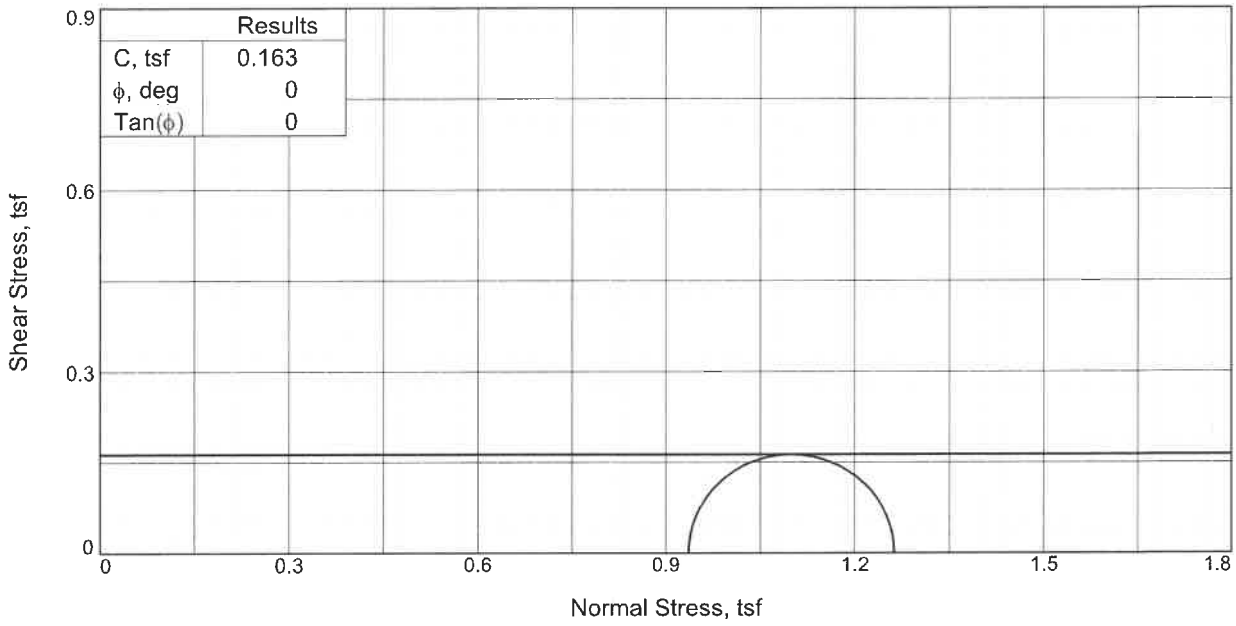
Tested By: ZS/NB

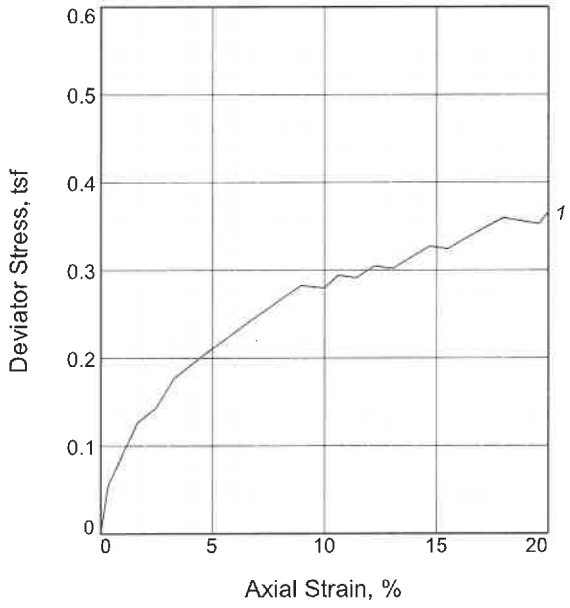


Client: ASPA
Project: ASPA Logistics Park Drainage
Depth: 4.0' - 6.0' **Sample Number:** B-10, T-1
Project No.: 23-112 **Figure** _____

Geotechnical Engineering-Testing, Inc.

Tested By: ZS/NB





Sample No.		1
Initial	Water Content, %	32.3
	Dry Density, pcf	100.7
	Saturation, %	96.7
	Void Ratio	1.1692
	Diameter, in.	1.29
	Height, in.	3.06
At Test	Water Content, %	33.4
	Dry Density, pcf	100.7
	Saturation, %	100.0
	Void Ratio	1.1692
	Diameter, in.	1.29
	Height, in.	3.06
Strain rate, in./min.		0.03
Back Pressure, psi		0.00
Cell Pressure, psi		13.00
Fail. Stress, tsf		0.33
Strain, %		15.0
Ult. Stress, tsf		0.33
Strain, %		
σ_1 Failure, tsf		1.26
σ_3 Failure, tsf		0.94

Type of Test:
Unconsolidated Undrained
Sample Type: Undisturbed
Description: Gray sandy clay

Assumed Specific Gravity= 3.5
Remarks: 3-12-13
Type 1A bulging failure

Figure _____

Client: ASPA

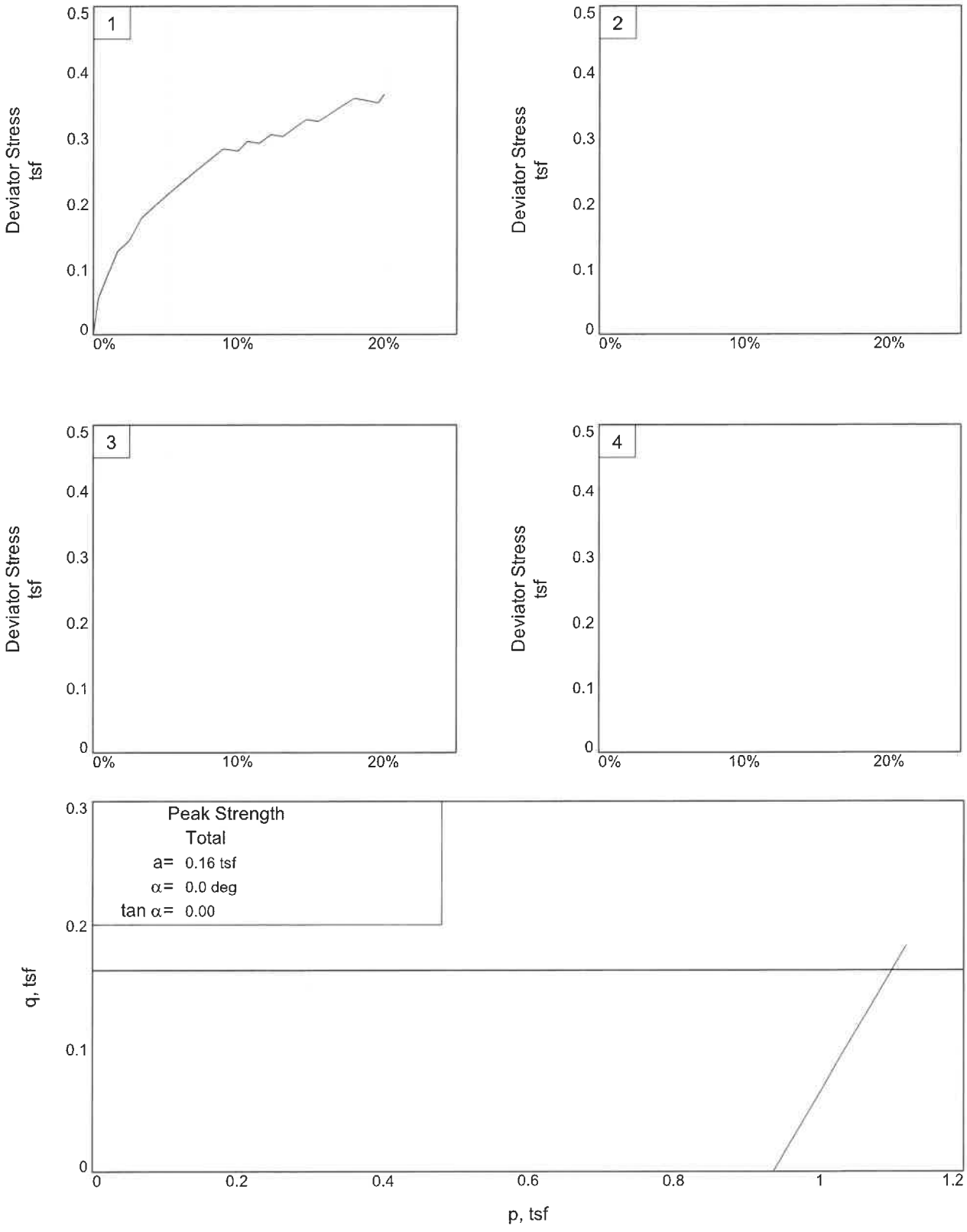
Project: ASPA Logistics Park Drainage

Sample Number: B-12, T-1 **Depth:** 21.5' - 23.5'

Proj. No.: 23-112 **Date Sampled:**

TRIAXIAL SHEAR TEST REPORT
Geotechnical Engineering-Testing, Inc.
Mobile, AL

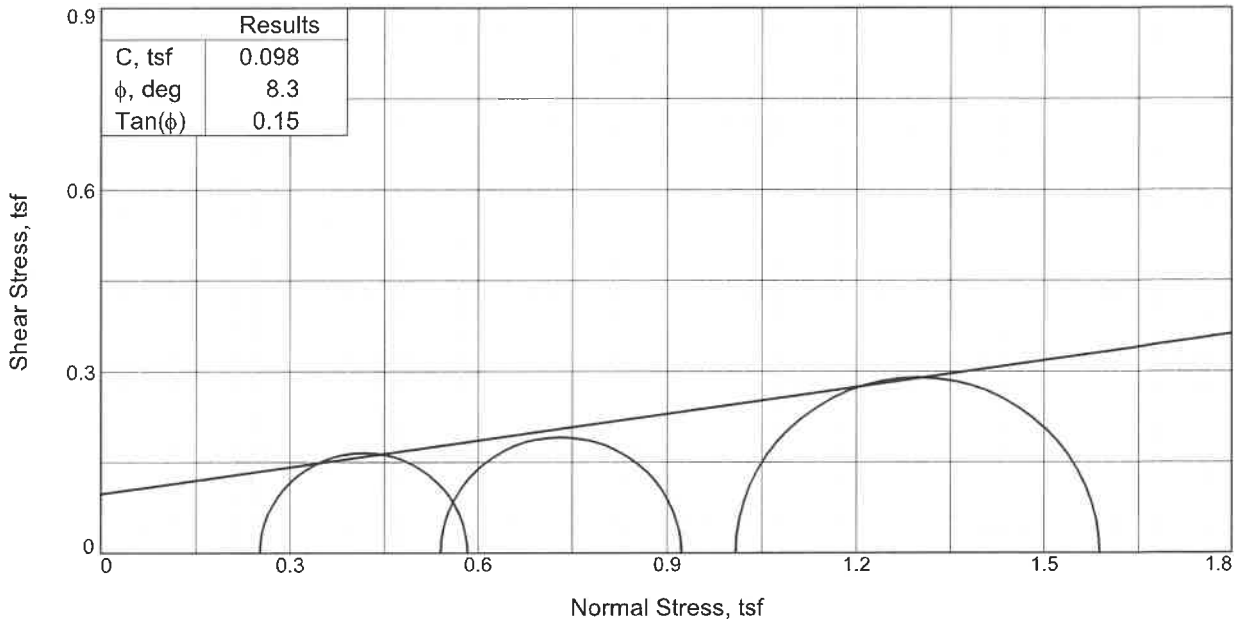
Tested By: ZS

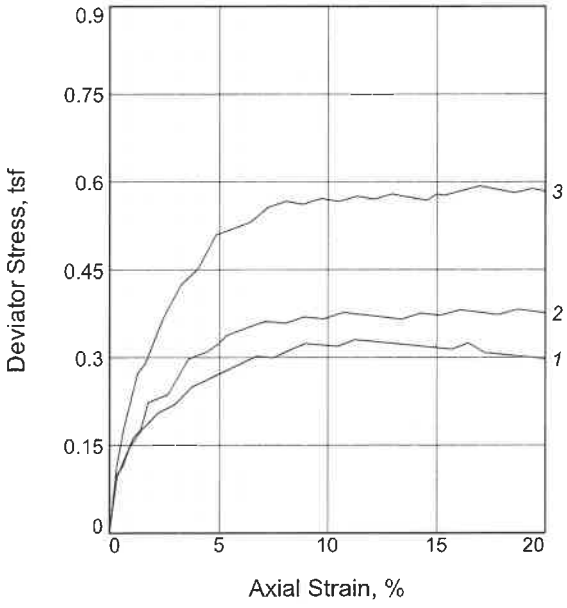


Client: ASPA
Project: ASPA Logistics Park Drainage
Depth: 21.5' - 23.5' **Sample Number:** B-12, T-1
Project No.: 23-112 **Figure** _____

Geotechnical Engineering-Testing, Inc.

Tested By: ZS





Sample No.		1	2	3
Initial	Water Content, %	46.4	46.4	46.4
	Dry Density, pcf	76.0	75.7	78.9
	Saturation, %	97.4	96.8	97.1
	Void Ratio	1.3830	1.3909	1.5311
	Diameter, in.	1.37	1.37	1.37
	Height, in.	3.34	2.80	3.10
At Test	Water Content, %	47.7	48.0	47.8
	Dry Density, pcf	76.0	75.7	78.9
	Saturation, %	100.0	100.0	100.0
	Void Ratio	1.3830	1.3909	1.5311
	Diameter, in.	1.37	1.37	1.37
	Height, in.	3.34	2.80	3.10
Strain rate, in./min.		0.03	0.03	0.03
Back Pressure, psi		0.00	0.00	0.00
Cell Pressure, psi		3.50	7.50	14.00
Fail. Stress, tsf		0.33	0.38	0.58
Strain, %		11.2	18.7	15.0
Ult. Stress, tsf				0.58
Strain, %				
σ_1 Failure, tsf		0.58	0.92	1.59
σ_3 Failure, tsf		0.25	0.54	1.01

Type of Test:
Unconsolidated Undrained
Sample Type: Undisturbed
Description: Grey clay with sand pockets

Assumed Specific Gravity= 2.9
Remarks: 3-13-2023
Type 2A Shear Failure

Figure _____

Client: ASPA

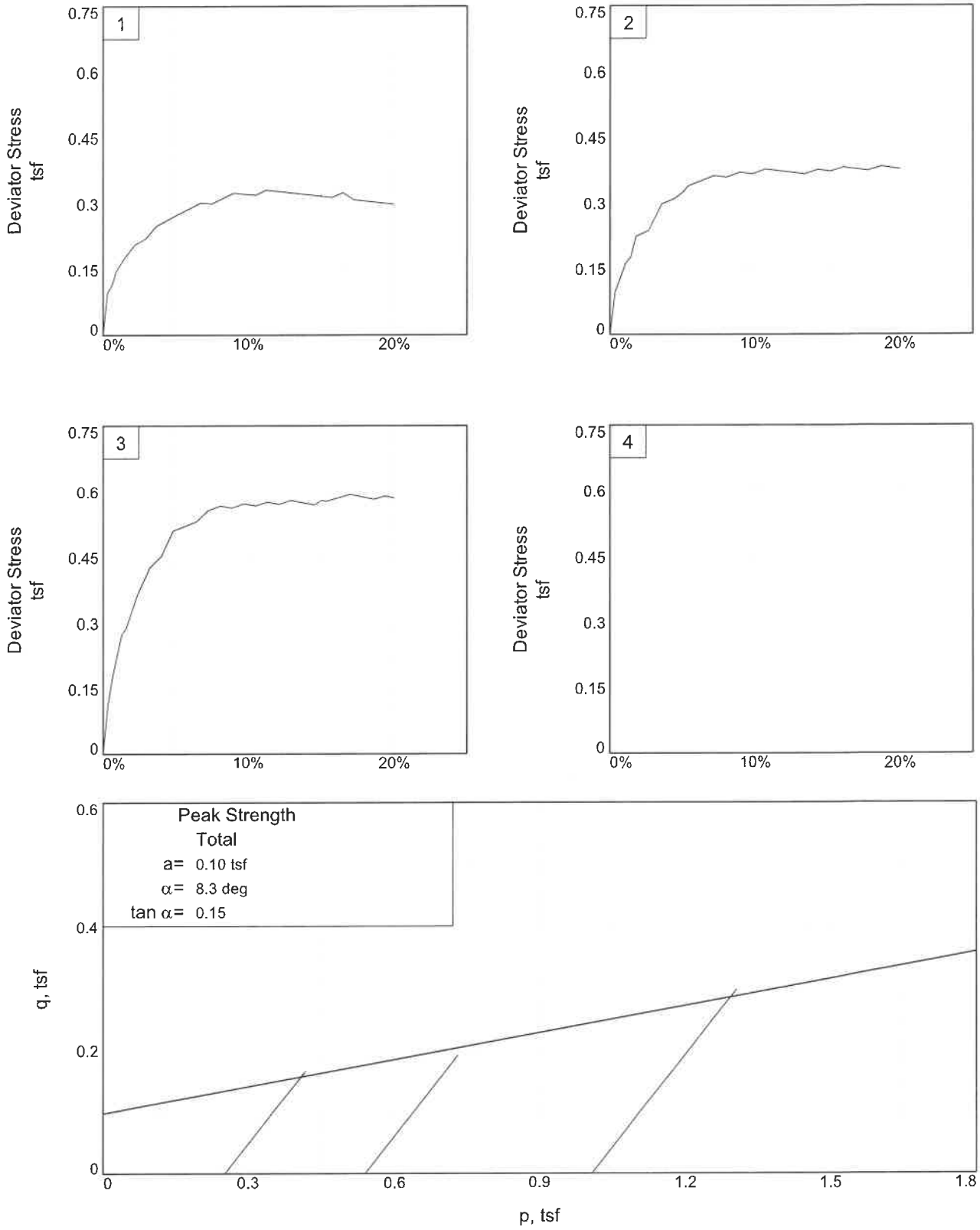
Project: ASPA Logistics Park Drainage

Sample Number: B-13, T-1 **Depth:** 16.5' - 18.5'

Proj. No.: 23-112 **Date Sampled:**

TRIAXIAL SHEAR TEST REPORT
Geotechnical Engineering-Testing, Inc.
Mobile, AL

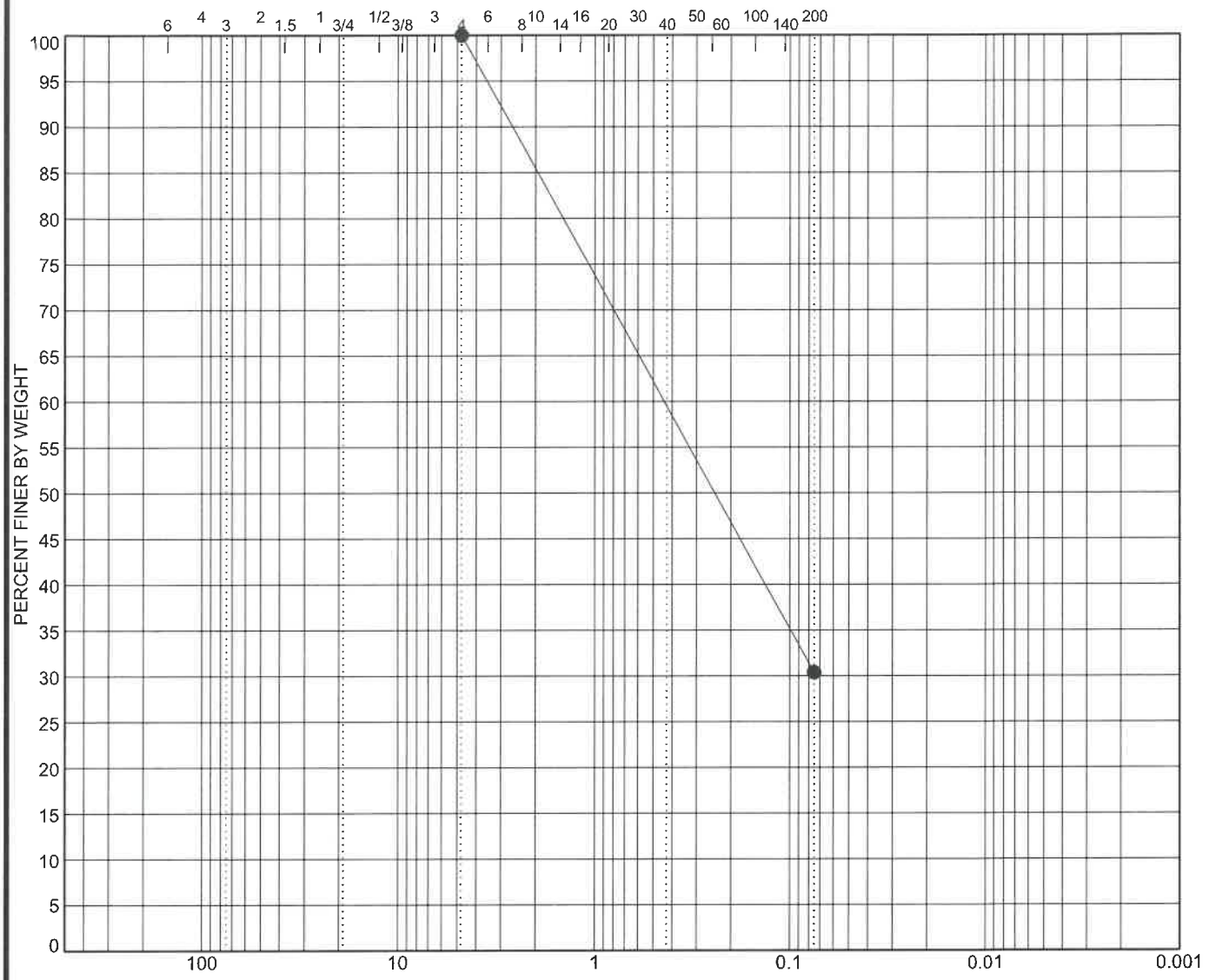
Tested By: ZS



Client: ASPA
Project: ASPA Logistics Park Drainage
Depth: 16.5' - 18.5' **Sample Number:** B-13, T-1
Project No.: 23-112 **Figure** _____

Geotechnical Engineering-Testing, Inc.

