



Procurement Department

Andy Penick, CPSM, GCPM, GCPA, MBA
Procurement Director

**RFP ITEM #26-272
DEANS BRIDGE ROAD MSW LANDFILL PHASE III,
STAGE II SOUTH CELL 2 - PHASE 1
ADDENDUM #003
ANSWERS TO BIDDER'S QUESTIONS**

TO: All Bidders

CC: Tywana Scott, Procurement Issuing Officer
Hameed Malik, Engineering and
Environmental Services Department

FROM: Andy Penick, Procurement Director

DATE: Tuesday, August 4, 2026

RFP DUE: Thursday, August 13, 2026 at 2:00 p.m.

This Addendum #003 Answers to Bidder's Questions shall form a part of the referenced RFP item and any agreement entered into in connection therewith equally as if bound into the original document. Please acknowledge receipt of all Addenda on Exhibit A of the RFP Solicitation Document. Questions and Answers are listed below;

Clarifications to the Specifications:

When you are instructed to **ADD A NON-RFP ITEM PAGE(S), OR PORTIONS THEREOF**, you **MUST CONSIDER** it/them in developing your RFP, but the physical insertion of the new page(s) into the proposal is not necessary.

RFP Clarification:

1. Clarification: Page 12 - Please remove section 1.3 and replace with the following.

1.3. The purpose of the RFP is to:

Invite qualified licensed contractors, specialized in Subtitle D landfill construction, to express their interest in providing all tools, labor, materials and equipment to perform and complete all work under the following classification:

**DEANS BRIDGE ROAD
MSW LANDFILL – PHASE III
Stage II South Cell 2 –Phase 1 Construction**

This is a specialized construction services RFP. The prime contractor team must be experienced constructing a Subtitle D Landfill disposal cell with demonstrated similar work, construction quality control, and constructability direct experience. The Contractor shall also have a General Contractor License, Utility Contractor License or Utility Licensed Manager as on-site Construction Team Member and has ability to work in state of Georgia.

2. **Clarification: Page 13 - Please remove section 2.1 and replace with the following.**

2.1. Contractor's experience in constructing MSW landfill new cells per relevant regulatory requirements & MSW landfill approved Design & Operation plan.

Ratings will be based on the **prime** contractor's experience and performance on similar projects listed and references checked on those projects. **It is the goal of the Owner that the prime contractor has a minimum of two (2) past similar projects completed preferably in Georgia completed within the recent past five (5) years.** These projects shall be listed in accordance with Part 1 of the Contractor's Qualification Form (**Exhibit I**).

Response to Questions:

1. The Summary of Work references "Phase III, Stage I – Cell 3B2 Protective Cover Installation for Phase 3 Fill Sequence Plan," which appears to reference a previous project. Please clarify the correct project name and identify any specification sections that are not applicable to the current project.

Response: Please see attached updated Summary of Work Section 01010.

2. Please provide the latest AutoCAD (.dwg) files for the contract drawings and any referenced existing conditions/as-built information.

Response: These are provided upon request by SCS Engineers upon receipt of a completed Agreement for Transfer of Electronic Files

3. Please confirm whether bidders will be permitted to perform a pre-bid drone (UAS) survey of the project site. If permitted, please provide the procedure for obtaining authorization, any site-specific restrictions, required coordination, and available dates/times for access. If drone flights are prohibited, please provide the most current aerial imagery and survey data available to bidders.

Response: No.

4. Please identify the designated on-site borrow area(s) for the Compacted Clay Liner (CCL) material and provide any available geotechnical reports, laboratory testing, or test pit information for the proposed borrow source(s).

Response: The specific borrow areas will be identified after project award. The cell excavation is the primary source of materials for the project. Please see attached "Augusta DBRLF soils testing data FOR INFORMATION ONLY". Augusta has been pre-excavating the cell footprint and stockpiling and segregating clayey soils.

5. Please identify the designated borrow area(s) for the Protective Cover/Drainage Sand material and provide any available test pit logs, laboratory testing, or gradation information to assist bidders in evaluating anticipated screening requirements.

Response: The specific borrow areas will be identified after project award. The cell excavation is the primary source of materials for the project. Please see attached "Augusta DBRLF soils testing data FOR INFORMATION ONLY".

6. Section 01025 (Measurement and Payment) states that all materials are Contractor-furnished except geosynthetics, while the individual GCL, HDPE geomembrane, geotextile, and geocomposite specification sections require the Contractor to furnish, procure, and warrant these materials. Please clarify which geosynthetic materials, if any, will be Owner-furnished and which are to be furnished by the Contractor.

Response: The language "(except geosynthetics)" in Technical Specifications Measurement and Payment page 1025-4 Item D is deleted. The contractor shall furnish

all geosynthetics required for the project.

7. Please clarify the Alternate Protective Cover geocomposite requirement. The drawings indicate a 10 oz nonwoven geotextile, while the Proposal Form identifies a 6 oz nonwoven geotextile. Please identify the correct material for bidding.
Response: The attached Proposal Form has been revised to indicate double-sided drainage geocomposite (10-oz non-woven geotextile) on Optional/Alternate Bid Item 007B to match the Drawings. An electronic copy in excel format has been added.
8. If leachate is encountered in the performance of the work, who is responsible for removal, reclamation, and disposal? If the contractor is responsible, please describe the procedure for handling and disposal.
Response: This will be fully determined after project award. Augusta will provide proper disposal.
9. There appears to be a significant quantity of Kaolin within the work area. Please describe the intended use and / or disposal area for this material.
Response: The material can be used for base liner clay.
10. From the Cell 1 B tie-in to the bottom toe of slope in Cell 2 PH 1, there is existing vegetation that will need to be removed. Will this work be measured and paid? There is no bid item for this scope of work.
Response: This work should be included in Bid Item 15 "Tie-In to Existing Liner."
11. Can clearing & grubbing debris be disposed on site and if so, where?
Response: Yes. Location(s) to be determined after project award.
12. There appears to be approximately 3 AC along the Cell 1 B tie-in that contains heavy silt deposits and standing water that will require remediation and stabilization. If required, will this work be measured and paid for? If not, where should contractors include the cost for this work on the bid form?
Response: This work should be included in Bid Item 15 "Tie-In to Existing Liner."
13. Please designate disposal areas for all excess earthen materials.
Response: On-site location(s) to be determined after project award.
14. Will site operations continue to excavate material for daily cover from Cell 2 PH 1 and adjacent areas during Cell 2 PH 1 construction? If yes, describe the procedure for differentiating and quantifying construction volumes from operational volumes.
Response: Augusta has been pre-excavating the cell footprint and stockpiling and segregating clayey soils.
15. Will the contractor be allowed to remove the Cell 1 B Rain Flap and tie in the leachate collection line and protective cover prior to GEPC certification of Cell 2 PH 1?
Response: This will be determined after project award.
16. Bid Documents state that the compacted clay material is on site. Please provide location.
Response: The specific borrow areas will be identified after project award. The cell excavation is the primary source of materials for the project. Please see attached "Augusta DBRLF soils testing data FOR INFORMATION ONLY". Augusta has been pre-excavating the cell footprint and stockpiling and segregating clayey soils.

17. Please confirm how the Contractor will be compensated if the existing underdrain is not encountered at the location shown on the contract drawings or directed by the Owner/Engineer.
Response: Bid Item 016 will compensate the contractor for investigation. If the existing underdrain is not encountered, the scope of work will be modified as necessary.
18. Please confirm whether the existing leachate collection piping is required to be tested following tie-in work. If testing is required, please specify the required method (visual inspection, cleaning, survey, video inspection, or other).
Response: Requirements for existing leachate collection piping testing and inspection will be determined after project award and the scope of work adjusted accordingly.
19. Please specify the required geotextile filter fabric for the underdrain system, including whether a woven or nonwoven geotextile is required and the minimum material properties.
Response: The underdrain will require 6-oz/sy non-woven geotextile. The material properties will be provided after project award.
20. Please identify the known leak/seep location that the proposed underdrain system is intended to capture, including station, coordinates, approximate depth/elevation, and whether the location shown in the plans is considered approximate or guaranteed.
Response: The proposed underdrain is to be connected to the existing underdrains. Bid Item 016 will compensate the contractor for investigation. If the existing underdrain is not encountered, the scope of work will be modified as necessary.
21. What all will be required to be as-built?
Response: Please reference Technical Specifications Measurement and Payment 3.1B "Bid Item No. 002 – Project Survey (Lump Sum)"
22. Is there a topo available of the location of the million cubic yards of mulch in the borrow area adjacent to landfill cell from Hurricane Helene?
Response: No.
23. Where is the contractor to stockpile the excavated material from cell construction?
Response: On-site location(s) to be determined after project award.
24. Can the owner give an allowance pay item for the contractors CQC material testing, so all parties are budgeting off of a level playing field?
Response: Augusta's CQA consultant will provide pre-construction testing of materials to be used in the cell. In accordance with Technical Specifications Excavation, Backfill, Fill, and Grading Section 02220, the contractor may elect to perform preconstruction material evaluations at the contractor's cost to be included in the most appropriate Bid Item as determined by the bidder.
25. Is there a measurement and payment section available?
Response: Please reference Technical Specifications Section 01025 for Measurement and Payment.
26. For bid item 16 (Investigate existing under drains) what is the contractor required to do?
Response: Please reference Technical Specifications Section 01025 for Measurement and Payment, Bid Item No. 016.

27. Can borrow areas, and stockpile areas be shown on a plan sheet?

Response: The specific borrow and stockpile areas will be identified after project award.

28. I wanted to ask, in the RFP Instructions for the RFP Item #26-272 Deans Bridge Landfill, is there supposed to be a Exhibit I (Contractor Qualification Form) included? It references one in a few places, but I have not been able to locate it in the original Specification or the Technical Specification documents.

Response: The reference to Exhibit I should be disregarded. The information under item 3. RFP Submittal Format, RFP #26-272 Page 14 of 22 and Page 15 of 22, Tab A, B, C, D, E, F constitute the Contractor's Qualification information, and all requested information should be provided by the bidder.

29. Is there a CQA Plan with this project? The specifications say to reference the CQA Plan for material information and installation. Can we get a Rain Cover specification? Is there a certain grid pattern the ballast tubes are to be placed? We need this information to calculate how many ballast tubes are needed.

Response: The CQA Plan is included in the Drawings, Sheets 11 to 14. The CQA Plan, however, does not provide information for the rain tarp. Please refer to Technical Specification 01025 Measurement and Payment, Bid Item No. 014.

30. Where does the owner intend to stockpile the earthwork material excavated from the proposed cell? Is it to be stockpiled in the "borrow area" adjacent to the cell, or somewhere else on the site?

Response: Same as question#13.

Please acknowledge addendum in your submittal

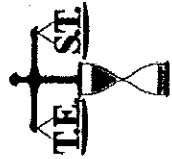

Andy Penick, Director

END ADDENDUM

ATTACHMENTS:	SECTION 01010: SUMMARY OF WORK	(3 PAGES)
	AUGUSTA DBRLF (soils testing data) FOR INFORMATION ONLY	(111 PAGES)
	BID FORM	(1 PAGE)

Augusta DBRLF soils testing data **FOR INFORMATION ONLY**

Project	Date	clay source 1x10-7	clay source 1x10-5	prot cover source 1x10-2	test results
Phase 3 Stage 1 Cell 2A	2007	on-site borrow		on-site borrow	yes
Phase 3 Stage 2 Cell 1A	2009	on-site borrow		on-site borrow	yes
Phase 3 Stage 2 Cell 1B	2010	on-site borrow		on-site borrow	no, Vol 2 missing
Phase 3 Stage 1 Cell 3A (alternate liner with GCL)	2018		on-site borrow	on-site borrow	yes
Phase 3 Stage 1 Cell 3B-1 and 3B-2 (alternate liner with GCL)	2019		on-site borrow	on-site borrow	yes
Phase 3 Stage 1 Cell 3B-2 Partial Area 2 (4.2 ac protective cover only)	2024			on-site borrow screened	yes
Phase 3 Stage 1 Cell 3B-2 Partial Area 2 (~4 ac protective cover only)	2025			on-site borrow	yes



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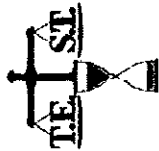
Summary of Soil Testing (PC-Samples)

Project Number:

756

Project Name: Deans Bridge Road/Cell 2A

T.E.S.T. Sample Number	Client Sample Number	USCS	Moisture Content (%)	Grain Size Distribution			Atterberg Limits			Proctor		Hydraulic Conductivity		
				%Finer #4 Sieve	% Finer #200 Sieve	% Finer 0.005mm	L.L. %	P.L. %	P.I. %	Opt. M.C. %	Max.Dry Density pcf	Initial M.C. %	Init.Dry Density pcf	Hydraulic Conduct cm/sec
2718	PC-1	-	-	-	-	-	-	-	-	28.8	92.6	31.5	90.1	5.0E-07
2718A	PC-1+1%BENT.	-	-	-	-	-	-	-	-	-	-	31.7	89.9	2.2E-07
2718B	PC-1+2%BENT.	-	-	-	-	-	-	-	-	-	-	32.2	89.9	9.8E-08
2719	PC-2	-	-	-	-	-	-	-	-	23.4	97.2	-	-	-
2782	PC-3	-	-	-	-	-	-	-	-	26.0	93.1	-	-	-
2880	PC-4	-	-	-	-	-	-	-	-	16.5	110.0	-	-	-
2957	PC-5	-	26.7	100.0	89.3	-	57	30	27	24.4	96.9	-	-	-
2957A	PC-5	-	-	-	-	-	-	-	-	-	-	28.4	93.9	9.5E-08
2999	PC-6	-	26.8	99.9	90.4	65.9	67	29	38	-	-	-	-	-
3000	PC-7	-	26.4	99.9	92.8	72.1	59	31	28	-	-	-	-	-
3001	PC-8	-	28.6	100.0	96.7	81.2	59	30	29	-	-	-	-	-
2995	PC-9	-	30.6	100.0	89.6	55.7	-	-	-	-	-	-	-	-
2996	PC-10	-	27.6	100.0	97.5	76.2	-	-	-	-	-	-	-	-
3006	PC-11	-	22.1	100.0	78.4	48.0	-	-	-	-	-	-	-	-
3007	PC-12	-	27.0	100.0	86.1	52.9	-	-	-	-	-	-	-	-
3043	PC-13	-	28.0	100.0	96.3	61.6	-	-	-	-	-	-	-	-
3044	PC-14	-	27.4	100.0	91.2	61.7	-	-	-	-	-	-	-	-
3070	PC-15	-	26.0	100.0	96.8	55.2	-	-	-	-	-	-	-	-
3071	PC-16	-	31.8	100.0	95.8	62.1	-	-	-	-	-	-	-	-
3159	PC-17	-	32.7	100.0	92.4	66.1	59	31	28	25.5	94.9	-	-	-
3160	PC-18	-	25.2	100.0	78.9	54.4	61	23	38	21.6	100.3	25.3	97.6	4.3E-08
3198	PC-19	-	29.9	100.0	93.3	67.9	60	33	27	25.9	95.1	29.6	93.0	8.6E-08
3210	PC-20	-	23.5	100.0	76.1	55.2	-	-	-	-	-	-	-	-
3211	PC-21	-	25.5	100.0	78.6	56.5	-	-	-	-	-	-	-	-
3262	PC-22	-	27.2	100.0	91.1	66.5	-	-	-	-	-	-	-	-
3305	PC-23	-	31.9	100.0	97.7	69.5	62	33	29	27.5	93.3	-	-	-
3306	PC-24	-	32.0	100.0	98.0	69.4	62	32	30	-	-	-	-	-
3296	PC-25	-	29.0	100.0	97.8	71.8	-	-	-	-	-	-	-	-
3297	PC-26	-	30.4	100.0	98.4	70.3	-	-	-	-	-	-	-	-
3298	PC-27	-	29.3	99.9	95.9	67.9	-	-	-	-	-	-	-	-



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Summary of Soil Testing (S-Samples)

Project Number:

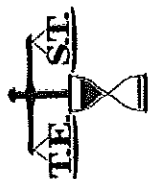
756

Project Name: Deans Bridge Road/Cell 2A

T.E.S.T. Sample Number	Client Sample Number	USCS	Moisture Content (%)	Grain Size Distribution			Atterberg Limits			Proctor		Hydraulic Conductivity		
				%Finer 1/4" Sieve	% Finer #200 Sieve	% Finer 0.005mm	L.L. %	P.L. %	P.I. %	Opt. M.C. %	Max.Dry Density pcf	Initial M.C. %	Init.Dry Density pcf	Hydraulic Conduct. cm/sec
2924	S-1	-	-	100	-	-	-	-	-	-	-	-	-	-
2925*	S-2*	-	-	100	-	-	-	-	-	-	-	6.4	88.2	6.0E-02
2926	S-3	-	-	100	-	-	-	-	-	-	-	-	-	-
2927	S-4	-	-	100	-	-	-	-	-	-	-	5.8	76.0	3.1E-02
2928	S-5	-	-	100	-	-	-	-	-	-	-	-	-	-
2929	S-6	-	-	100	-	-	-	-	-	-	-	3.2	94.4	5.9E-02
3072	S-7	-	-	100	-	-	-	-	-	-	-	4.6	87.5	3.9E-02
3073	S-8	-	-	100	-	-	-	-	-	-	-	5.1	74.7	5.0E-02
3074	S-9	-	-	100	-	-	-	-	-	-	-	4.0	92.1	4.9E-02
3075	S-10	-	-	100	-	-	-	-	-	-	-	4.2	74.2	5.9E-02
3076	S-11	-	-	100	-	-	-	-	-	-	-	-	-	-
3077	S-12	-	-	100	-	-	-	-	-	-	-	-	-	-
3078	S-13	-	-	100	-	-	-	-	-	-	-	-	-	-
3079	S-14	-	-	100	-	-	-	-	-	-	-	-	-	-
3192	S-15	-	-	-	-	-	-	-	-	-	-	5.0	99.8	1.7E-02
3224	S-16	-	-	100	-	-	-	-	-	-	-	-	-	-
3261	S-17	-	-	100	-	-	-	-	-	-	-	4.8	93.3	2.4E-02
3195	S-18	-	29.9	100	-	-	-	-	-	-	-	-	-	-
3199	S-19	-	-	100	-	-	-	-	-	-	-	1.9	91.1	4.3E-02
3200	S-20	-	-	100	-	-	-	-	-	-	-	2.2	75.6	3.3E-02
3201	S-21	-	-	100	-	-	-	-	-	-	-	-	-	-
3202	S-22	-	-	100	-	-	-	-	-	-	-	-	-	-
3315	S-23	-	-	100	-	-	-	-	-	-	-	-	-	-
3316	S-24	-	-	100	-	-	-	-	-	-	-	-	-	-
3222	S-25	-	-	-	-	-	-	-	-	-	-	4.5	94.5	4.4E-02

Note: * Carbonate Content = 0.3%

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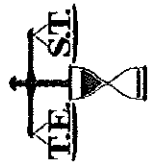
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Summary of Soil Testing (PC-Samples)

Project Number: 908-01		Client Project Number: G003-107 Project Name: Deans Bridge Rd. Phase III MSW LF, Cell 1												
T.E.S.T. Sample Number	Client Sample Number	Carbonate Content, %	Moisture Content (%)	Grain Size Distribution			Atterberg Limits			Proctor		Hydraulic Conductivity		
				% Finer #4 Sieve	% Finer #200 Sieve	% Finer 0.005mm	L.L. %	P.L. %	P.I. %	Opt. M.C. %	Max.Dry Density pcf	Initial M.C. %	Init.Dry Density pcf	Hydraulic Conduct cm/sec
5874	PC #1	-	29.7	100.0	97.1	68.6	58	33	25	28.3	91.7	-	-	-
5875	PC #2	-	26.8	100.0	83.7	62.0	55	29	26	24.0	95.8	-	-	-
5875 A	PC #2+2%Bent.	-	-	-	-	-	-	-	-	-	-	26.2	93.5	8.9E-08
5876	PC #3	-	28.5	100.0	91.7	67.4	52	29	23	26.9	94.2	-	-	-
5877	PC #4	-	26.7	100.0	86.8	55.7	46	27	19	25.0	96.2	-	-	-
5877 A	PC#4+2%Bent.	-	-	-	-	-	-	-	-	-	-	27.8	93.7	5.2E-08
5878	PC #5	-	26.6	100.0	93.6	66.1	46	27	19	24.9	95.9	-	-	-
5878 A	PC #5+2%Bent.	-	-	-	-	-	-	-	-	-	-	26.9	93.8	6.8E-08
5934	PC #6	-	23.1	99.9	68.5	41.0	-	-	-	-	-	-	-	-
5935	PC #7	-	24.8	100.0	98.0	73.2	-	-	-	-	-	-	-	-
5936	PC #8	-	23.1	99.9	74.6	53.7	-	-	-	-	-	-	-	-
5937	PC #9	-	23.8	99.9	78.7	52.8	-	-	-	-	-	-	-	-
5938	PC #10	-	23.7	100.0	82.3	55.8	-	-	-	-	-	-	-	-
5939	PC #11	-	25.4	99.4	65.4	43.2	-	-	-	-	-	-	-	-
5940	PC #12	-	25.8	100.0	79.8	50.2	-	-	-	-	-	-	-	-
5941	PC #13	-	35.2	100.0	91.7	63.4	-	-	-	-	-	-	-	-
5942	PC #14	-	27.5	100.0	84.9	59.3	-	-	-	-	-	-	-	-
5943	PC #15	-	26.1	99.9	75.6	45.7	-	-	-	-	-	-	-	-
5944	PC #16	-	26.4	99.9	84.2	57.5	-	-	-	-	-	-	-	-
5945	PC #17	-	20.7	99.6	65.7	41.0	-	-	-	-	-	-	-	-
5946	PC #18	-	25.2	99.7	75.9	47.0	-	-	-	-	-	-	-	-
5947	PC #19	-	12.3	99.7	47.2	31.5	-	-	-	-	-	-	-	-
5948	PC #20	-	27.4	100.0	72.9	47.1	-	-	-	-	-	-	-	-
5949	PC #21	-	28.4	100.0	93.2	63.7	-	-	-	-	-	-	-	-
5950	PC #22	-	23.4	100.0	54.6	32.8	-	-	-	-	-	-	-	-
5951	PC #23	-	21.7	99.9	79.0	52.0	-	-	-	-	-	-	-	-
5952	PC #24	-	29.7	99.8	88.5	56.3	-	-	-	-	-	-	-	-
5960	PC #25	-	32.5	100.0	96.0	56.7	65	39	26	29.0	89.5	-	-	-
5961	PC #26	-	30.6	100.0	94.8	59.7	60	36	24	28.7	90.6	-	-	-
7037	PC #27	-	-	-	-	-	-	-	-	20.4	103.0	-	-	-
7270	PC #28	-	-	94.3	75.5	62.4	61	27	34	26.8	89.4	29.8	87.2	3.8E-08
7270 A	PC #28+2%Bent	-	-	-	-	-	-	-	-	-	-	-	-	-



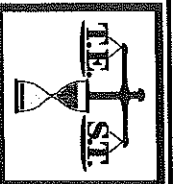
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Summary of Soil Testing (PS-Samples)

Project Number: 908-01 Client Project Number: G003-107
Project Name: Deans Bridge Rd. Phase III MSW LF, Cell 1

T.E.S.T. Sample Number	Client Sample Number	Carbonate Content, %	Moisture Content (%)	Grain Size Distribution			Atterberg Limits			Proctor		Hydraulic Conductivity		
				%Finer 1/4" Sieve	% Finer #200 Sieve	% Finer 0.005mm	L.L. %	P.L. %	P.I. %	Opt. M.C. %	Max.Dry Density pcf	Initial M.C. %	Init.Dry Density pcf	Hydraulic Conduct cm/sec
5869	PS #1	0.5	-	100	-	-	-	-	-	-	-	5.5	82.1	4.8E-02
5870	PS #2	-	-	100	-	-	-	-	-	-	-	6.2	68.6	2.5E-02
5871	PS #3	-	-	100	-	-	-	-	-	-	-	5.6	84.3	3.2E-02
5872	PS #4	-	-	100	-	-	-	-	-	-	-	5.7	69.4	4.6E-02
5873	PS #5	-	-	100	-	-	-	-	-	-	-	6.5	84.3	3.3E-02
7102	PS #6	-	-	100	-	-	-	-	-	-	-	4.9	82.8	8.2E-02
7103	PS #7	-	-	100	-	-	-	-	-	-	-	-	-	-
7104	PS #8	-	-	100	-	-	-	-	-	-	-	-	-	-
7130	PS #8-R1	-	-	100	-	-	-	-	-	-	-	5.4	83.4	2.7E-02
7144	PS #9	-	-	100	-	-	-	-	-	-	-	3.7	83.4	3.1E-02
7145	PS #10	-	-	100	-	-	-	-	-	-	-	-	-	-
7146	PS #11	-	-	100	-	-	-	-	-	-	-	-	-	-
7147	PS #12	-	-	100	-	-	-	-	-	-	-	-	-	-
7148	PS #13	-	-	100	-	-	-	-	-	-	-	-	-	-
7163	PS #14	-	-	100	-	-	-	-	-	-	-	-	-	-
7164	PS #15	-	-	100	-	-	-	-	-	-	-	-	-	-
7165	PS #16	-	-	100	-	-	-	-	-	-	-	-	-	-



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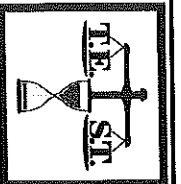
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Summary of Soil Testing (PC-Samples)

Project Number: 1708-10 & 1808-01

Project Name: Augusta Phase 3 - Stage 1 - Cell 3

T.E.S.T. Sample Number	Client Sample Number	USCS	Carbonate Content, %	Moisture Content (%)	Grain Size			Atterberg Limits			Proctor		Hydraulic Conductivity		
					%Finer 3" Sieve	% Finer #4 Sieve	% Finer #200 Sieve	L.L. %	P.L. %	P.I. %	M.C. %	Density pcf	M.C. %	Init.Dry pcf	Hydraulic Conduct. cm/sec
27500	PC-1		-	9.8	100.0	-	100.0****	35	20	15	15.7	107.9	19.1	104.9	8.6E-07
27501	PC-2		-	27.4	100.0	-	100.0****	75	36	39	26.9	91.6	30.2	89.1	4.4E-07
27502	PC-3		-	19.5	100.0	-	100.0****	54	30	24	25.5	93.0	29.0	90.4	4.8E-07
27849	PC-4	MH	-	28.7	100.0	100.0	93.3	55	32	23	25.9	93.0	29.3	90.3	4.5E-07
27849A	PC-4		-		-	-	-	-	-	-	-	-	26.3	88.4	1.5E-06
27850	PC-5	ML	-	24.6	100.0	100.0	86.2	44	28	16	23.0	96.6	26.3	94.0	2.6E-07
27850A	PC-5		-	-	-	-	-	-	-	-	-	-	23.3	91.9	1.4E-06
27851	PC-6	CL	-	23.0	100.0	99.8	71.5	37	21	16	19.8	101.6	23.1	98.8	3.5E-07
27851A	PC-6		-	-	-	-	-	-	-	-	-	-	20.2	96.6	2.7E-06
28078	PC-7	MH	-	19.8	100.0	99.6	70.7	50	30	20	21.4	99.6	21.7	94.9	1.6E-06
28735	PC-8	CH	-	23.7	100.0	99.8	91.6	50	26	24	24.1	95.9	24.4	91.3	4.9E-07
28736	PC-9	CL	-	23.5	100.0	99.5	84.1	49	23	26	22.7	97.3	23.2	92.5	3.4E-07
28737	PC-10	CH	-	24.6	100.0	100.0	92.5	51	27	24	24.5	95.0	24.8	90.5	4.0E-07
28738	PC-11	CH	-	18.2	100.0	99.9	82.7	50	26	24	22.3	97.3	22.6	92.6	4.3E-07
28739	PC-12	CH	-	13.7	100.0	100.0	61.0	51	23	28	17.6	106.1	-	-	-
28740	PC-13		-	12.7	100.0	99.8	93.0	-	-	-	-	-	-	-	-
28741	PC-14		-	11.3	100.0	98.5	81.8	-	-	-	-	-	-	-	-
28742	PC-15		-	18.4	100.0	99.2	94.4	-	-	-	-	-	-	-	-
28743	PC-16		-	20.2	100.0	99.1	83.5	-	-	-	-	-	-	-	-
28744	PC-17		-	21.9	100.0	99.4	89.9	-	-	-	-	-	-	-	-
28745	PC-18		-	12.2	100.0	100.0	89.9	-	-	-	-	-	-	-	-
28746	PC-19		-	14.2	100.0	99.7	92.5	-	-	-	-	-	-	-	-
28747	PC-20		-	9.8	100.0	99.8	50.6	-	-	-	-	-	-	-	-
28748	PC-21		-	15.6	100.0	100.0	95.8	-	-	-	-	-	-	-	-
28749	PC-22		-	23.3	100.0	99.8	86.1	-	-	-	-	-	-	-	-
28750	PC-23		-	17.4	100.0	100.0	86.3	-	-	-	-	-	-	-	-
28751	PC-24		-	16.8	100.0	100.0	81.5	-	-	-	-	-	-	-	-
28752	PC-25		-	21.7	100.0	100.0	88.5	-	-	-	-	-	-	-	-
28753	PC-26		-	18.6	100.0	100.0	81.6	-	-	-	-	-	-	-	-



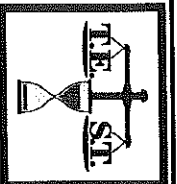
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Summary of Soil Testing (PC-Samples)

Project Number: 1708-10 & 1808-01

Project Name: Augusta Phase 3 - Stage 1 - Cell 3

T.E.S.T. Sample Number	Client Sample Number	USCS	Carbonate Content, %	Moisture Content (%)	Grain Size			Atterberg Limits			Proctor		Hydraulic Conductivity		
					%Finer 3" Sieve	% Finer #4 Sieve	% Finer #200 Sieve	L.L. %	P.L. %	P.I. %	M.C. %	Max.Dry Density pcf	Initial M.C. %	Init.Dry Density pcf	Hydraulic Conduct. cm/sec
28754	PC-27		-	19.5	100.0	100.0	83.7	-	-	-	-	-	-	-	
28755	PC-28		-	20.5	100.0	100.0	88.8	-	-	-	-	-	-	-	
28756	PC-29		-	19.6	100.0	100.0	85.6	-	-	-	-	-	-	-	
28757	PC-30		-	18.1	100.0	100.0	90.1	-	-	-	-	-	-	-	
28758	PC-31		-	22.1	100.0	99.8	84.3	-	-	-	-	-	-	-	
29032	PC-82		-	16.7	100.0	99.2	85.0	-	-	-	-	-	-	-	
28983	PC-32	CL	-	24.7	100.0	99.7	88.8	48	27	21	25.1	97.3	-	-	
28984	PC-33	ML	-	22.7	100.0	99.6	87.0	49	29	20	23.2	96.7	-	-	
28985	PC-34	CH	-	22.7	100.0	99.7	80.0	52	27	25	23.4	96.5	-	-	
28986	PC-35	CH	-	22.4	100.0	98.9	84.3	51	28	23	22.7	98.2	-	-	
28987	PC-36	CL	-	22.0	100.0	100.0	85.3	46	25	21	21.9	101.0	-	-	
28988	PC-37	CL	-	21.6	100.0	100.0	84.5	45	24	21	21.4	101.5	-	-	
28989	PC-38	CL	-	20.6	100.0	99.8	82.9	45	25	20	23.3	98.7	-	-	
28990	PC-39	CL	-	21.8	100.0	99.5	82.7	46	26	20	22.1	100.4	-	-	
28991	PC-40	ML	-	23.2	100.0	99.1	88.2	48	29	19	22.6	98.5	-	-	
28992	PC-41	ML	-	23.3	100.0	99.8	80.3	48	28	20	23.2	98.4	-	-	
29033	PC-42		-	19.9	100.0	100.0	80.1	-	-	-	-	-	-	-	
28993	PC-43		-	16.6	100.0	99.9	86.0	-	-	-	-	-	-	-	
28994	PC-44		-	20.8	100.0	100.0	66.4	-	-	-	-	-	-	-	
28995	PC-45		-	6.3	100.0	99.9	15.4	-	-	-	-	-	-	-	
28996	PC-46		-	19.2	100.0	99.6	69.9	-	-	-	-	-	-	-	
28997	PC-47		-	26.6	100.0	99.4	78.4	-	-	-	-	-	-	-	
28998	PC-48		-	19.1	100.0	99.8	59.4	-	-	-	-	-	-	-	
28999	PC-49		-	16.3	100.0	100.0	55.5	-	-	-	-	-	-	-	
29000	PC-50		-	24.8	100.0	100.0	89.1	-	-	-	-	-	-	-	
29001	PC-51		-	21.4	100.0	100.0	84.6	-	-	-	-	-	-	-	
29002	PC-52		-	24.2	100.0	100.0	84.3	-	-	-	-	-	-	-	
29003	PC-53		-	27.3	100.0	100.0	96.2	-	-	-	-	-	-	-	
29004	PC-54		-	12.4	100.0	99.5	33.7	-	-	-	-	-	-	-	



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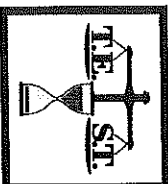
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Summary of Soil Testing (PC-Samples)

Project Number: 1708-10 & 1808-01

Project Name: Augusta Phase 3 - Stage 1 - Cell 3

T.E.S.T. Sample Number	Client Sample Number	USCS	Carbonate Content, %	Moisture Content (%)	Grain Size			Atterberg Limits			Proctor		Hydraulic Conductivity	
					%Finer 3" Sieve	Distribution		L.L. %	P.L. %	P.I. %	Opt. Max. Dry Density pcf	Initial M.C. %	Init. Dry Density pcf	Hydraulic Conduct. cm/sec
						% Finer #4 Sieve	% Finer #200 Sieve							
29005	PC-55		-	17.5	100.0	100.0	49.0	-	-	-	-	-	-	-
29006	PC-56		-	10.3	100.0	99.6	37.9	-	-	-	-	-	-	-
29007	PC-57		-	12.5	100.0	100.0	34.8	-	-	-	-	-	-	-
29008	PC-58		-	18.3	100.0	99.4	45.9	-	-	-	-	-	-	-
29009	PC-59		-	6.4	100.0	98.6	16.6	-	-	-	-	-	-	-
29010	PC-60		-	10.1	100.0	100.0	25.9	-	-	-	-	-	-	-
29011	PC-61		-	17.6	100.0	99.8	49.9	-	-	-	-	-	-	-
29012	PC-62		-	22.0	100.0	98.8	75.5	-	-	-	-	-	-	-
29013	PC-63		-	20.8	100.0	100.0	70.2	-	-	-	-	-	-	-
29014	PC-64		-	24.7	100.0	99.1	86.7	-	-	-	-	-	-	-
29015	PC-65		-	28.6	100.0	100.0	91.7	-	-	-	-	-	-	-
29016	PC-66		-	23.6	100.0	99.6	74.7	-	-	-	-	-	-	-
29017	PC-67		-	19.1	100.0	100.0	82.1	-	-	-	-	-	-	-
29018	PC-68		-	22.6	100.0	100.0	80.6	-	-	-	-	-	-	-
29019	PC-69		-	21.6	100.0	100.0	83.7	-	-	-	-	-	-	-
29020	PC-70		-	22.4	100.0	100.0	82.7	-	-	-	-	-	-	-
29021	PC-71		-	25.3	100.0	99.9	92.0	-	-	-	-	-	-	-
29022	PC-72		-	22.2	100.0	100.0	90.2	-	-	-	-	-	-	-
29023	PC-73		-	26.6	100.0	100.0	96.0	-	-	-	-	-	-	-
29024	PC-74		-	22.7	100.0	100.0	68.9	-	-	-	-	-	-	-
29025	PC-75		-	24.4	100.0	100.0	80.7	-	-	-	-	-	-	-
29026	PC-76		-	24.6	100.0	100.0	79.3	-	-	-	-	-	-	-
29027	PC-77		-	20.9	100.0	96.5	83.1	-	-	-	-	-	-	-
29028	PC-78		-	22.6	100.0	99.4	86.0	-	-	-	-	-	-	-
29029	PC-79		-	22.5	100.0	100.0	87.4	-	-	-	-	-	-	-
29030	PC-80		-	25.7	100.0	100.0	88.5	-	-	-	-	-	-	-
29031	PC-81		-	24.8	100.0	100.0	83.7	-	-	-	-	-	-	-
29232	PC-83	CH	-	23.9	100.0	99.7	91.3	50	28	22	-	-	-	-
29233	PC-84	MH	-	22.3	100.0	99.6	87.2	52	29	23	-	-	-	-



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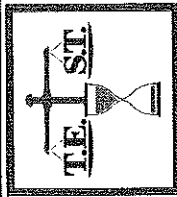
Summary of Soil Testing (PC-Samples)