Tested By: ZS



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	LL	PL	PI	Cc	Cu
● **B-1**	**S-5;6.5 ft.**	**CLAYEY SAND (SC)**	**21**	**13**	**8**		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-01	**6.5 ft.**	**4.75**	**0.438**			**0.0**	**69.6**	**30.4**	

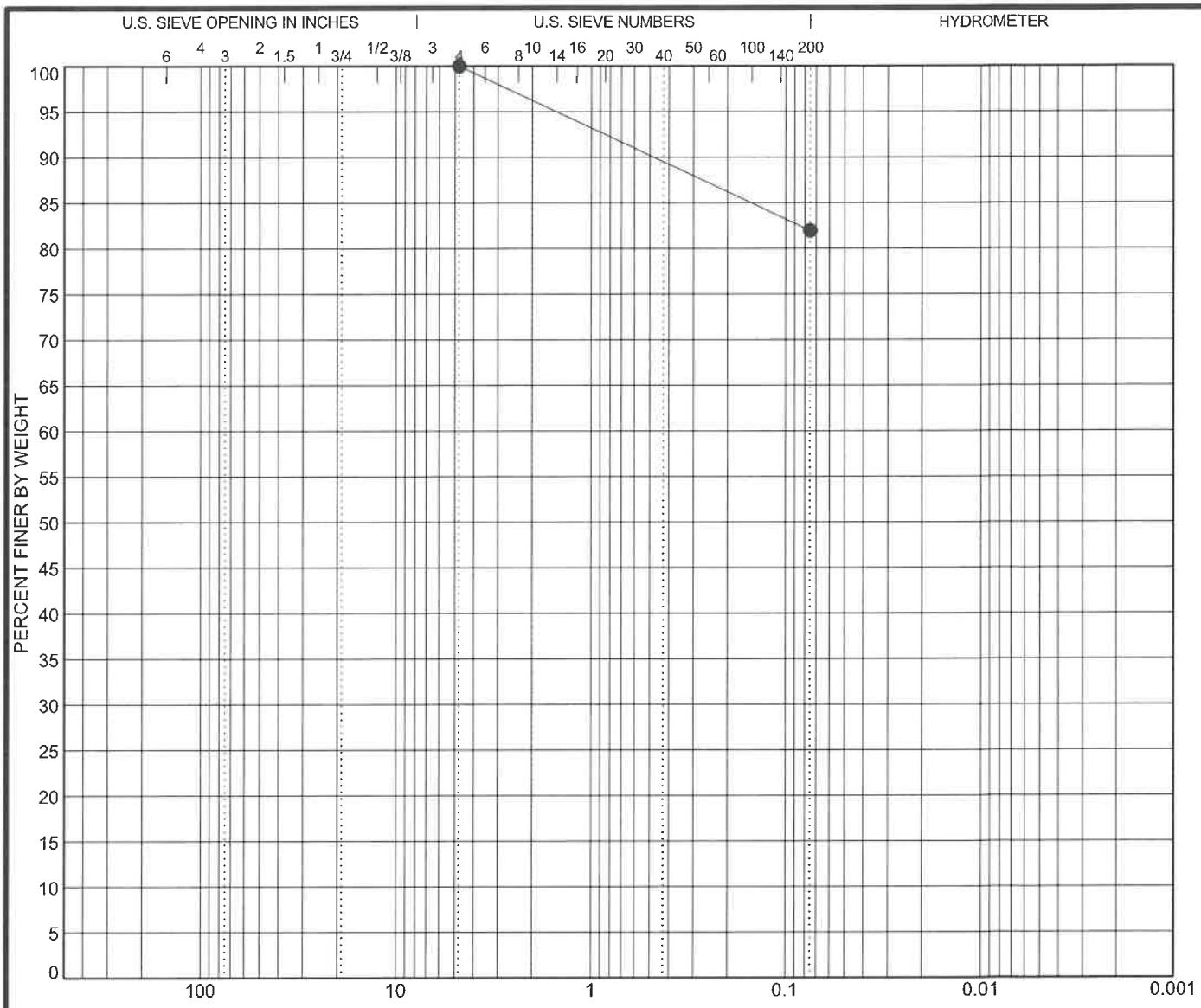
REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	**B-1**	**S-8;14.0 ft.**	**FAT CLAY with SAND (CH)**	**57**	**18**	**39**		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-01	**14.0 ft.**	**4.75**				**0.0**	**18.0**	**82.0**	

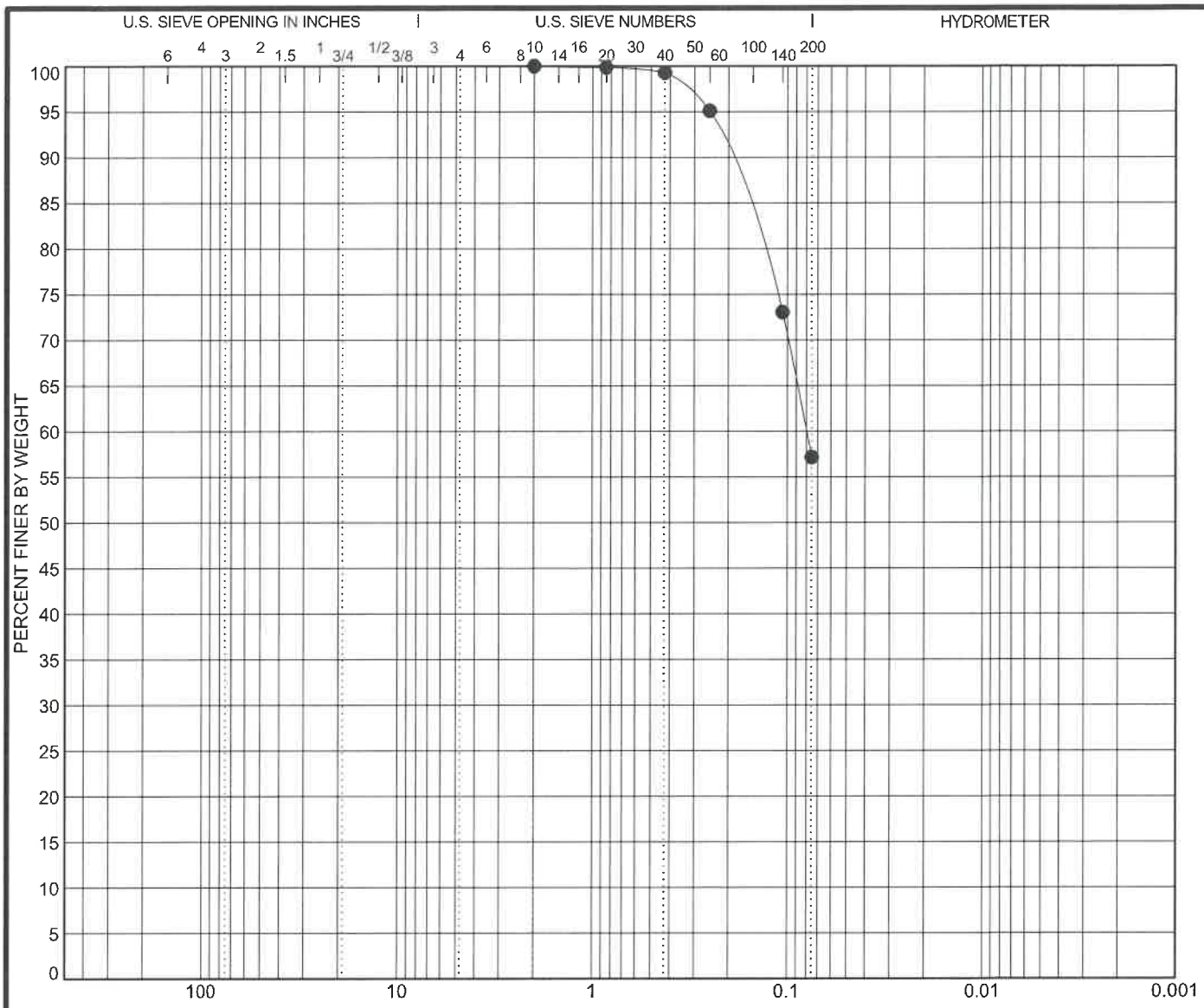
REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	LL	PL	PI	Cc	Cu
● B-2	T-1;11.5 ft.	**SANDY LEAN CLAY (CL)**	48	18	30		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-02	11.5 ft.	2	0.08			0.0	42.8	57.2	

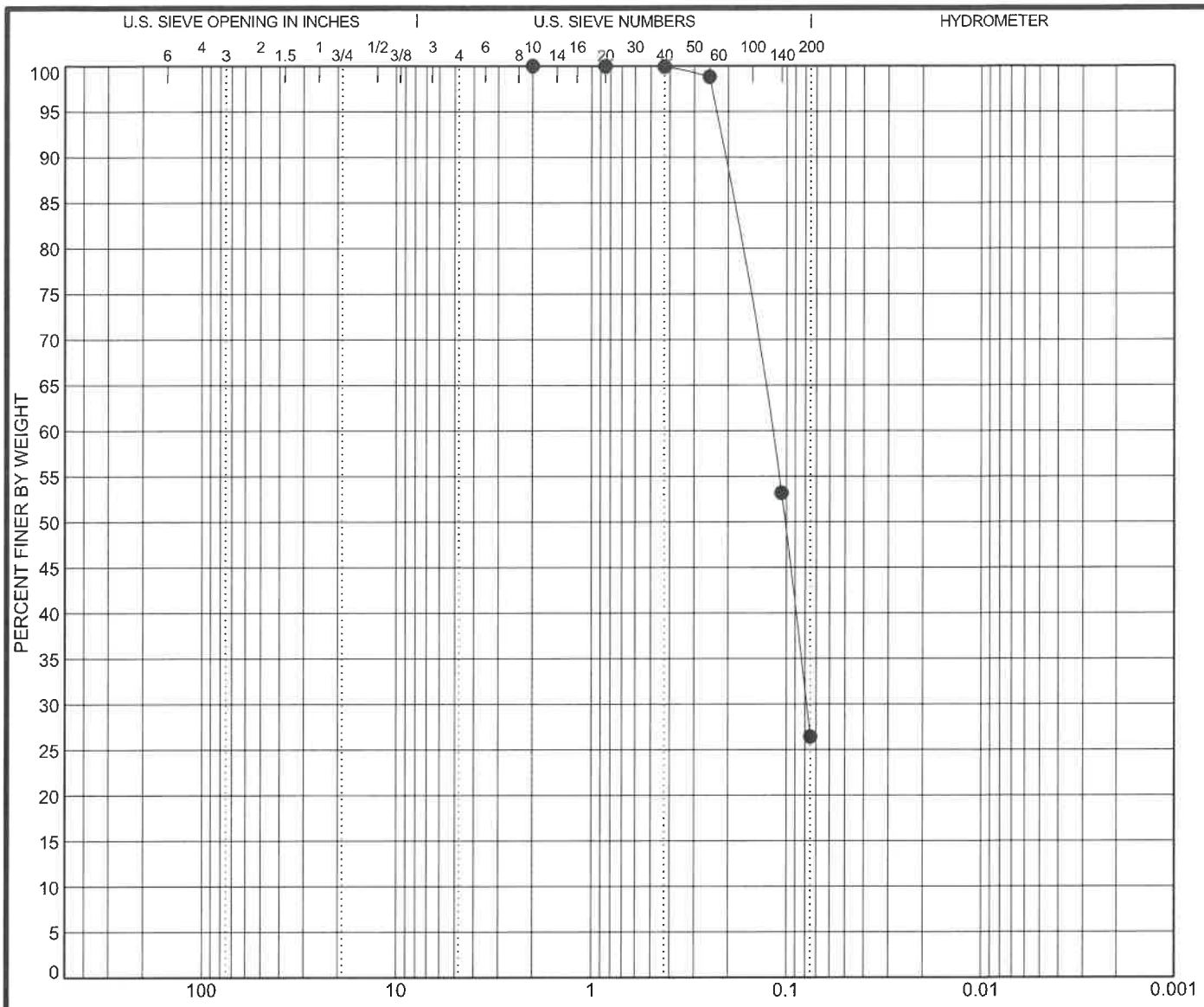
REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	LL	PL	PI	Cc	Cu
● B-2	S-10;19.0 ft.	SILTY, CLAYEY SAND (SC-SM)	23	19	4		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-02	19.0 ft.	2	0.121	0.079		0.0	73.6	26.4	

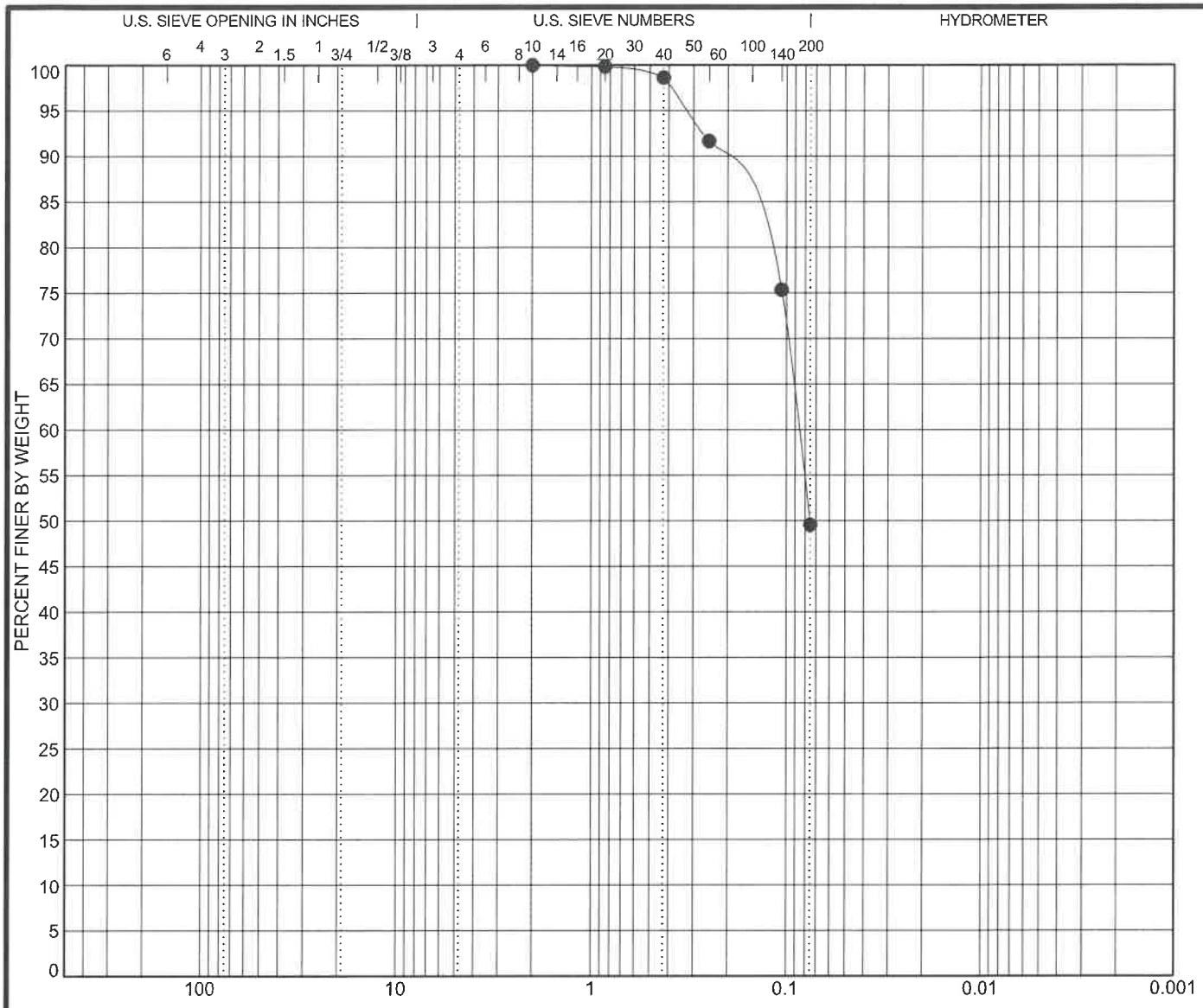
REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	LL	PL	PI	Cc	Cu
● B-3	S-7;11.5 ft.	**SILTY SAND (SM)**	**34**	**25**	**9**		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-03	**11.5 ft.**	**2**	**0.086**			**0.0**	**50.5**	**49.5**	

REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

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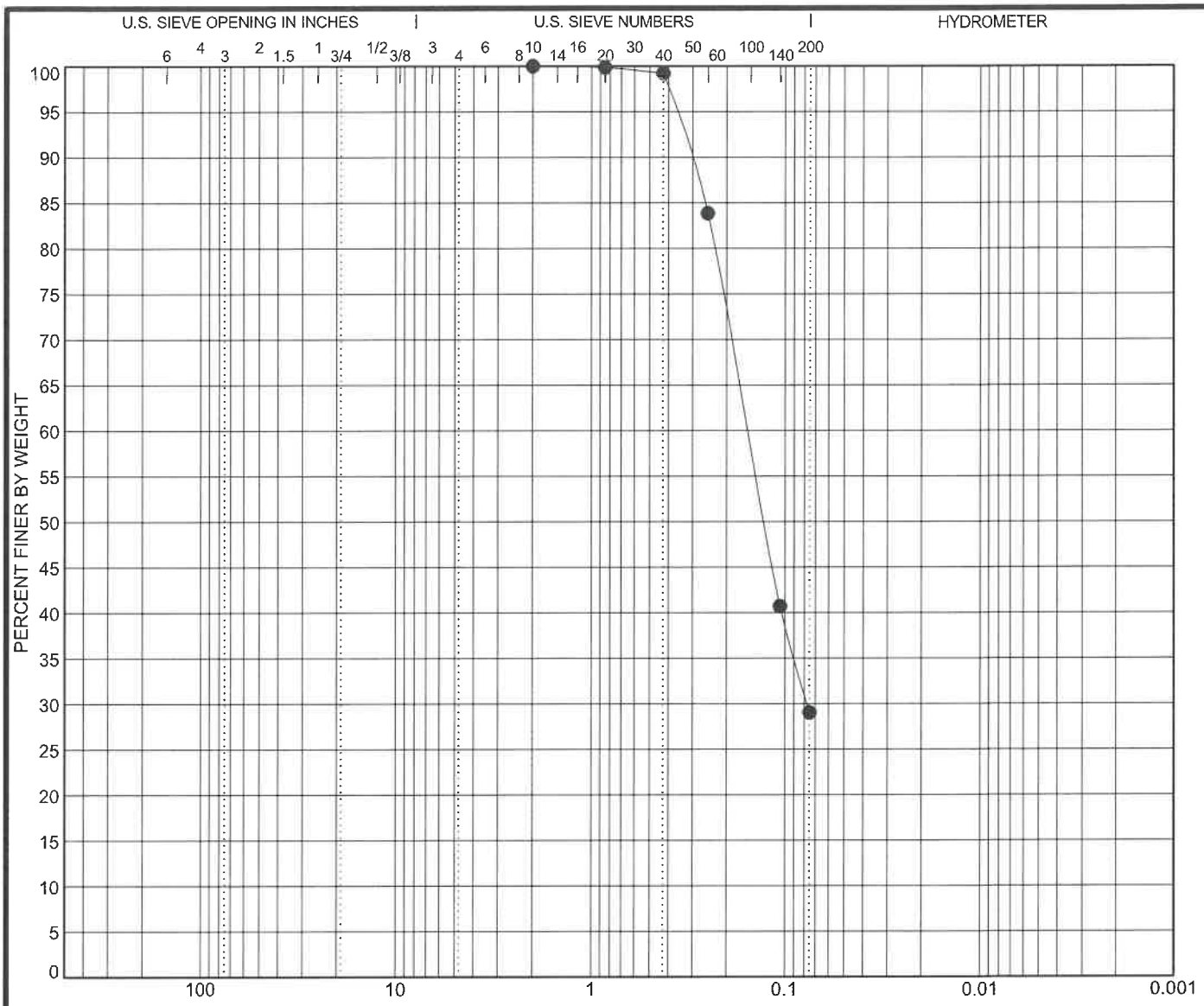
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	B-4	S-5;6.5 ft.	CLAYEY SAND (SC)	29	13	16		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-04	6.5 ft.	2	0.156	0.077		0.0	71.0	29.0	

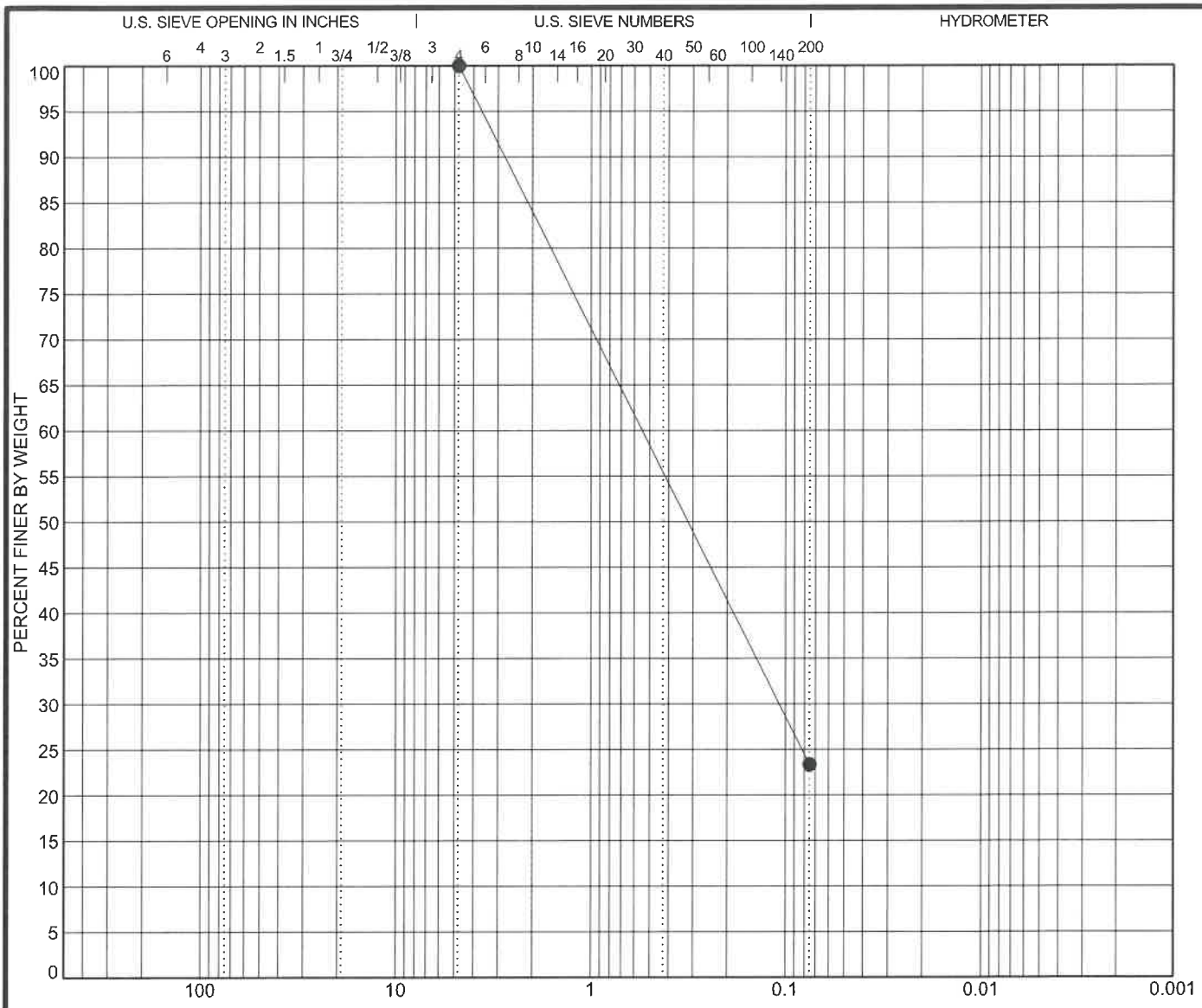
REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	**B-5**	**S-5;6.5 ft.**						

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-05	**6.5 ft.**	**4.75**	**0.545**	**0.108**		**0.0**	**76.7**	**23.3**	

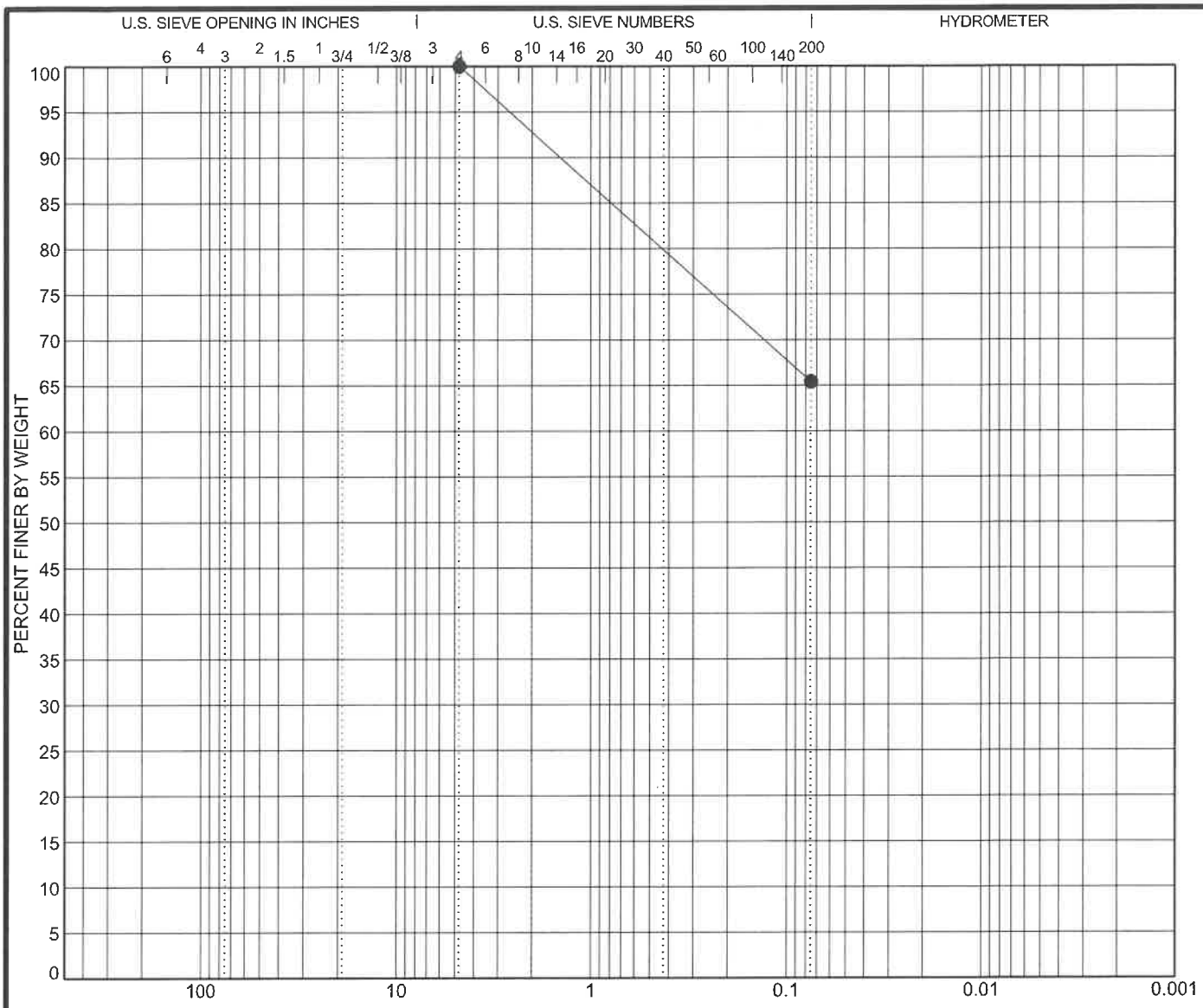
REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	LL	PL	PI	Cc	Cu
● B-5	S-8;14.0 ft.	SANDY LEAN CLAY (CL)	49	14	35		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-05	14.0 ft.	4.75				0.0	34.6	65.4	

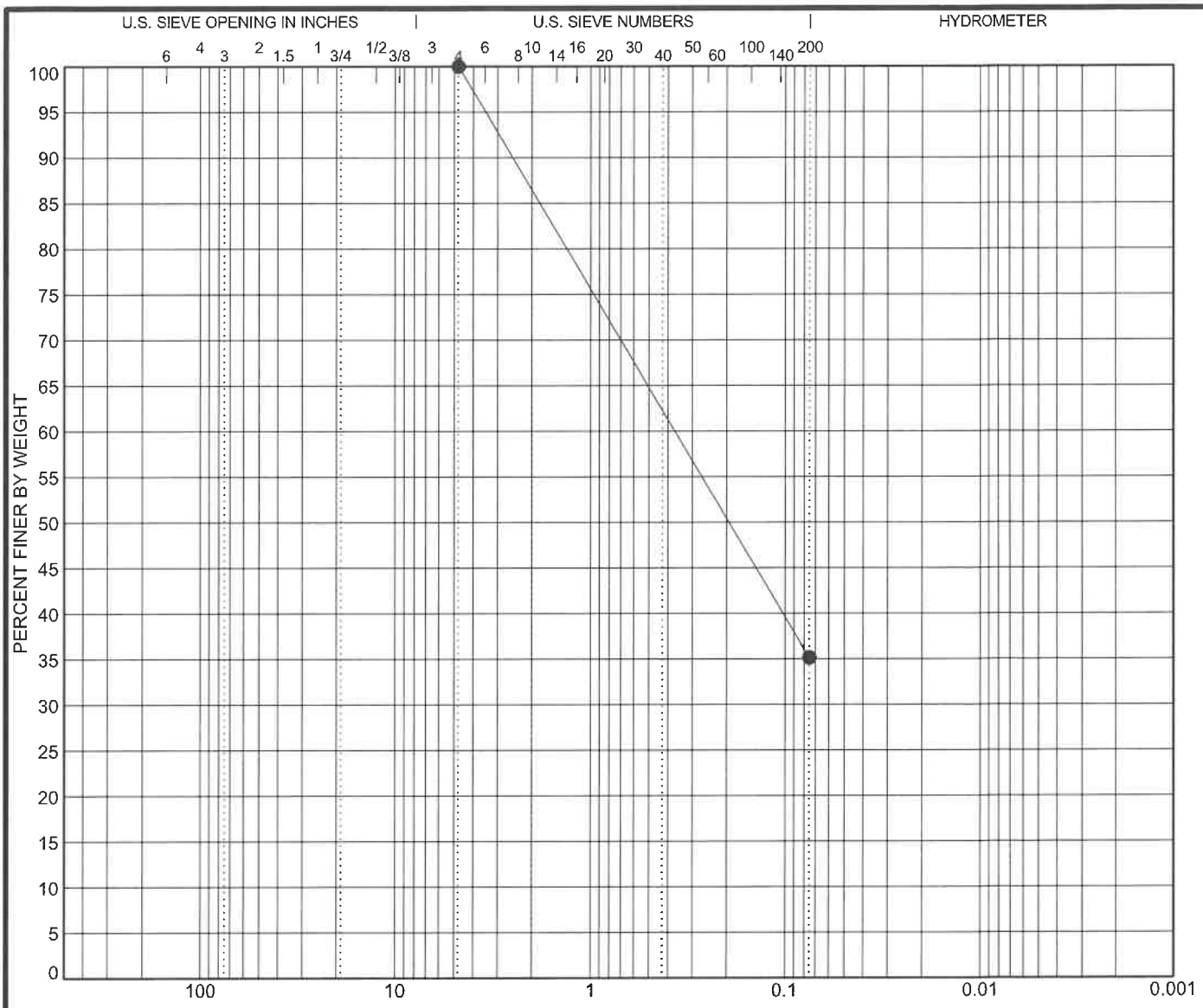
REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	B-7	S-6;9.0 ft.	SILTY SAND (SM)	23	20	3		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-07	9.0 ft.	4.75	0.368			0.0	64.9	35.1	

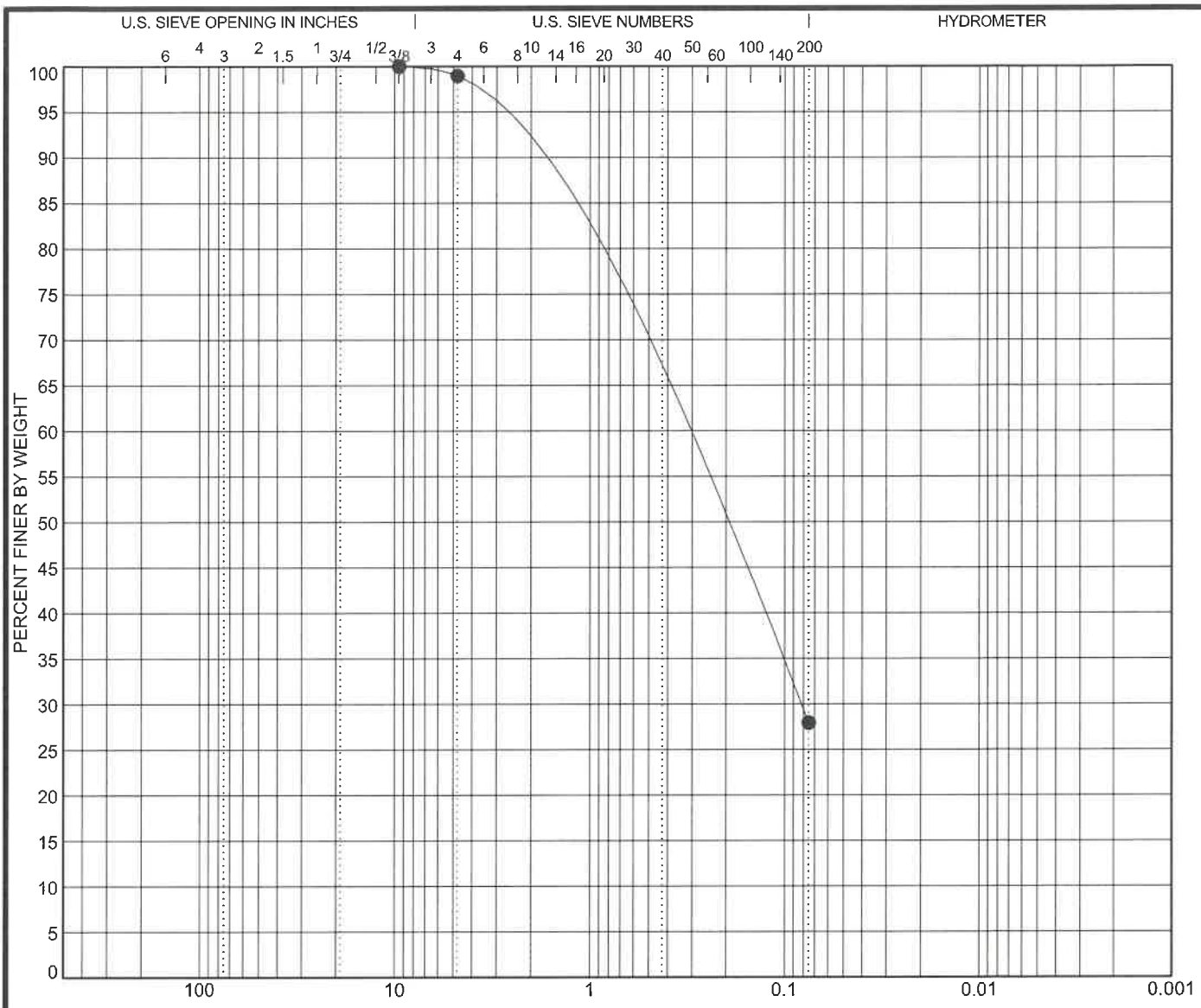
REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	B-8	S-4;5.0 ft.	SILTY, CLAYEY SAND (SC-SM)	19	15	4		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-08	5.0 ft.	9.5	0.488	0.085		1.0	71.0	27.9	