Project Number: 1708-10 & 1808-01

Project Name: Augusta Phase 3 - Stage 1 - Cell 3

T.E.S.T. Sample Number	Client Sample Number	USCS	Carbonate Content, %	Moisture Content (%)	Grain Size Distribution			Atterberg Limits			Proctor		Hydraulic Conductivity	
					% Finer 3" Sieve	% Finer #4 Sieve	% Finer #200 Sieve	L.L. %	P.L. %	P.L. %	Opt. Max. Dry M.C. %	Density pcf	Initial M.C. %	Init. Dry Density pcf
29234	PC-85	CH	-	23.6	100.0	100.0	86.4	51	28	23	-	-	-	-
29235	PC-86		-	23.4	100.0	100.0	90.1	-	-	-	-	-	-	-
29236	PC-87		-	24.4	100.0	100.0	91.2	-	-	-	-	-	-	-
29237	PC-88		-	23.1	100.0	100.0	89.8	-	-	-	-	-	-	-
29238	PC-89		-	24.1	100.0	100.0	84.8	-	-	-	-	-	-	-
29239	PC-90		-	24.5	100.0	100.0	82.5	-	-	-	-	-	-	-
29240	PC-91		-	23.9	100.0	100.0	83.4	-	-	-	-	-	-	-
29241	PC-92		-	23.9	100.0	100.0	81.7	-	-	-	-	-	-	-
29242	PC-93		-	24.2	100.0	100.0	85.8	-	-	-	-	-	-	-
29243	PC-94		-	24.1	100.0	100.0	83.0	-	-	-	-	-	-	-
29244	PC-95		-	23.1	100.0	100.0	86.3	-	-	-	-	-	-	-
29245	PC-96		-	21.4	100.0	100.0	79.4	-	-	-	-	-	-	-
29246	PC-97		-	21.0	100.0	100.0	90.7	-	-	-	-	-	-	-
29247	PC-98		-	20.0	100.0	100.0	71.2	-	-	-	-	-	-	-
29248	PC-99		-	24.0	100.0	100.0	84.6	-	-	-	-	-	-	-
29249	PC-100		-	22.4	100.0	100.0	78.9	-	-	-	-	-	-	-
29250	PC-101		-	21.5	100.0	99.9	89.6	-	-	-	-	-	-	-
29251	PC-102		-	22.2	100.0	100.0	92.3	-	-	-	-	-	-	-
29252	PC-103		-	24.6	100.0	100.0	90.5	-	-	-	-	-	-	-
29253	PC-104		-	24.2	100.0	100.0	86.2	-	-	-	-	-	-	-
29254	PC-105		-	24.5	100.0	100.0	92.4	-	-	-	-	-	-	-
29255	PC-106		-	22.8	100.0	100.0	86.2	-	-	-	-	-	-	-
29256	PC-107		-	23.4	100.0	100.0	87.7	-	-	-	-	-	-	-
29257	PC-108		-	22.2	100.0	100.0	91.3	-	-	-	-	-	-	-
***= % Passing 1/4" Sieve														

*** = % Passing 1/4" Sieve



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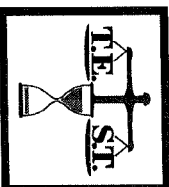
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Summary of Soil Testing (S-Samples)

Project Number: 1708-10 & 1808-01

Project Name: Augusta Phase 3 - Stage 1 - Cell 3

T.E.S.T. Sample Number	Client Sample Number	USCS	Carbonate Content, %	Moisture Content (%)	Grain Size Distribution			Atterberg Limits			Proctor		Hydraulic Conductivity		
					%Finer 3" Sieve	% Finer #4 Sieve	% Finer 1/4" Sieve	L.L. %	P.L. %	P.I. %	Opt. M.C. %	Max.Dry Density pcf	Initial M.C. %	Density pcf	Hydraulic Conduct. cm/sec
29309	S-1		0.5	-	-	-	100	-	-	-	-	-	5.5	69.5	5.1E-02
29310	S-2		-	-	-	-	100	-	-	-	-	-	5.8	81.8	6.5E-02
29311	S-3		-	-	-	-	100	-	-	-	-	-	6.1	84.9	4.7E-02
29312	S-4		-	-	-	-	100	-	-	-	-	-	5.4	84.1	4.9E-02
29313	S-5		-	-	-	-	100	-	-	-	-	-	4.6	77.3	4.4E-02
29314	S-6		-	-	-	-	100	-	-	-	-	-	4.8	83.0	4.6E-02
29315	S-7		-	-	-	-	100	-	-	-	-	-	4.6	70.7	4.7E-02
29316	S-8		-	-	-	-	100	-	-	-	-	-	4.8	77.7	4.8E-02
29317	S-9		-	-	-	-	100	-	-	-	-	-	5.7	84.0	3.9E-02
29318	S-10		-	-	-	-	100	-	-	-	-	-	3.5	76.6	4.6E-02
29319	S-11		-	-	-	-	100	-	-	-	-	-	3.1	72.1	4.2E-02
29320	S-12		-	-	-	-	100	-	-	-	-	-	4.9	84.5	4.9E-02
29321	S-13		-	-	-	-	100	-	-	-	-	-	6.9	80.1	4.0E-02
29322	S-14		-	-	-	-	100	-	-	-	-	-	5.6	79.5	4.3E-02
29323	S-15		-	-	-	-	100	-	-	-	-	-	4.6	85.5	5.4E-02
29324	S-16		-	-	-	-	100	-	-	-	-	-	4.2	75.5	4.8E-02
29325	S-17		-	-	-	-	100	-	-	-	-	-	4.0	75.7	3.9E-02
29326	S-18		-	-	-	-	100	-	-	-	-	-	3.4	71.9	4.1E-02
29327	S-19		-	-	-	-	100	-	-	-	-	-	7.2	84.3	4.3E-02
29328	S-20		-	-	-	-	100	-	-	-	-	-	7.3	80.0	3.9E-02



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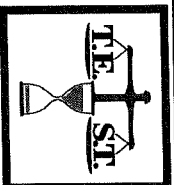
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Summary of Soil Testing (PC-Samples)

Project Number: 1708-10 & 1808-01

Project Name: Augusta Phase 3 - Stage 1 - Cell 3

T.E.S.T. Sample Number	Client Sample Number	USCS	Carbonate Content, %	Moisture Content (%)	Grain Size			Atterberg Limits			Proctor		Hydraulic Conductivity		
					%Finer 3" Sieve	% Finer #4 Sieve	% Finer #200 Sieve	L.L. %	P.L. %	P.L. %	Opt. M.C. %	Max.Dry Density pcf	Initial M.C. %	Init.Dry Density pcf	Hydraulic Conduct. cm/sec
27500	PC-1		-	9.8	100.0	-	100.0***	35	20	15	15.7	107.9	19.1	104.9	8.6E-07
27501	PC-2		-	27.4	100.0	-	100.0***	75	36	39	26.9	91.6	30.2	89.1	4.4E-07
27502	PC-3		-	19.5	100.0	-	100.0***	54	30	24	25.5	93.0	29.0	90.4	4.8E-07
27849	PC-4	MH	-	28.7	100.0	100.0	93.3	55	32	23	25.9	93.0	29.3	90.3	4.5E-07
27849A	PC-4		-	-	-	-	-	-	-	-	-	-	26.3	88.4	1.5E-06
27850	PC-5	ML	-	24.6	100.0	100.0	86.2	44	28	16	23.0	96.6	26.3	94.0	2.6E-07
27850A	PC-5		-	-	-	-	-	-	-	-	-	-	23.3	91.9	1.4E-06
27851	PC-6	CL	-	23.0	100.0	99.8	71.5	37	21	16	19.8	101.6	23.1	98.8	3.5E-07
27851A	PC-6		-	-	-	-	-	-	-	-	-	-	20.2	96.6	2.7E-06
28078	PC-7	MH	-	19.8	100.0	99.6	70.7	50	30	20	21.4	99.6	21.7	94.9	1.6E-06
28735	PC-8	CH	-	23.7	100.0	99.8	91.6	50	26	24	24.1	95.9	24.4	91.3	4.9E-07
28736	PC-9	CL	-	23.5	100.0	99.5	84.1	49	23	26	22.7	97.3	23.2	92.5	3.4E-07
28737	PC-10	CH	-	24.6	100.0	100.0	92.5	51	27	24	24.5	95.0	24.8	90.5	4.0E-07
28738	PC-11	CH	-	18.2	100.0	99.9	82.7	50	26	24	22.3	97.3	22.6	92.6	4.3E-07
28739	PC-12	CH	-	13.7	100.0	100.0	61.0	51	23	28	17.6	106.1	-	-	-
28740	PC-13		-	12.7	100.0	99.8	93.0	-	-	-	-	-	-	-	-
28741	PC-14		-	11.3	100.0	98.5	81.8	-	-	-	-	-	-	-	-
28742	PC-15		-	18.4	100.0	99.2	94.4	-	-	-	-	-	-	-	-
28743	PC-16		-	20.2	100.0	99.1	83.5	-	-	-	-	-	-	-	-
28744	PC-17		-	21.9	100.0	99.4	89.9	-	-	-	-	-	-	-	-
28745	PC-18		-	12.2	100.0	100.0	89.9	-	-	-	-	-	-	-	-
28746	PC-19		-	14.2	100.0	99.7	92.5	-	-	-	-	-	-	-	-
28747	PC-20		-	9.8	100.0	99.8	50.6	-	-	-	-	-	-	-	-
28748	PC-21		-	15.6	100.0	100.0	95.8	-	-	-	-	-	-	-	-
28749	PC-22		-	23.3	100.0	99.8	86.1	-	-	-	-	-	-	-	-
28750	PC-23		-	17.4	100.0	100.0	86.3	-	-	-	-	-	-	-	-
28751	PC-24		-	16.8	100.0	100.0	81.5	-	-	-	-	-	-	-	-
28752	PC-25		-	21.7	100.0	100.0	88.5	-	-	-	-	-	-	-	-
28753	PC-26		-	18.6	100.0	100.0	81.6	-	-	-	-	-	-	-	-



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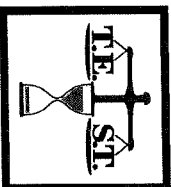
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Summary of Soil Testing (PC-Samples)

Project Number: 1708-10 & 1808-01

Project Name: Augusta Phase 3 - Stage 1 - Cell 3

T.E.S.T. Sample Number	Client Sample Number	USCS	Carbonate Content, %	Moisture Content (%)	Grain Size Distribution			Atterberg Limits			Proctor		Hydraulic Conductivity		
					%Finer 3" Sieve	% Finer #4 Sieve	% Finer #200 Sieve	L.L. %	P.L. %	P.I. %	Opt. M.C. %	Max.Dry Density pcf	Initial M.C. %	Init.Dry Density pcf	Hydraulic Conduct. cm/sec
28754	PC-27		-	19.5	100.0	100.0	83.7	-	-	-	-	-	-	-	-
28755	PC-28		-	20.5	100.0	100.0	88.8	-	-	-	-	-	-	-	-
28756	PC-29		-	19.6	100.0	100.0	85.6	-	-	-	-	-	-	-	-
28757	PC-30		-	18.1	100.0	100.0	90.1	-	-	-	-	-	-	-	-
28758	PC-31		-	22.1	100.0	99.8	84.3	-	-	-	-	-	-	-	-
29032	PC-82		-	16.7	100.0	99.2	85.0	-	-	-	-	-	-	-	-
28983	PC-32	CL	-	24.7	100.0	99.7	88.8	48	27	21	25.1	97.3	-	-	-
28984	PC-33	ML	-	22.7	100.0	99.6	87.0	49	29	20	23.2	96.7	-	-	-
28985	PC-34	CH	-	22.7	100.0	99.7	80.0	52	27	25	23.4	96.5	-	-	-
28986	PC-35	CH	-	22.4	100.0	98.9	84.3	51	28	23	22.7	98.2	-	-	-
28987	PC-36	CL	-	22.0	100.0	100.0	85.3	46	25	21	21.9	101.0	-	-	-
28988	PC-37	CL	-	21.6	100.0	100.0	84.5	45	24	21	21.4	101.5	-	-	-
28989	PC-38	CL	-	20.6	100.0	99.8	82.9	45	25	20	23.3	98.7	-	-	-
28990	PC-39	CL	-	21.8	100.0	99.5	82.7	46	26	20	22.1	100.4	-	-	-
28991	PC-40	ML	-	23.2	100.0	99.1	88.2	48	29	19	22.6	98.5	-	-	-
28992	PC-41	ML	-	23.3	100.0	99.8	80.3	48	28	20	23.2	98.4	-	-	-
29033	PC-42		-	19.9	100.0	100.0	80.1	-	-	-	-	-	-	-	-
28993	PC-43		-	16.6	100.0	99.9	86.0	-	-	-	-	-	-	-	-
28994	PC-44		-	20.8	100.0	100.0	66.4	-	-	-	-	-	-	-	-
28995	PC-45		-	6.3	100.0	99.9	15.4	-	-	-	-	-	-	-	-
28996	PC-46		-	19.2	100.0	99.6	69.9	-	-	-	-	-	-	-	-
28997	PC-47		-	26.6	100.0	99.4	78.4	-	-	-	-	-	-	-	-
28998	PC-48		-	19.1	100.0	99.8	59.4	-	-	-	-	-	-	-	-
28999	PC-49		-	16.3	100.0	100.0	55.5	-	-	-	-	-	-	-	-
29000	PC-50		-	24.8	100.0	100.0	89.1	-	-	-	-	-	-	-	-
29001	PC-51		-	21.4	100.0	100.0	84.6	-	-	-	-	-	-	-	-
29002	PC-52		-	24.2	100.0	100.0	84.3	-	-	-	-	-	-	-	-
29003	PC-53		-	27.3	100.0	100.0	96.2	-	-	-	-	-	-	-	-
29004	PC-54		-	12.4	100.0	99.5	33.7	-	-	-	-	-	-	-	-



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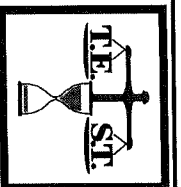
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Summary of Soil Testing (PC-Samples)

Project Number: 1708-10 & 1808-01

Project Name: Augusta Phase 3 - Stage 1 - Cell 3

T.E.S.T. Sample Number	Client Sample Number	USCS	Carbonate Content, %	Moisture Content (%)	Grain Size			Atterberg Limits			Proctor		Hydraulic Conductivity		
					%Finer 3" Sieve	% Finer #4 Sieve	% Finer #200 Sieve	L.L. %	P.L. %	P.I. %	Opt. M.C. %	Max.Dry Density pcf	Initial M.C. %	Init.Dry Density pcf	Hydraulic Conduct. cm/sec
29005	PC-55		-	17.5	100.0	100.0	49.0	-	-	-	-	-	-	-	-
29006	PC-56		-	10.3	100.0	99.6	37.9	-	-	-	-	-	-	-	-
29007	PC-57		-	12.5	100.0	100.0	34.8	-	-	-	-	-	-	-	-
29008	PC-58		-	18.3	100.0	99.4	45.9	-	-	-	-	-	-	-	-
29009	PC-59		-	6.4	100.0	98.6	16.6	-	-	-	-	-	-	-	-
29010	PC-60		-	10.1	100.0	100.0	25.9	-	-	-	-	-	-	-	-
29011	PC-61		-	17.6	100.0	99.8	49.9	-	-	-	-	-	-	-	-
29012	PC-62		-	22.0	100.0	98.8	75.5	-	-	-	-	-	-	-	-
29013	PC-63		-	20.8	100.0	100.0	70.2	-	-	-	-	-	-	-	-
29014	PC-64		-	24.7	100.0	99.1	86.7	-	-	-	-	-	-	-	-
29015	PC-65		-	28.6	100.0	100.0	91.7	-	-	-	-	-	-	-	-
29016	PC-66		-	23.6	100.0	99.6	74.7	-	-	-	-	-	-	-	-
29017	PC-67		-	19.1	100.0	100.0	82.1	-	-	-	-	-	-	-	-
29018	PC-68		-	22.6	100.0	100.0	80.6	-	-	-	-	-	-	-	-
29019	PC-69		-	21.6	100.0	100.0	83.7	-	-	-	-	-	-	-	-
29020	PC-70		-	22.4	100.0	100.0	82.7	-	-	-	-	-	-	-	-
29021	PC-71		-	25.3	100.0	99.9	92.0	-	-	-	-	-	-	-	-
29022	PC-72		-	22.2	100.0	100.0	90.2	-	-	-	-	-	-	-	-
29023	PC-73		-	26.6	100.0	100.0	96.0	-	-	-	-	-	-	-	-
29024	PC-74		-	22.7	100.0	100.0	68.9	-	-	-	-	-	-	-	-
29025	PC-75		-	24.4	100.0	100.0	80.7	-	-	-	-	-	-	-	-
29026	PC-76		-	24.6	100.0	100.0	79.3	-	-	-	-	-	-	-	-
29027	PC-77		-	20.9	100.0	96.5	83.1	-	-	-	-	-	-	-	-
29028	PC-78		-	22.6	100.0	99.4	86.0	-	-	-	-	-	-	-	-
29029	PC-79		-	22.5	100.0	100.0	87.4	-	-	-	-	-	-	-	-
29030	PC-80		-	25.7	100.0	100.0	88.5	-	-	-	-	-	-	-	-
29031	PC-81		-	24.8	100.0	100.0	83.7	-	-	-	-	-	-	-	-
29232	PC-83	CH	-	23.9	100.0	99.7	91.3	50	28	22	-	-	-	-	-
29233	PC-84	MH	-	22.3	100.0	99.6	87.2	52	29	23	-	-	-	-	-



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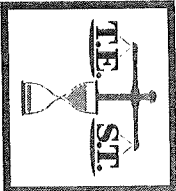
Summary of Soil Testing (PC-Samples)

Project Number: 1708-10 & 1808-01

Project Name: Augusta Phase 3 - Stage 1 - Cell 3

T.E.S.T. Sample Number	Client Sample Number	USCS	Carbonate Content, %	Moisture Content (%)	Grain Size Distribution			Atterberg Limits			Proctor		Hydraulic Conductivity		
					%Finer 3" Sieve	% Finer #4 Sieve	% Finer #200 Sieve	L.L. %	P.L. %	P.I. %	Opt. M.C. %	Max.Dry Density pcf	Initial M.C. %	Init.Dry Density pcf	Hydraulic Conduct. cm/sec
29234	PC-85	CH	-	23.6	100.0	100.0	86.4	51	28	23	-	-	-	-	-
29235	PC-86		-	23.4	100.0	100.0	90.1	-	-	-	-	-	-	-	-
29236	PC-87		-	24.4	100.0	100.0	91.2	-	-	-	-	-	-	-	-
29237	PC-88		-	23.1	100.0	100.0	89.8	-	-	-	-	-	-	-	-
29238	PC-89		-	24.1	100.0	100.0	84.8	-	-	-	-	-	-	-	-
29239	PC-90		-	24.5	100.0	100.0	82.5	-	-	-	-	-	-	-	-
29240	PC-91		-	23.9	100.0	100.0	83.4	-	-	-	-	-	-	-	-
29241	PC-92		-	23.9	100.0	100.0	81.7	-	-	-	-	-	-	-	-
29242	PC-93		-	24.2	100.0	100.0	85.8	-	-	-	-	-	-	-	-
29243	PC-94		-	24.1	100.0	100.0	83.0	-	-	-	-	-	-	-	-
29244	PC-95		-	23.1	100.0	100.0	86.3	-	-	-	-	-	-	-	-
29245	PC-96		-	21.4	100.0	100.0	79.4	-	-	-	-	-	-	-	-
29246	PC-97		-	21.0	100.0	100.0	90.7	-	-	-	-	-	-	-	-
29247	PC-98		-	20.0	100.0	100.0	71.2	-	-	-	-	-	-	-	-
29248	PC-99		-	24.0	100.0	100.0	84.6	-	-	-	-	-	-	-	-
29249	PC-100		-	22.4	100.0	100.0	78.9	-	-	-	-	-	-	-	-
29250	PC-101		-	21.5	100.0	99.9	89.6	-	-	-	-	-	-	-	-
29251	PC-102		-	22.2	100.0	100.0	92.3	-	-	-	-	-	-	-	-
29252	PC-103		-	24.6	100.0	100.0	90.5	-	-	-	-	-	-	-	-
29253	PC-104		-	24.2	100.0	100.0	86.2	-	-	-	-	-	-	-	-
29254	PC-105		-	24.5	100.0	100.0	92.4	-	-	-	-	-	-	-	-
29255	PC-106		-	22.8	100.0	100.0	86.2	-	-	-	-	-	-	-	-
29256	PC-107		-	23.4	100.0	100.0	87.7	-	-	-	-	-	-	-	-
29257	PC-108		-	22.2	100.0	100.0	91.3	-	-	-	-	-	-	-	-
***= % Passing 1/4" Sieve															

*** = % Passing 1/4" Sieve



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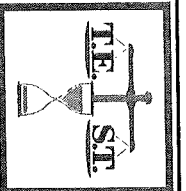
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Summary of Soil Testing (PS-Samples)

Project Number: 1708-10 & 1808-01

Project Name: Augusta Phase 3 - Stage 1 - Cell 3

T.E.S.T. Sample Number	Client Sample Number	USCS	Carbonate Content, %	Moisture Content (%)	Grain Size Distribution			Atterberg Limits			Proctor		Hydraulic Conductivity		
					%Finer 3" Sieve	% Finer #4 Sieve	% Finer 1/4" Sieve	L.L. %	P.L. %	P.I. %	Opt. M.C. %	Max. Dry Density pcf	Initial M.C. %	Init. Dry Density pcf	Hydraulic Conduct. cm/sec
27498	PS-1		0.3	-	-	-	100	-	-	-	-	-	3.3	82.4	6.7E-02
27499	PS-2		-	-	-	-	100	-	-	-	-	-	2.9	77.1	5.6E-02
28725	PS-3		-	-	-	-	100	-	-	-	-	-	3.4	85.9	2.2E-02
28726	PS-4		-	-	-	-	100	-	-	-	-	-	4.1	68.5	4.1E-02
28727	PS-5		-	-	-	-	100	-	-	-	-	-	3.4	86.4	4.1E-02
28728	PS-6		-	-	-	-	100	-	-	-	-	-	2.2	71.7	4.2E-02
28729	PS-7		-	-	-	-	100	-	-	-	-	-	2.3	86.9	3.1E-02
28730	PS-8		-	-	-	-	100	-	-	-	-	-	3.3	81.1	2.8E-02
28731	PS-9		-	-	-	-	100	-	-	-	-	-	3.9	86.4	2.9E-02
28732	PS-10		-	-	-	-	100	-	-	-	-	-	3.8	81.1	2.8E-02
28733	PS-11		-	-	-	-	100	-	-	-	-	-	2.9	79.6	3.1E-02
28734	PS-12		-	-	-	-	100	-	-	-	-	-	1.9	77.6	3.4E-02
28973	PS-13		-	-	-	-	100	-	-	-	-	-	4.7	79.0	4.1E-02
28974	PS-14		-	-	-	-	100	-	-	-	-	-	2.6	77.1	3.3E-02
28975	PS-15		-	-	-	-	100	-	-	-	-	-	4.0	78.6	2.9E-02
28976	PS-16		-	-	-	-	100	-	-	-	-	-	3.9	73.9	2.6E-02
28977	PS-17		-	-	-	-	100	-	-	-	-	-	4.4	81.3	4.9E-02
28978	PS-18		-	-	-	-	100	-	-	-	-	-	3.7	76.2	3.2E-02
28979	PS-19		-	-	-	-	100	-	-	-	-	-	4.6	86.0	2.2E-02
28980	PS-20		-	-	-	-	100	-	-	-	-	-	5.2	79.1	3.9E-02
28981	PS-21		-	-	-	-	100	-	-	-	-	-	3.2	81.6	6.7E-02
28982	PS-22		-	-	-	-	100	-	-	-	-	-	4.6	77.1	6.7E-02
29258	PS-23		-	-	-	-	100	-	-	-	-	-	6.4	83.7	5.8E-02
29259	PS-24		-	-	-	-	100	-	-	-	-	-	6.2	82.8	4.3E-02
29260	PS-25		-	-	-	-	100	-	-	-	-	-	6.0	86.0	5.2E-02
29261	PS-26		-	-	-	-	100	-	-	-	-	-	6.0	78.9	4.9E-02
29262	PS-27		-	-	-	-	100	-	-	-	-	-	6.0	77.2	6.4E-02
29263	PS-28		-	-	-	-	100	-	-	-	-	-	5.8	87.7	6.2E-02
29264	PS-29		-	-	-	-	100	-	-	-	-	-	6.0	82.3	5.4E-02



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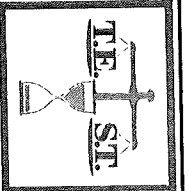
1874 Forge Street Tucker, GA 30084
Phone: 770-938-8233 Fax: 770-923-8973
Cell: 678-612-6534
Web: www.testllc.com

Summary of Soil Testing (PS-Samples)

Project Number: 1708-10 & 1808-01

Project Name: Augusta Phase 3 - Stage 1 - Cell 3

T.E.S.T. Sample Number	Client Sample Number	USCS	Carbonate Content, %	Moisture Content (%)	Grain Size			Atterberg Limits			Proctor		Hydraulic Conductivity		
					%Finer 3" Sieve	% Finer #4 Sieve	% Finer 1/4" Sieve	L.L. %	P.L. %	P.I. %	Opt. M.C. %	Max.Dry Density pcf	Initial M.C. %	Init.Dry Density pcf	Hydraulic Conduct. cm/sec
29265	PS-30	-	-	-	-	-	100	-	-	-	-	-	5.9	85.1	5.4E-02
29266	PS-31	-	-	-	-	-	100	-	-	-	-	-	6.0	81.2	5.4E-02
29267	PS-32	-	-	-	-	-	100	-	-	-	-	-	5.7	85.2	4.6E-02
29268	PS-33	-	-	-	-	-	100	-	-	-	-	-	5.4	85.9	6.0E-02
29269	PS-34	-	-	-	-	-	100	-	-	-	-	-	5.6	71.6	6.2E-02
29270	PS-35	-	-	-	-	-	100	-	-	-	-	-	5.9	85.3	6.1E-02
29271	PS-36	-	-	-	-	-	100	-	-	-	-	-	5.8	81.2	5.9E-02
29272	PS-37	-	-	-	-	-	100	-	-	-	-	-	5.7	89.4	5.7E-02
29273	PS-38	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29274	PS-39	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29275	PS-40	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29276	PS-41	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29277	PS-42	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29278	PS-43	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29279	PS-44	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29280	PS-45	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29281	PS-46	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29282	PS-47	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29283	PS-48	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29284	PS-49	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29285	PS-50	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29286	PS-51	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29287	PS-52	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29288	PS-53	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29289	PS-54	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29290	PS-55	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29291	PS-56	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29292	PS-57	-	-	-	-	-	100	-	-	-	-	-	-	-	-
29293	PS-58	-	-	-	-	-	100	-	-	-	-	-	-	-	-



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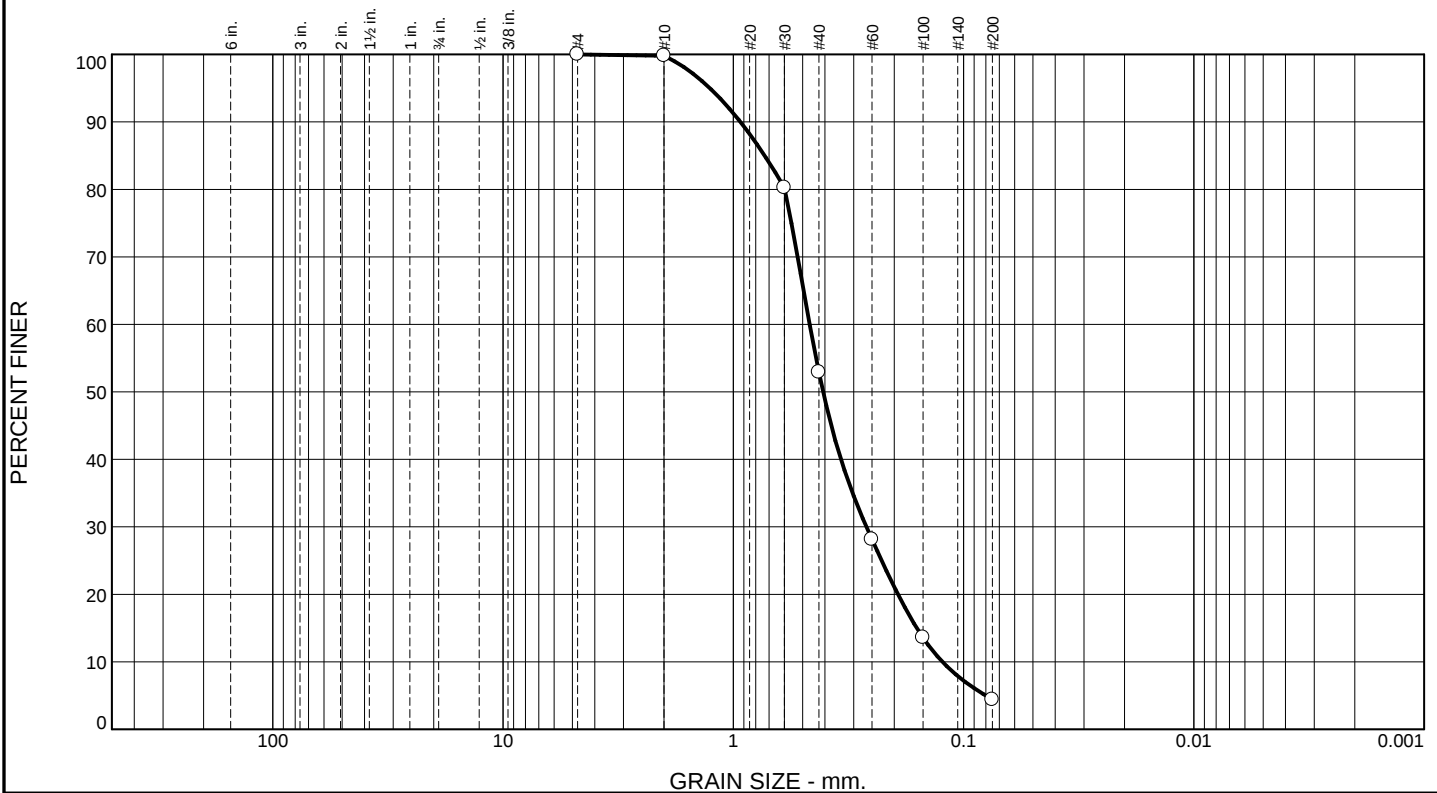
Summary of Soil Testing (PS-Samples)

Project Number: 1708-10 & 1808-01

Project Name: Augusta Phase 3 - Stage 1 - Cell 3

T.E.S.T. Sample Number	Client Sample Number	USCS	Carbonate Content, %	Moisture Content (%)	Grain Size			Atterberg Limits			Proctor		Hydraulic Conductivity		
					%Finer 3" Sieve	Distribution		L.L. %	P.L. %	P.I. %	Opt. M.C. %	Max.Dry Density pcf	Initial M.C. %	Init.Dry Density pcf	Hydraulic Conduct. cm/sec
						% Finer #4 Sieve	% Finer 1/4" Sieve								
29294	PS-59		-	-	-	-	100	-	-	-	-	-	-	-	-
29295	PS-60		-	-	-	-	100	-	-	-	-	-	-	-	-
29296	PS-61		-	-	-	-	100	-	-	-	-	-	-	-	-
29297	PS-62		-	-	-	-	100	-	-	-	-	-	-	-	-
29298	PS-63		-	-	-	-	100	-	-	-	-	-	-	-	-
29299	PS-64		-	-	-	-	100	-	-	-	-	-	-	-	-
29300	PS-65		-	-	-	-	100	-	-	-	-	-	-	-	-
29301	PS-66		-	-	-	-	100	-	-	-	-	-	-	-	-
29302	PS-67		-	-	-	-	100	-	-	-	-	-	-	-	-
29303	PS-68		-	-	-	-	100	-	-	-	-	-	-	-	-
29304	PS-69		-	-	-	-	100	-	-	-	-	-	-	-	-
29305	PS-70		-	-	-	-	100	-	-	-	-	-	-	-	-
29306	PS-71		-	-	-	-	100	-	-	-	-	-	-	-	-
29307	PS-72		-	-	-	-	100	-	-	-	-	-	-	-	-
29308	PS-73		-	-	-	-	100	-	-	-	-	-	-	-	-

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	46.9	48.5	4.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.8		
#30	80.2		
#40	52.9		
#60	28.1		
#100	13.6		
#200	4.4		

* (no specification provided)

Sample Number: PC-44

Date: 7-25-24

Material Description

Reddish Yellow poorly graded sand

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 0.9320

D₈₅= 0.7314

D₆₀= 0.4661

D₅₀= 0.4075

D₃₀= 0.2643

D₁₅= 0.1597

D₁₀= 0.1236

C_u= 3.77

C_c= 1.21

Classification

USCS= SP

AASHTO= A-3

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA

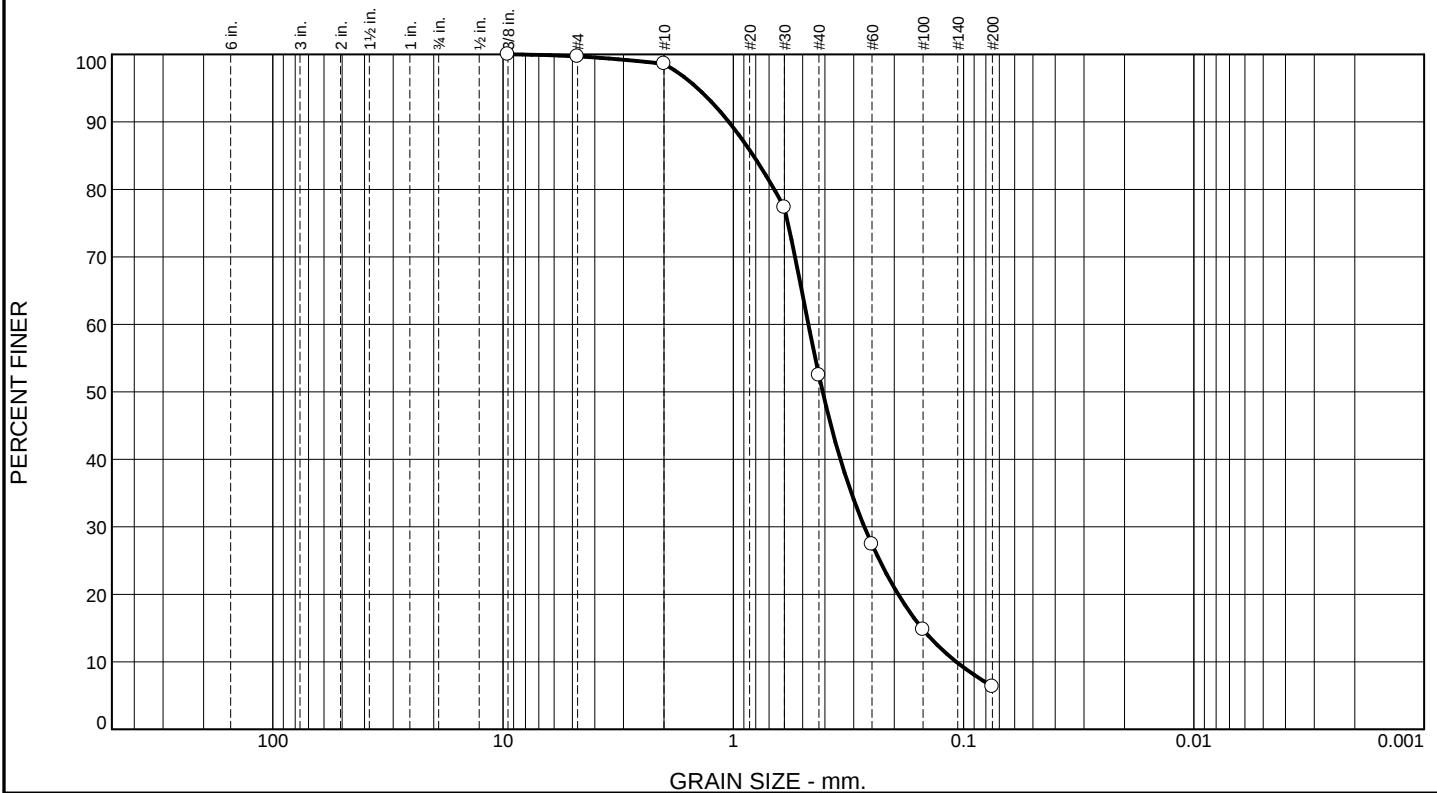
Project No: 843

Figure

Tested By: OH

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	1.1	46.1	46.2	6.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.7		
#10	98.6		
#30	77.3		
#40	52.5		
#60	27.4		
#100	14.8		
#200	6.3		