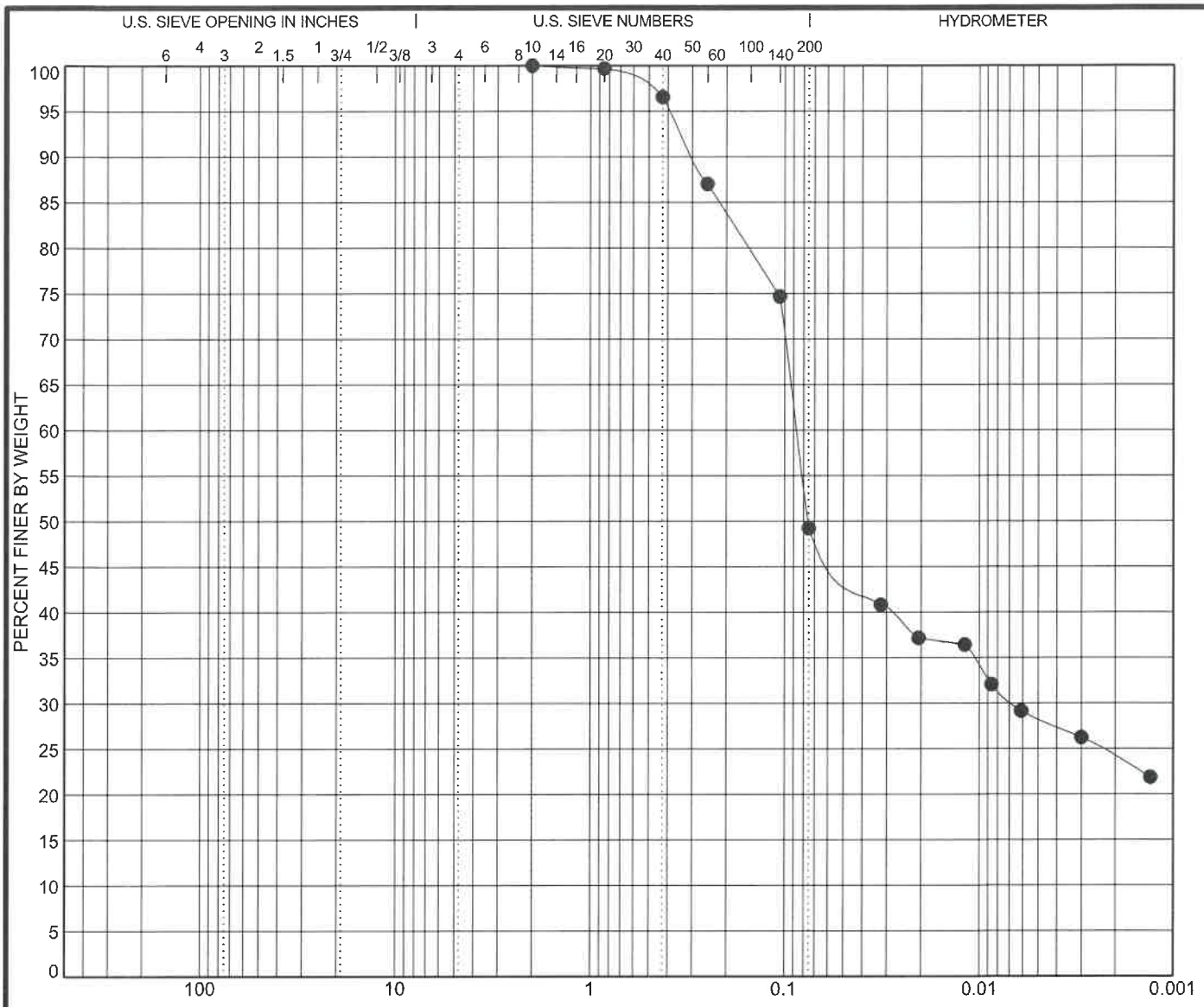
REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	B-8	T-1;16.5 ft.	CLAYEY SAND (SC)	41	12	29		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-08	16.5 ft.	2	0.087	0.007		0.0	50.8	25.1	24.1

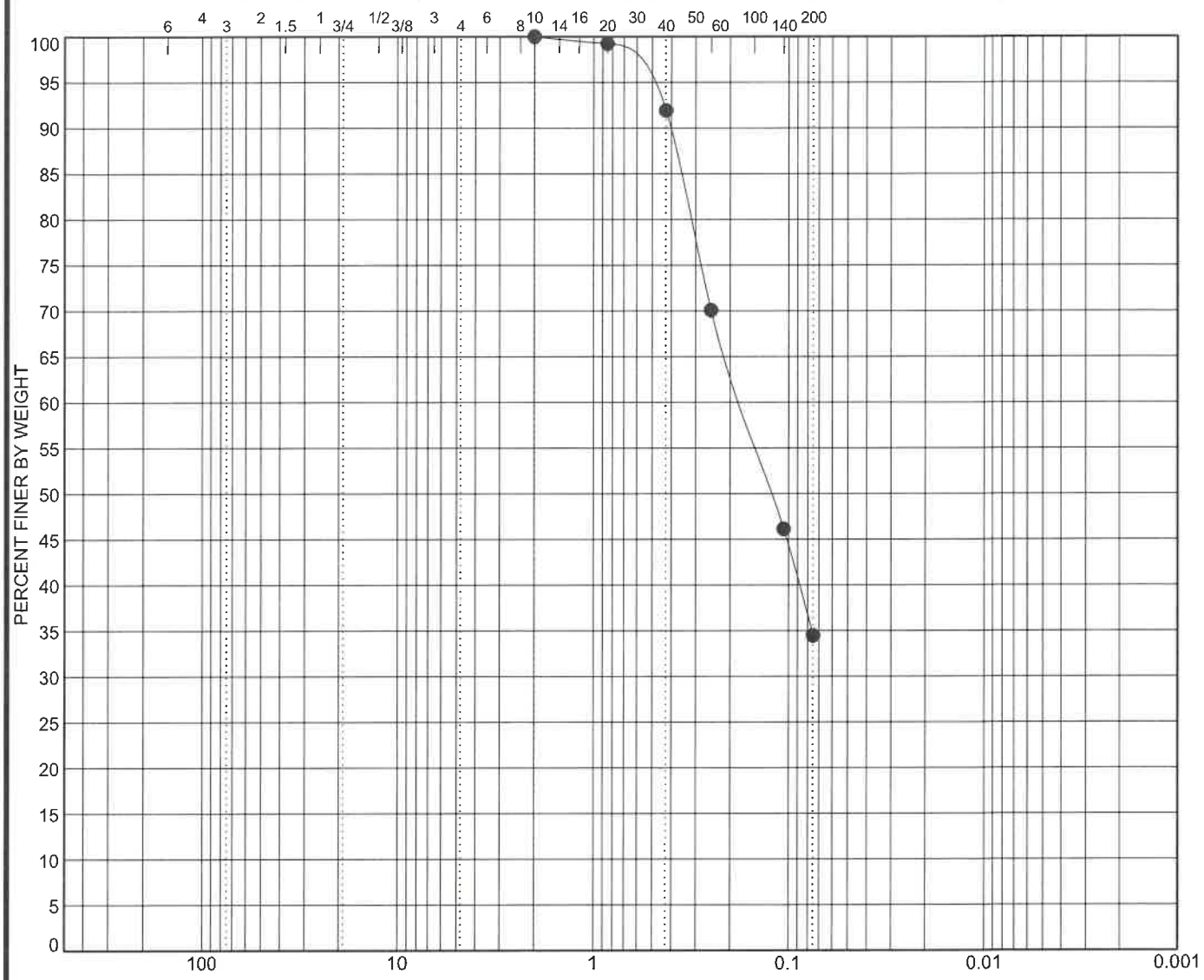
REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● **B-9 ;12.0 ft.**						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-09 12.0 ft.	**2**	**0.174**			**0.0**	**65.5**	**34.5**	

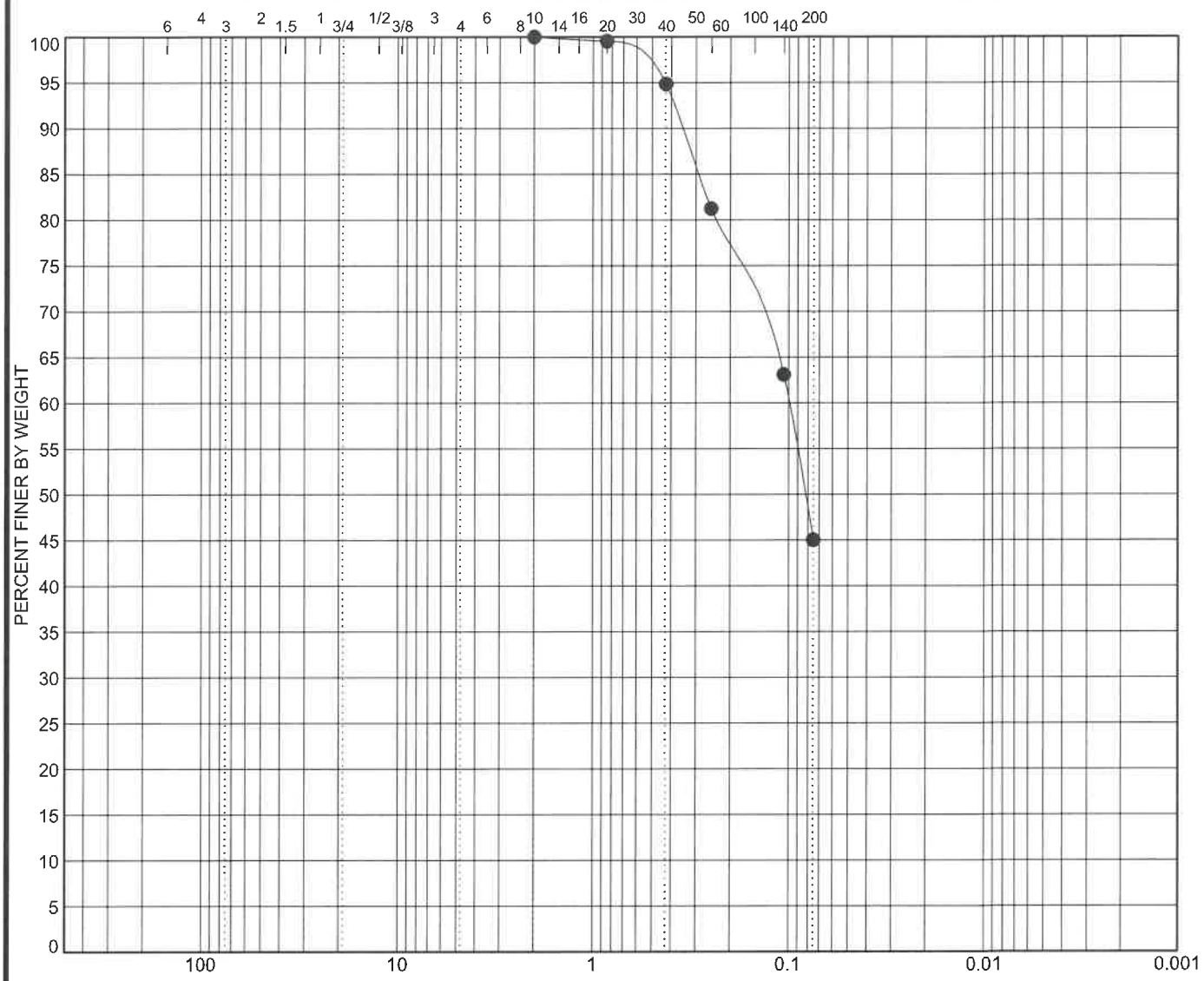
REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	B-9	S-9;16.5 ft.	CLAYEY SAND (SC)	37	17	20		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-09	16.5 ft.	2	0.1			0.0	55.0	45.0	

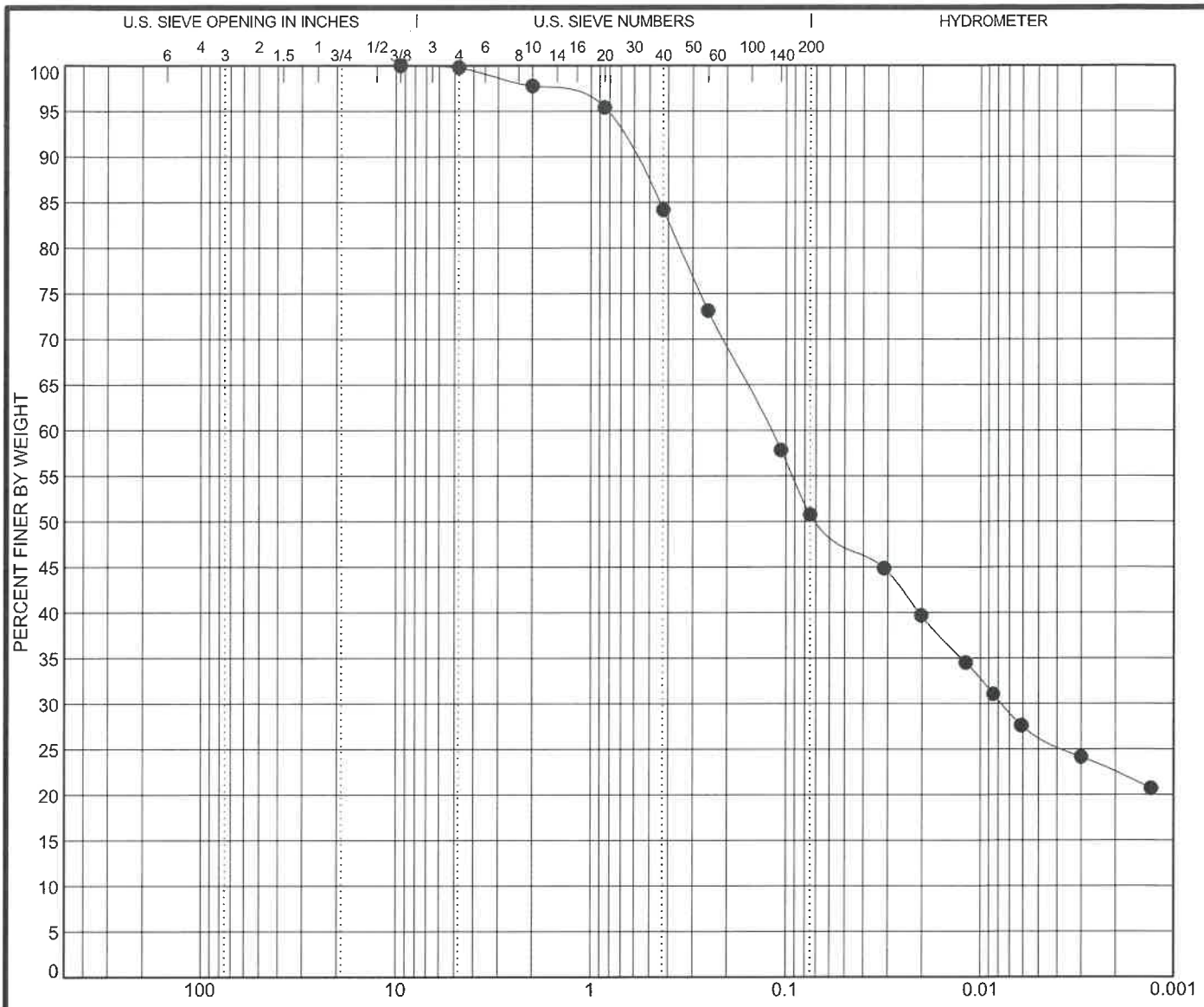
REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification	Classification	LL	PL	PI	Cc	Cu
●	**B-10 ;4.0 ft.**	**SANDY LEAN CLAY (CL)**	**46**	**14**	**32**		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-10 4.0 ft.	**9.5**	**0.12**	**0.008**		**0.2**	**49.1**	**28.3**	**22.5**

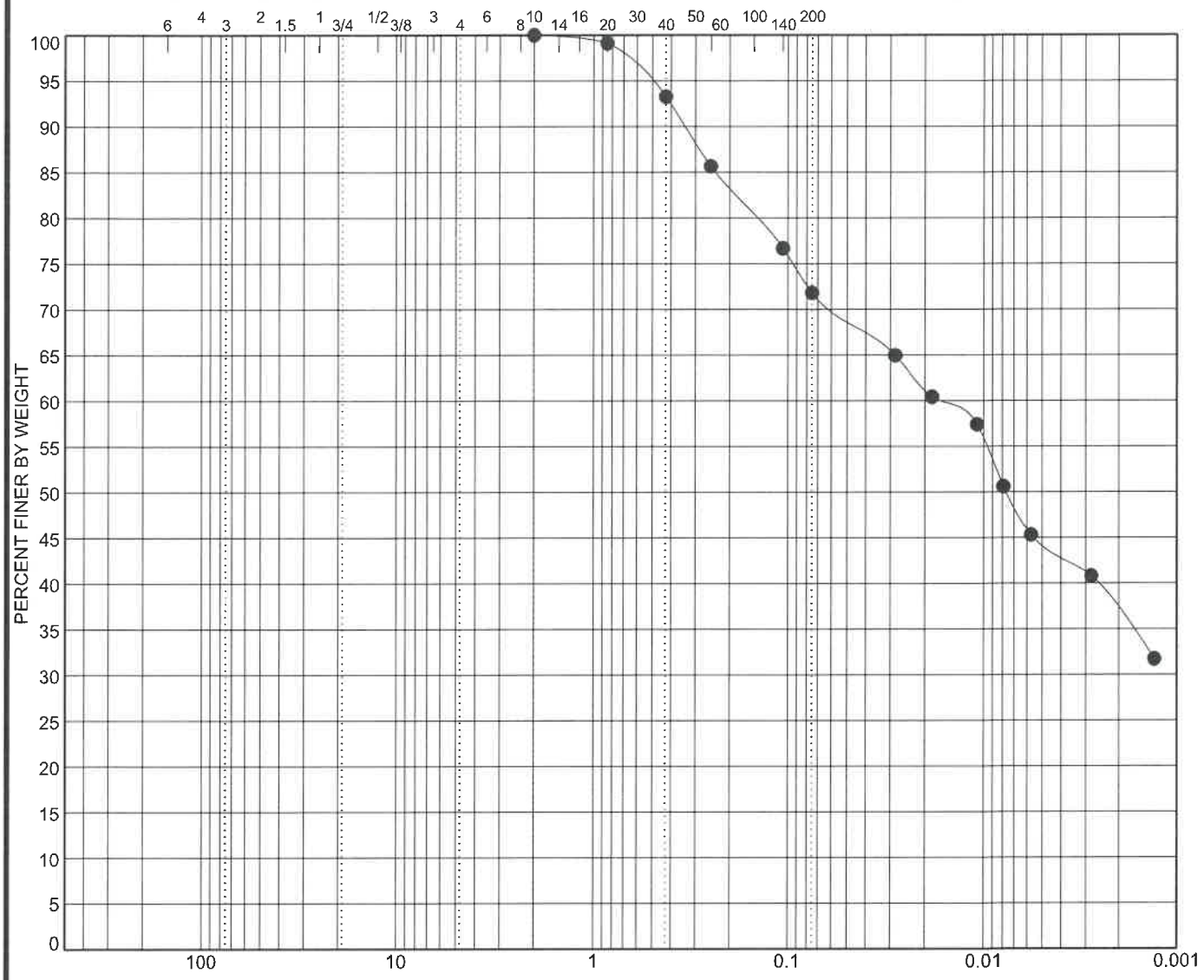
REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL

GET GRAINSIZE 23-112.ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● **B-10 ;4.5 ft.**						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-10 4.5 ft.	**2**	**0.017**			**0.0**	**28.2**	**35.0**	**36.8**

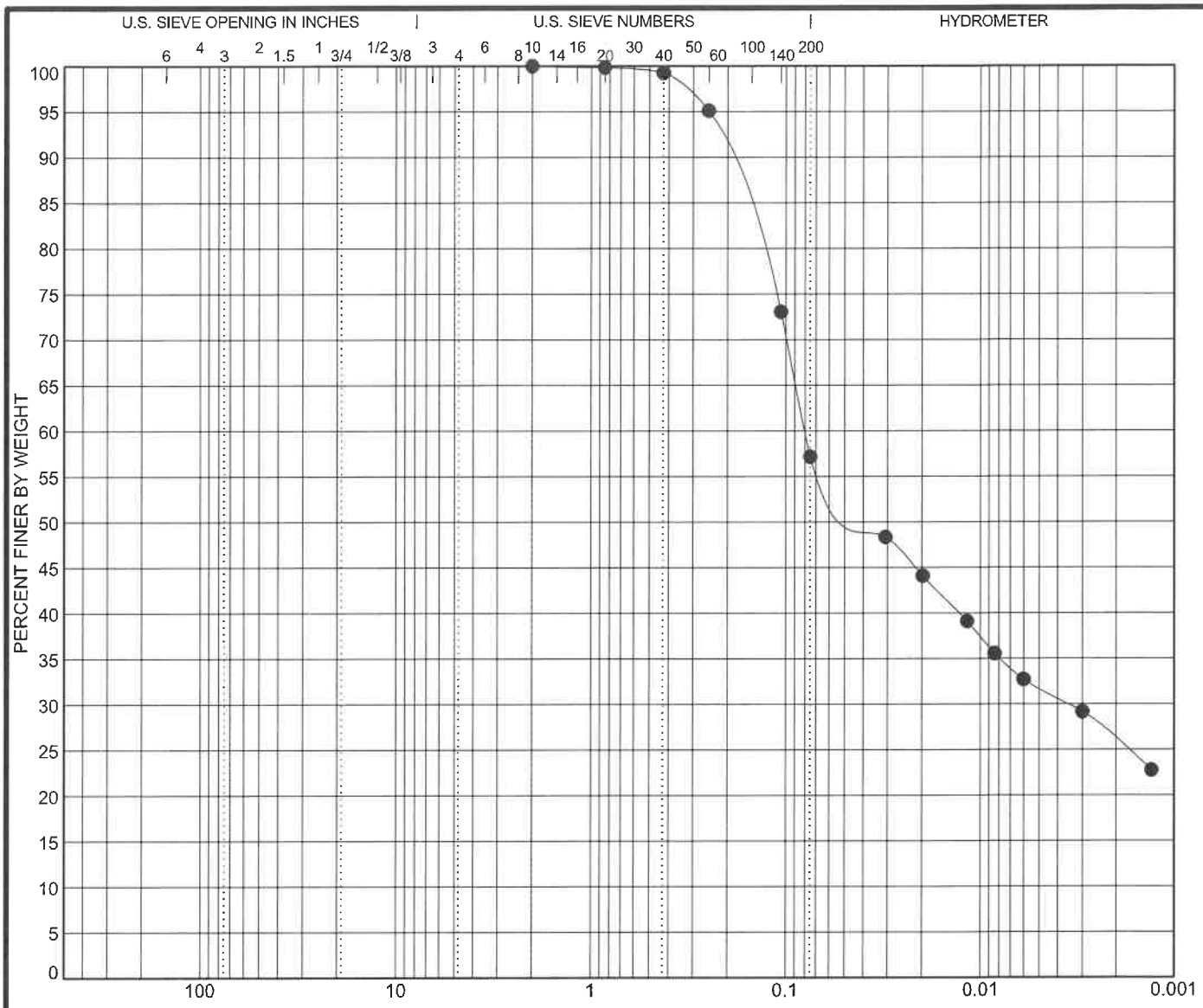
REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● **B-10 S-7;11.5 ft.**						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-10 11.5 ft.	**2**	**0.08**	**0.004**		**0.0**	**42.8**	**31.1**	**26.0**

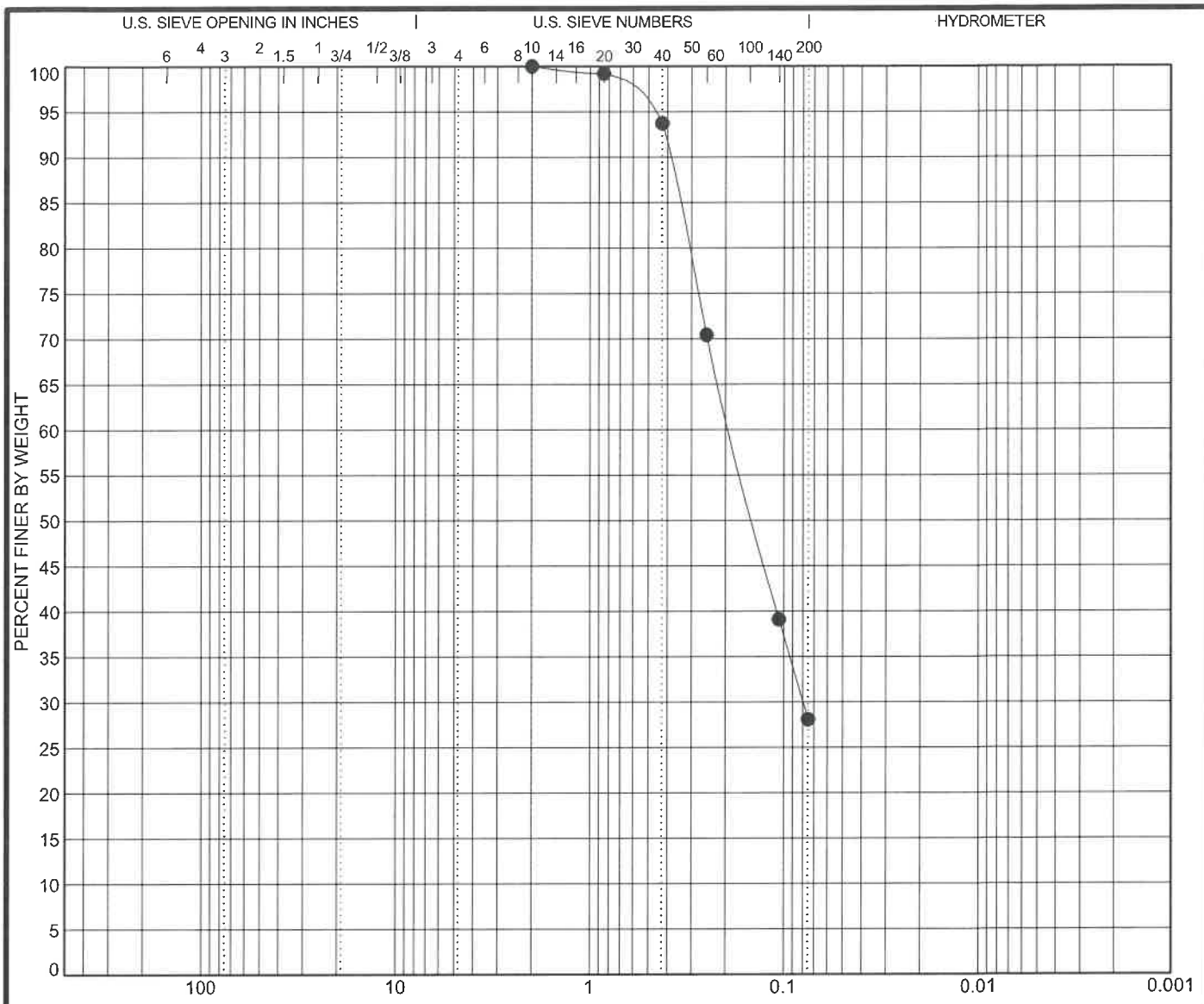
REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● B-10 S-8;14.0 ft.	SILTY, CLAYEY SAND (SC-SM)	23	17	6		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-10 14.0 ft.	2	0.188	0.08		0.0	71.9	28.1	

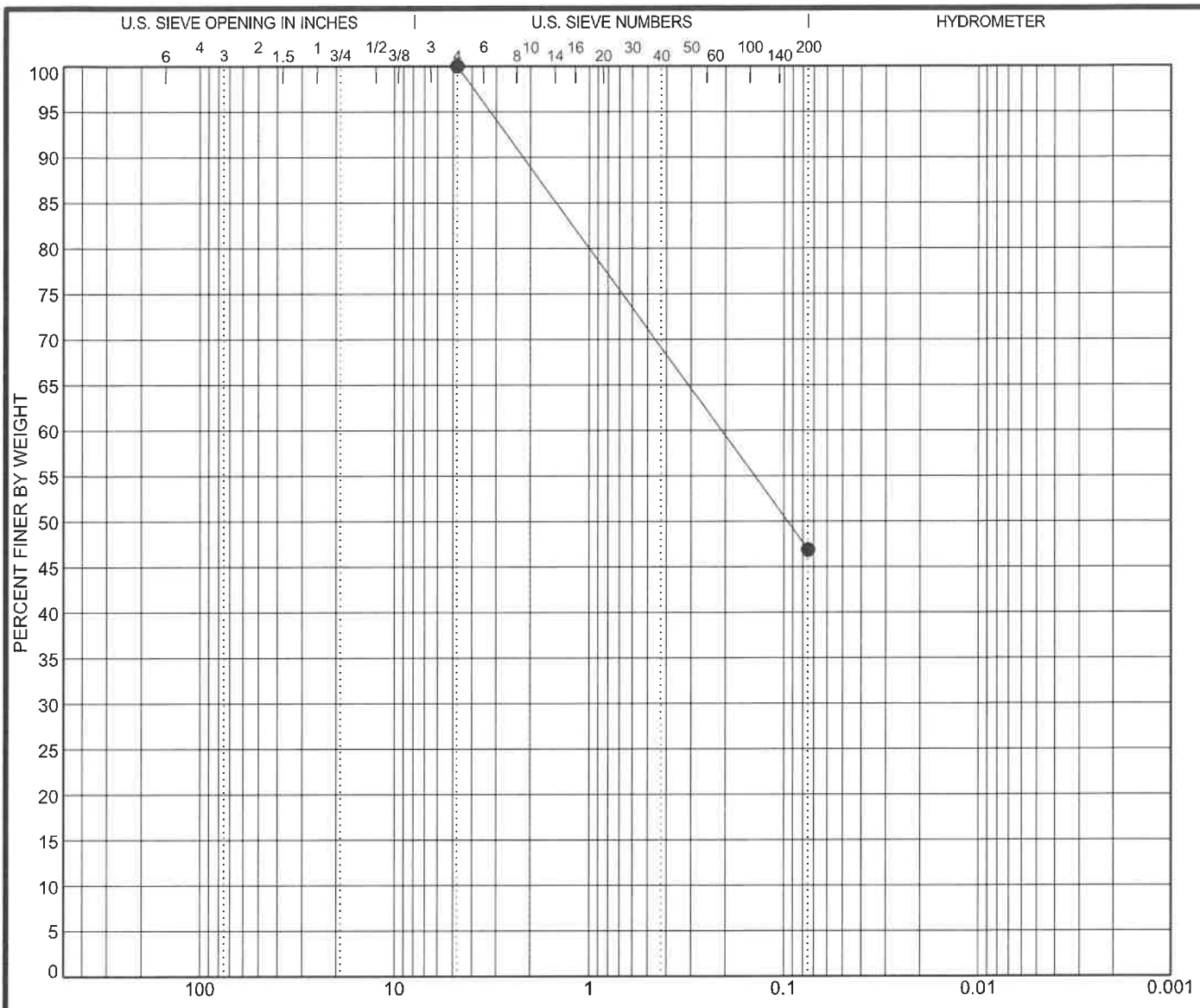
REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	LL	PL	PI	Cc	Cu
● **B-11**	**S-3;3.5 ft.**	**SILTY SAND (SM)**	**24**	**21**	**3**		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-11	**3.5 ft.**	**4.75**	**0.209**			**0.0**	**53.1**	**46.9**	

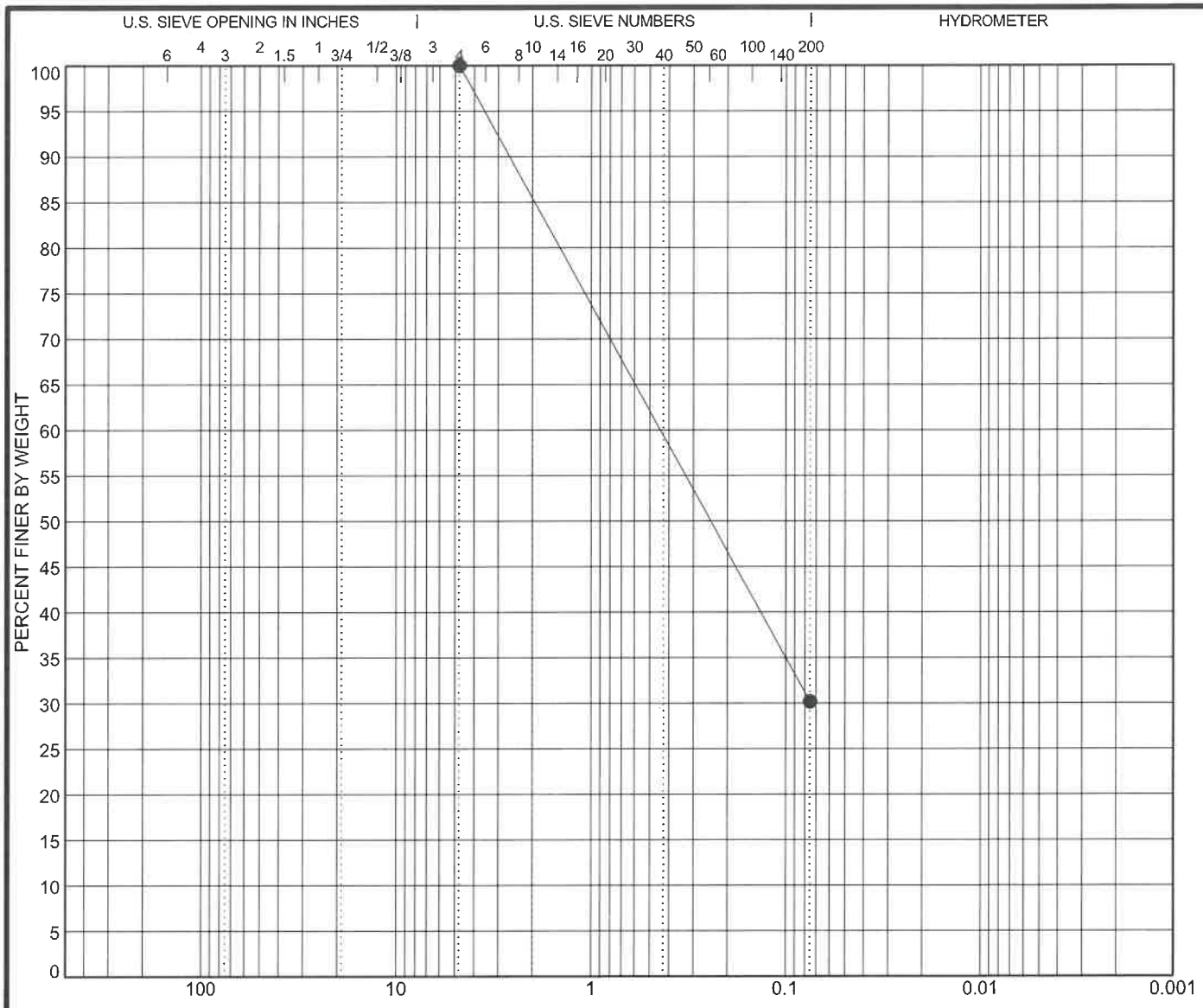
REMARKS:

GET_GRAINSIZE_23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	LL	PL	PI	Cc	Cu
● **B-11**	**S-8;14.0 ft.**	**CLAYEY SAND (SC)**	**29**	**18**	**11**		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-11	**14.0 ft.**	**4.75**	**0.441**			**0.0**	**69.8**	**30.2**	

REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

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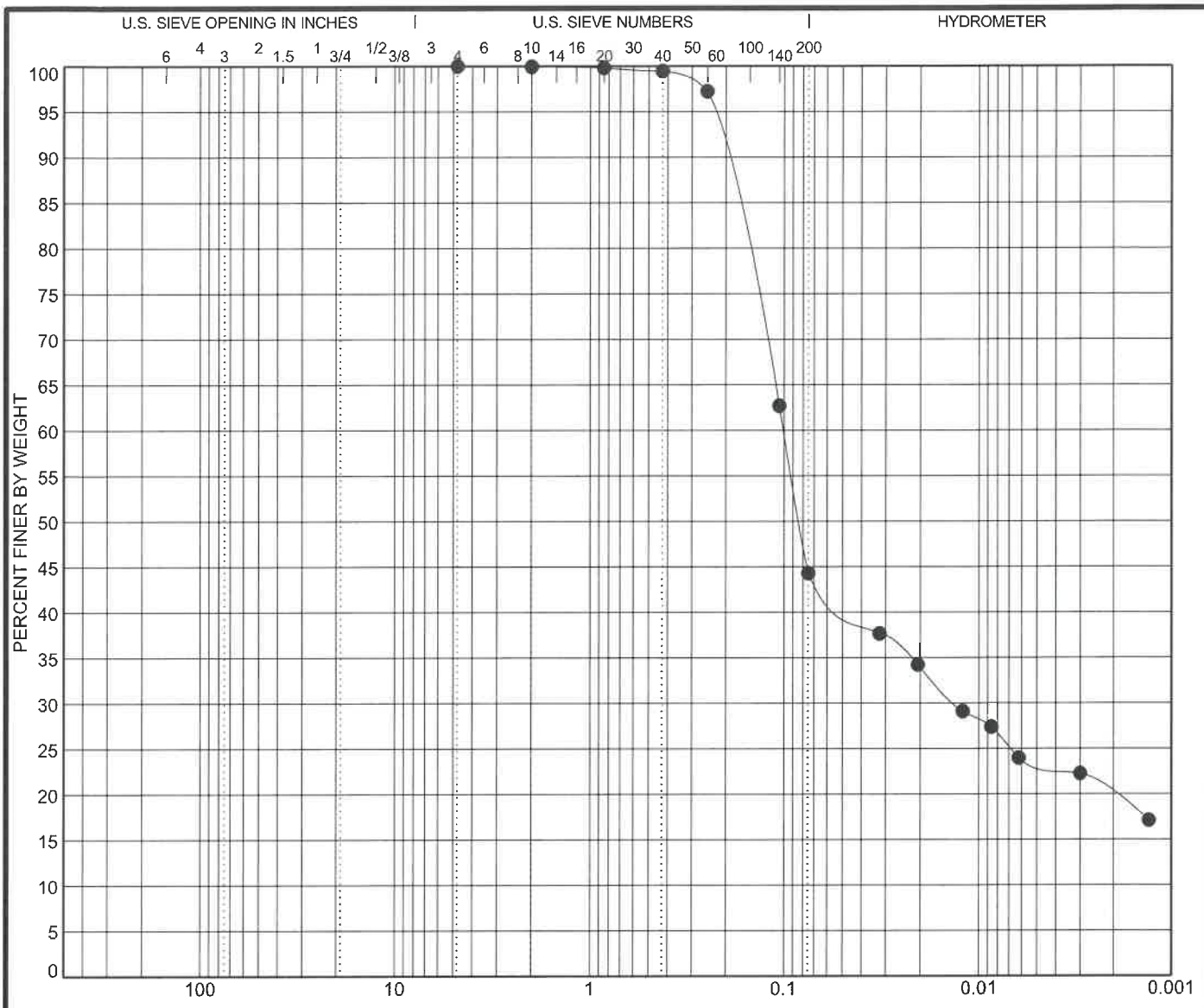


Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	B-12	T-1;21.5 ft.	CLAYEY SAND (SC)	36	20	16		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-12	21.5 ft.	4.75	0.101	0.013		0.0	55.7	24.5	19.8

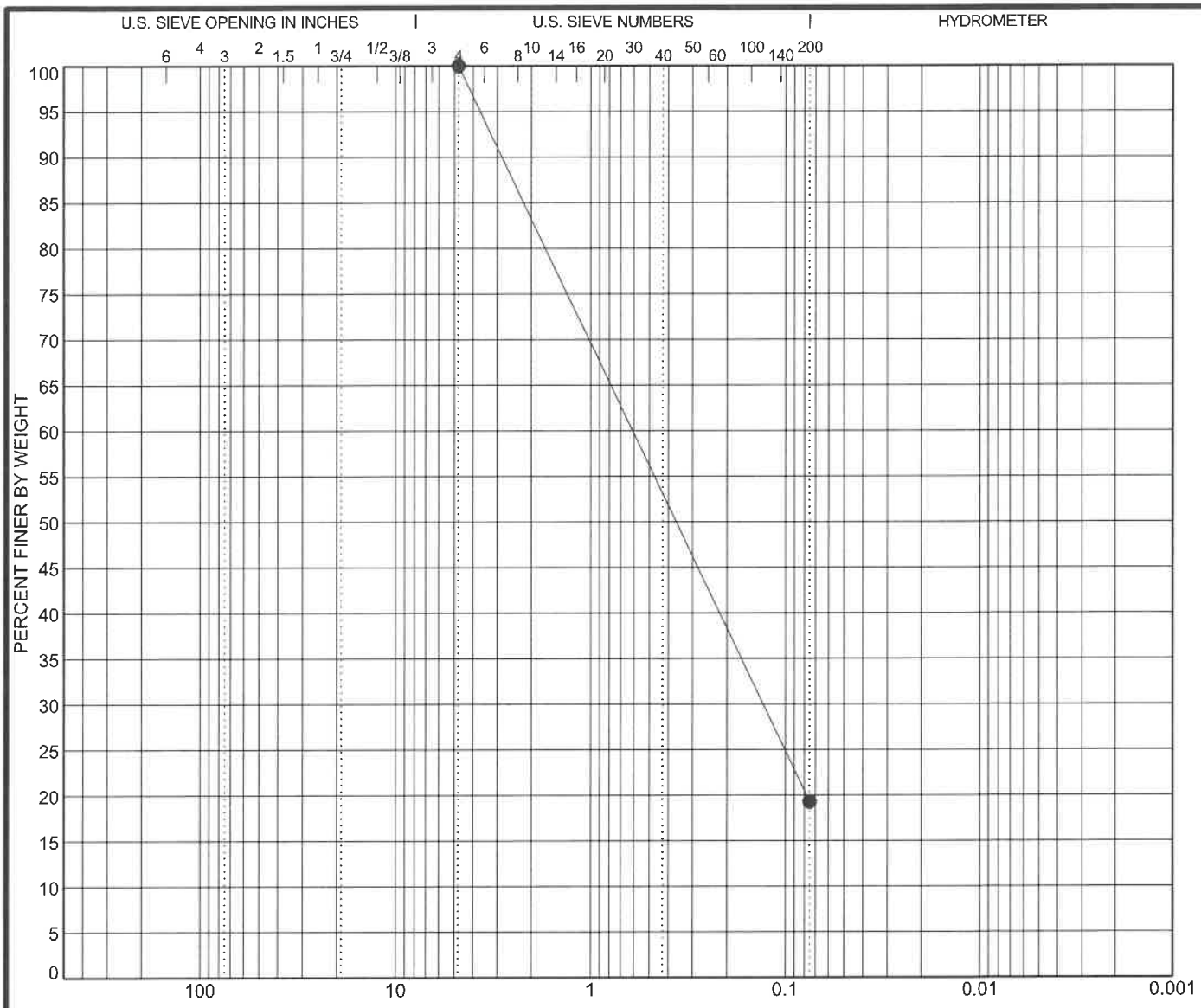
REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	**B-13**	**S-5;6.5 ft.**	**SILTY SAND (SM)**	**NP**	**NP**	**NP**		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-13	**6.5 ft.**	**4.75**	**0.608**	**0.13**		**0.0**	**80.7**	**19.3**	