* (no specification provided)

Sample Number: PC-45

Material Description

Reddish Yellow poorly graded sand with silt

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D₉₀= 1.0460 D₈₅= 0.8184 D₆₀= 0.4721
D₅₀= 0.4094 D₃₀= 0.2698 D₁₅= 0.1518
D₁₀= 0.1076 C_u= 4.39 C_c= 1.43

Classification

USCS= SP-SM AASHTO= A-3

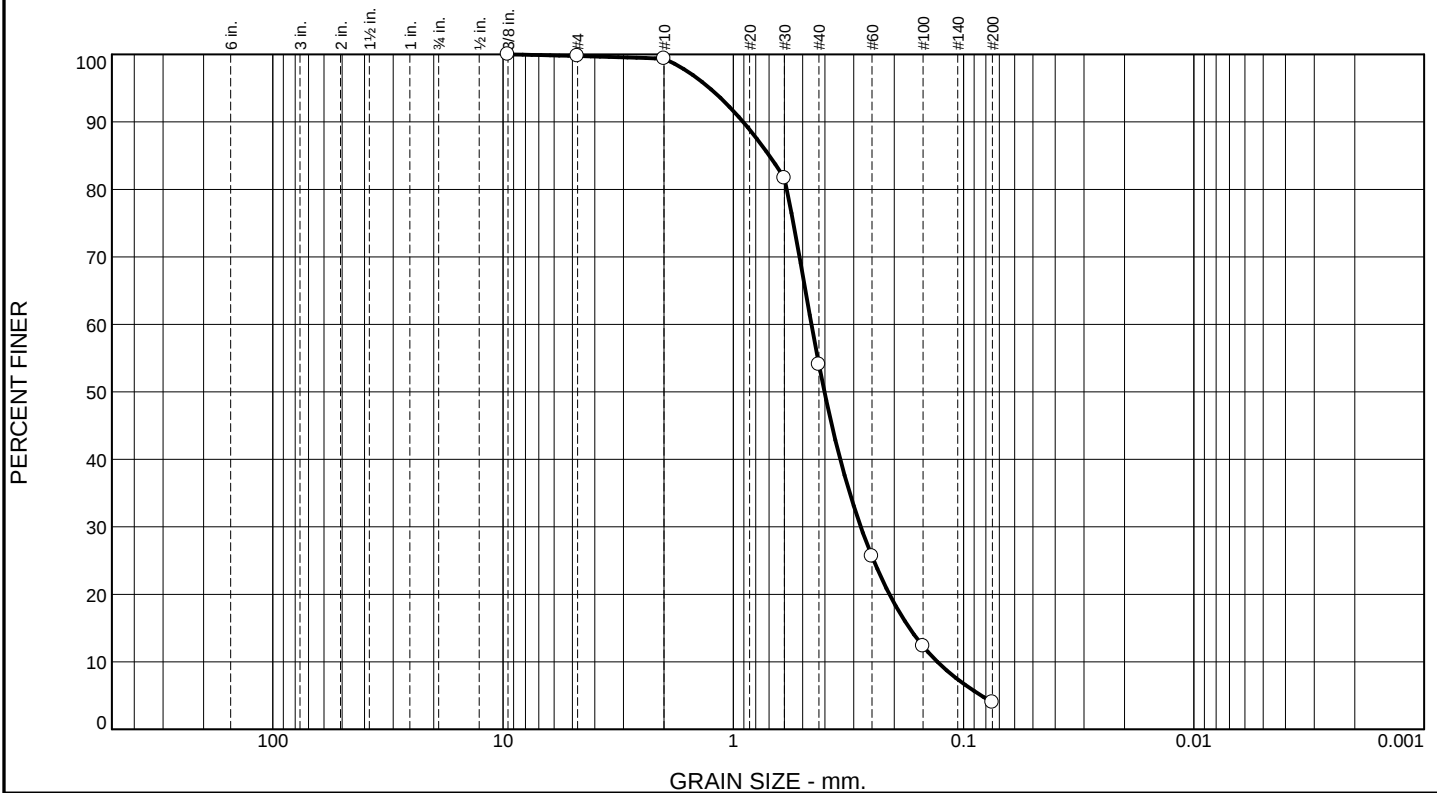
Remarks

Date: 7-25-24

RSA Geolab Union, New Jersey	Client: SCS Engineers Project: DBRLF: Phase 3, Stage 1, Cell 3B2 Augusta, GA
	Project No: 843 Figure

Tested By: OH Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.4	45.3	50.1	4.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.8		
#10	99.4		
#30	81.7		
#40	54.1		
#60	25.6		
#100	12.3		
#200	4.0		

* (no specification provided)

Sample Number: PC-46

Date: 7-25-24

Material Description

Reddish Yellow poorly graded sand

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 0.9070

D₈₅= 0.6980

D₆₀= 0.4579

D₅₀= 0.4022

D₃₀= 0.2797

D₁₅= 0.1718

D₁₀= 0.1299

C_u= 3.52

C_c= 1.31

Classification

USCS= SP

AASHTO= A-3

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA

Project No: 843

Figure

Tested By: OH

Checked By: KP



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
 ASTM D2434

Project: DBRLF: Phase 3 Stage 1 Cell 3B2 Proj. #: 843
 Augusta, GA
 Client: SCS Engineers Date: 7-25-24
 Sample ID: PC-44
 Description: Reddish Yellow poorly graded sand

Unit Weight Determination:

Diameter, D	11.35 cm	Height of Mold	8.25 in.
Area, A	101.2 cm ²	Height from top of Mold	1.25 in. (Ave.)
Length, L	11.43 cm	Height of Sample, H, in.	7.00 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.37	7.69	6.36	Initial: 0.2 %
Tare	0.00	0.00	0.00	Final: 20.9 %
Soil	6.37	7.69	6.36	

Density 100.11 pcf
 Dry, W

Void Ratio, e: 0.6954
 Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	34.2	32.2	2.0	190	900	0.0021	0.17	0.953	1.136E-02
	34.2	32.2	2.0	186	900	0.0020	0.17	0.953	1.112E-02
	34.2	32.2	2.0	185	900	0.0020	0.17	0.953	1.106E-02
2	35.0	32.5	2.5	240	900	0.0026	0.22	0.953	1.148E-02
	35.0	32.5	2.5	238	900	0.0026	0.22	0.953	1.139E-02
	35.0	32.5	2.5	235	900	0.0026	0.22	0.953	1.124E-02
3	36.0	33.0	3.0	280	900	0.0031	0.26	0.953	1.116E-02
	36.0	33.0	3.0	278	900	0.0031	0.26	0.953	1.108E-02
	36.0	33.0	3.0	276	900	0.0030	0.26	0.953	1.100E-02
4	37.0	33.5	3.5	322	900	0.0035	0.31	0.953	1.100E-02
	37.0	33.5	3.5	320	900	0.0035	0.31	0.953	1.094E-02
	37.0	33.5	3.5	317	900	0.0035	0.31	0.953	1.083E-02
5	37.7	33.7	4.0	360	900	0.0040	0.35	0.953	1.077E-02
	37.7	33.7	4.0	356	900	0.0039	0.35	0.953	1.065E-02
	37.7	33.7	4.0	356	900	0.0039	0.35	0.953	1.065E-02
6	38.7	33.7	5.0	425	900	0.0047	0.44	0.953	1.017E-02
	38.7	33.7	5.0	422	900	0.0046	0.44	0.953	1.010E-02
	38.7	33.7	5.0	420	900	0.0046	0.44	0.953	1.005E-02
Average									1.089E-02

Remarks: Recompact sample (Medium Compaction, Air-dried).
 Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: DBRLF: Phase 3 Stage 1 Cell 3B2 Proj. #: 843
Augusta, GA
Client: SCS Engineers Date: 7-25-24
Sample ID: PC-45
Description: Reddish Yellow poorly graded sand with silt

Unit Weight Determination:

Diameter, D 11.35 cm Height of Mold 8.25 in.
Area, A 101.2 cm² Height from top of Mold 1.25 in. (Ave.)
Length, L 11.43 cm Height of Sample, H, in. 7.00 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.20	7.58	6.19	Initial: 0.2 %
Tare	0.00	0.00	0.00	Final: 22.5 %
Soil	6.20	7.58	6.19	
				Density 97.44 pcf
				Dry, W

Void Ratio, e: 0.7419
Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	34.2	32.2	2.0	250	900	0.0027	0.17	0.953	1.495E-02
	34.2	32.2	2.0	249	900	0.0027	0.17	0.953	1.489E-02
	34.2	32.2	2.0	247	900	0.0027	0.17	0.953	1.477E-02
2	35.0	32.5	2.5	295	900	0.0032	0.22	0.953	1.412E-02
	35.0	32.5	2.5	295	900	0.0032	0.22	0.953	1.412E-02
	35.0	32.5	2.5	293	900	0.0032	0.22	0.953	1.402E-02
3	36.0	33.0	3.0	324	900	0.0036	0.26	0.953	1.292E-02
	36.0	33.0	3.0	321	900	0.0035	0.26	0.953	1.280E-02
	36.0	33.0	3.0	320	900	0.0035	0.26	0.953	1.276E-02
4	37.1	33.6	3.5	365	900	0.0040	0.31	0.953	1.247E-02
	37.1	33.6	3.5	363	900	0.0040	0.31	0.953	1.241E-02
	37.1	33.6	3.5	360	900	0.0040	0.31	0.953	1.230E-02
5	38.0	34.0	4.0	398	900	0.0044	0.35	0.953	1.190E-02
	38.0	34.0	4.0	395	900	0.0043	0.35	0.953	1.181E-02
	38.0	34.0	4.0	394	900	0.0043	0.35	0.953	1.178E-02
6	39.8	34.8	5.0	455	900	0.0050	0.44	0.953	1.089E-02
	39.8	34.8	5.0	452	900	0.0050	0.44	0.953	1.081E-02
	39.8	34.8	5.0	450	900	0.0049	0.44	0.953	1.077E-02
Average									1.281E-02

Remarks: Recompact sample (Medium Compaction, Air-dried).
Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
 ASTM D2434

Project: DBRLF: Phase 3 Stage 1 Cell 3B2 Proj. #: 843
 Augusta, GA
 Client: SCS Engineers Date: 7-25-24
 Sample ID: PC-46
 Description: Reddish Yellow poorly graded sand

Unit Weight Determination:

Diameter, D	11.35 cm	Height of Mold	8.25 in.
Area, A	101.2 cm ²	Height from top of Mold	1.26 in. (Ave.)
Length, L	11.43 cm	Height of Sample, H, in.	6.99 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.39	7.72	6.38	Initial: 0.2 %
Tare	0.00	0.00	0.00	Final: 21.0 %
Soil	6.39	7.72	6.38	
				Density 100.57 pcf
				Dry, W

Void Ratio, e: 0.6876
 Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	34.1	32.1	2.0	207	900	0.0023	0.17	0.953	1.238E-02
	34.1	32.1	2.0	205	900	0.0023	0.17	0.953	1.226E-02
	34.1	32.1	2.0	204	900	0.0022	0.17	0.953	1.220E-02
2	35.0	32.5	2.5	252	900	0.0028	0.22	0.953	1.206E-02
	35.0	32.5	2.5	250	900	0.0027	0.22	0.953	1.196E-02
	35.0	32.5	2.5	249	900	0.0027	0.22	0.953	1.191E-02
3	35.8	32.8	3.0	290	900	0.0032	0.26	0.953	1.156E-02
	35.8	32.8	3.0	290	900	0.0032	0.26	0.953	1.156E-02
	35.8	32.8	3.0	288	900	0.0032	0.26	0.953	1.148E-02
4	36.5	33.0	3.5	330	900	0.0036	0.31	0.953	1.128E-02
	36.5	33.0	3.5	328	900	0.0036	0.31	0.953	1.121E-02
	36.5	33.0	3.5	325	900	0.0036	0.31	0.953	1.111E-02
5	37.5	33.5	4.0	383	900	0.0042	0.35	0.953	1.145E-02
	37.5	33.5	4.0	380	900	0.0042	0.35	0.953	1.136E-02
	37.5	33.5	4.0	380	900	0.0042	0.35	0.953	1.136E-02
6	38.5	33.5	5.0	448	900	0.0049	0.44	0.953	1.072E-02
	38.5	33.5	5.0	445	900	0.0049	0.44	0.953	1.065E-02
	38.5	33.5	5.0	444	900	0.0049	0.44	0.953	1.062E-02
Average									1.151E-02

Remarks: Recompact sample (Medium Compaction, Air-dried).
 Tested with tap water.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.8	48.2	43.9	7.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.2		
#30	77.0		
#40	51.0		
#60	20.5		
#100	10.8		
#200	7.1		

* (no specification provided)

Sample Number: PC-29

Material Description

Yellowish Brown poorly graded sand with silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.0283

D₈₅= 0.8150

D₆₀= 0.4770

D₅₀= 0.4194

D₃₀= 0.3082

D₁₅= 0.2048

D₁₀= 0.1354

C_u= 3.52

C_c= 1.47

Classification

USCS= SP-SM

AASHTO= A-3

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA

Project No: 843

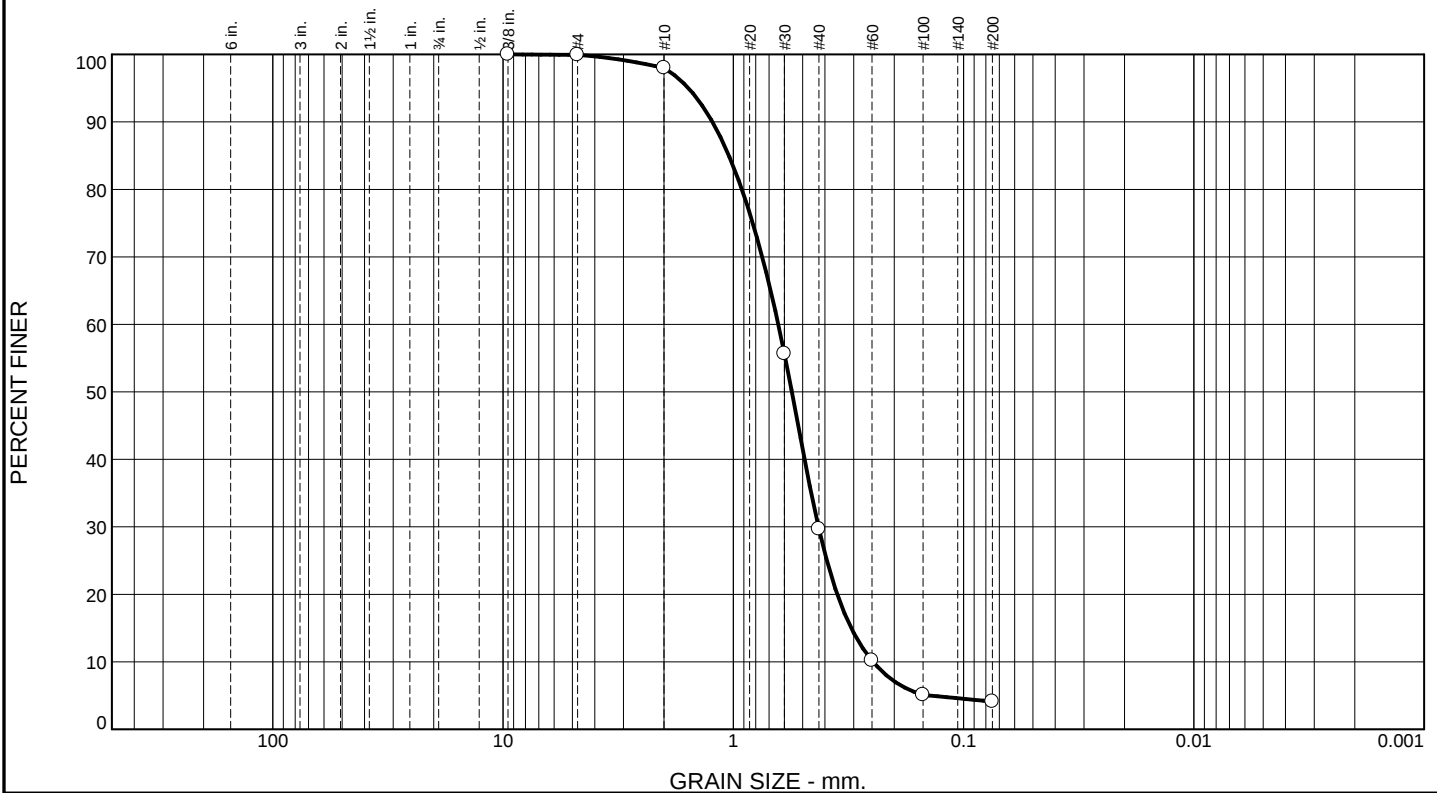
Date: 1-31-24

Figure

Tested By: EE/NC

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	1.9	68.3	25.6	4.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.9		
#10	98.0		
#30	55.7		
#40	29.7		
#60	10.2		
#100	5.1		
#200	4.1		

* (no specification provided)

Sample Number: PC-30

Date: 1-31-24

Material Description

Strong Brown poorly graded sand

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.2328

D₈₅= 1.0454

D₆₀= 0.6379

D₅₀= 0.5570

D₃₀= 0.4271

D₁₅= 0.3078

D₁₀= 0.2473

C_u= 2.58

C_c= 1.16

Classification

USCS= SP

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA

Project No: 843

Figure

Tested By: EE/NC

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
				53.0	44.4	2.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#30	73.2		
#40	47.0		
#60	23.1		
#100	10.2		
#200	2.6		

* (no specification provided)

Sample Number: PC-31

Date: 1-31-24

Material Description
 Reddish Yellow poorly graded sand

Atterberg Limits
 PL= NP LL= NV PI= NP

Coefficients
 D₉₀= 1.2786 D₈₅= 1.0213 D₆₀= 0.5048
 D₅₀= 0.4435 D₃₀= 0.3062 D₁₅= 0.1873
 D₁₀= 0.1484 C_u= 3.40 C_c= 1.25

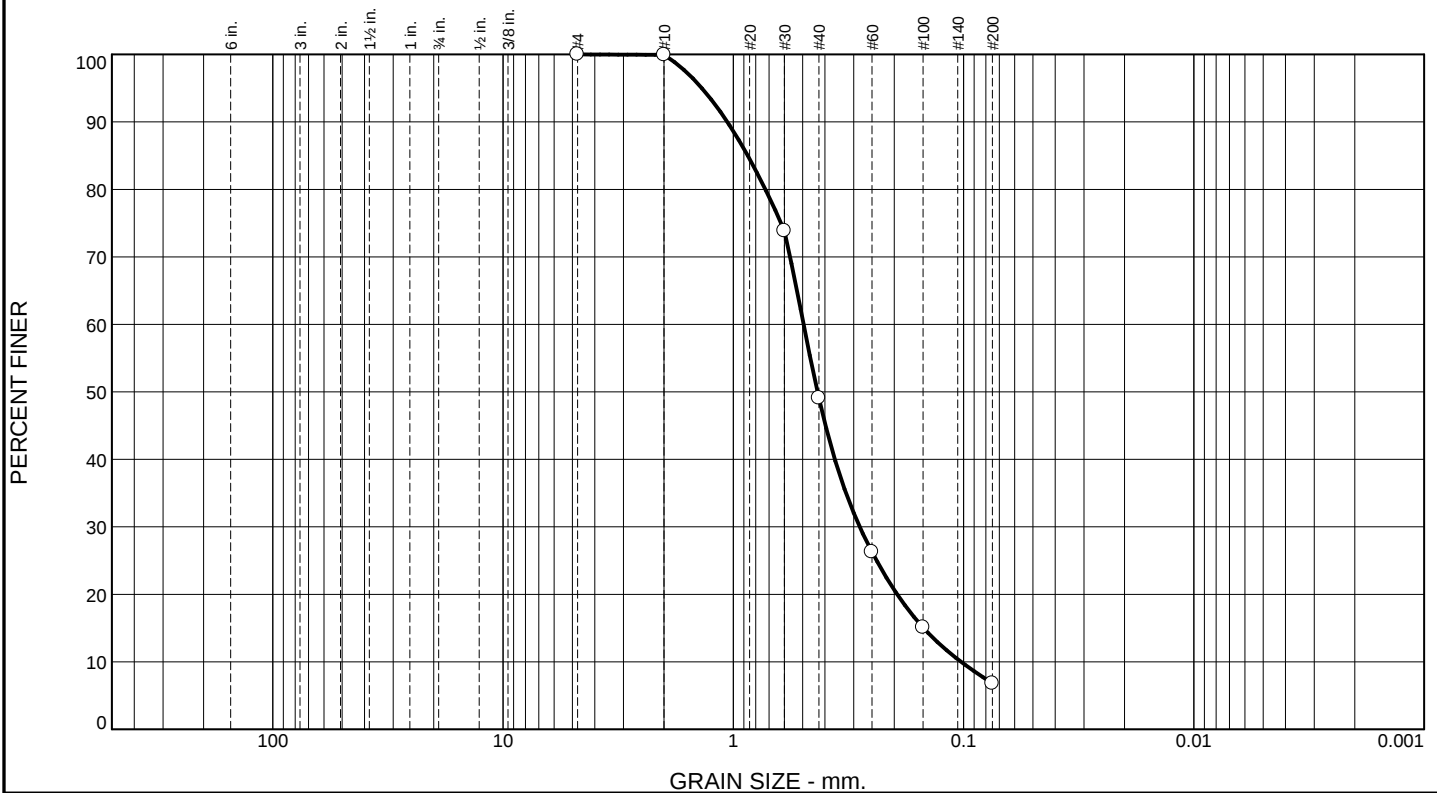
Classification
 USCS= SP AASHTO= A-1-b

Remarks

RSA Geolab Union, New Jersey	Client: SCS Engineers Project: DBRLF: Phase 3, Stage 1, Cell 3B2 Augusta, GA
	Project No: 843 Figure

Tested By: EE/NC Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	50.8	42.3	6.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#30	73.9		
#40	49.1		
#60	26.3		
#100	15.1		
#200	6.8		

* (no specification provided)

Sample Number: PC-32

Date: 1-31-24

Material Description

Yellowish Brown poorly graded sand with silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.0621

D₈₅= 0.8657

D₆₀= 0.4954

D₅₀= 0.4310

D₃₀= 0.2827

D₁₅= 0.1492

D₁₀= 0.1026

C_u= 4.83

C_c= 1.57

Classification

USCS= SP-SM

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA

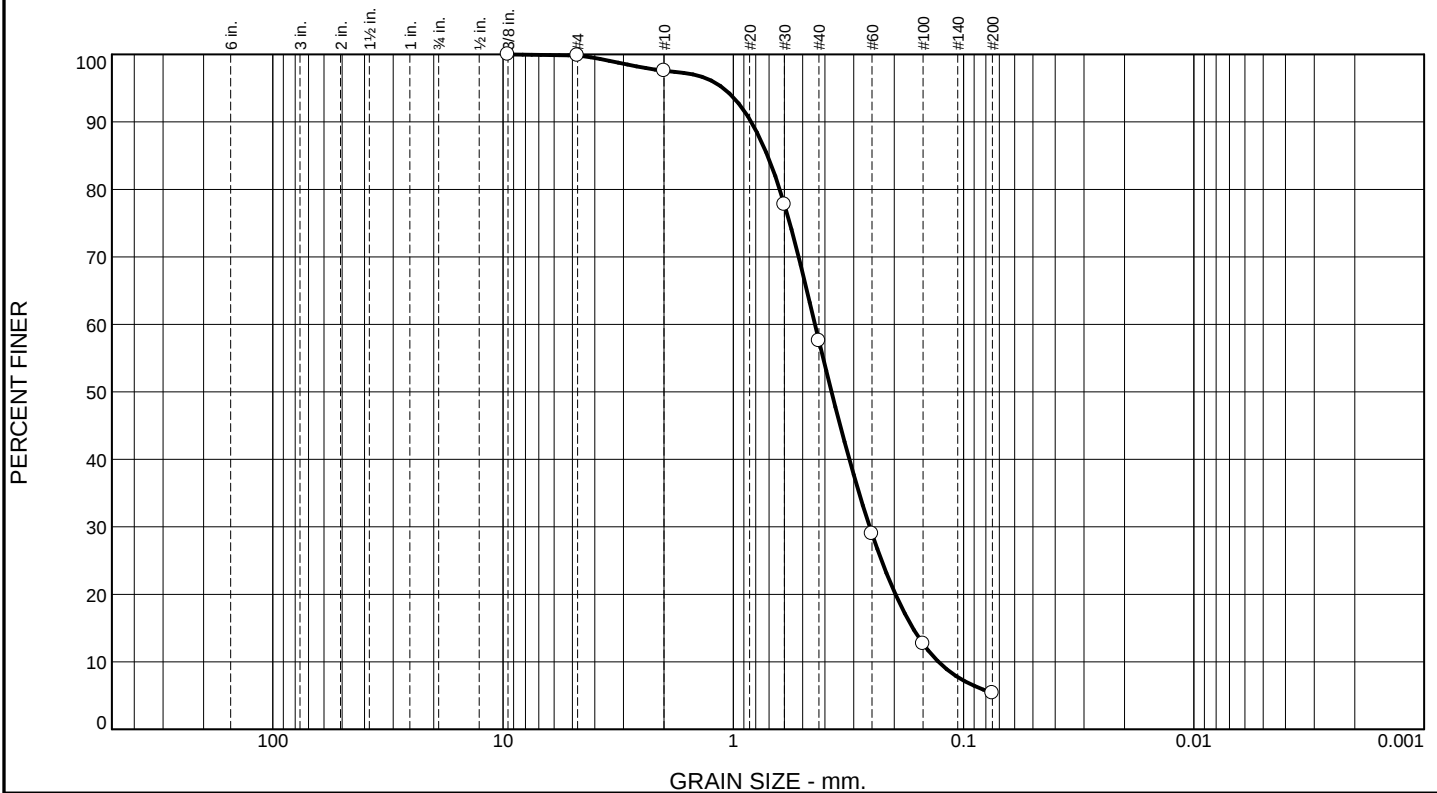
Project No: 843

Figure

Tested By: EE/NC

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	2.2	40.0	52.2	5.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.8		
#10	97.6		
#30	77.8		
#40	57.6		
#60	29.0		
#100	12.7		
#200	5.4		

* (no specification provided)

Sample Number: PC-33

Date: 1-31-24

Material Description

Reddish Yellow poorly graded sand with silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 0.8361

D₈₅= 0.7104

D₆₀= 0.4421

D₅₀= 0.3747

D₃₀= 0.2558

D₁₅= 0.1661

D₁₀= 0.1286

C_u= 3.44

C_c= 1.15

Classification

USCS= SP-SM

AASHTO= A-3

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA

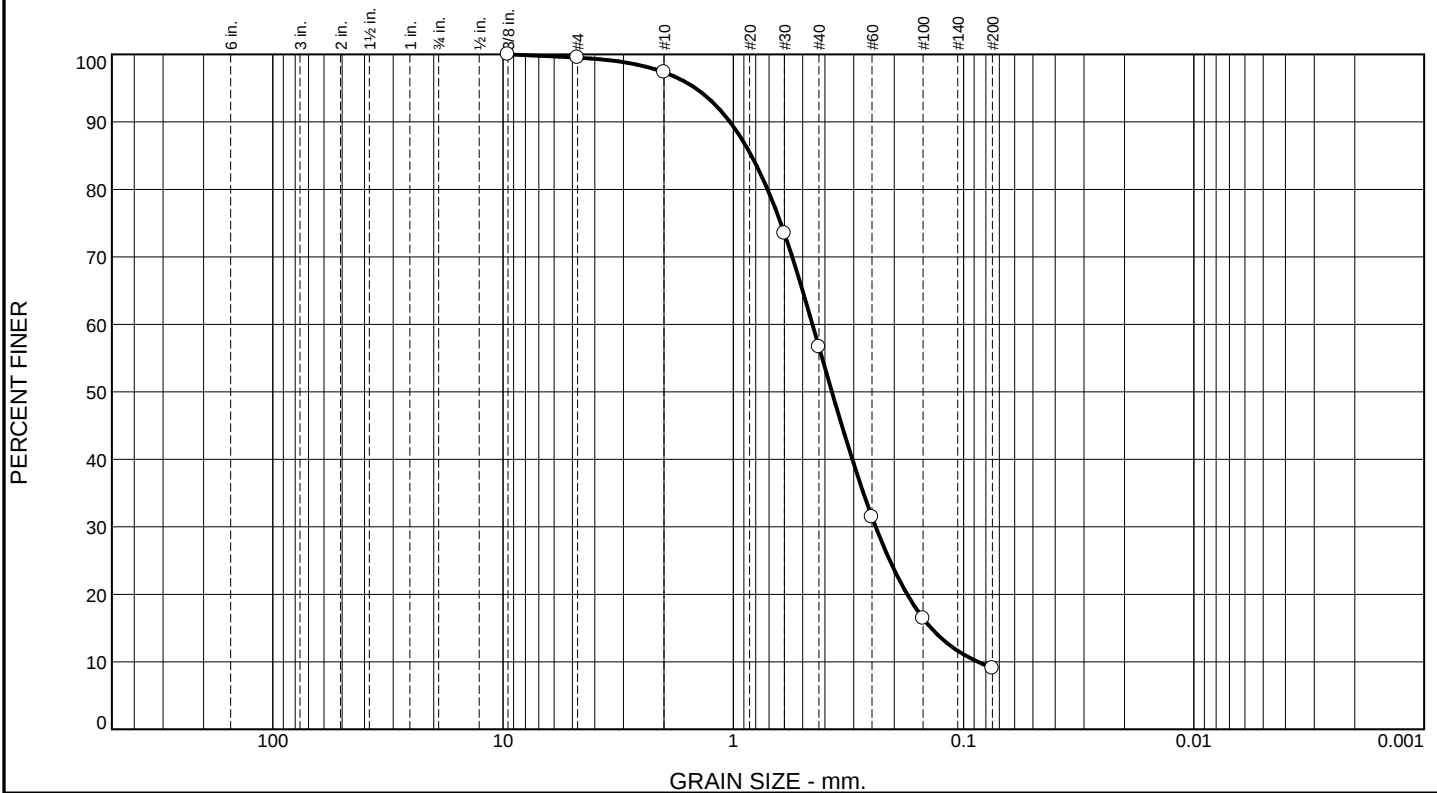
Project No: 843

Figure

Tested By: EE/NC

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	2.1	40.7	47.6	9.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.5		
#10	97.4		
#30	73.5		
#40	56.7		
#60	31.4		
#100	16.5		
#200	9.1		

* (no specification provided)

Material Description
Strong Yellow poorly graded sand with silt

Atterberg Limits
 PL= NP LL= NV PI= NP

Coefficients
 D₉₀= 1.0340 D₈₅= 0.8346 D₆₀= 0.4534
 D₅₀= 0.3733 D₃₀= 0.2409 D₁₅= 0.1383
 D₁₀= 0.0867 C_u= 5.23 C_c= 1.48

Classification
 USCS= SP-SM AASHTO= A-3

Remarks

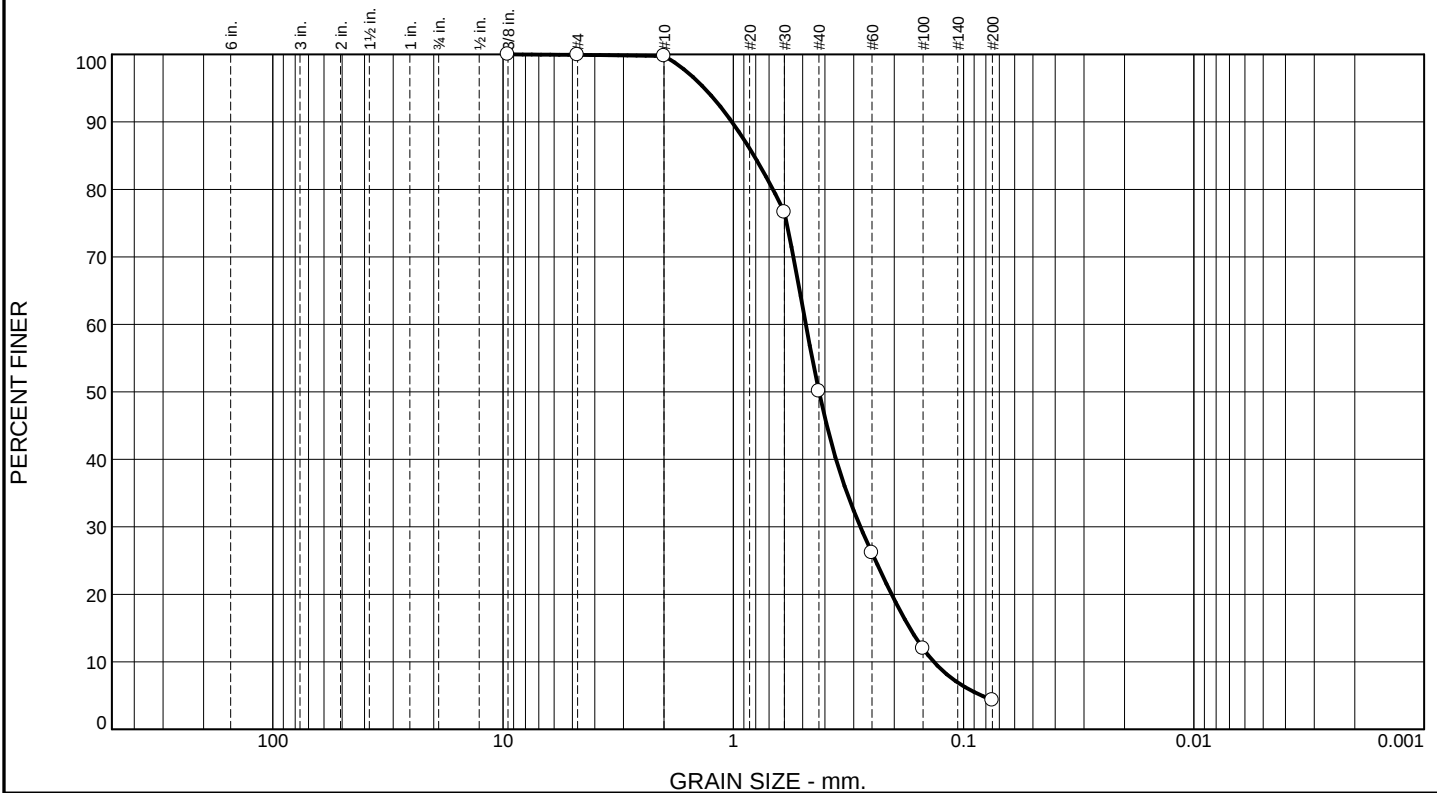
Sample Number: PC-34

Date: 1-31-24

RSA Geolab Union, New Jersey	Client: SCS Engineers Project: DBRLF: Phase 3, Stage 1, Cell 3B2 Augusta, GA
	Project No: 843 Figure

Tested By: EE/NC Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.1	49.7	45.8	4.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.9		
#10	99.8		
#30	76.6		
#40	50.1		
#60	26.1		
#100	12.0		
#200	4.3		

* (no specification provided)

Sample Number: PC-35

Date: 1-31-24

Material Description

Reddish Yellow poorly graded sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D₉₀= 1.0140 D₈₅= 0.8134 D₆₀= 0.4844
D₅₀= 0.4245 D₃₀= 0.2809 D₁₅= 0.1713
D₁₀= 0.1347 C_u= 3.60 C_c= 1.21