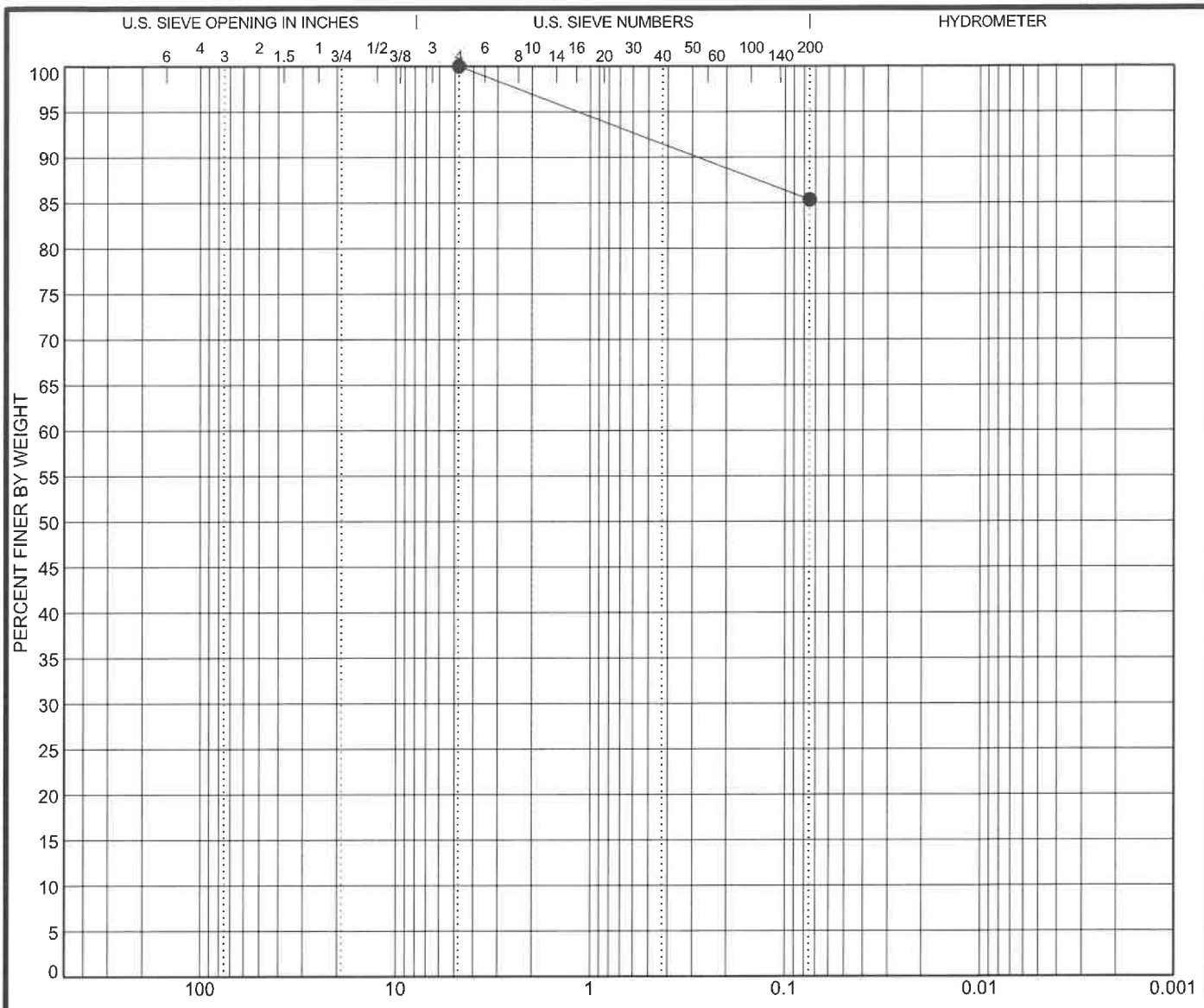
REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

PROJECT NAME: ASPA LOGISTICS PARK DRAINAGE
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	**B-13**	**T-1;16.5 ft.**						

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-13	**16.5 ft.**	**4.75**				**0.0**	**14.7**	**85.3**	

REMARKS:

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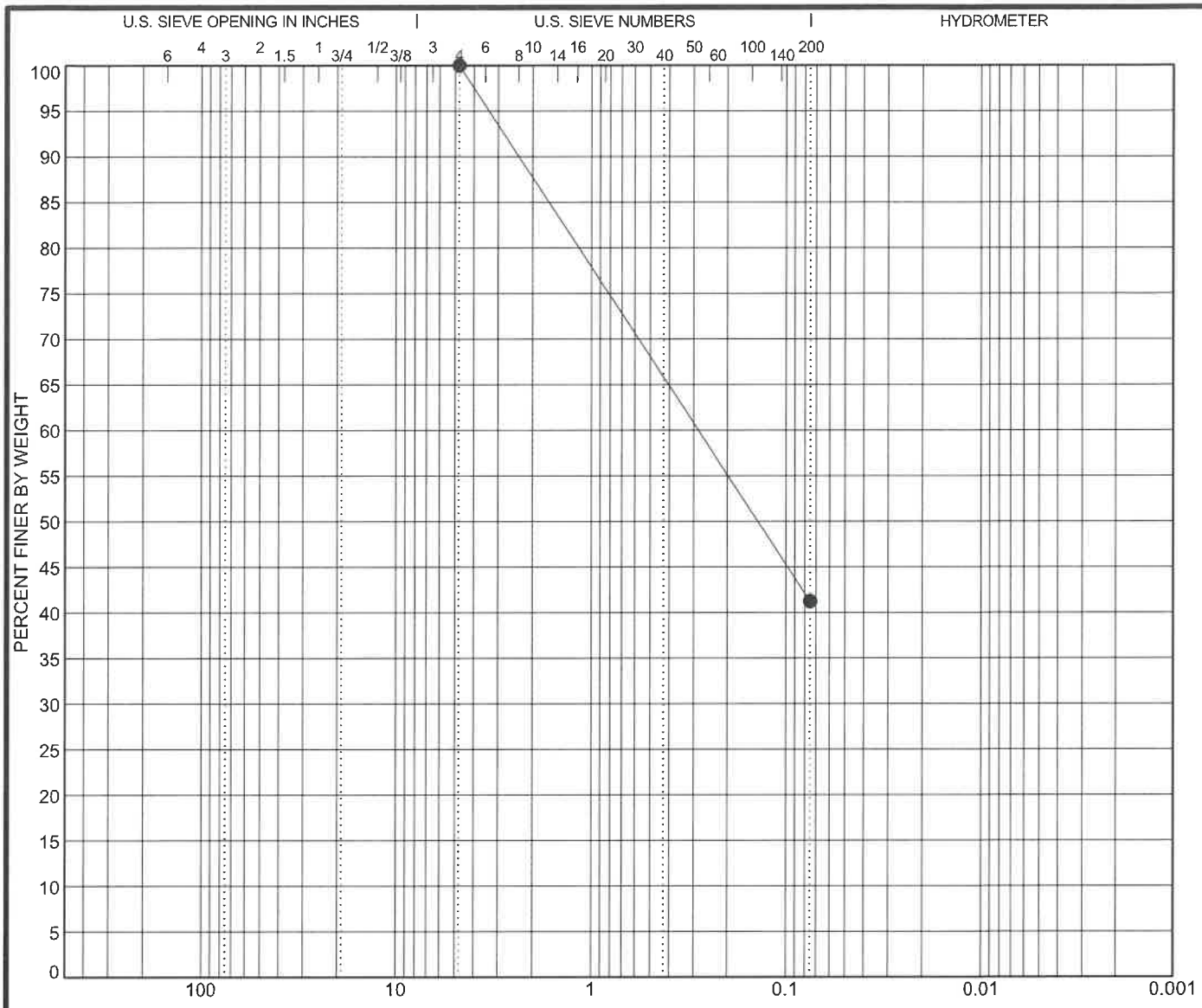

Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● **B-14 S-5;6.5 ft.**						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-14 6.5 ft.	**4.75**	**0.282**			**0.0**	**58.8**	**41.2**	

REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

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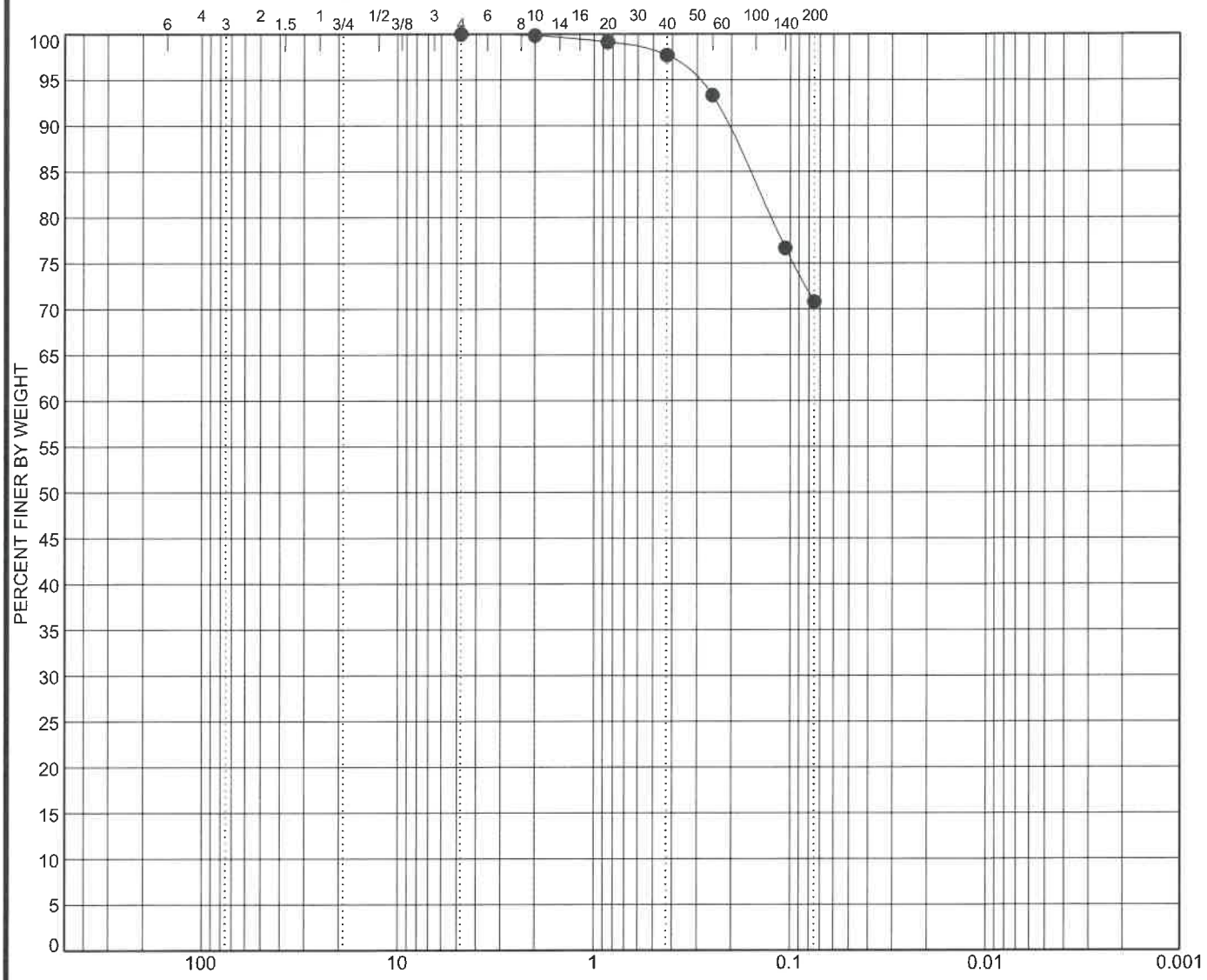

Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	B-14	T-1;16.5 ft.	FAT CLAY with SAND (CH)	57	18	39		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-14	16.5 ft.	4.75				0.0	29.2	70.8	

REMARKS:

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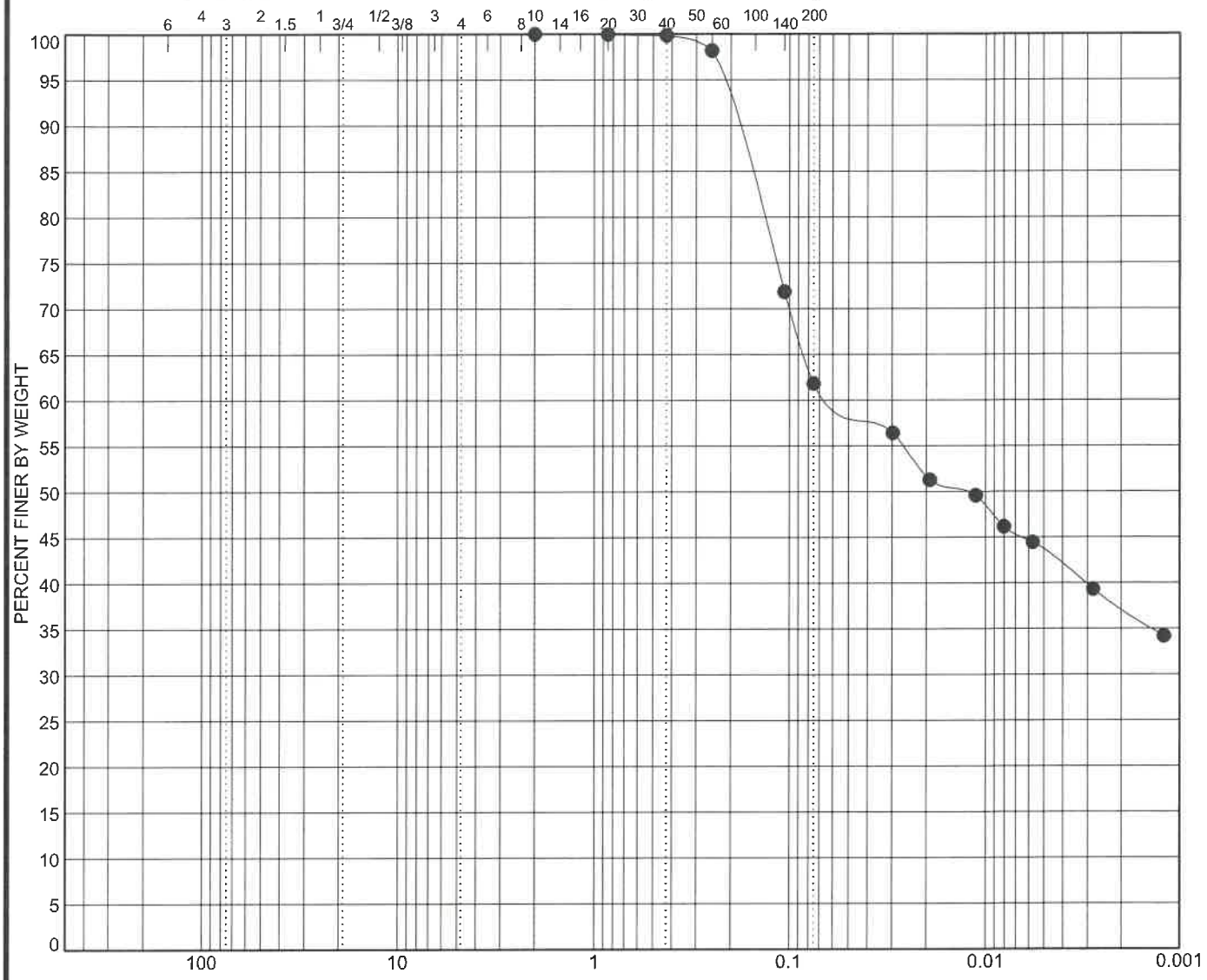
GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● **B-15 ;4.0 ft.**	**SANDY FAT CLAY (CH)**	**55**	**13**	**42**		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-15 4.0 ft.	**2**	**0.055**			**0.0**	**38.2**	**24.5**	**37.3**

REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

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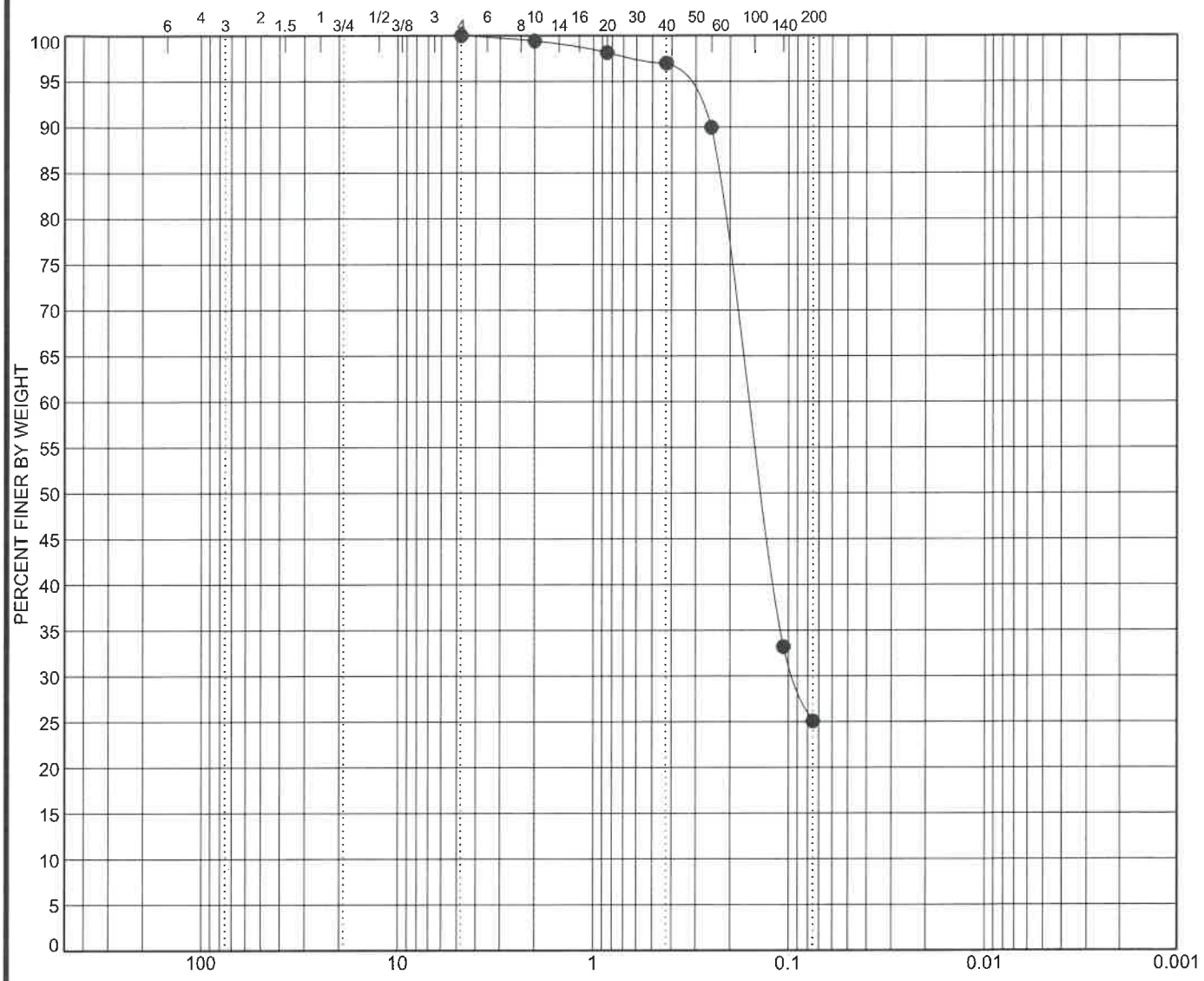
GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	**B-15**	**T-2;11.5 ft.**	**CLAYEY SAND (SC)**	**42**	**18**	**24**		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-15	**11.5 ft.**	**4.75**	**0.159**	**0.093**		**0.0**	**74.9**	**25.1**	

REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

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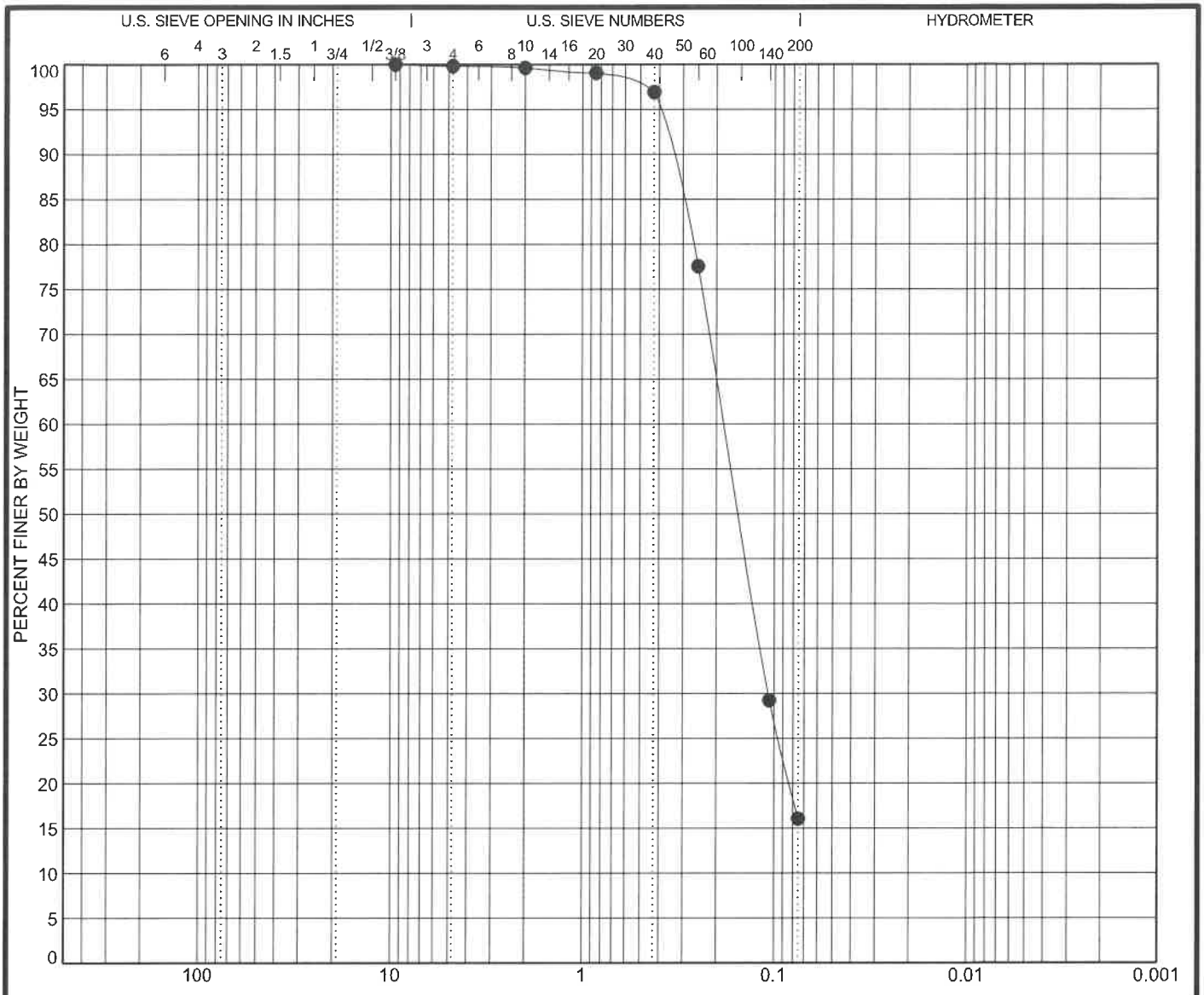
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● B-15 (14-157) 2.0 ft.	Gray with little Light Gray (SM)	NP	NP	NP		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-15 (14-157) 2.0 ft.	9.5	0.183	0.107		0.2	83.8	16.1	

REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

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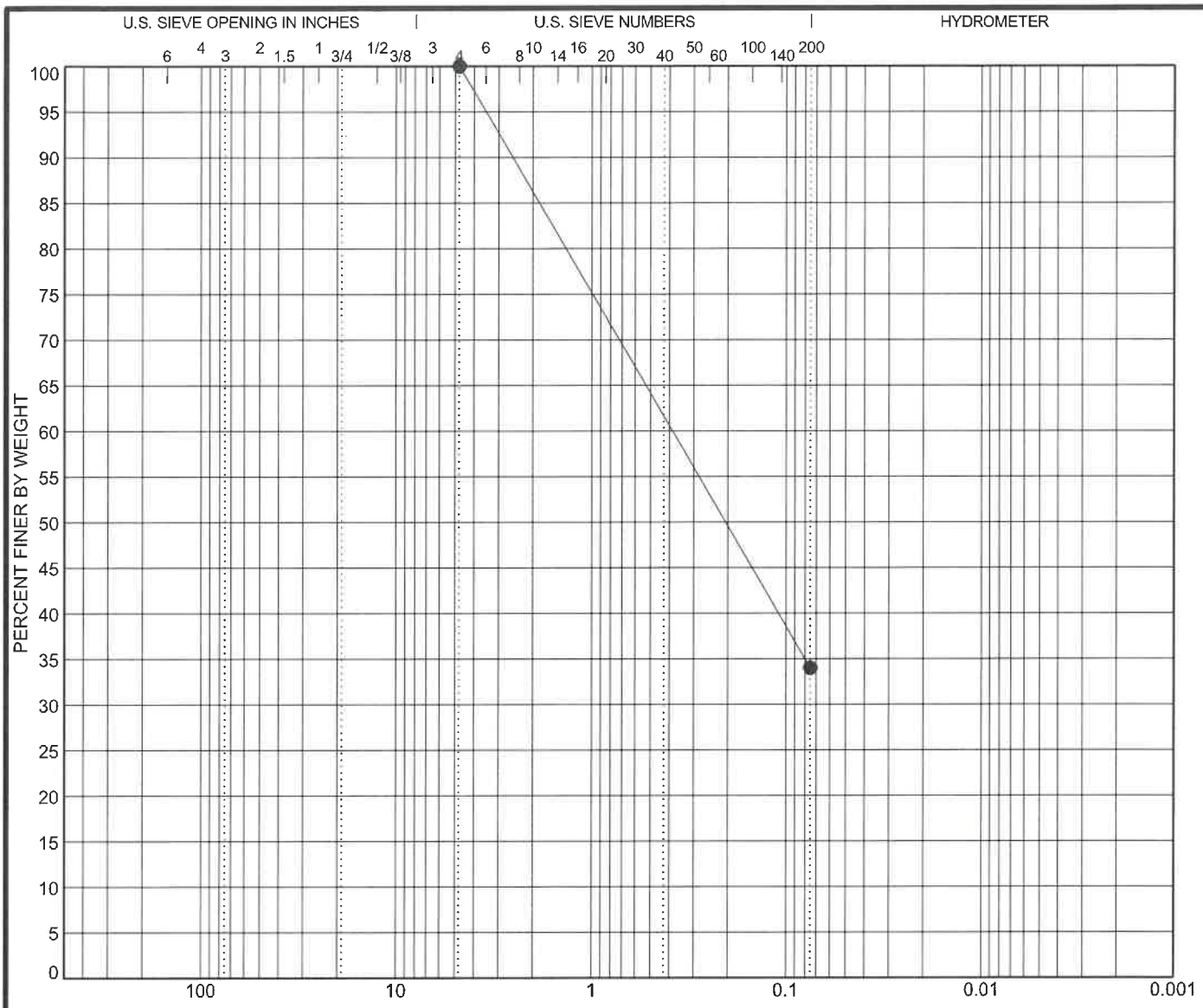
PROJECT LOCATION: MOBILE, AL

GET_GRAINSIZE_23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● P3-14 (19-103);9.0 ft.						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
P3-14 (19-103) 9.0 ft.	4.75	0.385			0.0	66.0	34.0	

REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

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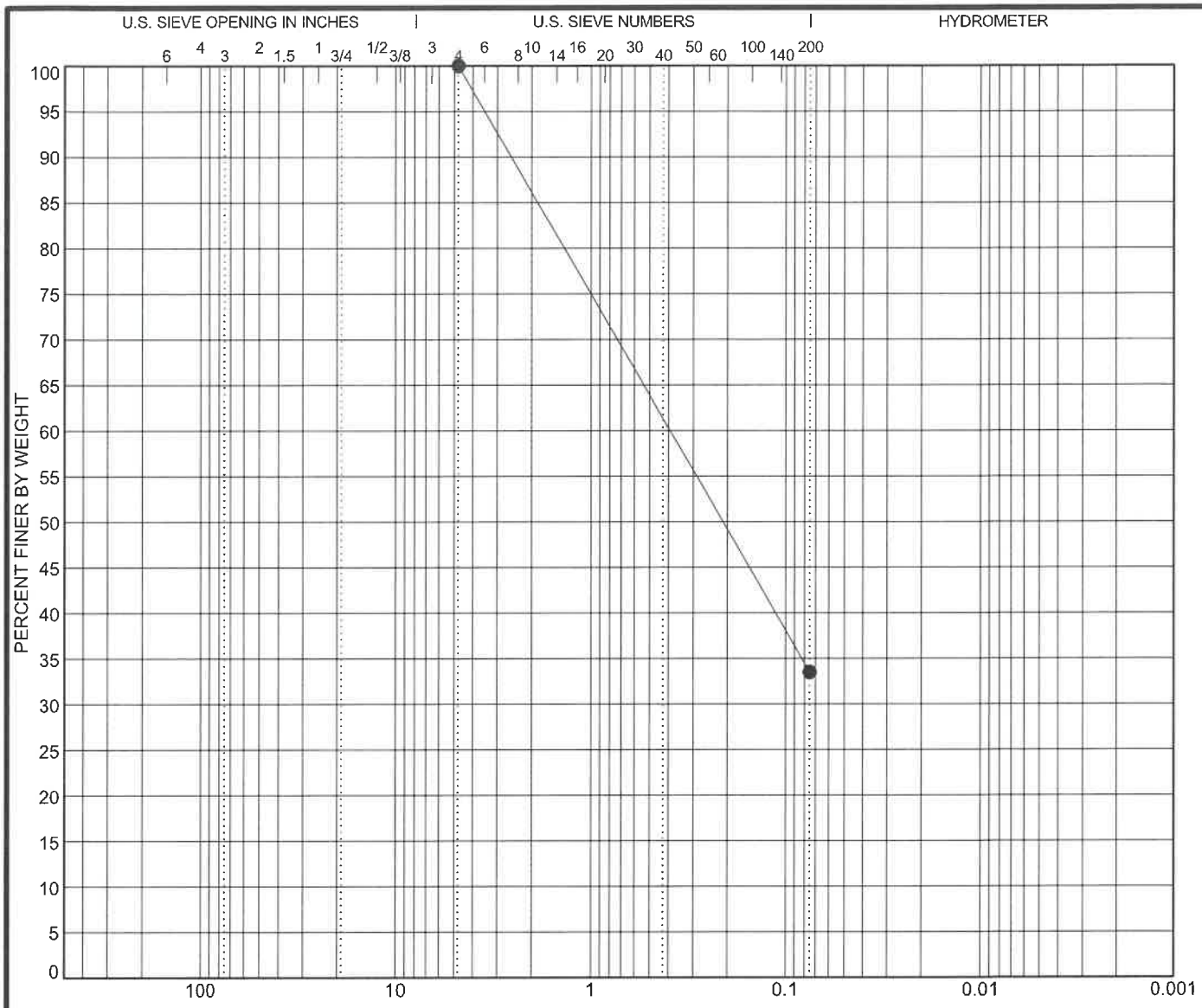
PROJECT LOCATION: MOBILE, AL



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● P3-14 (19-~~93~~)14.0 ft.						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
P3-14 (19-103)14.0 ft.	4.75	0.392			0.0	66.5	33.5	

REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

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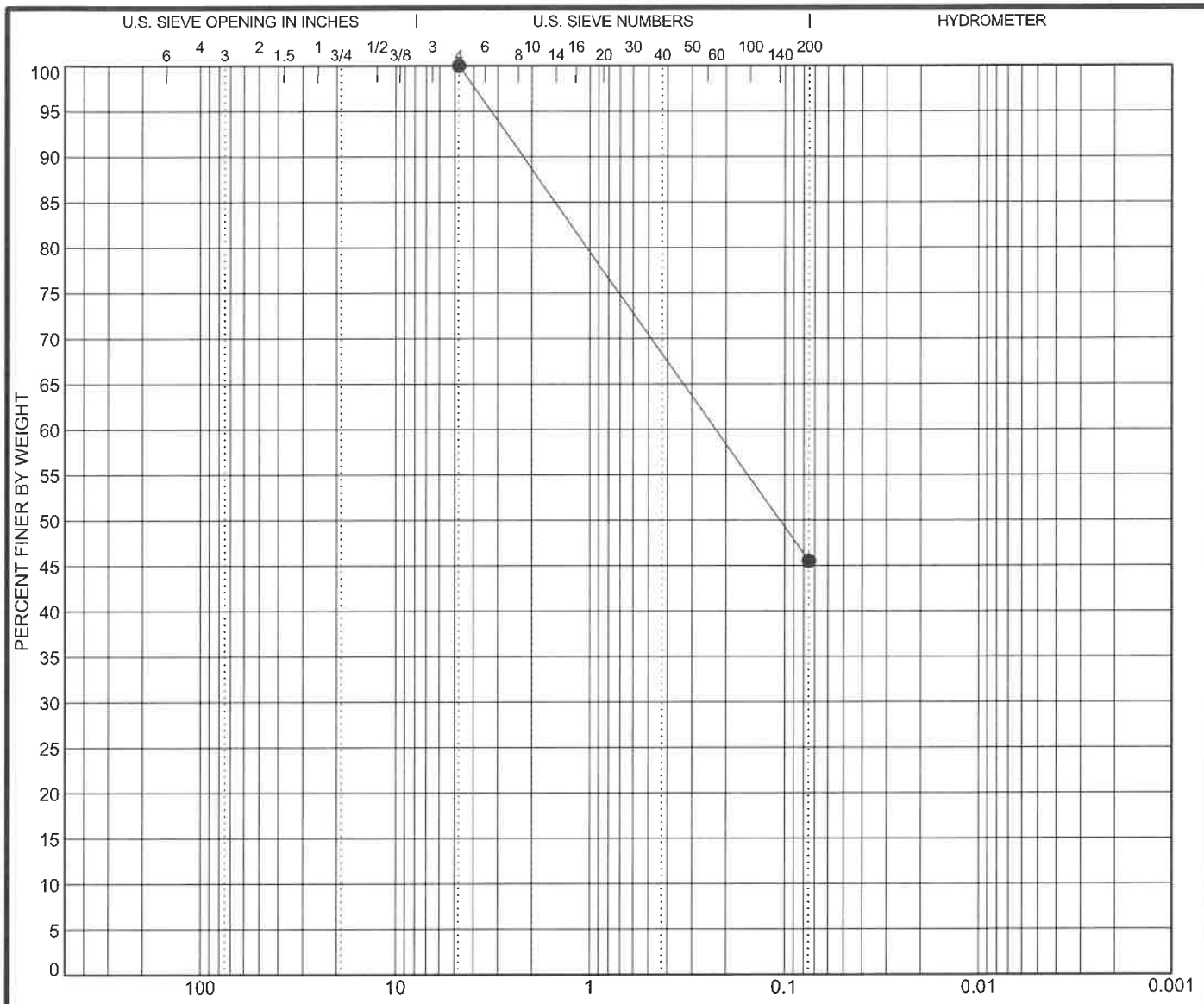

Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification	Classification	LL	PL	PI	Cc	Cu
●	P3-14 (19-103)16.5 ft.	CLAYEY SAND (SC)	37	12	25		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
P3-14 (19-103)16.5 ft.	4.75	0.226			0.0	54.5	45.5	

REMARKS:

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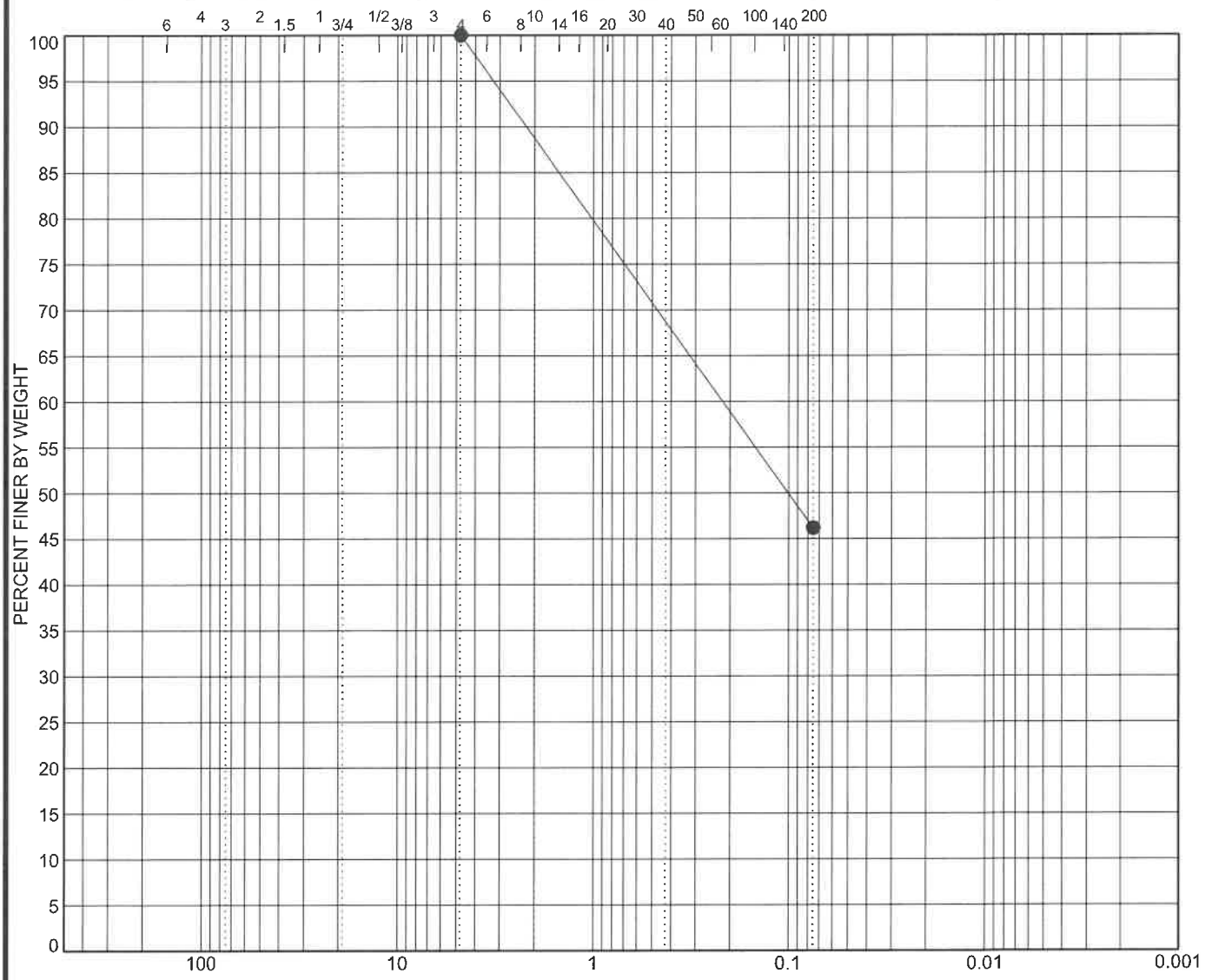
GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● P3-15 (19-103) 9.0 ft.						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
P3-15 (19-103) 9.0 ft.	4.75	0.218			0.0	53.8	46.2	

REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

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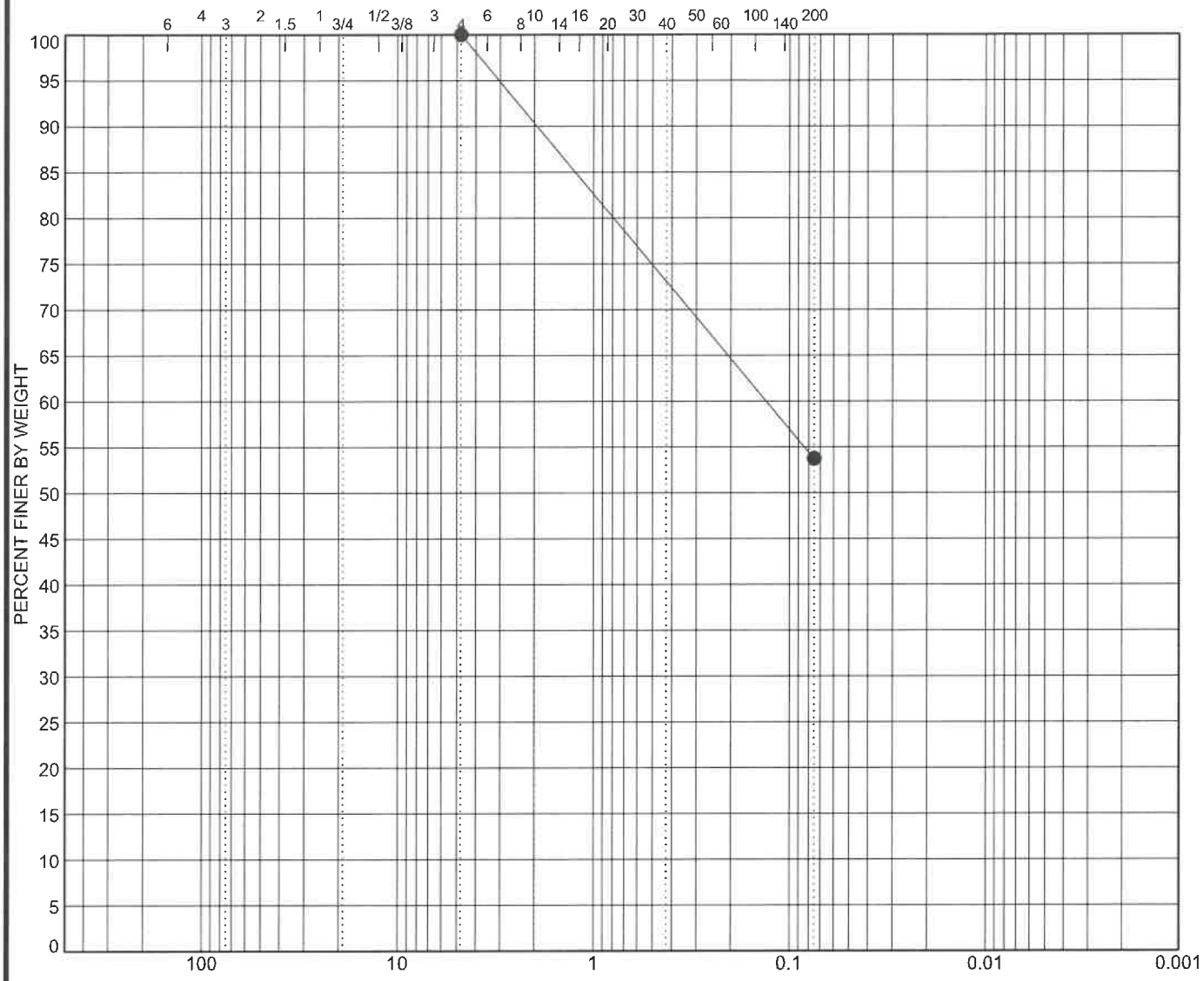

Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● P3-15 (19-103) 14.0 ft.	SANDY FAT CLAY (CH)	50	28	22		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
P3-15 (19-103) 14.0 ft.	4.75	0.132			0.0	46.3	53.7	

REMARKS:

GEOTECHNICAL ENGINEERING TESTING, INC.

GRAIN SIZE DISTRIBUTION

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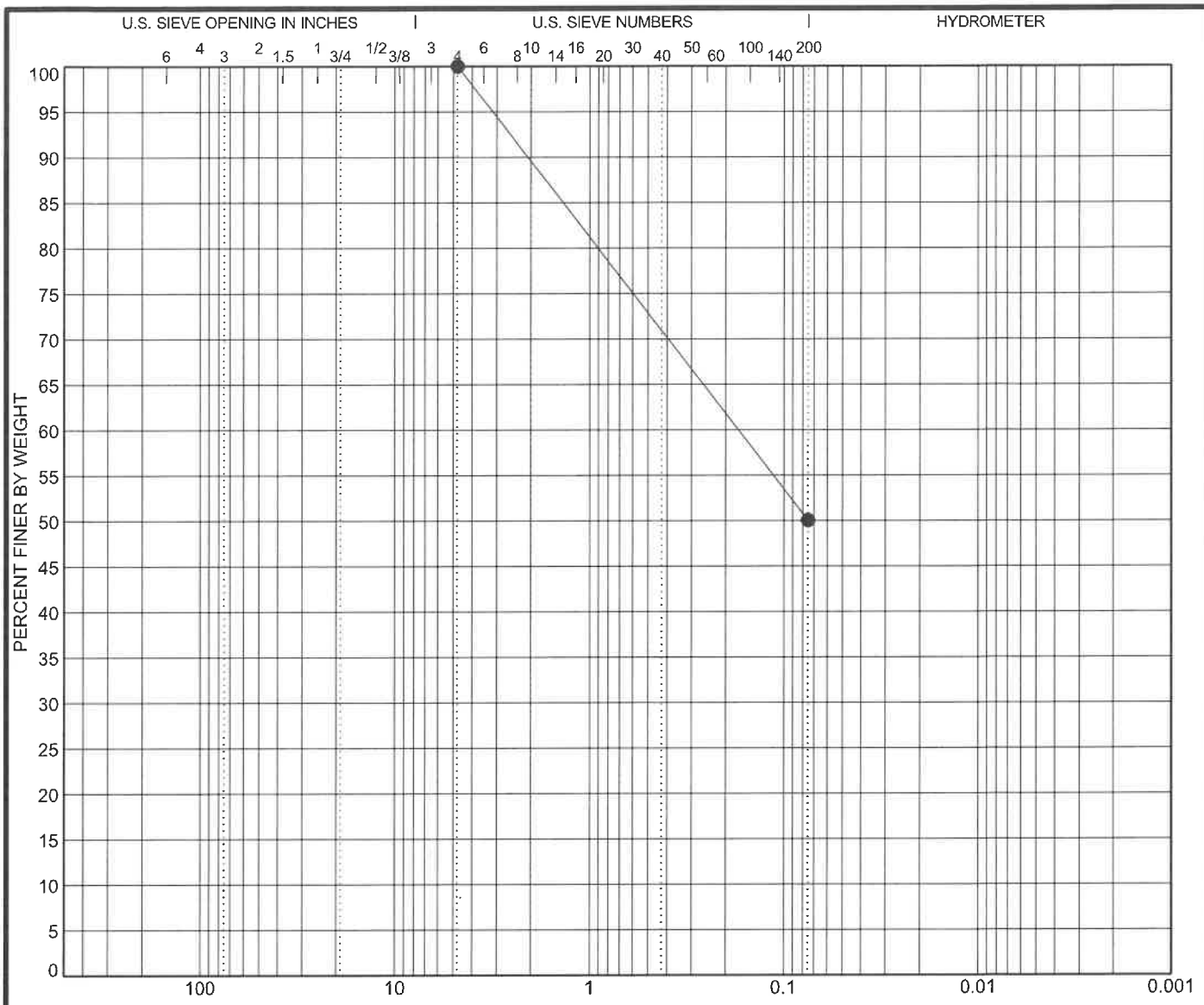
G.E.T. PROJ. NUMBER: 23-112
PROJECT LOCATION: MOBILE, AL

GET_GRAINSIZE_23-112 ASPA DRAINAGE.GPJ GETI_AL.GDT 7/9/23



Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification	Classification	LL	PL	PI	Cc	Cu
●	P3-16 (19-103) 9.0 ft.						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
P3-16 (19-103) 9.0 ft.	4.75	0.171			0.0	50.0	50.0	

REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

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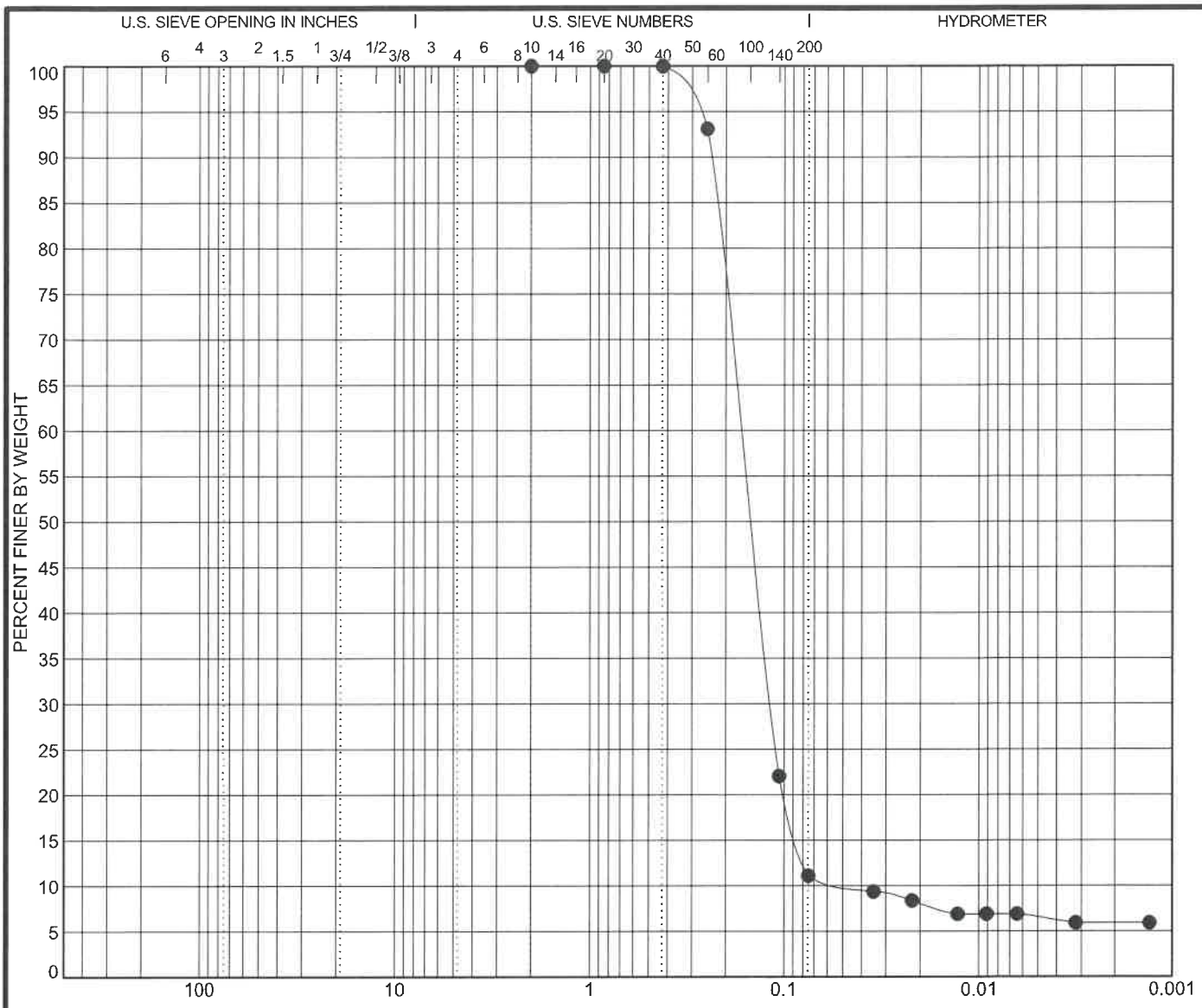

Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification	Classification	LL	PL	PI	Cc	Cu
●	P3-16 (19-103) 24.0 ft.					1.76	3.64

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
P3-16 (19-103) 24.0 ft.	2	0.168	0.117	0.046	0.0	88.9	5.2	5.9

REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

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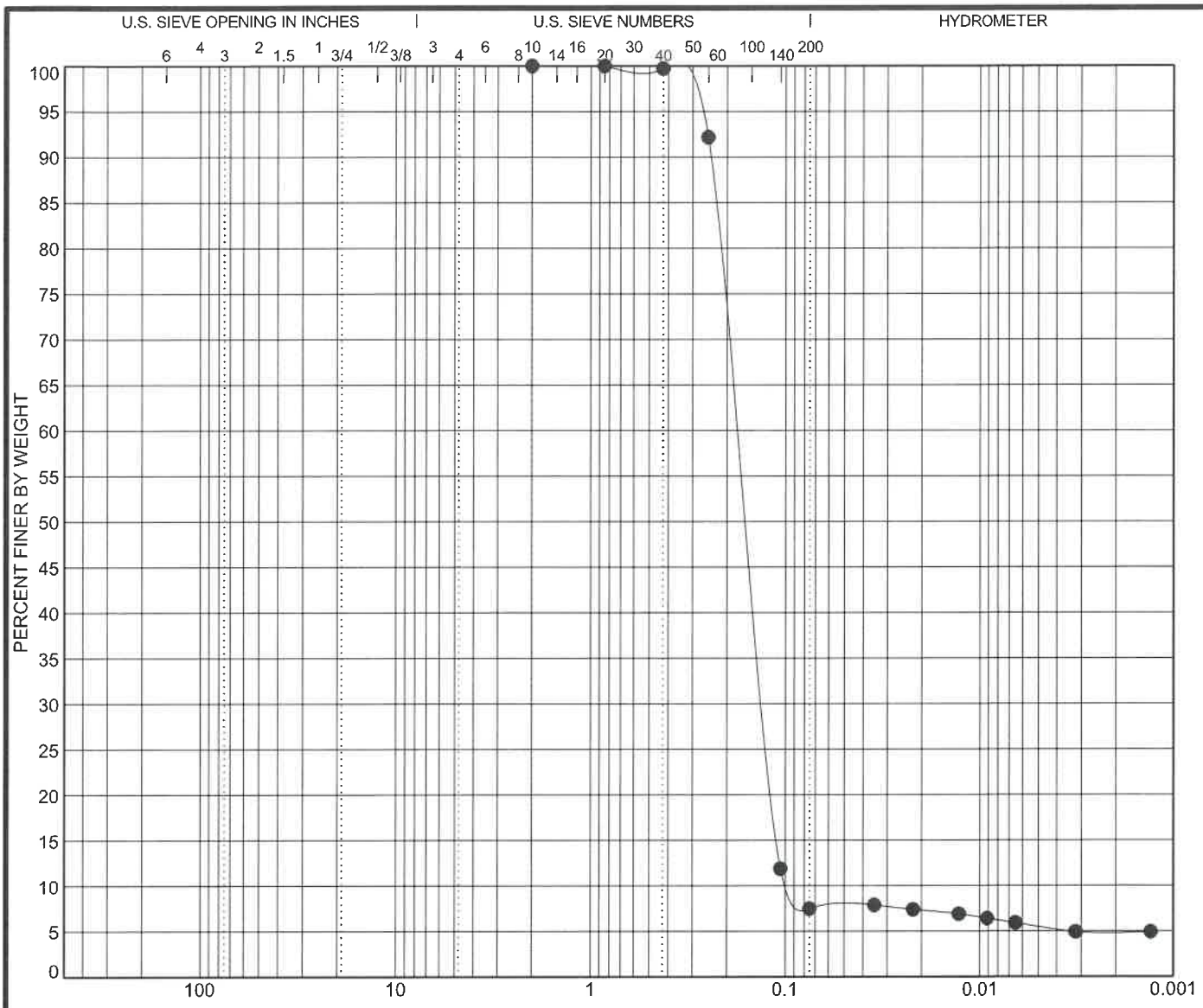

Test Method: _____

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● P3-16 (19-103) 29.0 ft.					1.48	2.82

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
P3-16 (19-103) 29.0 ft.	2	0.177	0.129	0.063	0.0	92.5	2.6	4.9

REMARKS:

GET GRAINSIZE 23-112 ASPA DRAINAGE.GPJ GETI AL.GDT 7/9/23

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PROJECT LOCATION: MOBILE, AL

Geotechnical Engineering-Testing, Inc.

PROFESSIONAL ENGINEERS

Geotechnical Evaluations - Geosciences - Construction Materials - Pavement Management

December 18, 2024

Hank Eubanks, PE
Civil/Aviation Manager
Volkert, Inc.
1110 Montlimar Dr., Suite 1050
Mobile, AL 36609

Via Email: harold.eubanks@volkert.com

Re: Soils Explorations and Geotechnical Engineering Studies for the Alabama State port Authority (ASPA) Logistics Park Phase 1 – Addendum #1
Redirect of City of Mobile Drainage in Mobile, Alabama (GET Project No. 23-112)

Mr. Eubanks:

Geotechnical Engineering-Testing, Inc. (GET) is pleased to addendum to our geotechnical report dated July 10, 2023. We are issuing this addendum do to the change in the type of drainage structure to be utilized for the project. We understand that the structure has changed from a box culvert to an 84 inch diameter pipe.

In lieu of the previous foundation recommendations, we recommend the following:

- Soft clay soils shall be excavated to a depth of two (1) ft below the bottom of the proposed culvert structure. This excavation should extend at least 2 ft beyond the outside walls of the culvert.
- A layer of Tensar InterAx FilterGrid NX750-FG (or equivalent) should be placed on the bottom of the excavation. (The filter grid is a composite geosynthetic consisting of geogrid bonded to a nonwoven geotextile. This product combines the additional stabilization obtained from a geogrid with the added functionality of a nonwoven separation geotextile.)
- Above the NX750-FG, we recommend that 12 inches of Foundation Backfill, Commercial be placed. Foundation backfill shall be deposited uniformly for the full width of the excavation in horizontal layers not to exceed 6 inches in thickness with each layer compacted to the satisfaction of the geotechnical engineer.

This combination of geogrid and Foundation Backfill will provide a stable load transfer platform that should maintain the culvert in proper alignment, sustain the loads imposed and minimize any differential movement along the length of the culvert structure.

The recommendations provided in this addendum are based in part on the project information provided to GET and only apply to the specific project and site discussed in the report.

Please call Curt Doyle, P.E. if you have any questions regarding this report.

Sincerely,

GEOTECHNICAL ENGINEERING-TESTING, INC.

Curt Doyle, P.E.
Principal Engineer
Alabama License No. 25733
Date: 12/18/2024