Classification

USCS= SP AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA

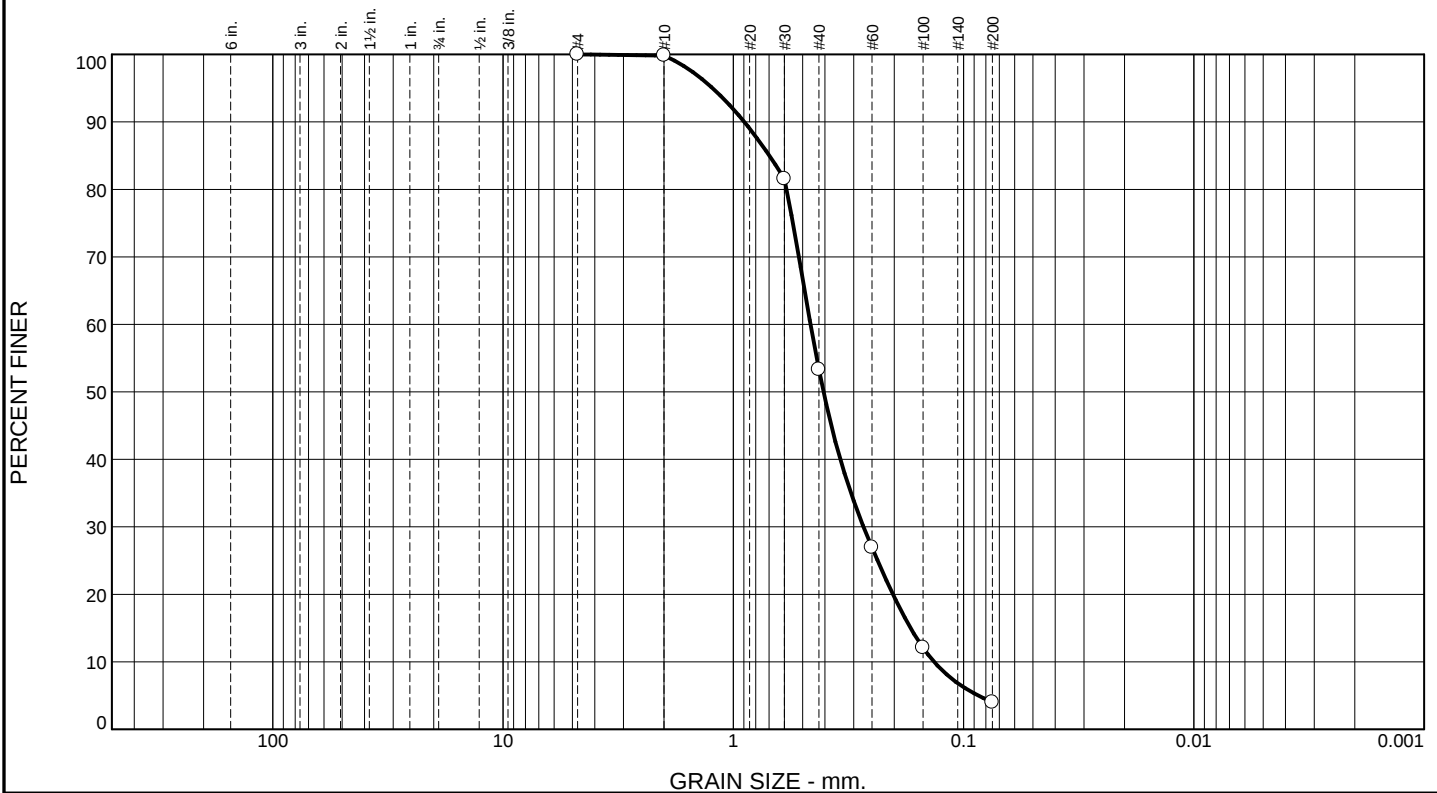
Project No: 843

Figure

Tested By: EE/NC

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	46.5	49.3	4.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.8		
#30	81.6		
#40	53.3		
#60	27.0		
#100	12.1		
#200	4.0		

* (no specification provided)

Sample Number: PC-36

Date: 1-31-24

Material Description

Reddish Yellow poorly graded sand

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 0.8967

D₈₅= 0.6974

D₆₀= 0.4621

D₅₀= 0.4059

D₃₀= 0.2721

D₁₅= 0.1699

D₁₀= 0.1344

C_u= 3.44

C_c= 1.19

Classification

USCS= SP

AASHTO= A-3

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA

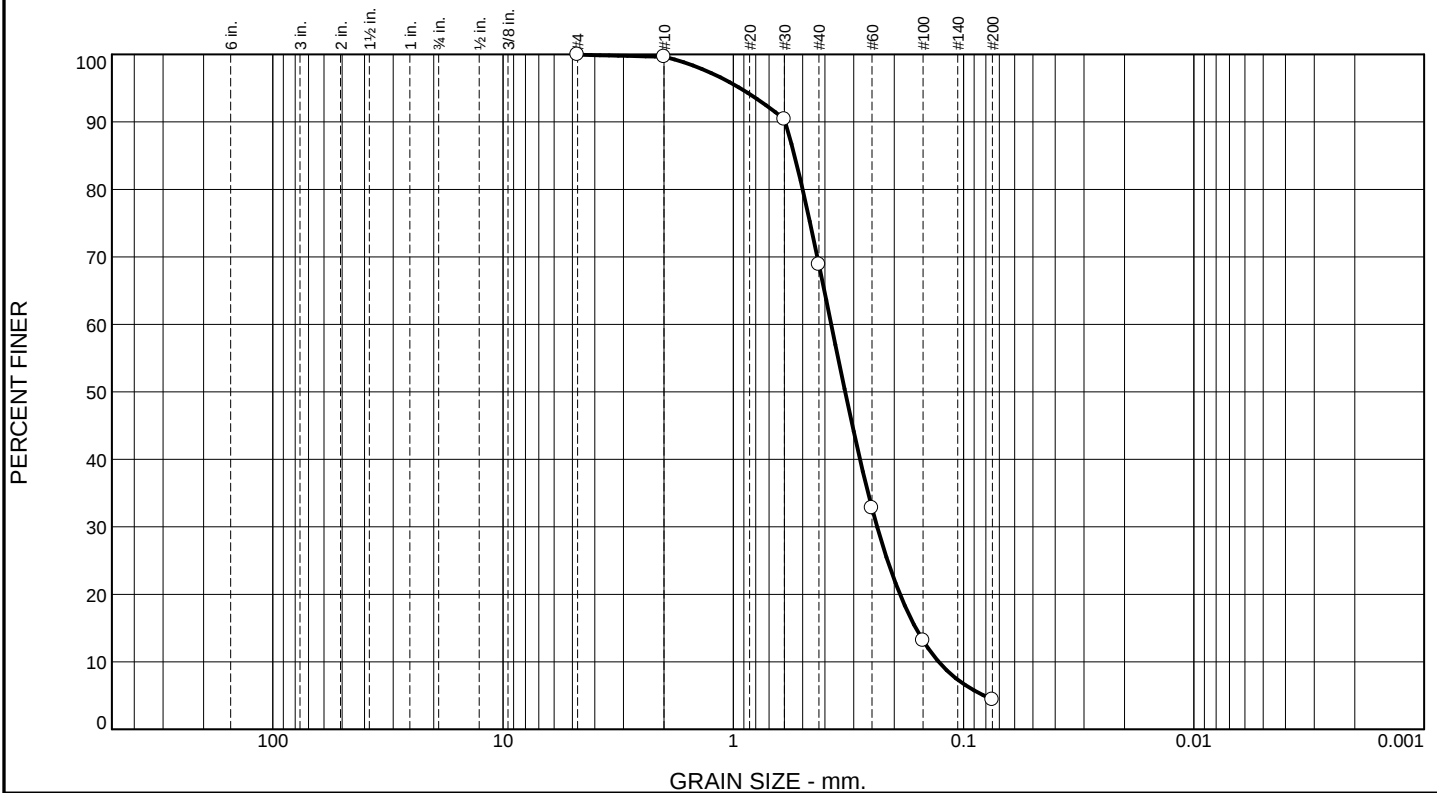
Project No: 843

Figure

Tested By: EE/NC

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
			0.4	30.7	64.5	4.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.6		
#30	90.4		
#40	68.9		
#60	32.8		
#100	13.2		
#200	4.4		

* (no specification provided)

Sample Number: PC-37

Date: 1-31-24

Material Description		
Reddish Yellow poorly graded sand		
Atterberg Limits		
PL= NP	LL= NV	PI= NP
Coefficients		
D ₉₀ = 0.5953	D ₈₅ = 0.5426	D ₆₀ = 0.3758
D ₅₀ = 0.3269	D ₃₀ = 0.2374	D ₁₅ = 0.1613
D ₁₀ = 0.1283	C _u = 2.93	C _c = 1.17
Classification		
USCS= SP	AASHTO=	A-3
Remarks		

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA

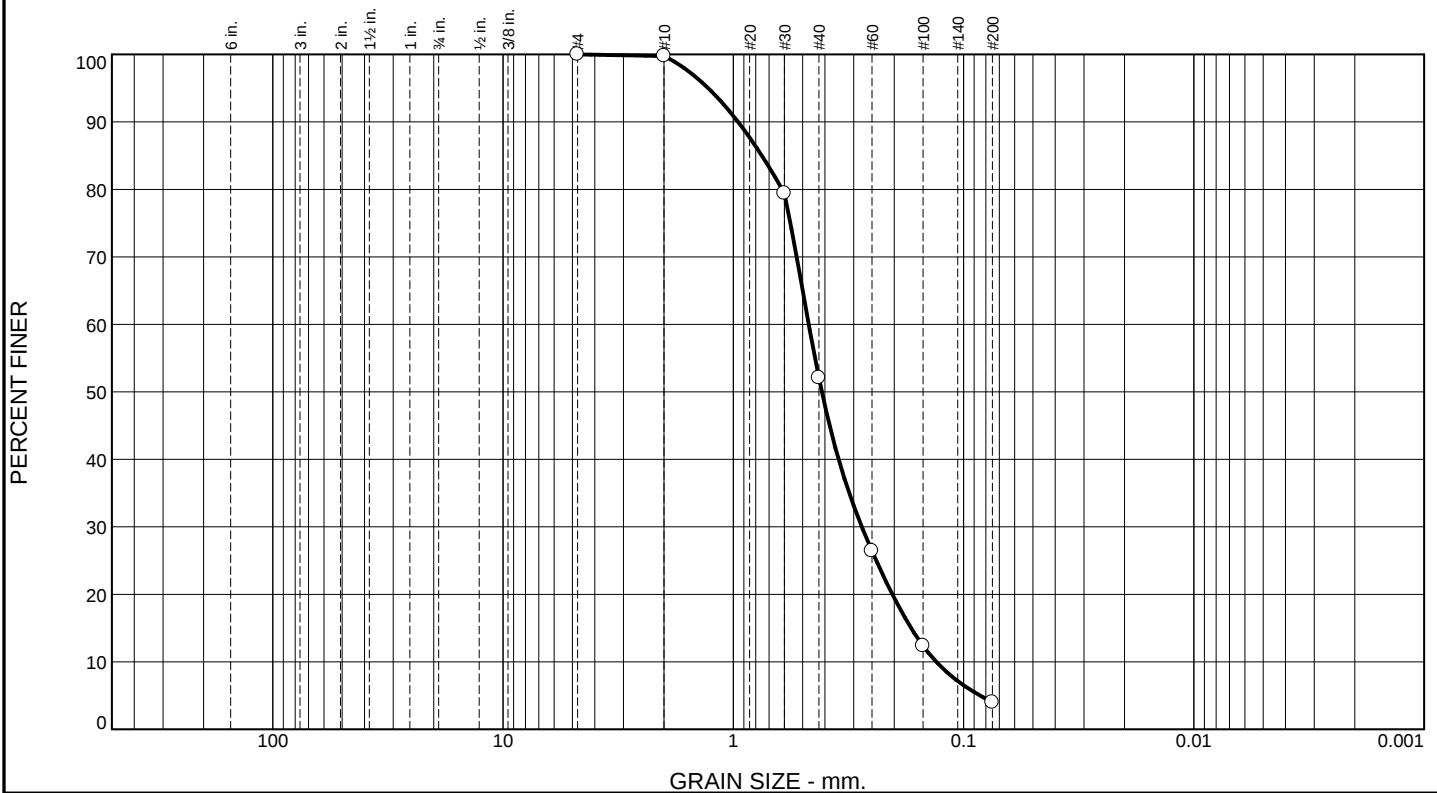
Project No: 843

Figure

Tested By: EE/NC

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	47.7	48.1	4.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.8		
#30	79.4		
#40	52.1		
#60	26.4		
#100	12.4		
#200	4.0		

* (no specification provided)

Sample Number: PC-38

Date: 1-31-24

Material Description

Reddish Yellow poorly graded sand

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 0.9537

D₈₅= 0.7520

D₆₀= 0.4705

D₅₀= 0.4127

D₃₀= 0.2768

D₁₅= 0.1690

D₁₀= 0.1314

C_u= 3.58

C_c= 1.24

Classification

USCS= SP

AASHTO= A-3

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA

Project No: 843

Figure

Tested By: EE/NC

Checked By: KP



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA
Client: SCS Engineers

Proj. #: 843
Date: 1-31-24

Sample ID: PC-29
Description: Yellowish Brown poorly graded sand with silt

Unit Weight Determination:

Diameter, D	7.62 cm	Height of Mold	6.380 in.
Area, A	45.58 cm ²	Height from top of Mold	0.400 in.
Length, L	7.62 cm	Height of Sample, H, in.	5.980 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)
Soil & Tare	2.39	2.81	2.37
Tare	0.00	0.00	0.00
Soil	2.39	2.81	2.37

Moisture Content

Initial: 0.8 %
Final: 18.6 %

Density 96.88 pcf
Dry, W

Void Ratio, e: 0.7519
Specific Gravity: 2.7200
(Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	20.7	18.7	2.0	485	900	0.0118	0.26	1.045	4.707E-02
	20.7	18.7	2.0	482	900	0.0117	0.26	1.045	4.678E-02
	20.7	18.7	2.0	480	900	0.0117	0.26	1.045	4.659E-02
2	22.5	20.0	2.5	633	900	0.0154	0.33	1.045	4.915E-02
	22.5	20.0	2.5	632	900	0.0154	0.33	1.045	4.907E-02
	22.5	20.0	2.5	630	900	0.0154	0.33	1.045	4.892E-02
3	24.0	21.0	3.0	732	900	0.0178	0.39	1.045	4.736E-02
	24.0	21.0	3.0	730	900	0.0178	0.39	1.045	4.723E-02
	24.0	21.0	3.0	728	900	0.0177	0.39	1.045	4.710E-02
4	24.9	21.3	3.6	865	900	0.0211	0.47	1.045	4.664E-02
	24.9	21.3	3.6	864	900	0.0211	0.47	1.045	4.659E-02
	24.9	21.3	3.6	860	900	0.0210	0.47	1.045	4.637E-02
5	25.7	21.6	4.1	960	900	0.0234	0.54	1.045	4.545E-02
	25.7	21.6	4.1	958	900	0.0234	0.54	1.045	4.536E-02
	25.7	21.6	4.1	957	900	0.0233	0.54	1.045	4.531E-02
6	27.0	22.0	5.0	1202	900	0.0293	0.66	1.045	4.666E-02
	27.0	22.0	5.0	1200	900	0.0293	0.66	1.045	4.659E-02
	27.0	22.0	5.0	1200	900	0.0293	0.66	1.045	4.659E-02
Average									4.694E-02

Remarks: Recompacted sample (low compaction).
-3/8" material tested. Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA
Client: SCS Engineers

Proj. #: 843
Date: 1-31-24

Sample ID: PC-30
Description: Strong Brown poorly graded sand

Unit Weight Determination:

Diameter, D	7.62 cm	Height of Mold	6.380 in.
Area, A	45.58 cm ²	Height from top of Mold	0.370 in.
Length, L	7.62 cm	Height of Sample, H, in.	6.010 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)
Soil & Tare	2.38	2.95	2.37
Tare	0.00	0.00	0.00
Soil	2.38	2.95	2.37

Moisture Content

Initial: 0.4 %
Final: 24.5 %

Density 96.40 pcf
Dry, W

Void Ratio, e: 0.7607
Specific Gravity: 2.7200
(Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	26.0	24.0	2.0	652	900	0.0159	0.26	1.020	6.177E-02
	26.0	24.0	2.0	650	900	0.0158	0.26	1.020	6.158E-02
	26.0	24.0	2.0	648	900	0.0158	0.26	1.020	6.139E-02
2	26.7	24.2	2.5	815	900	0.0199	0.33	1.020	6.177E-02
	26.7	24.2	2.5	812	900	0.0198	0.33	1.020	6.154E-02
	26.7	24.2	2.5	810	900	0.0197	0.33	1.020	6.139E-02
3	27.4	24.3	3.1	1020	900	0.0249	0.41	1.020	6.234E-02
	27.4	24.3	3.1	1018	900	0.0248	0.41	1.020	6.222E-02
	27.4	24.3	3.1	1015	900	0.0247	0.41	1.020	6.204E-02
4	28.0	24.5	3.5	1140	900	0.0278	0.46	1.020	6.171E-02
	28.0	24.5	3.5	1140	900	0.0278	0.46	1.020	6.171E-02
	28.0	24.5	3.5	1137	900	0.0277	0.46	1.020	6.155E-02
5	28.9	24.9	4.0	1315	900	0.0321	0.52	1.020	6.229E-02
	28.9	24.9	4.0	1310	900	0.0319	0.52	1.020	6.205E-02
	28.9	24.9	4.0	1308	900	0.0319	0.52	1.020	6.196E-02
6	30.3	25.2	5.1	1662	900	0.0405	0.67	1.020	6.174E-02
	30.3	25.2	5.1	1660	900	0.0405	0.67	1.020	6.167E-02
	30.3	25.2	5.1	1660	900	0.0405	0.67	1.020	6.167E-02
Average									6.180E-02

Remarks: Recompacted sample (low compaction).
-3/8" material tested. Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
 ASTM D2434

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
 Augusta, GA
 Client: SCS Engineers

Proj. #: 843
 Date: 1-31-24

Sample ID: PC-31
 Description: Reddish Yellow poorly graded sand

Unit Weight Determination:

Diameter, D	7.62 cm	Height of Mold	6.380 in.
Area, A	45.58 cm ²	Height from top of Mold	0.360 in.
Length, L	7.62 cm	Height of Sample, H, in.	6.020 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)
Soil & Tare	2.51	2.97	2.49
Tare	0.00	0.00	0.00
Soil	2.51	2.97	2.49

Moisture Content

Initial: 0.8 %
 Final: 19.3 %

Density 101.11 pcf
 Dry, W

Void Ratio, e: 0.6787
 Specific Gravity: 2.7200
 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	22.8	20.8	2.0	452	900	0.0110	0.26	1.035	4.345E-02
	22.8	20.8	2.0	450	900	0.0110	0.26	1.035	4.326E-02
	22.8	20.8	2.0	448	900	0.0109	0.26	1.035	4.307E-02
2	23.7	21.2	2.5	565	900	0.0138	0.33	1.035	4.345E-02
	23.7	21.2	2.5	563	900	0.0137	0.33	1.035	4.330E-02
	23.7	21.2	2.5	560	900	0.0137	0.33	1.035	4.307E-02
3	24.5	21.5	3.0	665	900	0.0162	0.39	1.035	4.262E-02
	24.5	21.5	3.0	660	900	0.0161	0.39	1.035	4.230E-02
	24.5	21.5	3.0	660	900	0.0161	0.39	1.035	4.230E-02
4	26.3	22.7	3.6	782	900	0.0191	0.47	1.035	4.176E-02
	26.3	22.7	3.6	782	900	0.0191	0.47	1.035	4.176E-02
	26.3	22.7	3.6	780	900	0.0190	0.47	1.035	4.166E-02
5	27.6	23.6	4.0	885	900	0.0216	0.52	1.035	4.254E-02
	27.6	23.6	4.0	880	900	0.0215	0.52	1.035	4.230E-02
	27.6	23.6	4.0	878	900	0.0214	0.52	1.035	4.220E-02
6	30.1	25.1	5.0	1095	900	0.0267	0.66	1.035	4.210E-02
	30.1	25.1	5.0	1095	900	0.0267	0.66	1.035	4.210E-02
	30.1	25.1	5.0	1090	900	0.0266	0.66	1.035	4.191E-02
Average									4.251E-02

Remarks: Recompacted sample (low compaction).
 -3/8" material tested. Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA
Client: SCS Engineers

Proj. #: 843
Date: 1-31-24

Sample ID: PC-32
Description: Yellowish Brown poorly graded sand with silt

Unit Weight Determination:

Diameter, D	7.62 cm	Height of Mold	6.380 in.
Area, A	45.58 cm ²	Height from top of Mold	0.380 in.
Length, L	7.62 cm	Height of Sample, H, in.	6.000 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)
Soil & Tare	2.36	2.87	2.34
Tare	0.00	0.00	0.00
Soil	2.36	2.87	2.34

Moisture Content

Initial: 0.9 %
Final: 22.6 %

Density 95.33 pcf
Dry, W

Void Ratio, e: 0.7803
Specific Gravity: 2.7200
(Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	22.5	20.5	2.0	640	900	0.0156	0.26	1.025	6.093E-02
	22.5	20.5	2.0	638	900	0.0156	0.26	1.025	6.074E-02
	22.5	20.5	2.0	638	900	0.0156	0.26	1.025	6.074E-02
2	23.3	20.8	2.5	780	900	0.0190	0.33	1.025	5.940E-02
	23.3	20.8	2.5	778	900	0.0190	0.33	1.025	5.925E-02
	23.3	20.8	2.5	778	900	0.0190	0.33	1.025	5.925E-02
3	24.2	21.3	2.9	922	900	0.0225	0.38	1.025	6.053E-02
	24.2	21.3	2.9	920	900	0.0224	0.38	1.025	6.040E-02
	24.2	21.3	2.9	915	900	0.0223	0.38	1.025	6.007E-02
4	25.4	21.9	3.5	1063	900	0.0259	0.46	1.025	5.783E-02
	25.4	21.9	3.5	1062	900	0.0259	0.46	1.025	5.777E-02
	25.4	21.9	3.5	1060	900	0.0258	0.46	1.025	5.766E-02
5	26.7	22.6	4.1	1198	900	0.0292	0.54	1.025	5.563E-02
	26.7	22.6	4.1	1195	900	0.0291	0.54	1.025	5.549E-02
	26.7	22.6	4.1	1190	900	0.0290	0.54	1.025	5.526E-02
6	29.0	24.0	5.0	1463	900	0.0357	0.66	1.025	5.571E-02
	29.0	24.0	5.0	1460	900	0.0356	0.66	1.025	5.560E-02
	29.0	24.0	5.0	1458	900	0.0355	0.66	1.025	5.552E-02
Average									5.821E-02

Remarks: Recompacted sample (low compaction).
-3/8" material tested. Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
 ASTM D2434

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
 Augusta, GA
 Client: SCS Engineers

Proj. #: 843
 Date: 1-31-24

Sample ID: PC-33
 Description: Reddish Yellow poorly graded sand with silt

Unit Weight Determination:

Diameter, D	7.62 cm	Height of Mold	6.380 in.
Area, A	45.58 cm ²	Height from top of Mold	0.380 in.
Length, L	7.62 cm	Height of Sample, H, in.	6.000 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)
Soil & Tare	2.46	2.93	2.44
Tare	0.00	0.00	0.00
Soil	2.46	2.93	2.44

Moisture Content

Initial: 0.8 %
 Final: 20.1 %

Density 99.41 pcf
 Dry, W

Void Ratio, e: 0.7074
 Specific Gravity: 2.7200
 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	23.3	21.2	2.1	425	900	0.0104	0.28	1.053	3.959E-02
	23.3	21.2	2.1	420	900	0.0102	0.28	1.053	3.912E-02
	23.3	21.2	2.1	418	900	0.0102	0.28	1.053	3.893E-02
2	24.0	21.5	2.5	522	900	0.0127	0.33	1.053	4.084E-02
	24.0	21.5	2.5	520	900	0.0127	0.33	1.053	4.068E-02
	24.0	21.5	2.5	515	900	0.0126	0.33	1.053	4.029E-02
3	25.0	22.0	3.0	630	900	0.0154	0.39	1.053	4.108E-02
	25.0	22.0	3.0	630	900	0.0154	0.39	1.053	4.108E-02
	25.0	22.0	3.0	628	900	0.0153	0.39	1.053	4.095E-02
4	26.2	22.6	3.6	735	900	0.0179	0.47	1.053	3.993E-02
	26.2	22.6	3.6	730	900	0.0178	0.47	1.053	3.966E-02
	26.2	22.6	3.6	728	900	0.0177	0.47	1.053	3.955E-02
5	27.4	23.4	4.0	840	900	0.0205	0.52	1.053	4.108E-02
	27.4	23.4	4.0	835	900	0.0204	0.52	1.053	4.083E-02
	27.4	23.4	4.0	830	900	0.0202	0.52	1.053	4.059E-02
6	30.6	25.6	5.0	1022	900	0.0249	0.66	1.053	3.998E-02
	30.6	25.6	5.0	1020	900	0.0249	0.66	1.053	3.990E-02
	30.6	25.6	5.0	1015	900	0.0247	0.66	1.053	3.971E-02
Average									4.021E-02

Remarks: Recompacted sample (low compaction).
 -3/8" material tested. Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
 ASTM D2434

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
 Augusta, GA
 Client: SCS Engineers

Proj. #: 843
 Date: 1-31-24

Sample ID: PC-34
 Description: Strong Yellow poorly graded sand with silt

Unit Weight Determination:

Diameter, D	7.62 cm	Height of Mold	6.380 in.
Area, A	45.58 cm ²	Height from top of Mold	0.360 in.
Length, L	7.62 cm	Height of Sample, H, in.	6.020 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)
Soil & Tare	2.32	2.82	2.31
Tare	0.00	0.00	0.00
Soil	2.32	2.82	2.31

Moisture Content

Initial: 0.4 %
 Final: 22.1 %

Density 93.80 pcf
 Dry, W

Void Ratio, e: 0.8095
 Specific Gravity: 2.7200
 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	24.5	22.5	2.0	720	900	0.0176	0.26	1.025	6.854E-02
	24.5	22.5	2.0	715	900	0.0174	0.26	1.025	6.807E-02
	24.5	22.5	2.0	715	900	0.0174	0.26	1.025	6.807E-02
2	28.9	26.4	2.5	898	900	0.0219	0.33	1.025	6.839E-02
	28.9	26.4	2.5	895	900	0.0218	0.33	1.025	6.816E-02
	28.9	26.4	2.5	890	900	0.0217	0.33	1.025	6.778E-02
3	31.0	28.0	3.0	1080	900	0.0263	0.39	1.025	6.854E-02
	31.0	28.0	3.0	1080	900	0.0263	0.39	1.025	6.854E-02
	31.0	28.0	3.0	1078	900	0.0263	0.39	1.025	6.842E-02
4	32.0	28.4	3.6	1285	900	0.0313	0.47	1.025	6.796E-02
	32.0	28.4	3.6	1280	900	0.0312	0.47	1.025	6.770E-02
	32.0	28.4	3.6	1278	900	0.0312	0.47	1.025	6.759E-02
5	33.0	28.9	4.1	1462	900	0.0356	0.54	1.025	6.789E-02
	33.0	28.9	4.1	1460	900	0.0356	0.54	1.025	6.780E-02
	33.0	28.9	4.1	1460	900	0.0356	0.54	1.025	6.780E-02
6	34.8	29.9	4.9	1765	900	0.0430	0.64	1.025	6.858E-02
	34.8	29.9	4.9	1762	900	0.0430	0.64	1.025	6.847E-02
	34.8	29.9	4.9	1755	900	0.0428	0.64	1.025	6.819E-02
Average									6.814E-02

Remarks: Recompacted sample (low compaction).
 -3/8" material tested. Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
 ASTM D2434

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
 Augusta, GA
 Client: SCS Engineers

Proj. #: 843
 Date: 1-31-24

Sample ID: PC-35
 Description: Reddish Yellow poorly graded sand

Unit Weight Determination:

Diameter, D	7.62 cm	Height of Mold	6.380 in.
Area, A	45.58 cm ²	Height from top of Mold	0.380 in.
Length, L	7.62 cm	Height of Sample, H, in.	6.000 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)
Soil & Tare	2.33	2.93	2.31
Tare	0.00	0.00	0.00
Soil	2.33	2.93	2.31

Moisture Content

Initial: 0.9 %
 Final: 26.8 %

Density 94.11 pcf
 Dry, W

Void Ratio, e: 0.8035
 Specific Gravity: 2.7200
 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	21.6	19.6	2.0	485	900	0.0118	0.26	1.033	4.653E-02
	21.6	19.6	2.0	485	900	0.0118	0.26	1.033	4.653E-02
	21.6	19.6	2.0	480	900	0.0117	0.26	1.033	4.605E-02
2	23.8	21.3	2.5	600	900	0.0146	0.33	1.033	4.605E-02
	23.8	21.3	2.5	598	900	0.0146	0.33	1.033	4.590E-02
	23.8	21.3	2.5	595	900	0.0145	0.33	1.033	4.567E-02
3	24.8	21.8	3.0	720	900	0.0176	0.39	1.033	4.605E-02
	24.8	21.8	3.0	715	900	0.0174	0.39	1.033	4.573E-02
	24.8	21.8	3.0	715	900	0.0174	0.39	1.033	4.573E-02
4	26.6	23.1	3.5	820	900	0.0200	0.46	1.033	4.496E-02
	26.6	23.1	3.5	820	900	0.0200	0.46	1.033	4.496E-02
	26.6	23.1	3.5	818	900	0.0199	0.46	1.033	4.485E-02
5	27.3	23.3	4.0	960	900	0.0234	0.52	1.033	4.605E-02
	27.3	23.3	4.0	958	900	0.0234	0.52	1.033	4.596E-02
	27.3	23.3	4.0	958	900	0.0234	0.52	1.033	4.596E-02
6	29.0	24.0	5.0	1184	900	0.0289	0.66	1.033	4.544E-02
	29.0	24.0	5.0	1182	900	0.0288	0.66	1.033	4.536E-02
	29.0	24.0	5.0	1180	900	0.0288	0.66	1.033	4.528E-02
Average									4.573E-02

Remarks: Recompacted sample (low compaction).
 -3/8" material tested. Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA
Client: SCS Engineers

Proj. #: 843
Date: 1-31-24

Sample ID: PC-36
Description: Reddish Yellow poorly graded sand

Unit Weight Determination:

Diameter, D	7.62 cm	Height of Mold	6.380 in.
Area, A	45.58 cm ²	Height from top of Mold	0.390 in.
Length, L	7.62 cm	Height of Sample, H, in.	5.990 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)
Soil & Tare	2.38	2.82	2.36
Tare	0.00	0.00	0.00
Soil	2.38	2.82	2.36

Moisture Content

Initial: 0.8 %
Final: 19.5 %

Density 96.31 pcf
Dry, W

Void Ratio, e: 0.7623
Specific Gravity: 2.7200
(Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	22.1	20.1	2.0	650	900	0.0158	0.26	1.020	6.158E-02
	22.1	20.1	2.0	648	900	0.0158	0.26	1.020	6.139E-02
	22.1	20.1	2.0	645	900	0.0157	0.26	1.020	6.110E-02
2	22.7	20.2	2.5	823	900	0.0201	0.33	1.020	6.237E-02
	22.7	20.2	2.5	820	900	0.0200	0.33	1.020	6.215E-02
	22.7	20.2	2.5	818	900	0.0199	0.33	1.020	6.199E-02
3	23.4	20.4	3.0	985	900	0.0240	0.39	1.020	6.221E-02
	23.4	20.4	3.0	980	900	0.0239	0.39	1.020	6.189E-02
	23.4	20.4	3.0	980	900	0.0239	0.39	1.020	6.189E-02
4	24.1	20.6	3.5	1140	900	0.0278	0.46	1.020	6.171E-02
	24.1	20.6	3.5	1138	900	0.0277	0.46	1.020	6.160E-02
	24.1	20.6	3.5	1136	900	0.0277	0.46	1.020	6.150E-02
5	25.0	21.0	4.0	1295	900	0.0316	0.52	1.020	6.134E-02
	25.0	21.0	4.0	1290	900	0.0314	0.52	1.020	6.110E-02
	25.0	21.0	4.0	1288	900	0.0314	0.52	1.020	6.101E-02
6	27.0	22.0	5.0	1580	900	0.0385	0.66	1.020	5.987E-02
	27.0	22.0	5.0	1580	900	0.0385	0.66	1.020	5.987E-02
	27.0	22.0	5.0	1575	900	0.0384	0.66	1.020	5.968E-02
Average									6.135E-02

Remarks: Recompacted sample (low compaction).
-3/8" material tested. Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA
Client: SCS Engineers

Proj. #: 843
Date: 1-31-24

Sample ID: PC-37
Description: Reddish Yellow poorly graded sand

Unit Weight Determination:

Diameter, D	7.62 cm	Height of Mold	6.380 in.
Area, A	45.58 cm ²	Height from top of Mold	0.370 in.
Length, L	7.62 cm	Height of Sample, H, in.	6.010 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)
Soil & Tare	2.44	2.93	2.42
Tare	0.00	0.00	0.00
Soil	2.44	2.93	2.42

Moisture Content

Initial: 0.8 %
Final: 21.1 %

Density 98.43 pcf
Dry, W

Void Ratio, e: 0.7244
Specific Gravity: 2.7200
(Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	25.0	23.0	2.0	263	900	0.0064	0.26	1.030	2.516E-02
	25.0	23.0	2.0	260	900	0.0063	0.26	1.030	2.487E-02
	25.0	23.0	2.0	258	900	0.0063	0.26	1.030	2.468E-02
2	25.5	23.0	2.5	325	900	0.0079	0.33	1.030	2.487E-02
	25.5	23.0	2.5	320	900	0.0078	0.33	1.030	2.449E-02
	25.5	23.0	2.5	318	900	0.0078	0.33	1.030	2.434E-02
3	26.0	23.0	3.0	385	900	0.0094	0.39	1.030	2.455E-02
	26.0	23.0	3.0	383	900	0.0093	0.39	1.030	2.443E-02
	26.0	23.0	3.0	380	900	0.0093	0.39	1.030	2.423E-02
4	27.0	23.5	3.5	445	900	0.0108	0.46	1.030	2.433E-02
	27.0	23.5	3.5	444	900	0.0108	0.46	1.030	2.427E-02
	27.0	23.5	3.5	440	900	0.0107	0.46	1.030	2.405E-02
5	28.0	24.0	4.0	490	900	0.0119	0.52	1.030	2.344E-02
	28.0	24.0	4.0	490	900	0.0119	0.52	1.030	2.344E-02
	28.0	24.0	4.0	485	900	0.0118	0.52	1.030	2.320E-02
6	29.3	24.4	4.9	600	900	0.0146	0.64	1.030	2.343E-02
	29.3	24.4	4.9	595	900	0.0145	0.64	1.030	2.323E-02
	29.3	24.4	4.9	590	900	0.0144	0.64	1.030	2.304E-02
Average									2.411E-02

Remarks: Recompacted sample (low compaction).
-3/8" material tested. Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA
Client: SCS Engineers

Proj. #: 843
Date: 1-31-24

Sample ID: PC-38
Description: Reddish Yellow poorly graded sand

Unit Weight Determination:

Diameter, D	7.62 cm	Height of Mold	6.380 in.
Area, A	45.58 cm ²	Height from top of Mold	0.400 in.
Length, L	7.62 cm	Height of Sample, H, in.	5.980 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)
Soil & Tare	2.40	2.92	2.39
Tare	0.00	0.00	0.00
Soil	2.40	2.92	2.39

Moisture Content

Initial: 0.4 %
Final: 22.2 %

Density 97.70 pcf
Dry, W

Void Ratio, e: 0.7373
Specific Gravity: 2.7200
(Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	23.5	21.5	2.0	422	900	0.0103	0.26	1.035	4.057E-02
	23.5	21.5	2.0	420	900	0.0102	0.26	1.035	4.037E-02
	23.5	21.5	2.0	418	900	0.0102	0.26	1.035	4.018E-02
2	24.0	21.5	2.5	525	900	0.0128	0.33	1.035	4.037E-02
	24.0	21.5	2.5	520	900	0.0127	0.33	1.035	3.999E-02
	24.0	21.5	2.5	518	900	0.0126	0.33	1.035	3.984E-02
3	25.2	22.2	3.0	620	900	0.0151	0.39	1.035	3.973E-02
	25.2	22.2	3.0	618	900	0.0151	0.39	1.035	3.960E-02
	25.2	22.2	3.0	615	900	0.0150	0.39	1.035	3.941E-02
4	26.6	23.1	3.5	722	900	0.0176	0.46	1.035	3.966E-02
	26.6	23.1	3.5	720	900	0.0176	0.46	1.035	3.955E-02
	26.6	23.1	3.5	718	900	0.0175	0.46	1.035	3.944E-02
5	28.0	24.0	4.0	823	900	0.0201	0.52	1.035	3.956E-02
	28.0	24.0	4.0	820	900	0.0200	0.52	1.035	3.941E-02
	28.0	24.0	4.0	815	900	0.0199	0.52	1.035	3.917E-02
6	29.4	24.4	5.0	1025	900	0.0250	0.66	1.035	3.941E-02
	29.4	24.4	5.0	1023	900	0.0249	0.66	1.035	3.934E-02
	29.4	24.4	5.0	1020	900	0.0249	0.66	1.035	3.922E-02
Average									3.971E-02

Remarks: Recompacted sample (low compaction).
-3/8" material tested. Tested with tap water.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	3.4	48.6	41.5	6.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.7		
#10	96.3		
#30	69.7		
#40	47.7		
#60	19.9		
#100	10.0		
#200	6.2		

* (no specification provided)

Sample Number: PC-39

Date: 2-19-24

Material Description

Brownish Yellow poorly graded sand with silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.0568

D₈₅= 0.8616

D₆₀= 0.5122

D₅₀= 0.4404

D₃₀= 0.3150

D₁₅= 0.2101

D₁₀= 0.1498

C_u= 3.42

C_c= 1.29

Classification

USCS= SP-SM

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA

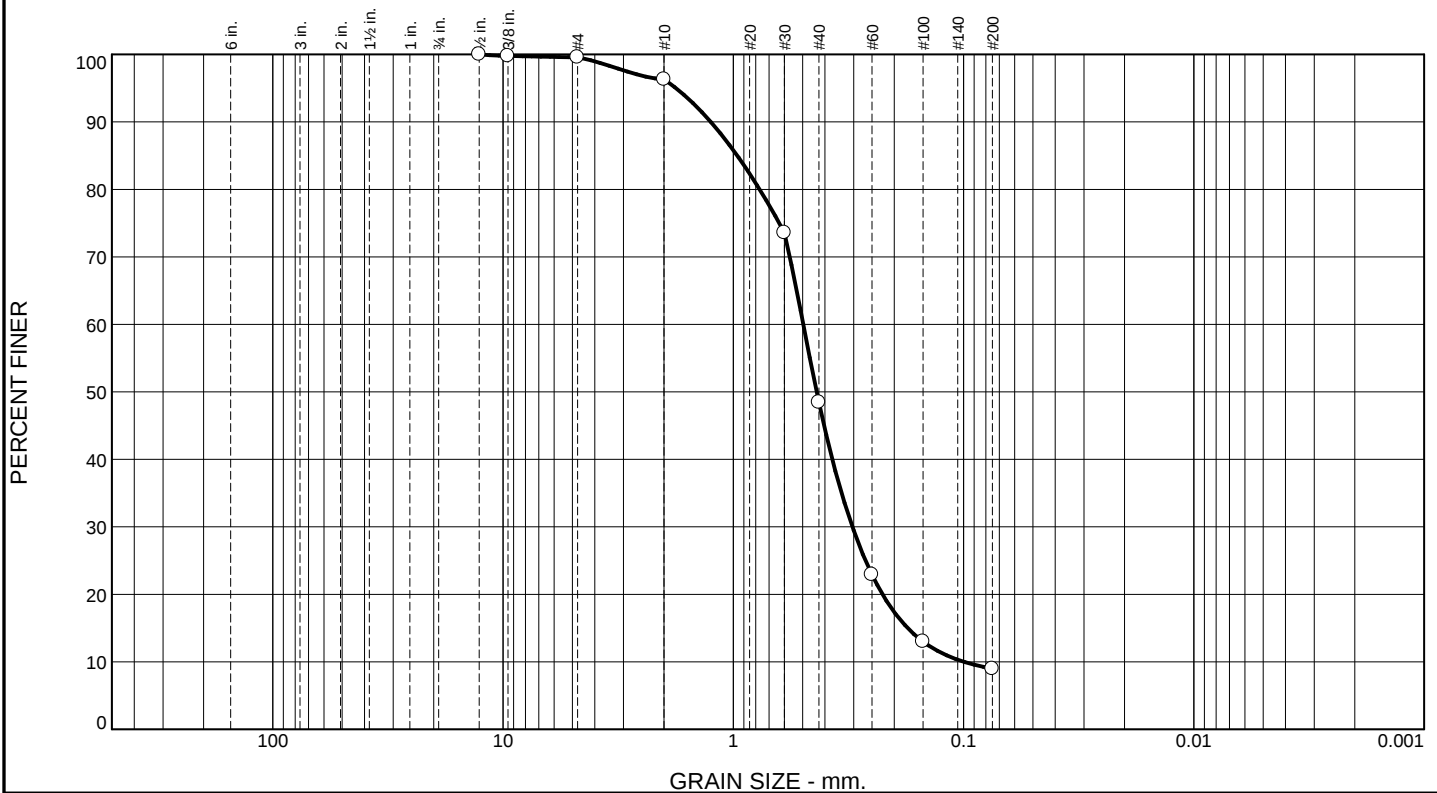
Project No: 843

Figure

Tested By: ER

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	3.3	47.9	39.4	9.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.5	100.0		
.375	99.8		
#4	99.6		
#10	96.3		
#30	73.6		
#40	48.4		
#60	22.9		
#100	13.0		
#200	9.0		

* (no specification provided)

Sample Number: PC-40

Date: 2-19-24

Material Description

Yellowish Red poorly graded sand with silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.2533

D₈₅= 0.9613

D₆₀= 0.4969

D₅₀= 0.4345

D₃₀= 0.3041

D₁₅= 0.1749

D₁₀= 0.0996

C_u= 4.99

C_c= 1.87

Classification

USCS= SP-SM

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA

Project No: 843

Figure

Tested By: ER

Checked By: KP



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: DBRLF: Phase 3 Stage 1 Cell 3B2 Proj. #: 843
Augusta, GA
Client: SCS Engineers Date: 2-19-24
Sample ID: PC-39
Description: Brownish Yellow poorly graded sand with silt

Unit Weight Determination:

Diameter, D	11.35 cm	Height of Mold	8.25 in.
Area, A	101.2 cm ²	Height from top of Mold	1.26 in. (Ave.)
Length, L	11.43 cm	Height of Sample, H, in.	6.99 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	5.94	6.68	5.68	Initial: 4.6 %
Tare	0.00	0.00	0.00	Final: 17.6 %
Soil	5.94	6.68	5.68	

Density 89.54 pcf
Dry, W

Void Ratio, e: 0.8956
Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	32.4	30.4	2.0	555	900	0.0061	0.17	1.075	3.744E-02
	32.4	30.4	2.0	542	900	0.0060	0.17	1.075	3.657E-02
	32.4	30.4	2.0	548	900	0.0060	0.17	1.075	3.697E-02
2	33.1	30.6	2.5	684	900	0.0075	0.22	1.075	3.692E-02
	33.1	30.6	2.5	680	900	0.0075	0.22	1.075	3.670E-02
	33.1	30.6	2.5	678	900	0.0074	0.22	1.075	3.659E-02
3	33.6	30.6	3.0	853	900	0.0094	0.26	1.075	3.837E-02
	33.6	30.6	3.0	850	900	0.0093	0.26	1.075	3.823E-02
	33.6	30.6	3.0	850	900	0.0093	0.26	1.075	3.823E-02
4	34.2	30.7	3.5	965	900	0.0106	0.31	1.075	3.720E-02
	34.2	30.7	3.5	960	900	0.0105	0.31	1.075	3.701E-02
	34.2	30.7	3.5	960	900	0.0105	0.31	1.075	3.701E-02
5	34.7	30.7	4.0	1244	900	0.0137	0.35	1.075	4.196E-02
	34.7	30.7	4.0	1240	900	0.0136	0.35	1.075	4.183E-02
	34.7	30.7	4.0	1238	900	0.0136	0.35	1.075	4.176E-02
6	35.8	30.8	5.0	1552	900	0.0170	0.44	1.075	4.188E-02
	35.8	30.8	5.0	1550	900	0.0170	0.44	1.075	4.183E-02
	35.8	30.8	5.0	1546	900	0.0170	0.44	1.075	4.172E-02
Average									3.879E-02

Remarks: Recompacted sample (Medium Compaction, Air-dried).
Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: DBRLF: Phase 3 Stage 1 Cell 3B2 Proj. #: 843
Augusta, GA
Client: SCS Engineers Date: 2-19-24
Sample ID: PC-40
Description: Yellowish Red poorly graded sand with silt

Unit Weight Determination:

Diameter, D 11.35 cm Height of Mold 8.25 in.
Area, A 101.2 cm² Height from top of Mold 1.24 in. (Ave.)
Length, L 11.43 cm Height of Sample, H, in. 7.01 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	5.49	6.64	5.47	Initial: 0.4 %
Tare	0.00	0.00	0.00	Final: 21.4 %
Soil	5.49	6.64	5.47	

Density 85.98 pcf
Dry, W

Void Ratio, e: 0.9740
Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	32.9	30.7	2.2	533	900	0.0059	0.19	1.075	3.269E-02
	32.9	30.7	2.2	530	900	0.0058	0.19	1.075	3.251E-02
	32.9	30.7	2.2	530	900	0.0058	0.19	1.075	3.251E-02
2	33.4	30.7	2.7	630	900	0.0069	0.24	1.075	3.148E-02
	33.4	30.7	2.7	628	900	0.0069	0.24	1.075	3.138E-02
	33.4	30.7	2.7	625	900	0.0069	0.24	1.075	3.123E-02
3	33.7	30.7	3.0	751	900	0.0082	0.26	1.075	3.378E-02
	33.7	30.7	3.0	748	900	0.0082	0.26	1.075	3.364E-02
	33.7	30.7	3.0	746	900	0.0082	0.26	1.075	3.355E-02
4	34.3	30.7	3.6	853	900	0.0094	0.31	1.075	3.197E-02
	34.3	30.7	3.6	852	900	0.0094	0.31	1.075	3.193E-02
	34.3	30.7	3.6	848	900	0.0093	0.31	1.075	3.178E-02
5	35.0	30.9	4.1	986	900	0.0108	0.36	1.075	3.245E-02
	35.0	30.9	4.1	984	900	0.0108	0.36	1.075	3.238E-02
	35.0	30.9	4.1	980	900	0.0108	0.36	1.075	3.225E-02
6	36.0	31.0	5.0	1215	900	0.0133	0.44	1.075	3.279E-02
	36.0	31.0	5.0	1212	900	0.0133	0.44	1.075	3.271E-02
	36.0	31.0	5.0	1210	900	0.0133	0.44	1.075	3.265E-02
Average									3.243E-02

Remarks: Recompacted sample (Medium Compaction, Air-dried).
Tested with tap water.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
				43.4	52.7	3.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#30	82.3		
#40	56.6		
#60	21.9		
#100	11.3		
#200	3.9		

* (no specification provided)

Sample Number: PC-41

Material Description
Yellowish Red poorly graded sand

Atterberg Limits
 PL= NP LL= NV PI= NP

Coefficients
 D₈₅= 0.7205 D₆₀= 0.4435
 D₅₀= 0.3907 D₁₅= 0.1981
 D₁₀= 0.1323 C_u= 3.35 C_c= 1.46

Classification
 USCS= SP AASHTO= A-3

Remarks

Date: 6-6-24

RSA Geolab Union, New Jersey	Client: SCS Engineers Project: DBRLF: Phase 3, Stage 1, Cell 3B2 Augusta, GA
	Project No: 843 Figure

Tested By: OH Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	58.9	37.8	3.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#30	70.8		
#40	41.0		
#60	18.8		
#100	10.3		
#200	3.2		

* (no specification provided)

Sample Number: PC-42

Date: 6-6-24

Material Description

Pale Brown poorly graded sand

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.1165

D₈₅= 0.9208

D₆₀= 0.5295

D₅₀= 0.4740

D₃₀= 0.3544

D₁₅= 0.2062

D₁₀= 0.1466

C_u= 3.61

C_c= 1.62

Classification

USCS= SP

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA

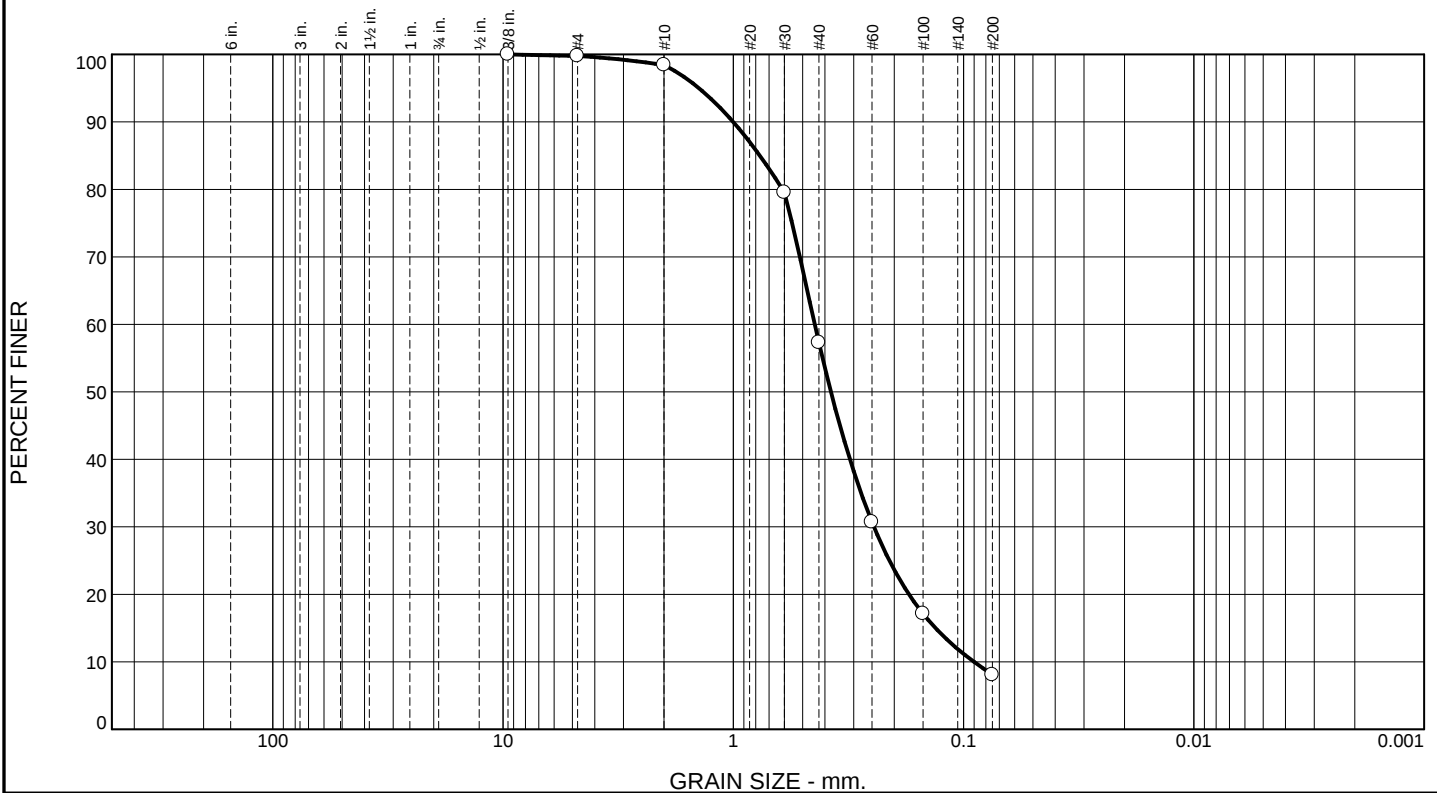
Project No: 843

Figure

Tested By: OH

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	1.4	41.1	49.2	8.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.8		
#10	98.4		
#30	79.5		
#40	57.3		
#60	30.7		
#100	17.1		
#200	8.1		

* (no specification provided)

Sample Number: PC-43

Date: 6-6-24

Material Description
Yellowish Red poorly graded sand with silt

Atterberg Limits
 PL= NP LL= NV PI= NP

Coefficients
 D₉₀= 1.0015 D₈₅= 0.7670 D₆₀= 0.4431
 D₅₀= 0.3770 D₃₀= 0.2451 D₁₅= 0.1325
 D₁₀= 0.0901 C_u= 4.92 C_c= 1.51

Classification
 USCS= SP-SM AASHTO= A-3

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: DBRLF: Phase 3, Stage 1, Cell 3B2
Augusta, GA

Project No: 843

Figure

Tested By: OH

Checked By: KP



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: DBRLF: Phase 3 Stage 1 Cell 3B2 Proj. #: 843
Augusta, GA
Client: SCS Engineers Date: 6-6-24
Sample ID: PC-41
Description: Yellowish Red poorly graded sand

Unit Weight Determination:

Diameter, D 11.35 cm Height of Mold 8.25 in.
Area, A 101.2 cm² Height from top of Mold 1.26 in. (Ave.)
Length, L 11.43 cm Height of Sample, H, in. 6.99 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	5.66	6.62	5.64	Initial: 0.4 %
Tare	0.00	0.00	0.00	Final: 17.4 %
Soil	5.66	6.62	5.64	

Density 88.91 pcf
Dry, W

Void Ratio, e: 0.9091
Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	33.1	31.1	2.0	284	900	0.0031	0.17	0.933	1.663E-02
	33.1	31.1	2.0	282	900	0.0031	0.17	0.933	1.651E-02
	33.1	31.1	2.0	282	900	0.0031	0.17	0.933	1.651E-02
2	33.6	31.1	2.5	335	900	0.0037	0.22	0.933	1.569E-02
	33.6	31.1	2.5	335	900	0.0037	0.22	0.933	1.569E-02
	33.6	31.1	2.5	330	900	0.0036	0.22	0.933	1.546E-02
3	34.2	31.2	3.0	395	900	0.0043	0.26	0.933	1.542E-02
	34.2	31.2	3.0	392	900	0.0043	0.26	0.933	1.530E-02
	34.2	31.2	3.0	390	900	0.0043	0.26	0.933	1.522E-02
4	34.7	31.2	3.5	465	900	0.0051	0.31	0.933	1.556E-02
	34.7	31.2	3.5	464	900	0.0051	0.31	0.933	1.553E-02
	34.7	31.2	3.5	460	900	0.0051	0.31	0.933	1.539E-02
5	35.3	31.3	4.0	520	900	0.0057	0.35	0.933	1.522E-02
	35.3	31.3	4.0	520	900	0.0057	0.35	0.933	1.522E-02
	35.3	31.3	4.0	518	900	0.0057	0.35	0.933	1.517E-02
6	36.3	31.3	5.0	612	900	0.0067	0.44	0.933	1.433E-02
	36.3	31.3	5.0	610	900	0.0067	0.44	0.933	1.429E-02
	36.3	31.3	5.0	610	900	0.0067	0.44	0.933	1.429E-02
Average									1.541E-02

Remarks: Recompacted sample (Medium Compaction, Air-dried).
Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: DBRLF: Phase 3 Stage 1 Cell 3B2 Proj. #: 843
Augusta, GA
Client: SCS Engineers Date: 6-6-24
Sample ID: PC-42
Description: Pale Brown poorly graded sand

Unit Weight Determination:

Diameter, D	11.35 cm	Height of Mold	8.25 in.
Area, A	101.2 cm ²	Height from top of Mold	1.26 in. (Ave.)
Length, L	11.43 cm	Height of Sample, H, in.	6.99 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	5.72	6.74	5.71	Initial: 0.2 %
Tare	0.00	0.00	0.00	Final: 18.0 %
Soil	5.72	6.74	5.71	
				Density 90.01 pcf
				Dry, W

Void Ratio, e: 0.8857
Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	32.9	30.9	2.0	375	900	0.0041	0.17	0.933	2.196E-02
	32.9	30.9	2.0	372	900	0.0041	0.17	0.933	2.178E-02
	32.9	30.9	2.0	370	900	0.0041	0.17	0.933	2.167E-02
2	33.5	31.0	2.5	450	900	0.0049	0.22	0.933	2.108E-02
	33.5	31.0	2.5	450	900	0.0049	0.22	0.933	2.108E-02
	33.5	31.0	2.5	448	900	0.0049	0.22	0.933	2.099E-02
3	34.0	31.1	2.9	545	900	0.0060	0.25	0.933	2.201E-02
	34.0	31.1	2.9	540	900	0.0059	0.25	0.933	2.181E-02
	34.0	31.1	2.9	538	900	0.0059	0.25	0.933	2.173E-02
4	34.6	31.1	3.5	630	900	0.0069	0.31	0.933	2.108E-02
	34.6	31.1	3.5	630	900	0.0069	0.31	0.933	2.108E-02
	34.6	31.1	3.5	628	900	0.0069	0.31	0.933	2.101E-02
5	35.1	31.1	4.0	715	900	0.0079	0.35	0.933	2.093E-02
	35.1	31.1	4.0	710	900	0.0078	0.35	0.933	2.079E-02
	35.1	31.1	4.0	710	900	0.0078	0.35	0.933	2.079E-02
6	36.2	31.2	5.0	840	900	0.0092	0.44	0.933	1.967E-02
	36.2	31.2	5.0	835	900	0.0092	0.44	0.933	1.956E-02
	36.2	31.2	5.0	830	900	0.0091	0.44	0.933	1.944E-02
Average									2.102E-02

Remarks: Recompacted sample (Medium Compaction, Air-dried).
Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: DBRLF: Phase 3 Stage 1 Cell 3B2 Proj. #: 843
Augusta, GA
Client: SCS Engineers Date: 6-6-24
Sample ID: PC-43
Description: Yellowish Red poorly graded sand with silt

Unit Weight Determination:

Diameter, D 11.35 cm Height of Mold 8.25 in.
Area, A 101.2 cm² Height from top of Mold 1.24 in. (Ave.)
Length, L 11.43 cm Height of Sample, H, in. 7.01 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	5.51	6.58	5.49	Initial: 0.4 %
Tare	0.00	0.00	0.00	Final: 19.9 %
Soil	5.51	6.58	5.49	

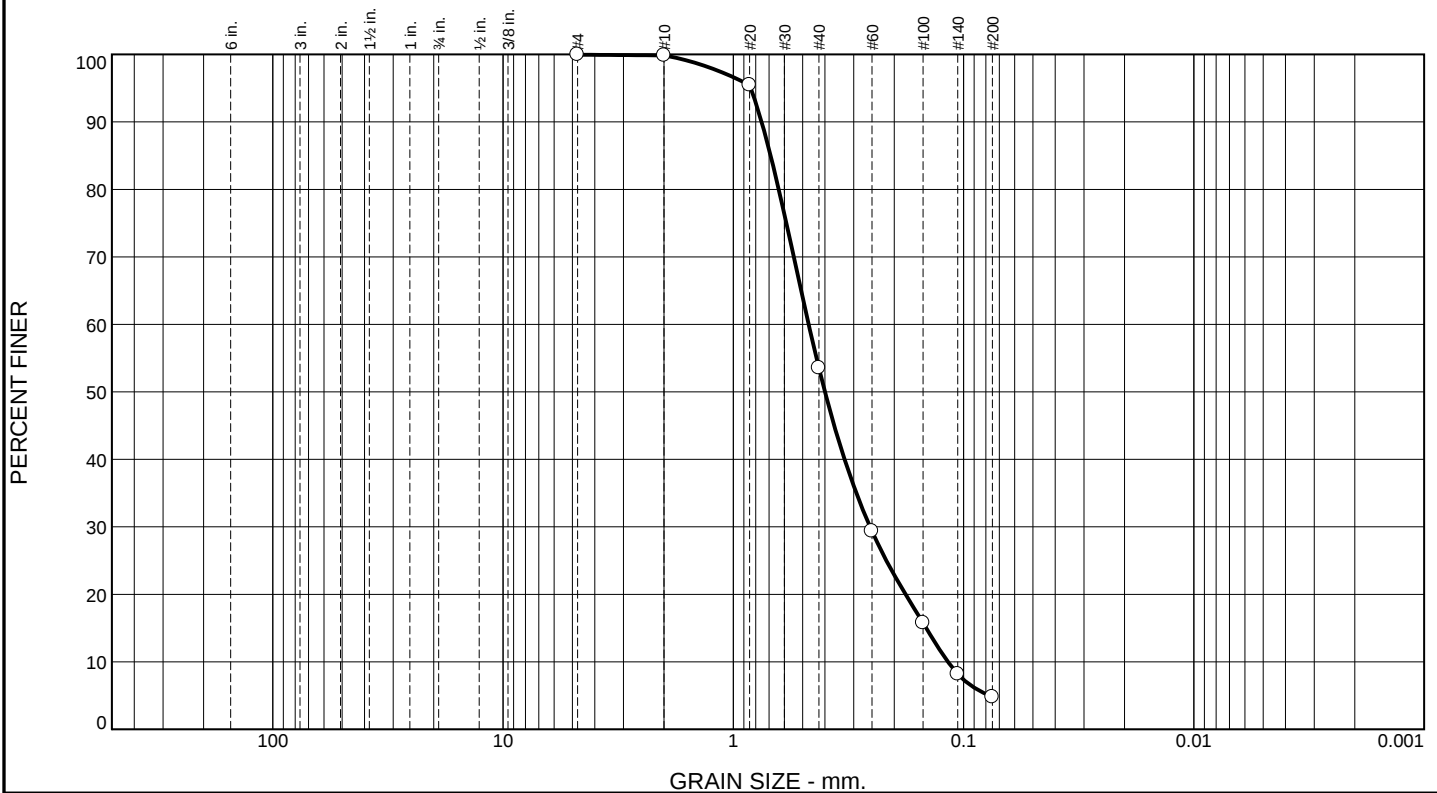
Density 86.29 pcf
Dry, W

Void Ratio, e: 0.9668
Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	32.6	30.6	2.0	492	900	0.0054	0.17	0.933	2.881E-02
	32.6	30.6	2.0	490	900	0.0054	0.17	0.933	2.869E-02
	32.6	30.6	2.0	490	900	0.0054	0.17	0.933	2.869E-02
2	33.3	30.7	2.6	635	900	0.0070	0.23	0.933	2.860E-02
	33.3	30.7	2.6	633	900	0.0070	0.23	0.933	2.851E-02
	33.3	30.7	2.6	630	900	0.0069	0.23	0.933	2.838E-02
3	33.7	30.7	3.0	705	900	0.0077	0.26	0.933	2.752E-02
	33.7	30.7	3.0	700	900	0.0077	0.26	0.933	2.733E-02
	33.7	30.7	3.0	700	900	0.0077	0.26	0.933	2.733E-02
4	34.4	30.8	3.6	830	900	0.0091	0.31	0.933	2.700E-02
	34.4	30.8	3.6	830	900	0.0091	0.31	0.933	2.700E-02
	34.4	30.8	3.6	828	900	0.0091	0.31	0.933	2.694E-02
5	35.1	31.0	4.1	945	900	0.0104	0.36	0.933	2.699E-02
	35.1	31.0	4.1	943	900	0.0104	0.36	0.933	2.694E-02
	35.1	31.0	4.1	940	900	0.0103	0.36	0.933	2.685E-02
6	36.2	31.3	4.9	1125	900	0.0124	0.43	0.933	2.689E-02
	36.2	31.3	4.9	1123	900	0.0123	0.43	0.933	2.684E-02
	36.2	31.3	4.9	1120	900	0.0123	0.43	0.933	2.677E-02
Average									2.756E-02

Remarks: Recompacted sample (Medium Compaction, Air-dried).
Tested with tap water.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
			0.1	46.4	48.7		4.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	95.5		
#40	53.5		
#60	29.4		
#100	15.8		
#140	8.2		
#200	4.8		

* (no specification provided)

Sample Number: PC-1

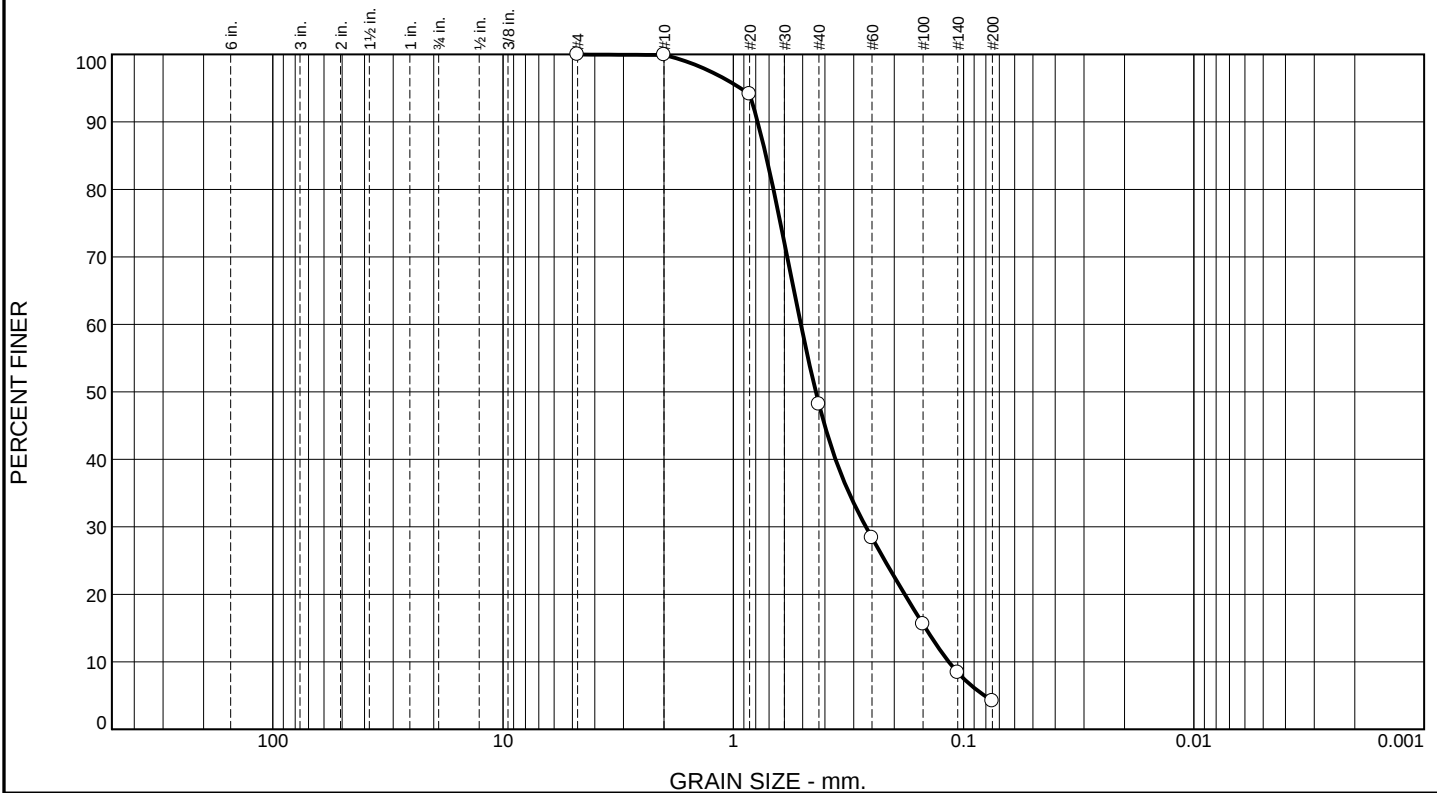
Material Description		
Brownish Yellow poorly graded sand		
Atterberg Limits		
PL= NP	LL= NV	PI= NP
Coefficients		
D ₉₀ = 0.7536	D ₈₅ = 0.6889	D ₆₀ = 0.4708
D ₅₀ = 0.4002	D ₃₀ = 0.2549	D ₁₅ = 0.1453
D ₁₀ = 0.1170	C _u = 4.02	C _c = 1.18
Classification		
USCS= SP	AASHTO=	A-3
Remarks		

Date: 2-24-23

RSA Geolab Union, New Jersey	Client: SCS Engineers Project: Deans Bridge Road Cell 3B2 Construction Augusta
	Project No: 843 Figure

Tested By: JK Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
			0.1	51.7	44.0	4.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	94.1		
#40	48.2		
#60	28.4		
#100	15.6		
#140	8.4		
#200	4.2		

* (no specification provided)

Material Description		
Brownish Yellow poorly graded sand		
Atterberg Limits		
PL= NP	LL= NV	PI= NP
Coefficients		
D ₉₀ = 0.7837	D ₈₅ = 0.7214	D ₆₀ = 0.5091
D ₅₀ = 0.4384	D ₃₀ = 0.2656	D ₁₅ = 0.1463
D ₁₀ = 0.1161	C _u = 4.39	C _c = 1.19
Classification		
USCS= SP	AASHTO=	A-1-b
Remarks		

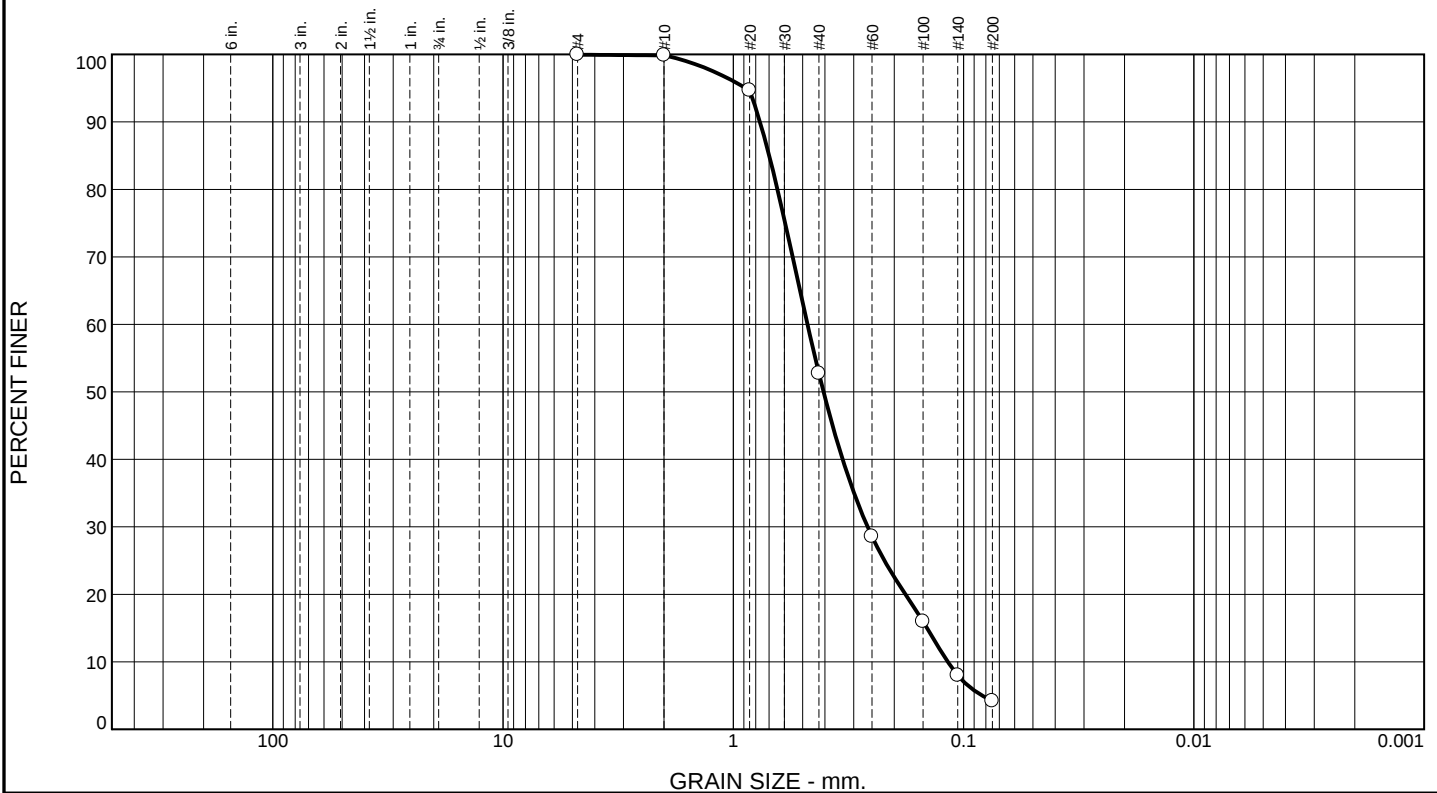
Sample Number: PC-2

Date: 2-24-23

RSA Geolab Union, New Jersey	Client: SCS Engineers Project: Deans Bridge Road Cell 3B2 Construction Augusta
	Project No: 843 Figure

Tested By: JK Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
			0.1	47.2	48.5		4.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	94.7		
#40	52.7		
#60	28.6		
#100	16.0		
#140	8.0		
#200	4.2		

* (no specification provided)

Sample Number: PC-3

Date: 2-24-23

Material Description		
Brownish Yellow poorly graded sand		
Atterberg Limits		
PL= NP	LL= NV	PI= NP
Coefficients		
D ₉₀ = 0.7658	D ₈₅ = 0.6985	D ₆₀ = 0.4764
D ₅₀ = 0.4059	D ₃₀ = 0.2613	D ₁₅ = 0.1441
D ₁₀ = 0.1172	C _u = 4.07	C _c = 1.22
Classification		
USCS= SP	AASHTO=	A-3
Remarks		

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta

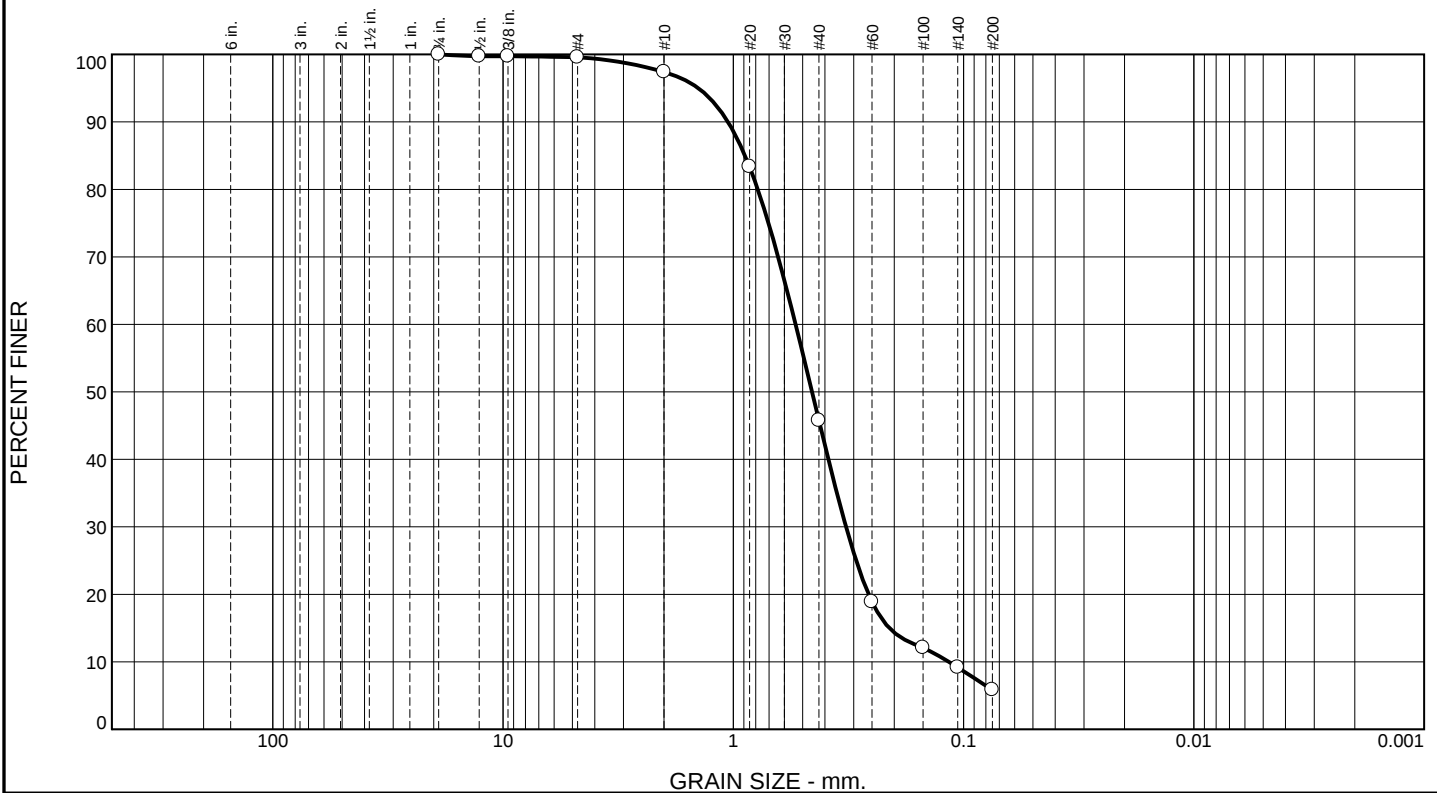
Project No: 843

Figure

Tested By: JK

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	2.2	51.6	40.0	5.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.5	99.7		
.375	99.7		
#4	99.6		
#10	97.4		
#20	83.4		
#40	45.8		
#60	18.9		
#100	12.1		
#140	9.2		
#200	5.8		

* (no specification provided)

Material Description
 Brownish Yellow poorly graded sand with silt

Atterberg Limits
 PL= NP LL= NV PI= NP

Coefficients
 D₉₀= 1.0553 D₈₅= 0.8893 D₆₀= 0.5367
 D₅₀= 0.4553 D₃₀= 0.3241 D₁₅= 0.2102
 D₁₀= 0.1161 C_u= 4.62 C_c= 1.69

Classification
 USCS= SP-SM AASHTO= A-1-b

Remarks

Sample Number: PC-6

Date: 2-24-23

RSA Geolab Union, New Jersey	Client: SCS Engineers Project: Deans Bridge Road Cell 3B2 Construction Augusta
	Project No: 843 Figure

Tested By: JK Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	54.0	40.6	5.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#30	77.3		
#40	45.9		
#60	25.4		
#100	7.1		
#200	5.3		

* (no specification provided)

Sample Number: PC-7

Material Description

Brownish Yellow poorly graded sand with silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 0.9960

D₈₅= 0.7971

D₆₀= 0.4988

D₅₀= 0.4473

D₃₀= 0.2957

D₁₅= 0.1893

D₁₀= 0.1652

C_u= 3.02

C_c= 1.06

Classification

USCS= SP-SM

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta, GA

Project No: 843

Date: 4-21-23

Figure

Tested By: AO

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	56.9	37.1	5.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.8		
#30	73.8		
#40	42.9		
#60	23.1		
#100	7.2		
#200	5.8		

* (no specification provided)

Sample Number: PC-8

Material Description

Brownish Yellow poorly graded sand with silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.0694

D₈₅= 0.8703

D₆₀= 0.5165

D₅₀= 0.4638

D₃₀= 0.3256

D₁₅= 0.1951

D₁₀= 0.1672

C_u= 3.09

C_c= 1.23

Classification

USCS= SP-SM

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta, GA

Project No: 843

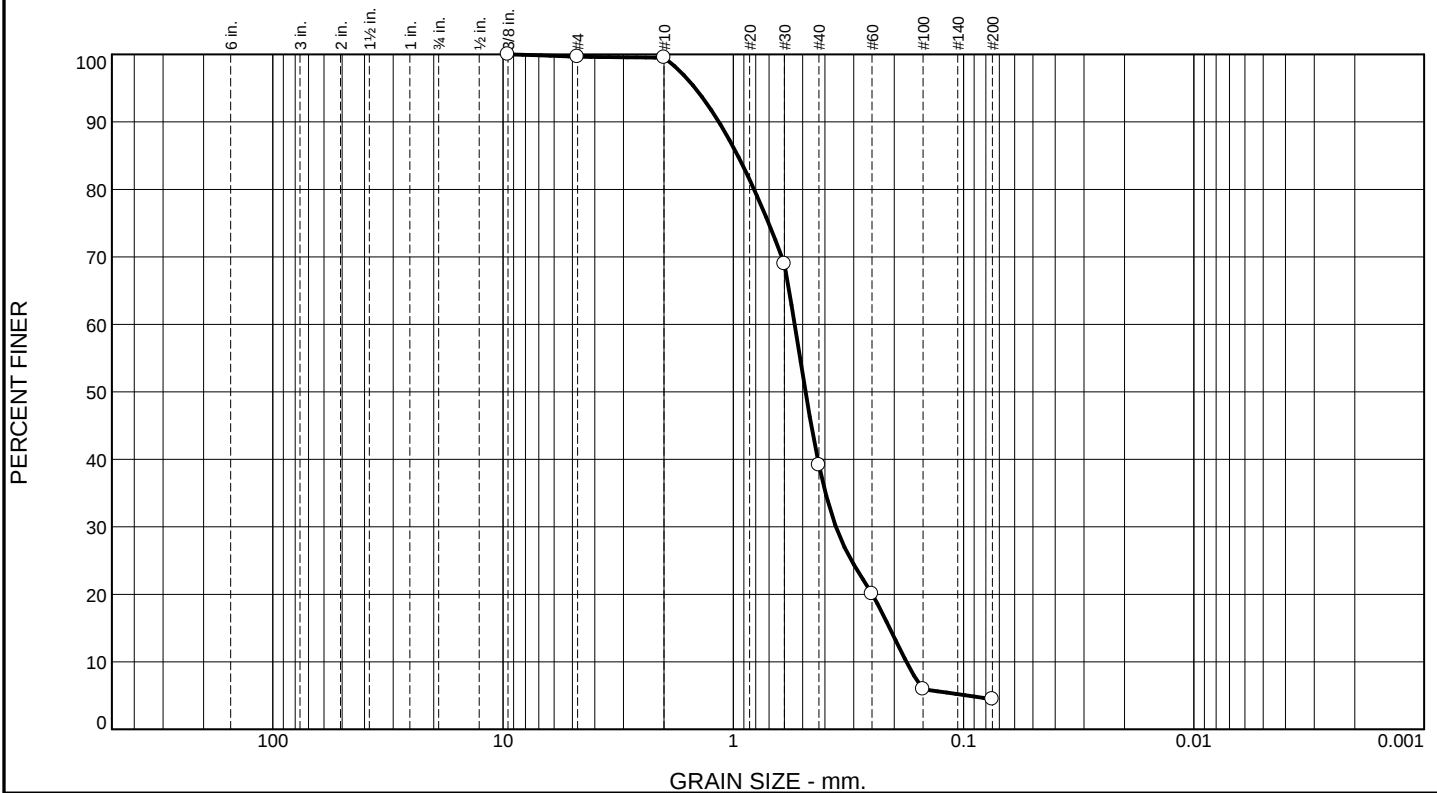
Date: 4-21-23

Figure

Tested By: AO

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	0.1	60.3	34.7	4.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.6		
#10	99.5		
#30	69.0		
#40	39.2		
#60	20.1		
#100	5.9		
#200	4.5		

* (no specification provided)

Sample Number: PC-9

Date: 4-21-23

Material Description

Brownish Yellow poorly graded sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D₉₀= 1.1562 D₈₅= 0.9566 D₆₀= 0.5418
D₅₀= 0.4857 D₃₀= 0.3586 D₁₅= 0.2095
D₁₀= 0.1772 C_u= 3.06 C_c= 1.34

Classification

USCS= SP AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta, GA

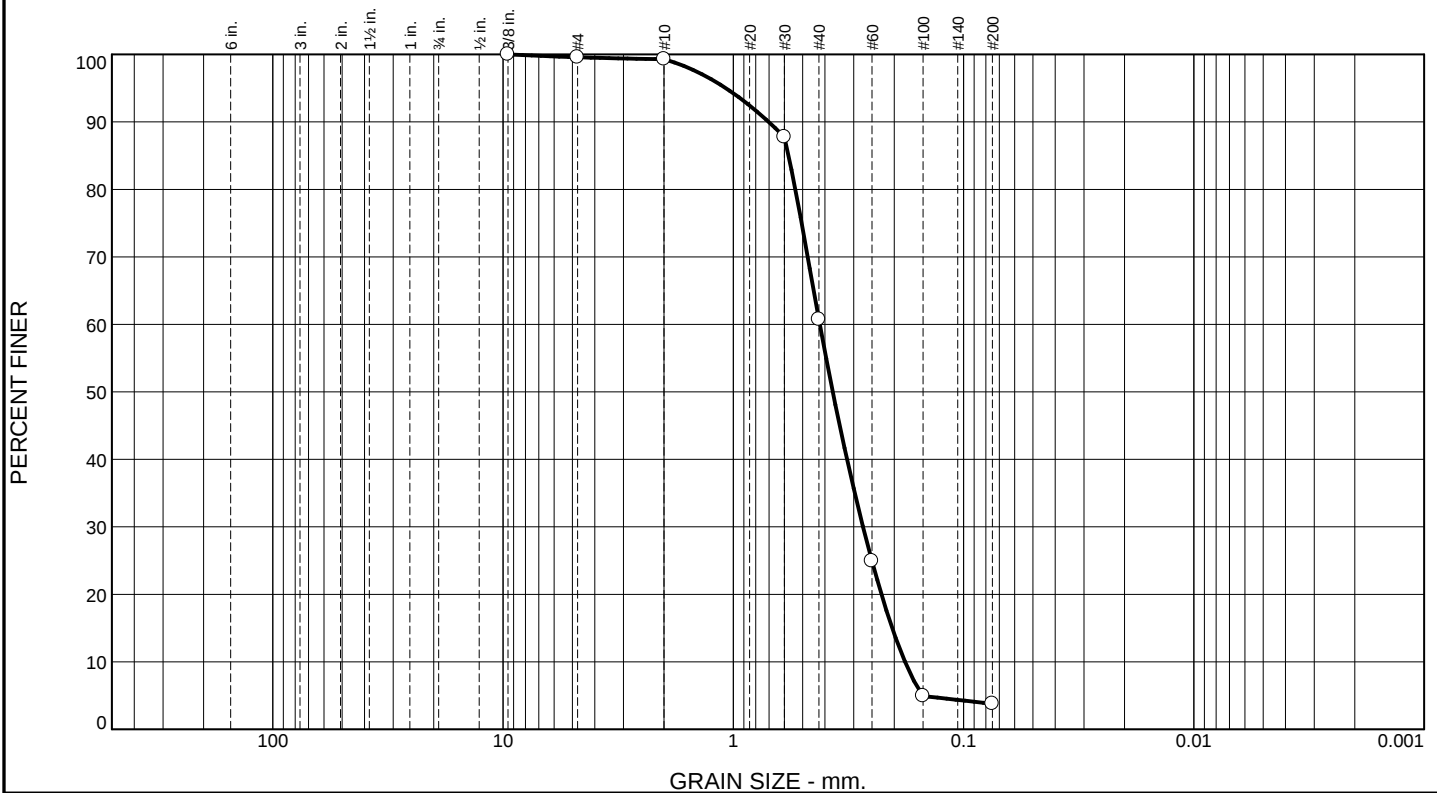
Project No: 843

Figure

Tested By: AO

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	0.3	38.6	56.9	3.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.6		
#10	99.3		
#30	87.8		
#40	60.7		
#60	24.9		
#100	4.9		
#200	3.8		

* (no specification provided)

Sample Number: PC-10

Material Description

Brownish Yellow poorly graded sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D₈₅= 0.5758 D₆₀= 0.4213
D₅₀= 0.3700 D₁₅= 0.2042
D₁₀= 0.1797 C_u= 2.34 C_c= 0.99

Classification

USCS= SP AASHTO= A-3

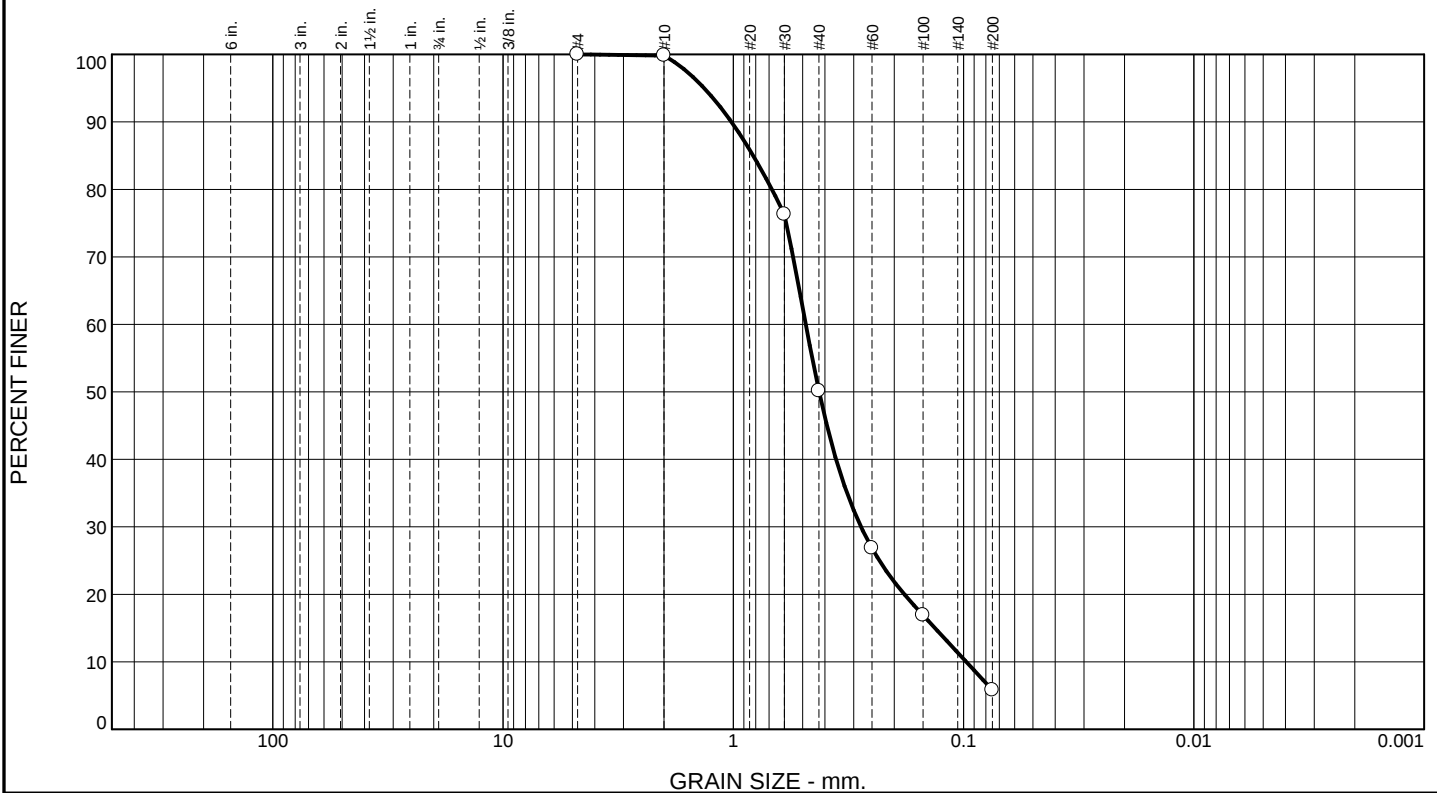
Remarks

Date: 4-21-23

RSA Geolab Union, New Jersey	Client: SCS Engineers Project: Deans Bridge Road Cell 3B2 Construction Augusta, GA
	Project No: 843 Figure

Tested By: AO Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	49.6	44.4	5.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.8		
#30	76.3		
#40	50.2		
#60	26.8		
#100	16.9		
#200	5.8		

* (no specification provided)

Sample Number: PC-11

Material Description

Light Orange Brown poorly graded sand with silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.0195

D₈₅= 0.8199

D₆₀= 0.4847

D₅₀= 0.4241

D₃₀= 0.2791

D₁₅= 0.1332

D₁₀= 0.0974

C_u= 4.97

C_c= 1.65

Classification

USCS= SP-SM

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta, GA

Project No: 843

Date: 5-2-23

Figure

Tested By: AO

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.1	0.1	49.0	44.6	5.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	98.9		
#10	98.8		
#30	78.3		
#40	49.8		
#60	26.3		
#100	13.4		
#200	5.2		

* (no specification provided)

Sample Number: PC-12

Material Description

Light Orange poorly graded sand with silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.0043

D₈₅= 0.7868

D₆₀= 0.4823

D₅₀= 0.4263

D₃₀= 0.2826

D₁₅= 0.1619

D₁₀= 0.1212

C_u= 3.98

C_c= 1.37

Classification

USCS= SP-SM

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta, GA

Project No: 843

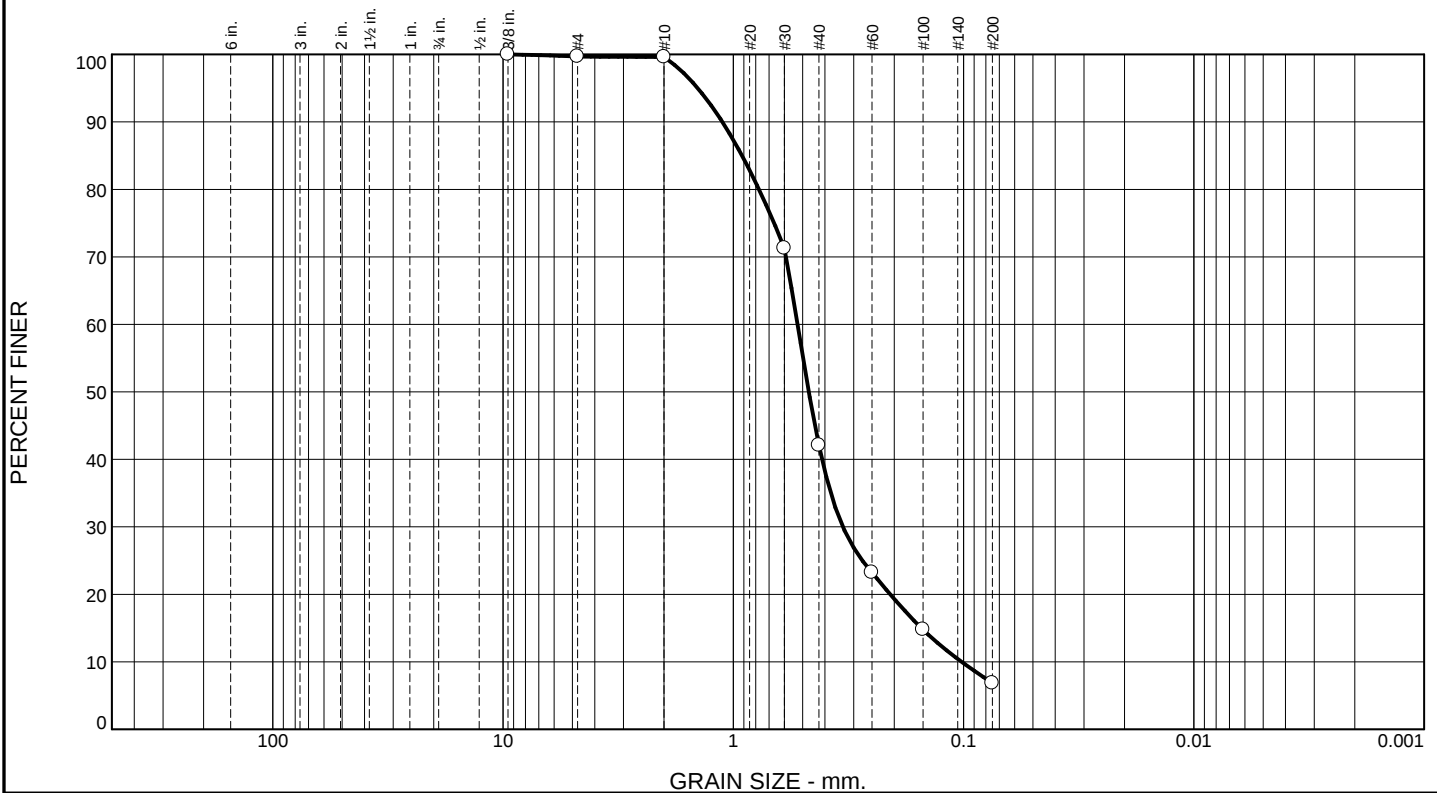
Date: 5-2-23

Figure

Tested By: AO

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	0.1	57.5	35.3	6.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.7		
#10	99.6		
#30	71.3		
#40	42.1		
#60	23.2		
#100	14.8		
#200	6.8		

* (no specification provided)

Sample Number: PC-13

Date: 5-2-23

Material Description

Light Brown poorly graded sand with silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.1165

D₈₅= 0.9166

D₆₀= 0.5264

D₅₀= 0.4701

D₃₀= 0.3344

D₁₅= 0.1525

D₁₀= 0.1020

C_u= 5.16

C_c= 2.08

Classification

USCS= SP-SM

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta, GA

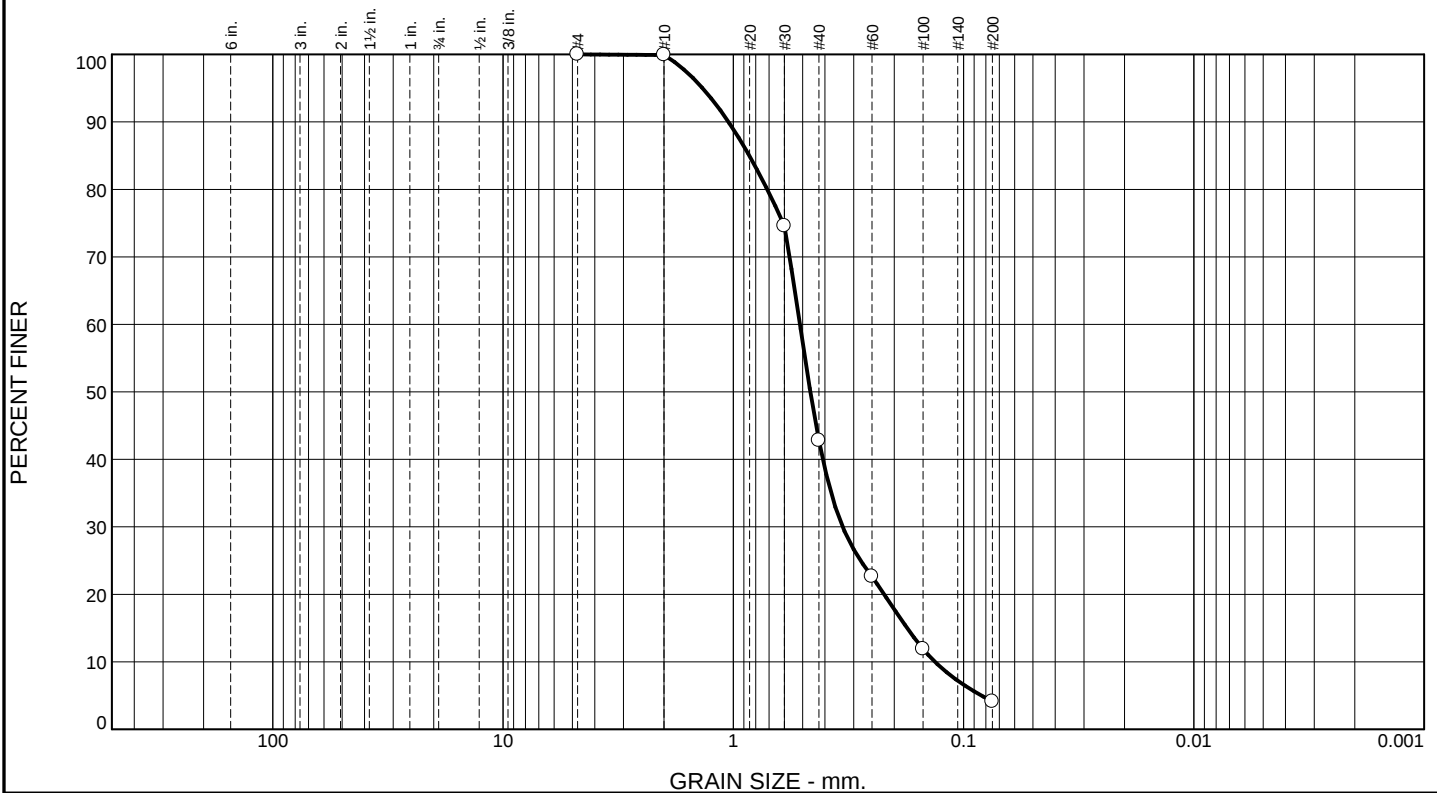
Project No: 843

Figure

Tested By: AO

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	57.1	38.7	4.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#30	74.6		
#40	42.8		
#60	22.6		
#100	11.9		
#200	4.1		

* (no specification provided)

Sample Number: PC-14

Material Description

Light Orange poorly graded sand

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.0497

D₈₅= 0.8525

D₆₀= 0.5139

D₅₀= 0.4629

D₃₀= 0.3353

D₁₅= 0.1759

D₁₀= 0.1332

C_u= 3.86

C_c= 1.64

Classification

USCS= SP

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta, GA

Project No: 843

Date: 5-2-23

Figure

Tested By: AO

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	57.7	36.1	6.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#30	70.6		
#40	42.2		
#60	23.0		
#100	13.1		
#200	6.1		

* (no specification provided)

Sample Number: PC-15

Date: 5-2-23

Material Description

Light Orange poorly graded sand with silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.1204

D₈₅= 0.9249

D₆₀= 0.5288

D₅₀= 0.4707

D₃₀= 0.3317

D₁₅= 0.1679

D₁₀= 0.1187

C_u= 4.45

C_c= 1.75

Classification

USCS= SP-SM

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta, GA

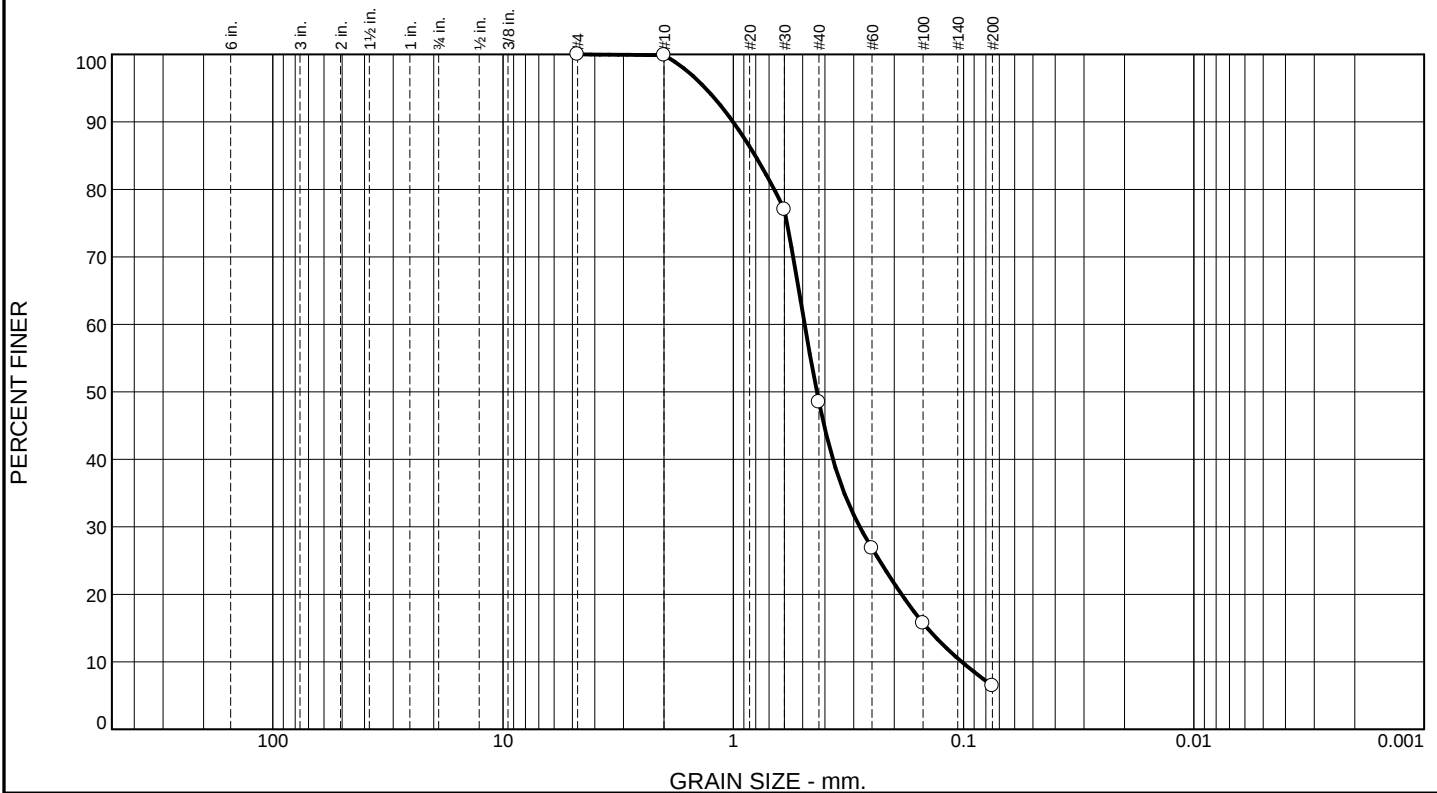
Project No: 843

Figure

Tested By: AO

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	51.4	42.1	6.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#30	77.0		
#40	48.5		
#60	26.8		
#100	15.7		
#200	6.4		

* (no specification provided)

Sample Number: PC-16

Date: 5-2-23

Material Description

Light Brown poorly graded sand with silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.0023

D₈₅= 0.8036

D₆₀= 0.4902

D₅₀= 0.4338

D₃₀= 0.2827

D₁₅= 0.1438

D₁₀= 0.1019

C_u= 4.81

C_c= 1.60

Classification

USCS= SP-SM

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta, GA

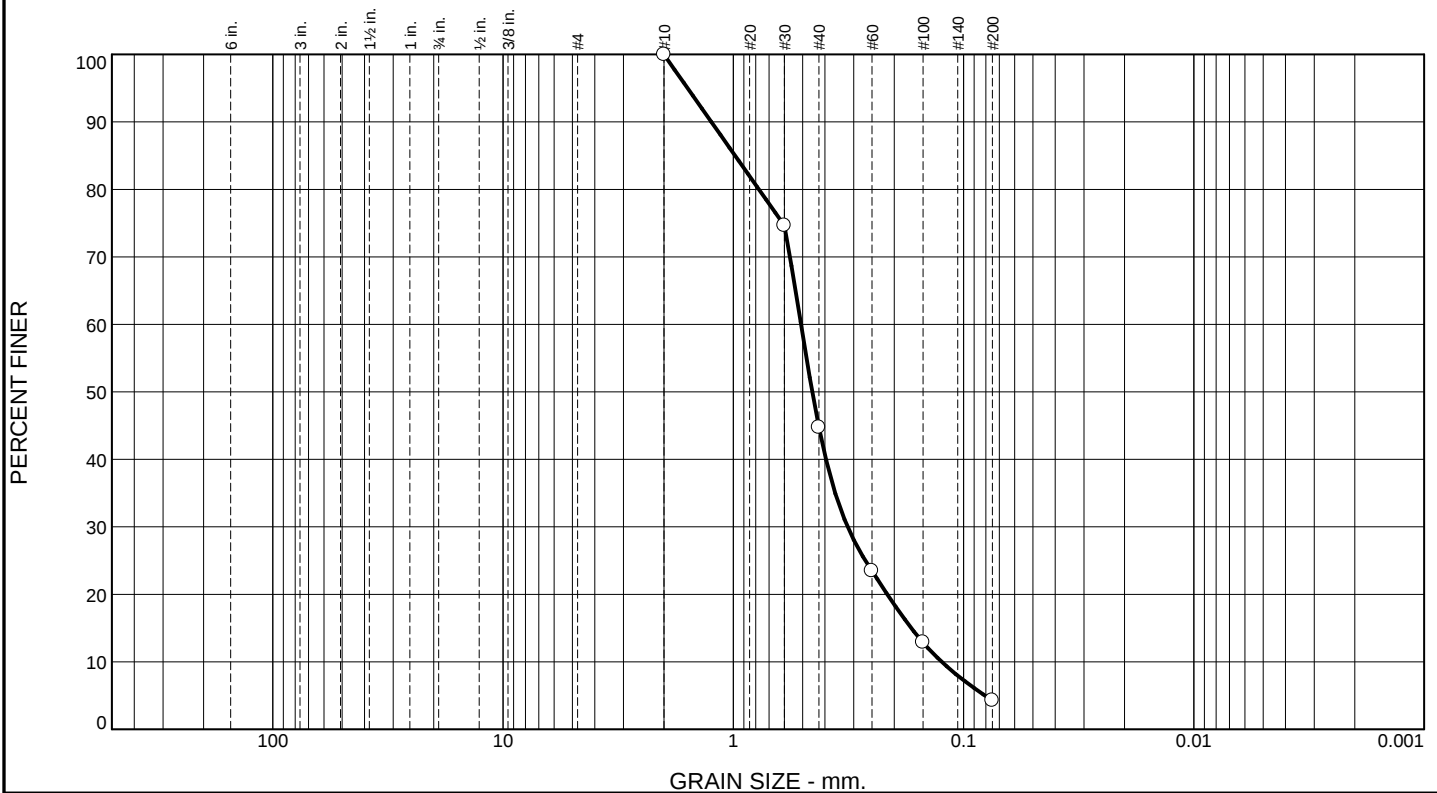
Project No: 843

Figure

Tested By: AO

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
				55.3	40.5	4.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#30	74.6		
#40	44.7		
#60	23.5		
#100	12.9		
#200	4.2		

* (no specification provided)

Sample Number: PC-17

Material Description

Light Orange poorly graded sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D₉₀= 1.2460 D₈₅= 0.9824 D₆₀= 0.5084
D₅₀= 0.4542 D₃₀= 0.3191 D₁₅= 0.1687
D₁₀= 0.1245 C_u= 4.08 C_c= 1.61

Classification

USCS= SP AASHTO= A-1-b

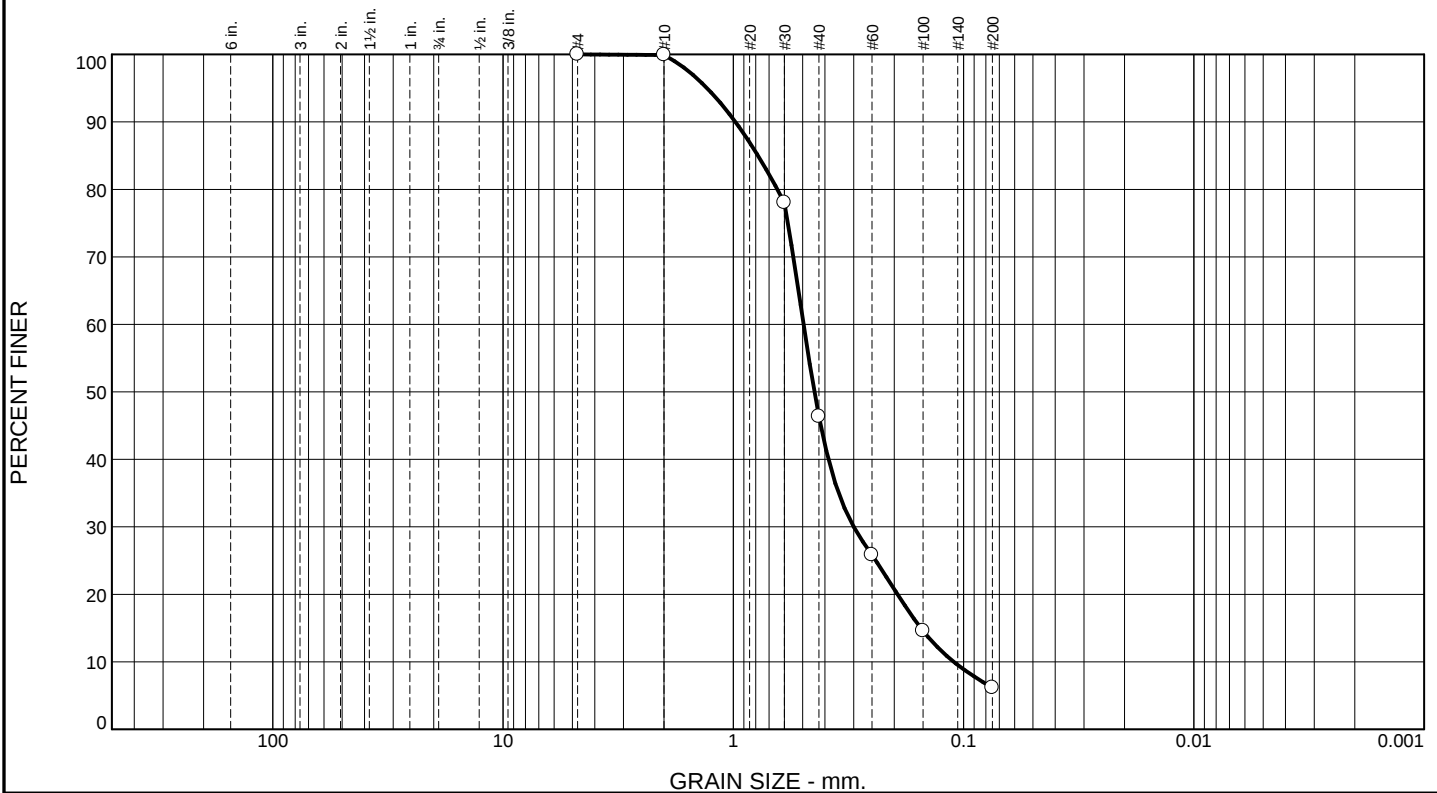
Remarks

Date: 5-2-23

RSA Geolab Union, New Jersey	Client: SCS Engineers Project: Deans Bridge Road Cell 3B2 Construction Augusta, GA Project No: 843
	Figure

Tested By: AO Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	53.6	40.1	6.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#30	78.0		
#40	46.3		
#60	25.8		
#100	14.6		
#200	6.2		

* (no specification provided)

Sample Number: PC-18

Material Description

Light Brown poorly graded sand with silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 0.9801

D₈₅= 0.7817

D₆₀= 0.4955

D₅₀= 0.4446

D₃₀= 0.3001

D₁₅= 0.1533

D₁₀= 0.1104

C_u= 4.49

C_c= 1.65

Classification

USCS= SP-SM

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta, GA

Project No: 843

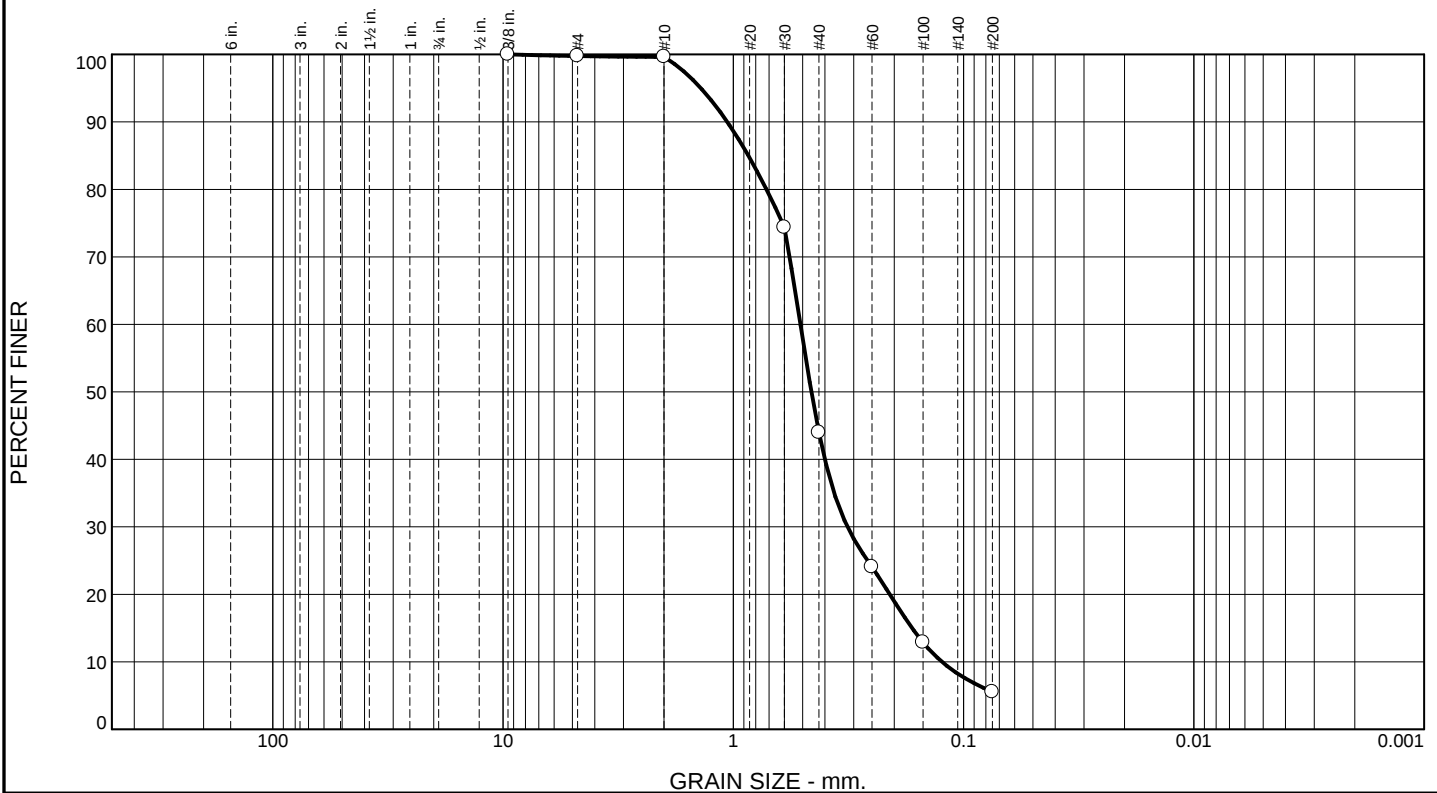
Date: 5-2-23

Figure

Tested By: AO

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.2	55.6	38.5	5.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.8		
#10	99.6		
#30	74.4		
#40	44.0		
#60	24.1		
#100	12.9		
#200	5.5		

* (no specification provided)

Sample Number: PC-19

Date: 5-2-23

Material Description

Light Brown poorly graded sand with silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.0624

D₈₅= 0.8605

D₆₀= 0.5114

D₅₀= 0.4581

D₃₀= 0.3196

D₁₅= 0.1674

D₁₀= 0.1242

C_u= 4.12

C_c= 1.61

Classification

USCS= SP-SM

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta, GA

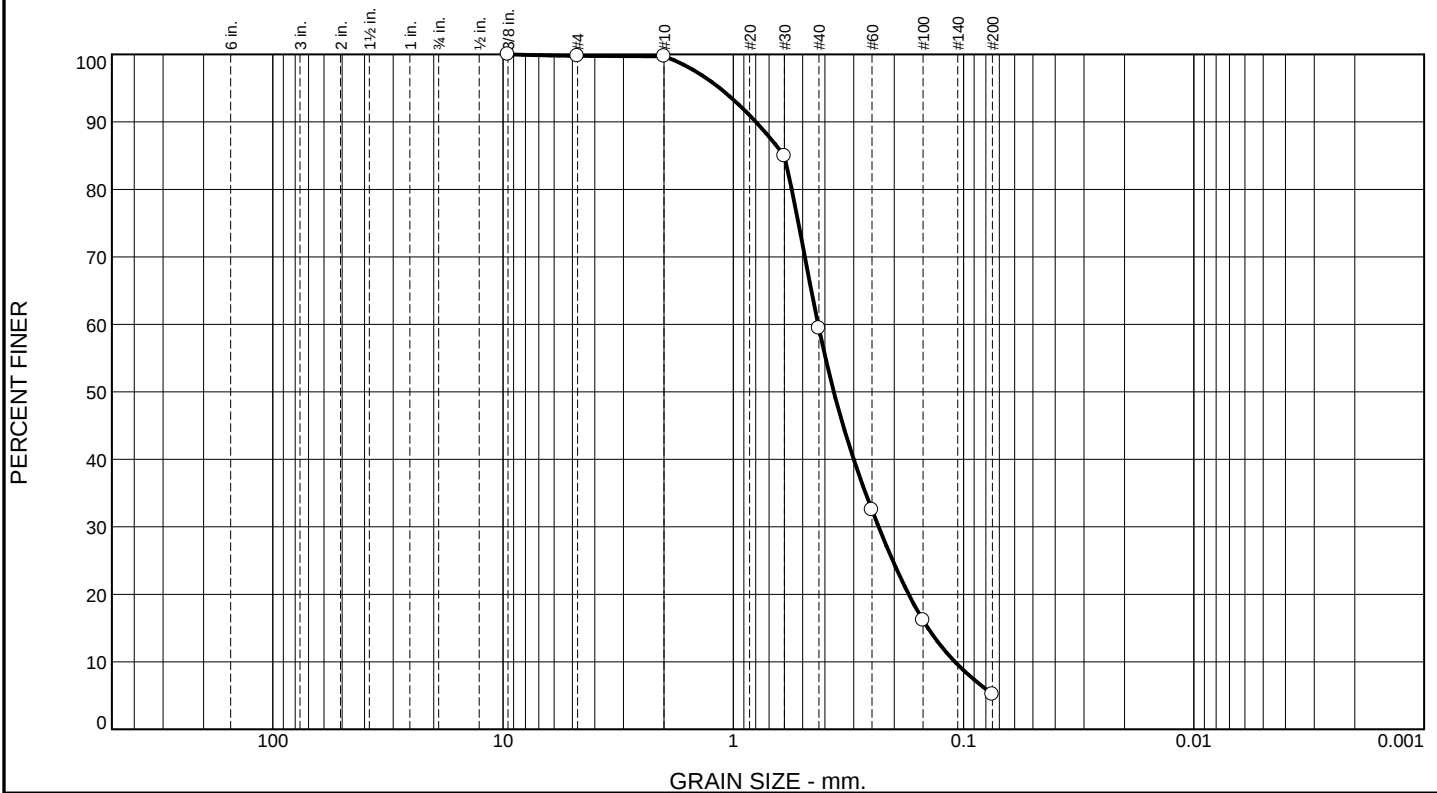
Project No: 843

Figure

Tested By: AO

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.1	40.3	54.2	5.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.8		
#10	99.7		
#30	85.0		
#40	59.4		
#60	32.5		
#100	16.2		
#200	5.2		

* (no specification provided)

Material Description

Reddish Yellow poorly graded sand with silt

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D₉₀= 0.7982 D₈₅= 0.6013 D₆₀= 0.4284
D₅₀= 0.3663 D₃₀= 0.2339 D₁₅= 0.1428
D₁₀= 0.1091 C_u= 3.93 C_c= 1.17

Classification

USCS= SP-SM AASHTO= A-3

Remarks

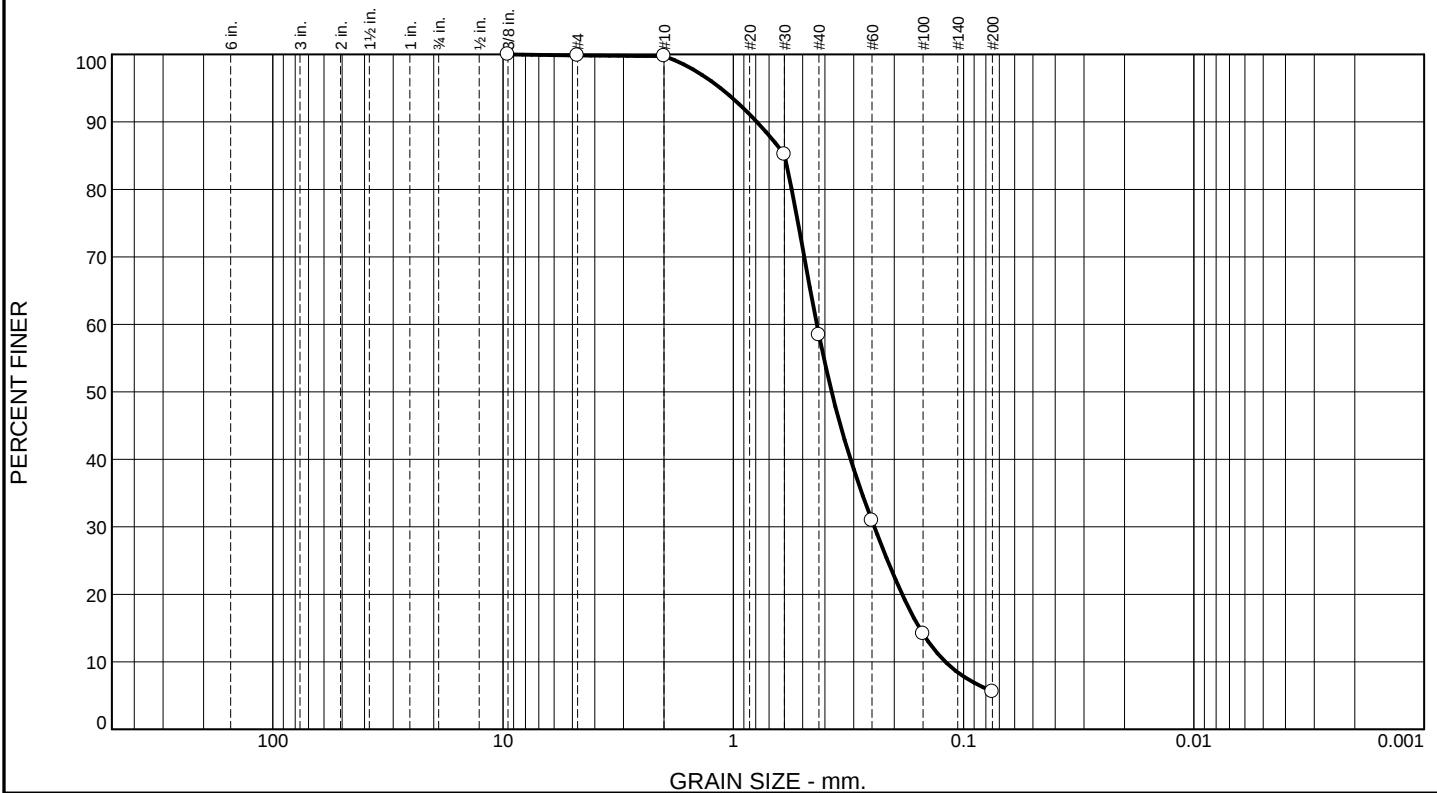
Sample Number: PC-20

Date: 5-8-23

RSA Geolab Union, New Jersey	Client: SCS Engineers Project: Deans Bridge Road Cell 3B2 Construction Augusta, GA
	Project No: 843 Figure

Tested By: VS Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.1	41.3	52.9	5.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.9		
#10	99.8		
#30	85.2		
#40	58.5		
#60	30.9		
#100	14.2		
#200	5.6		

* (no specification provided)

Material Description
 Reddish Yellow poorly graded sand with silt

Atterberg Limits
 PL= NP LL= NV PI= NP

Coefficients
 D₉₀= 0.7903 D₈₅= 0.5983 D₆₀= 0.4339
 D₅₀= 0.3742 D₃₀= 0.2442 D₁₅= 0.1553
 D₁₀= 0.1200 C_u= 3.62 C_c= 1.14

Classification
 USCS= SP-SM AASHTO= A-3

Remarks

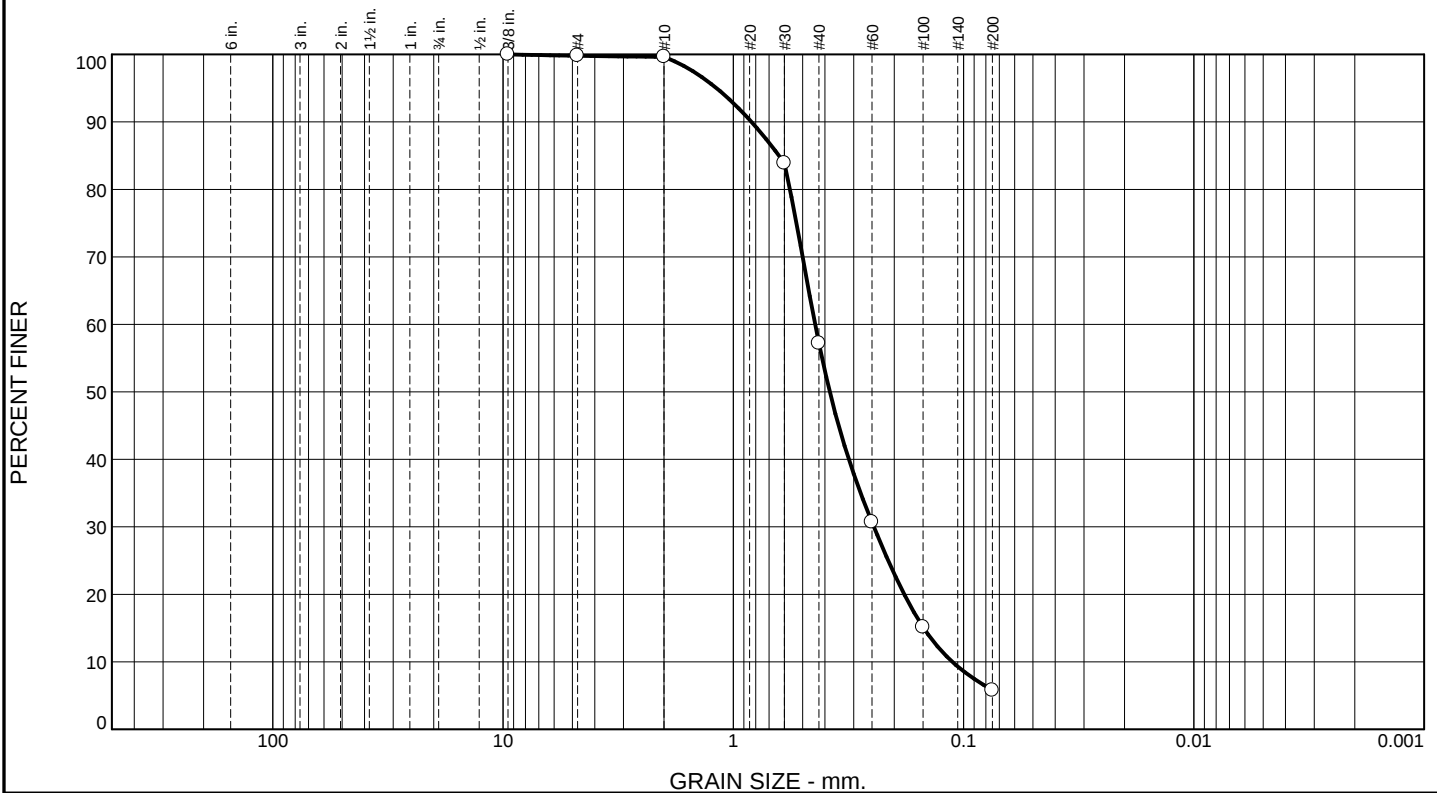
Sample Number: PC-21

Date: 5-8-23

RSA Geolab Union, New Jersey	Client: SCS Engineers Project: Deans Bridge Road Cell 3B2 Construction Augusta, GA
	Project No: 843 Figure

Tested By: VS Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.2	42.4	51.4	5.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.8		
#10	99.6		
#30	83.9		
#40	57.2		
#60	30.7		
#100	15.1		
#200	5.8		

* (no specification provided)

Material Description		
Reddish Yellow poorly graded sand with silt		
Atterberg Limits		
PL= NP	LL= NV	PI= NP
Coefficients		
D ₉₀ = 0.8341	D ₈₅ = 0.6336	D ₆₀ = 0.4413
D ₅₀ = 0.3813	D ₃₀ = 0.2453	D ₁₅ = 0.1490
D ₁₀ = 0.1119	C _u = 3.94	C _c = 1.22
Classification		
USCS= SP-SM	AASHTO=	A-3
Remarks		

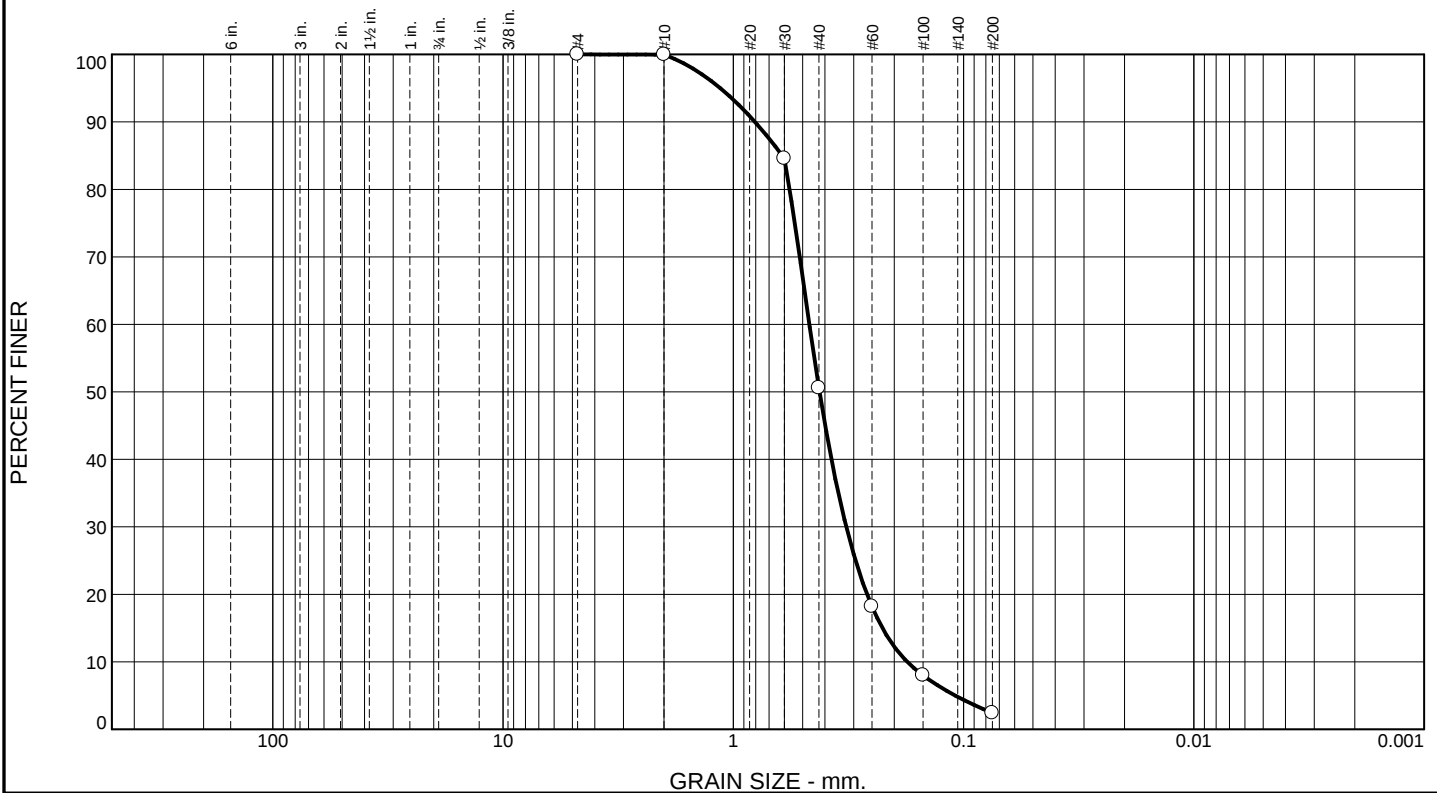
Sample Number: PC-22

Date: 5-8-23

RSA Geolab Union, New Jersey	Client: SCS Engineers Project: Deans Bridge Road Cell 3B2 Construction Augusta, GA
	Project No: 843 Figure

Tested By: VS Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	49.4	48.2	2.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#30	84.6		
#40	50.6		
#60	18.2		
#100	8.0		
#200	2.4		

* (no specification provided)

Sample Number: PC-23

Date: 5-15-23

Material Description

Yellow poorly graded sand

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 0.8058

D₈₅= 0.6128

D₆₀= 0.4675

D₅₀= 0.4223

D₃₀= 0.3233

D₁₅= 0.2252

D₁₀= 0.1758

C_u= 2.66

C_c= 1.27

Classification

USCS= SP

AASHTO= A-3

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta, GA

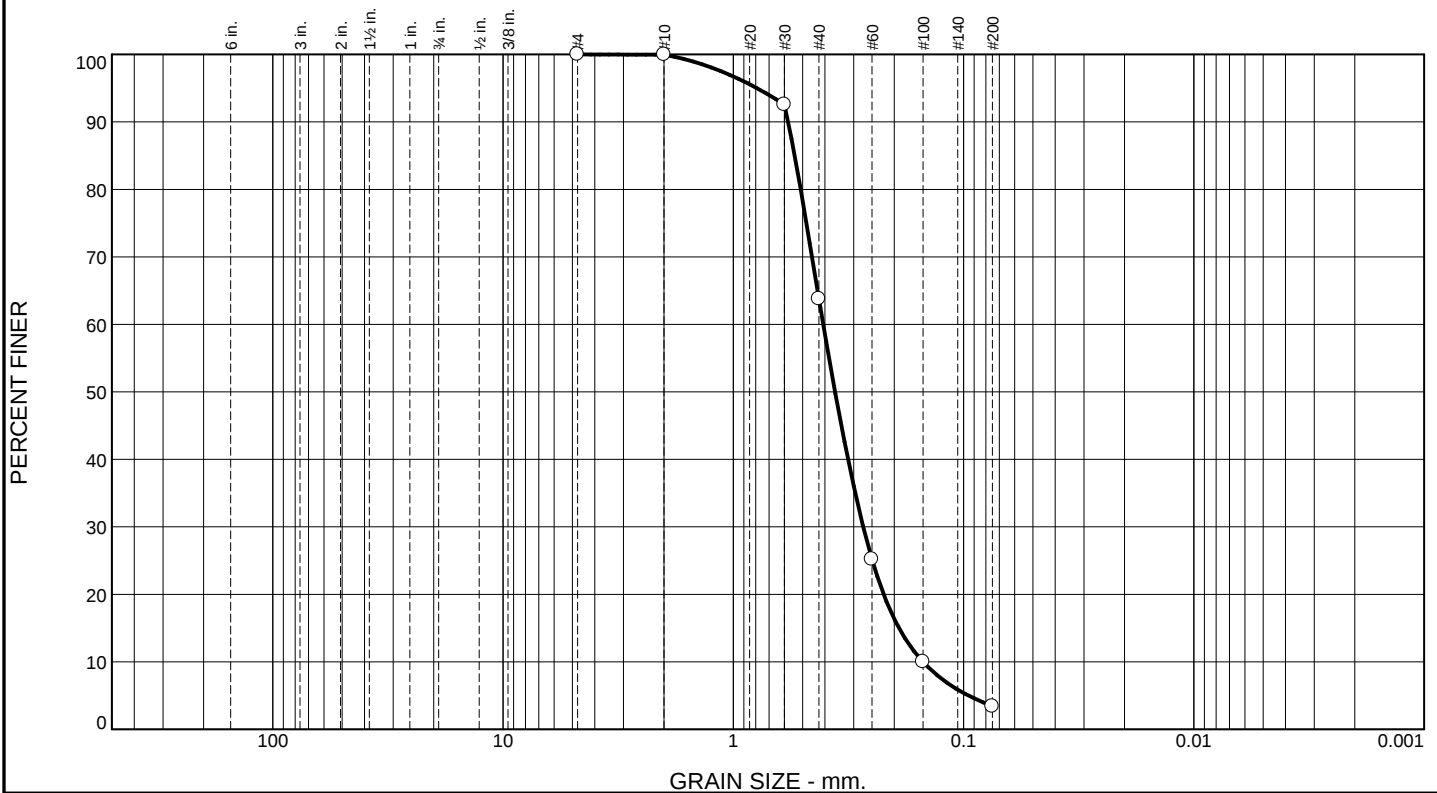
Project No: 843

Figure

Tested By: NC

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	36.2	60.4	3.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#30	92.6		
#40	63.8		
#60	25.2		
#100	10.0		
#200	3.4		

* (no specification provided)

Sample Number: PC-24

Date: 5-15-23

Material Description

Yellow poorly graded sand

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 0.5782

D₈₅= 0.5416

D₆₀= 0.4072

D₅₀= 0.3616

D₃₀= 0.2729

D₁₅= 0.1909

D₁₀= 0.1500

C_u= 2.71

C_c= 1.22

Classification

USCS= SP

AASHTO= A-3

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta, GA

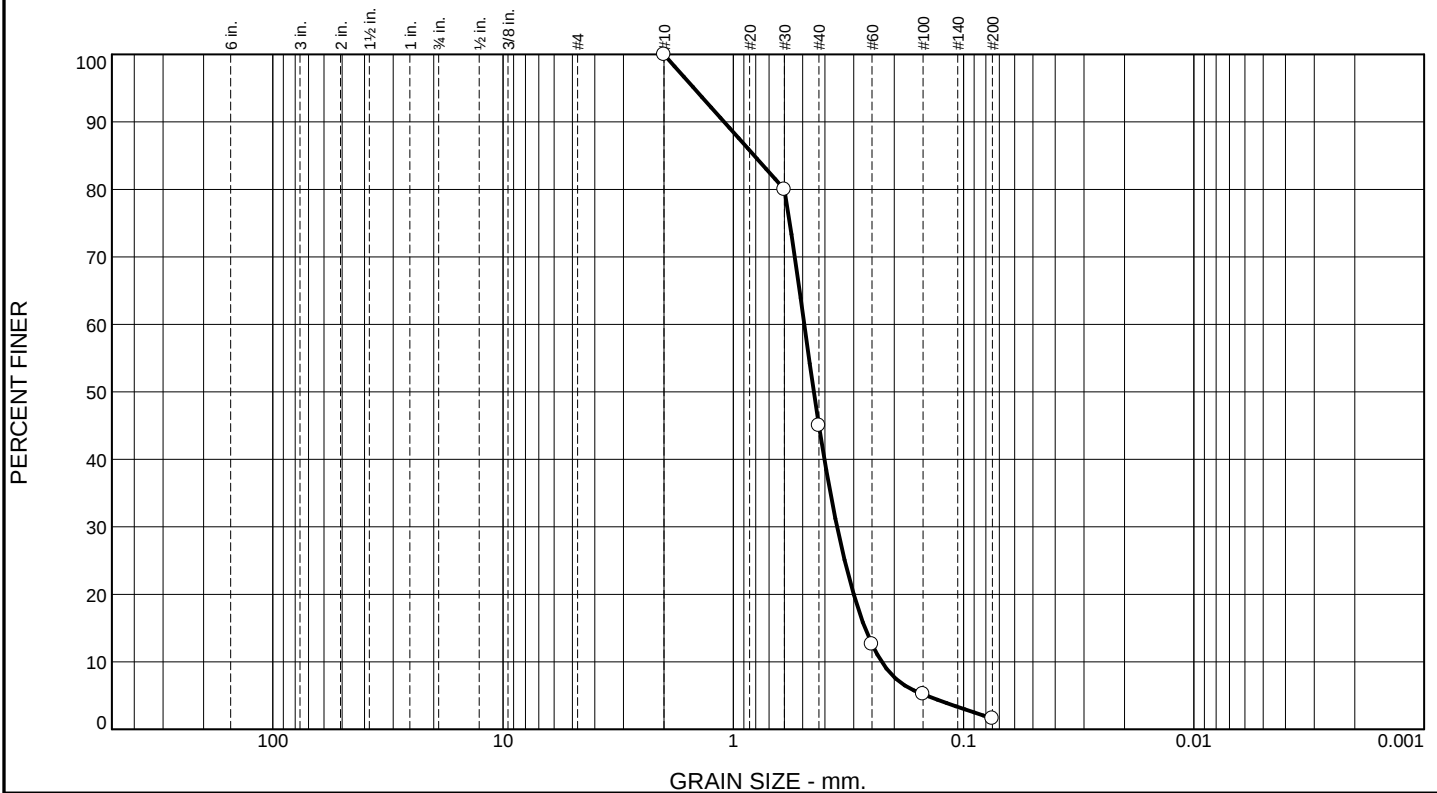
Project No: 843

Figure

Tested By: NC

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
				55.0	43.4	1.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#30	80.0		
#40	45.0		
#60	12.6		
#100	5.2		
#200	1.6		

* (no specification provided)

Sample Number: PC-25

Date: 5-15-23

Material Description

Yellow poorly graded sand

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.0965

D₈₅= 0.8115

D₆₀= 0.4921

D₅₀= 0.4472

D₃₀= 0.3544

D₁₅= 0.2680

D₁₀= 0.2269

C_u= 2.17

C_c= 1.13

Classification

USCS= SP

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta, GA

Project No: 843

Figure

Tested By: NC

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
				37.0	61.2	1.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#30	87.6		
#40	63.0		
#60	22.4		
#100	6.6		
#200	1.8		

* (no specification provided)

Sample Number: PC-26

Date: 5-15-23

Material Description

Yellow poorly graded sand

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 0.7588

D₈₅= 0.5741

D₆₀= 0.4099

D₅₀= 0.3637

D₃₀= 0.2819

D₁₅= 0.2132

D₁₀= 0.1806

C_u= 2.27

C_c= 1.07

Classification

USCS= SP

AASHTO= A-3

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta, GA

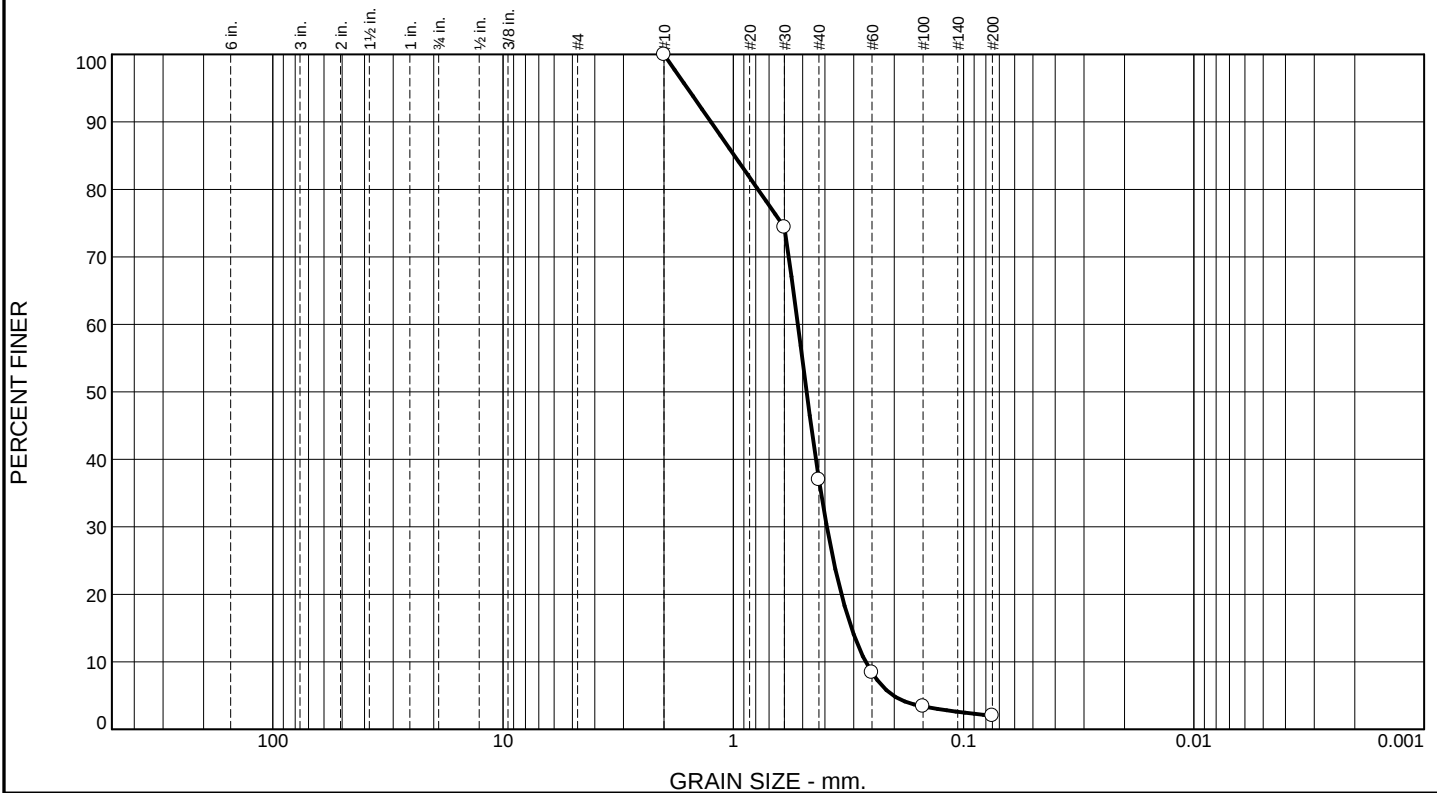
Project No: 843

Figure

Tested By: NC

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
				63.0	35.0	2.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#30	74.4		
#40	37.0		
#60	8.4		
#100	3.4		
#200	2.0		

* (no specification provided)

Sample Number: PC-27

Material Description
Brownish Yellow poorly graded sand

Atterberg Limits
 PL= NP LL= NV PI= NP

Coefficients
 D₉₀= 1.2511 D₈₅= 0.9889 D₆₀= 0.5248
 D₅₀= 0.4806 D₃₀= 0.3927 D₁₅= 0.3070
 D₁₀= 0.2663 C_u= 1.97 C_c= 1.10

Classification
 USCS= SP AASHTO= A-1-b

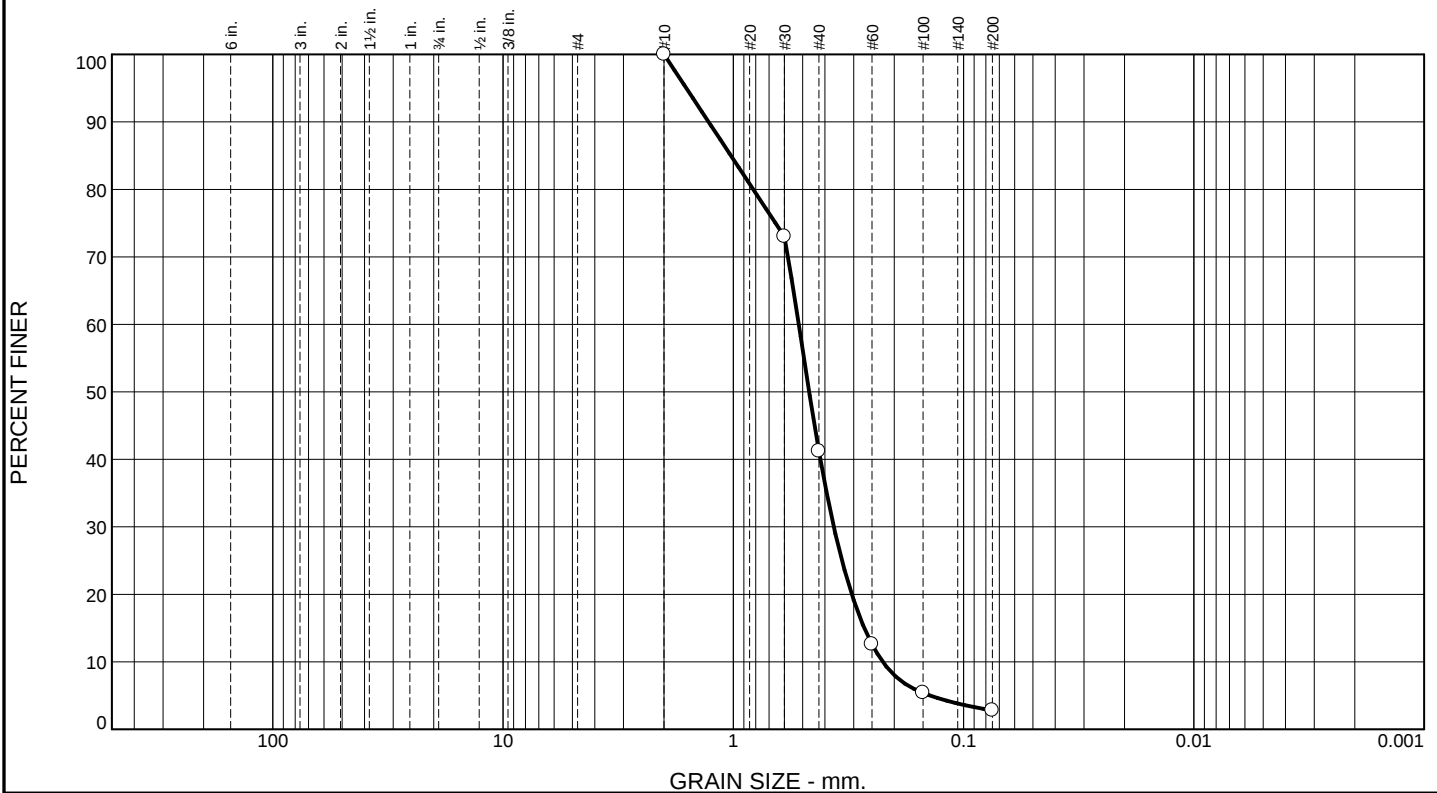
Remarks

Date: 5-15-23

RSA Geolab Union, New Jersey	Client: SCS Engineers Project: Deans Bridge Road Cell 3B2 Construction Augusta, GA
	Project No: 843 Figure

Tested By: NC Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	58.8	38.4	2.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#30	73.0		
#40	41.2		
#60	12.6		
#100	5.4		
#200	2.8		

* (no specification provided)

Sample Number: PC-28

Material Description

Brownish Yellow poorly graded sand

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.2805

D₈₅= 1.0246

D₆₀= 0.5199

D₅₀= 0.4684

D₃₀= 0.3662

D₁₅= 0.2700

D₁₀= 0.2245

C_u= 2.32

C_c= 1.15

Classification

USCS= SP

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Deans Bridge Road Cell 3B2 Construction
Augusta, GA

Project No: 843

Date: 5-15-23

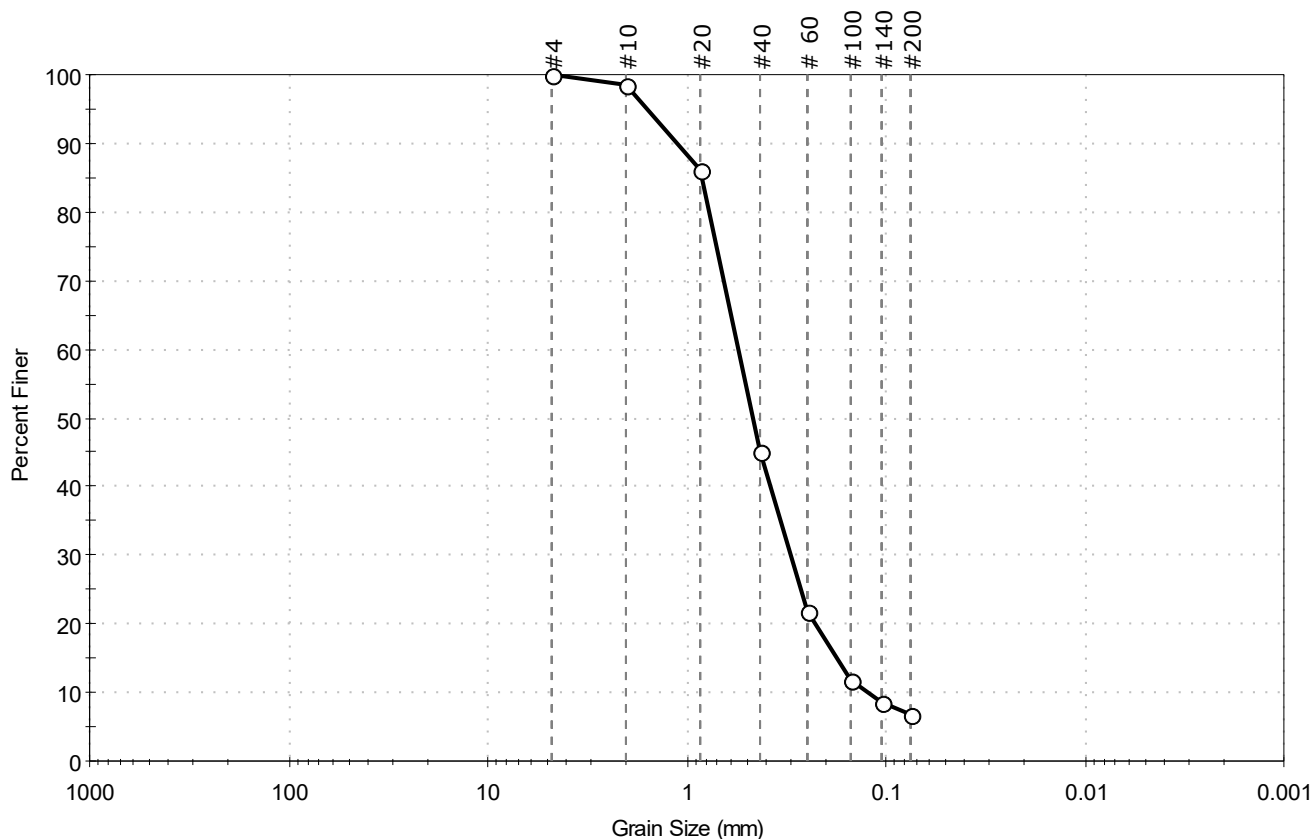
Figure

Tested By: NC

Checked By: KP

Client: SCS Engineers	Project: DBRLF Cell 3B2 Construction	Location: Richmond County - Augusta, GA	Project No: GTX-316777
Boring ID: ---	Sample Type: bag	Tested By: mgh	
Sample ID: PC-29	Test Date: 06/06/23	Checked By: jm	
Depth : ---	Test Id: 345913		
Test Comment: ---			
Visual Description: Moist, brownish yellow sand with silt			
Sample Comment: ---			

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	93.3	6.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	98		
#20	0.85	86		
#40	0.42	45		
#60	0.25	22		
#100	0.15	12		
#140	0.11	9		
#200	0.075	6.7		

Coefficients

$D_{85} = 0.8331$ mm $D_{30} = 0.3009$ mm
 $D_{60} = 0.5458$ mm $D_{15} = 0.1757$ mm
 $D_{50} = 0.4609$ mm $D_{10} = 0.1231$ mm
 $C_u = 4.434$ $C_c = 1.348$

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (1))

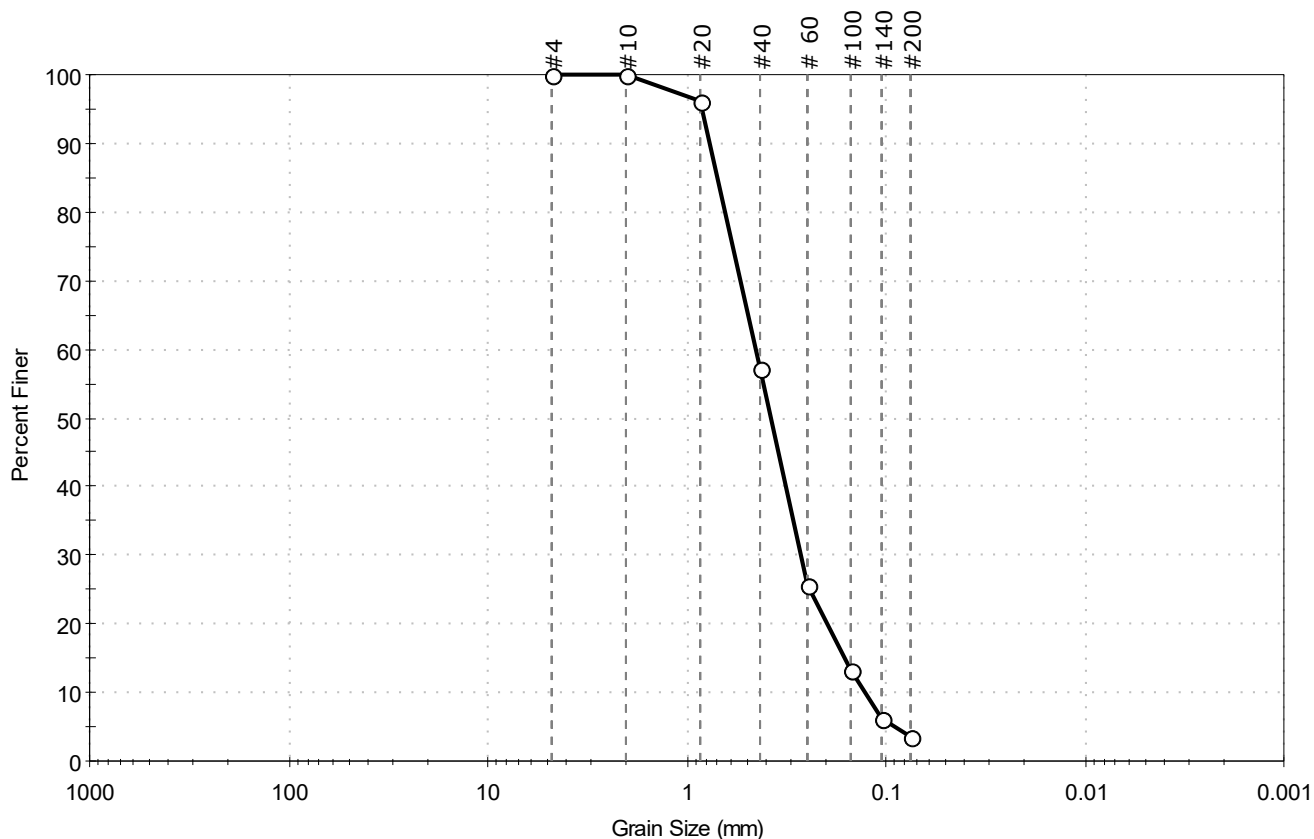
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client: SCS Engineers	Project No: GTX-316777	
Project: DBRLF Cell 3B2 Construction		
Location: Richmond County - Augusta, GA		
Boring ID: ---	Sample Type: bag	Tested By: mgh
Sample ID: PC-30	Test Date: 06/06/23	Checked By: jm
Depth: ---	Test Id: 345914	
Test Comment: ---		
Visual Description: Moist, brownish yellow sand		
Sample Comment: ---		

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	96.5	3.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	96		
#40	0.42	57		
#60	0.25	26		
#100	0.15	13		
#140	0.11	6		
#200	0.075	3.5		

Coefficients

$D_{85} = 0.6963$ mm $D_{30} = 0.2685$ mm
 $D_{60} = 0.4473$ mm $D_{15} = 0.1617$ mm
 $D_{50} = 0.3768$ mm $D_{10} = 0.1283$ mm
 $C_u = 3.486$ $C_c = 1.256$

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

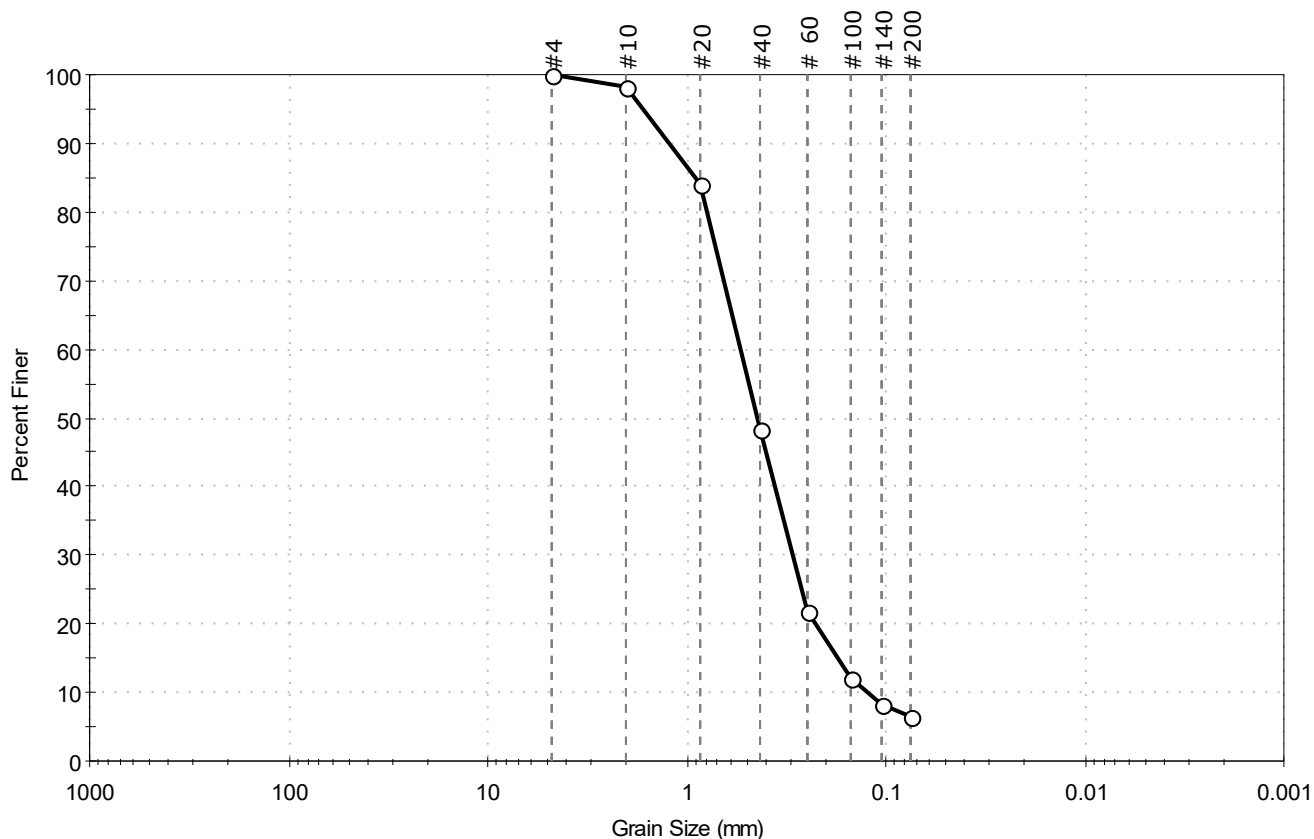
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client: SCS Engineers	Project No: GTX-316777	
Project: DBRLF Cell 3B2 Construction		
Location: Richmond County - Augusta, GA		
Boring ID: ---	Sample Type: bag	Tested By: mgh
Sample ID: PC-31	Test Date: 06/06/23	Checked By: jm
Depth: ---	Test Id: 345915	
Test Comment: ---		
Visual Description: Moist, brownish yellow sand with silt		
Sample Comment: ---		

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	93.6	6.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	98		
#20	0.85	84		
#40	0.42	48		
#60	0.25	22		
#100	0.15	12		
#140	0.11	8		
#200	0.075	6.4		

Coefficients

$D_{85} = 0.8969$ mm $D_{30} = 0.2946$ mm
 $D_{60} = 0.5329$ mm $D_{15} = 0.1750$ mm
 $D_{50} = 0.4391$ mm $D_{10} = 0.1248$ mm
 $C_u = 4.270$ $C_c = 1.305$

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

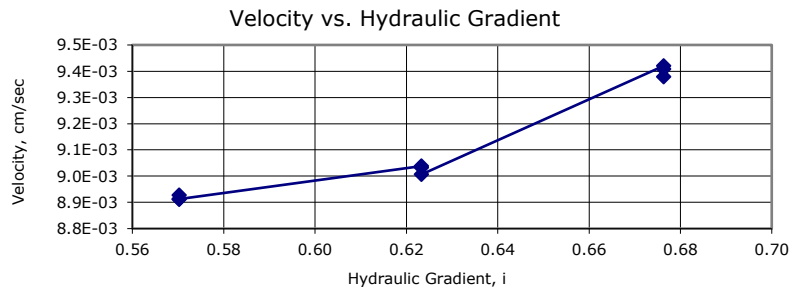


Client:	SCS Engineers		
Project Name:	Augusta DBLF Cell 3B2 Construction		
Project Location:	Augusta-Deans Bridge Road Landfill		
GTX #:	315627		
Start Date:	01/24/23	Tested By:	awp
End Date:	01/25/23	Checked By:	jsc
Boring #:	---		
Sample #:	Stockpile-103-4		
Depth:	3-4		
Visual Description:	Moist, red silty sand		

Hydraulic Conductivity of Coarse-Grained Soils by ASTM D2434-22

Sample Type:	Remolded																													
Sample Information:	Maximum Dry Density:	---	pcf																											
	Optimum Moisture Content:	---	%																											
	Compaction Test Method:	---																												
	Classification (ASTM D2487):	---																												
	Assumed Specific Gravity:	2.65																												
Sample Preparation / Test Setup:	Rigid wall permeameter test specimen compacted with moderate effort at air-dried moisture content. Sample saturated from the bottom to the top prior to permeation.																													
	<table><tr><th>Parameter</th><th>Initial</th><th>Final</th></tr><tr><td>Height, in</td><td>4.00</td><td>3.77</td></tr><tr><td>Diameter, in</td><td>4.00</td><td>4.00</td></tr><tr><td>Area, in²</td><td>12.6</td><td>12.6</td></tr><tr><td>Volume, in³</td><td>50.3</td><td>47.4</td></tr><tr><td>Mass, g</td><td>1140</td><td>---</td></tr><tr><td>Bulk Density, pcf</td><td>86</td><td>---</td></tr><tr><td>Moisture Content, %</td><td>0.2</td><td>---</td></tr><tr><td>Dry Density, pcf</td><td>86</td><td>---</td></tr></table>	Parameter	Initial	Final	Height, in	4.00	3.77	Diameter, in	4.00	4.00	Area, in ²	12.6	12.6	Volume, in ³	50.3	47.4	Mass, g	1140	---	Bulk Density, pcf	86	---	Moisture Content, %	0.2	---	Dry Density, pcf	86	---		
Parameter	Initial	Final																												
Height, in	4.00	3.77																												
Diameter, in	4.00	4.00																												
Area, in ²	12.6	12.6																												
Volume, in ³	50.3	47.4																												
Mass, g	1140	---																												
Bulk Density, pcf	86	---																												
Moisture Content, %	0.2	---																												
Dry Density, pcf	86	---																												

Date	Reading #	Volume of Flow, cc	Time of Flow, sec	Flow Rate, cc/sec	Gradient	Permeability, cm/sec	Temp., °C	Correction Factor	Permeability @ 20 °C, cm/sec
1/25	1	22.1	30.5	0.72	0.57	1.6E-02	19	1.018	1.6E-02
1/25	2	22.0	30.5	0.72	0.57	1.6E-02	19	1.018	1.6E-02
1/25	3	22.0	30.5	0.72	0.57	1.6E-02	19	1.018	1.6E-02
1/25	4	22.4	30.6	0.73	0.62	1.4E-02	19	1.038	1.5E-02
1/25	5	22.3	30.5	0.73	0.62	1.4E-02	19	1.038	1.5E-02
1/25	6	22.3	30.5	0.73	0.62	1.4E-02	19	1.038	1.5E-02
1/25	7	23.4	30.6	0.76	0.68	1.4E-02	18	1.043	1.5E-02
1/25	8	23.2	30.5	0.76	0.68	1.4E-02	18	1.043	1.4E-02
1/25	9	23.3	30.5	0.76	0.68	1.4E-02	18	1.043	1.5E-02



PERMEABILITY @ 20 °C =
 1.5×10^{-2} cm/sec

PERMEABILITY @ 20 °C =
 1.5×10^{-4} m/sec



Client:	SCS Engineers		
Project Name:	Augusta DBLF Cell 3B2 Construction		
Project Location:	Augusta-Deans Bridge Road Landfill		
GTX #:	315627		
Start Date:	01/24/23	Tested By:	awp
End Date:	01/26/23	Checked By:	jsc
Boring #:	---		
Sample #:	Stockpile-203-4		
Depth:	3-4		
Visual Description:	Moist, red sand with silt		

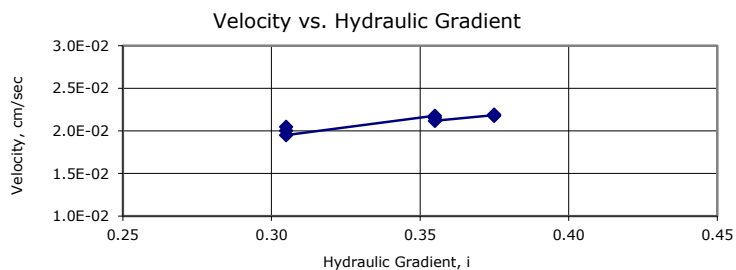
Hydraulic Conductivity of Coarse-Grained Soils by ASTM D2434-22

Sample Type:	Remolded		
Sample Information:	Maximum Dry Density:	---	pcf
	Optimum Moisture Content:	---	%
	Compaction Test Method:	---	
	Classification (ASTM D2487):	---	
	Assumed Specific Gravity:	2.65	

Sample Preparation / Test Setup: Rigid wall permeameter test specimen compacted with moderate effort at air-dried moisture content. Sample saturated from the bottom to the top prior to permeation.

Parameter	Initial	Final
Height, in	3.80	3.82
Diameter, in	4.00	4.00
Area, in ²	12.6	12.6
Volume, in ³	47.8	48.0
Mass, g	1195	---
Bulk Density, pcf	95	---
Moisture Content, %	0.2	---
Dry Density, pcf	95	---

Date	Reading #	Volume of Flow, cc	Time of Flow, sec	Flow Rate, cc/sec	Gradient	Permeability, cm/sec	Temp., °C	Correction Factor	Permeability @ 20 °C, cm/sec
1/26	1	50.7	30.5	1.66	0.31	6.7E-02	21	0.986	6.6E-02
1/26	2	49.6	30.6	1.62	0.31	6.6E-02	21	0.986	6.5E-02
1/26	3	48.4	30.6	1.58	0.31	6.4E-02	21	0.986	6.3E-02
1/26	4	53.8	30.4	1.77	0.36	6.1E-02	19	1.028	6.3E-02
1/26	5	53.2	30.4	1.75	0.36	6.1E-02	19	1.028	6.2E-02
1/26	6	52.3	30.4	1.72	0.36	6.0E-02	19	1.028	6.1E-02
1/26	7	54.1	30.5	1.77	0.38	5.8E-02	18	1.046	6.1E-02
1/26	8	54.1	30.6	1.77	0.38	5.8E-02	18	1.046	6.1E-02
1/26	9	54.2	30.5	1.78	0.38	5.8E-02	18	1.046	6.1E-02



PERMEABILITY @ 20 °C =
 6.3×10^{-2} cm/sec

PERMEABILITY @ 20 °C =
 6.3×10^{-4} m/sec



Client:	SCS Engineers		
Project Name:	Augusta DBLF Cell 3B2 Construction		
Project Location:	Augusta-Deans Bridge Road Landfill		
GTX #:	315627		
Start Date:	01/24/23	Tested By:	awp
End Date:	01/25/23	Checked By:	jsc
Boring #:	---		
Sample #:	Stockpile-303-4		
Depth:	3-4		
Visual Description:	Moist, red sand		

Hydraulic Conductivity of Coarse-Grained Soils by ASTM D2434-22

Sample Type:

Remolded

Sample Information:

Maximum Dry Density:

--- pcf

Optimum Moisture Content:

--- %

Compaction Test Method:

Classification (ASTM D2487):

SP

Assumed Specific Gravity:

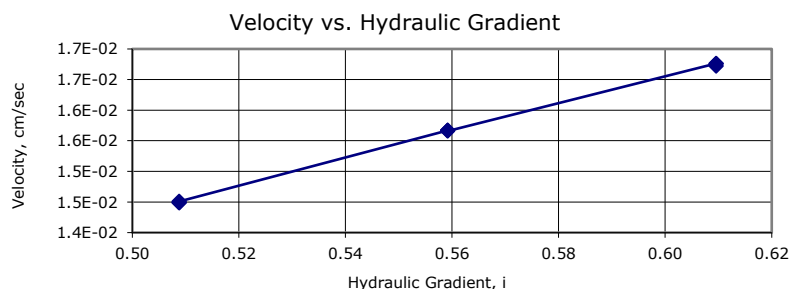
2.65

Sample Preparation / Test Setup:

Rigid wall permeameter test specimen compacted with moderate effort at air-dried moisture content. Sample saturated from the bottom to the top prior to permeation.

Parameter	Initial	Final
Height, in	4.00	3.97
Diameter, in	4.00	4.00
Area, in ²	12.6	12.6
Volume, in ³	50.3	49.9
Mass, g	1200	---
Bulk Density, pcf	91	---
Moisture Content, %	0.1	---
Dry Density, pcf	91	---

Date	Reading #	Volume of Flow, cc	Time of Flow, sec	Flow Rate, cc/sec	Gradient	Permeability, cm/sec	Temp., °C	Correction Factor	Permeability @ 20 °C, cm/sec
1/25	1	35.8	30.5	1.17	0.51	2.8E-02	17	1.079	3.1E-02
1/25	2	35.8	30.5	1.17	0.51	2.8E-02	17	1.079	3.1E-02
1/25	3	35.8	30.4	1.18	0.51	2.9E-02	17	1.079	3.1E-02
1/25	4	38.6	30.4	1.27	0.56	2.8E-02	17	1.081	3.0E-02
1/25	5	38.5	30.3	1.27	0.56	2.8E-02	17	1.081	3.0E-02
1/25	6	38.5	30.4	1.27	0.56	2.8E-02	17	1.081	3.0E-02
1/25	7	41.4	30.5	1.36	0.61	2.7E-02	17	1.081	3.0E-02
1/25	8	41.3	30.4	1.36	0.61	2.7E-02	17	1.081	3.0E-02
1/25	9	41.5	30.6	1.36	0.61	2.7E-02	17	1.081	3.0E-02



PERMEABILITY @ 20 °C =
 3.0×10^{-2} cm/sec

PERMEABILITY @ 20 °C =
 3.0×10^{-4} m/sec



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction Proj. #: 843
Augusta
Client: SCS Engineers Date: 2-24-23
Sample ID: PC-1
Description: Brownish Yellow poorly graded sand

Unit Weight Determination:

Diameter, D 11.35 cm Height of Mold 8.25 in.
Area, A 101.2 cm² Height from top of Mold 1.25 in. (Ave.)
Length, L 11.43 cm Height of Sample, H, in. 7.00 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.68	8.51	7.49	Initial: 4.5 %
Tare	0.00	1.10	1.10	Final: 16.0 %
Soil	6.68	7.41	6.39	

Density 100.58 pcf
Dry, W

Void Ratio, e: 0.6874
Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	31.8	29.8	2.0	208	900	0.0023	0.17	1.027	1.341E-02
	31.8	29.8	2.0	205	900	0.0023	0.17	1.027	1.321E-02
	31.8	29.8	2.0	205	900	0.0023	0.17	1.027	1.321E-02
2	32.4	29.9	2.5	253	900	0.0028	0.22	1.027	1.305E-02
	32.4	29.9	2.5	250	900	0.0027	0.22	1.027	1.289E-02
	32.4	29.9	2.5	250	900	0.0027	0.22	1.027	1.289E-02
3	33.2	30.2	3.0	303	900	0.0033	0.26	1.027	1.302E-02
	33.2	30.2	3.0	303	900	0.0033	0.26	1.027	1.302E-02
	33.2	30.2	3.0	300	900	0.0033	0.26	1.027	1.289E-02
4	33.8	30.3	3.5	353	900	0.0039	0.31	1.027	1.300E-02
	33.8	30.3	3.5	353	900	0.0039	0.31	1.027	1.300E-02
	33.8	30.3	3.5	350	900	0.0038	0.31	1.027	1.289E-02
5	34.5	30.6	3.9	385	900	0.0042	0.34	1.027	1.273E-02
	34.5	30.6	3.9	383	900	0.0042	0.34	1.027	1.266E-02
	34.5	30.6	3.9	383	900	0.0042	0.34	1.027	1.266E-02
6	36.0	31.0	5.0	483	900	0.0053	0.44	1.027	1.245E-02
	36.0	31.0	5.0	483	900	0.0053	0.44	1.027	1.245E-02
	36.0	31.0	5.0	480	900	0.0053	0.44	1.027	1.238E-02
Average									1.288E-02

Remarks: Recompacted sample (Medium Compaction, Air-dried).
Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction Proj. #: 843
Augusta
Client: SCS Engineers Date: 2-24-23
Sample ID: PC-2
Description: Brownish Yellow poorly graded sand

Unit Weight Determination:

Diameter, D	11.35 cm	Height of Mold	8.25 in.
Area, A	101.2 cm ²	Height from top of Mold	1.25 in. (Ave.)
Length, L	11.43 cm	Height of Sample, H, in.	7.00 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.71	8.54	7.51	Initial: 4.7 %
Tare	0.00	1.10	1.10	Final: 16.1 %
Soil	6.71	7.44	6.41	

Density 100.90 pcf
Dry, W

Void Ratio, e: 0.6821
Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	31.7	29.6	2.1	245	900	0.0027	0.18	1.027	1.504E-02
	31.7	29.6	2.1	245	900	0.0027	0.18	1.027	1.504E-02
	31.7	29.6	2.1	243	900	0.0027	0.18	1.027	1.492E-02
2	32.2	29.7	2.5	293	900	0.0032	0.22	1.027	1.511E-02
	32.2	29.7	2.5	293	900	0.0032	0.22	1.027	1.511E-02
	32.2	29.7	2.5	290	900	0.0032	0.22	1.027	1.495E-02
3	32.9	29.9	3.0	345	900	0.0038	0.26	1.027	1.482E-02
	32.9	29.9	3.0	345	900	0.0038	0.26	1.027	1.482E-02
	32.9	29.9	3.0	343	900	0.0038	0.26	1.027	1.474E-02
4	33.7	30.1	3.6	403	900	0.0044	0.31	1.027	1.443E-02
	33.7	30.1	3.6	403	900	0.0044	0.31	1.027	1.443E-02
	33.7	30.1	3.6	400	900	0.0044	0.31	1.027	1.432E-02
5	34.2	30.2	4.0	445	900	0.0049	0.35	1.027	1.434E-02
	34.2	30.2	4.0	445	900	0.0049	0.35	1.027	1.434E-02
	34.2	30.2	4.0	443	900	0.0049	0.35	1.027	1.428E-02
6	35.8	30.6	5.2	568	900	0.0062	0.45	1.027	1.408E-02
	35.8	30.6	5.2	565	900	0.0062	0.45	1.027	1.401E-02
	35.8	30.6	5.2	565	900	0.0062	0.45	1.027	1.401E-02
Average									1.460E-02

Remarks: Recompact sample (Medium Compaction, Air-dried).
Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction Proj. #: 843
Augusta
Client: SCS Engineers Date: 2-24-23
Sample ID: PC-3
Description: Brownish Yellow poorly graded sand

Unit Weight Determination:

Diameter, D 11.35 cm Height of Mold 8.25 in.
Area, A 101.2 cm² Height from top of Mold 1.26 in. (Ave.)
Length, L 11.43 cm Height of Sample, H, in. 6.99 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.75	8.61	7.56	Initial: 4.5 %
Tare	0.00	1.10	1.10	Final: 16.3 %
Soil	6.75	7.51	6.46	

Density 101.83 pcf
Dry, W

Void Ratio, e: 0.6667
Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	31.2	29.2	2.0	233	900	0.0026	0.17	1.027	1.502E-02
	31.2	29.2	2.0	230	900	0.0025	0.17	1.027	1.482E-02
	31.2	29.2	2.0	230	900	0.0025	0.17	1.027	1.482E-02
2	31.9	29.4	2.5	288	900	0.0032	0.22	1.027	1.485E-02
	31.9	29.4	2.5	285	900	0.0031	0.22	1.027	1.470E-02
	31.9	29.4	2.5	285	900	0.0031	0.22	1.027	1.470E-02
3	32.7	29.6	3.1	350	900	0.0038	0.27	1.027	1.455E-02
	32.7	29.6	3.1	350	900	0.0038	0.27	1.027	1.455E-02
	32.7	29.6	3.1	348	900	0.0038	0.27	1.027	1.447E-02
4	33.3	29.8	3.5	388	900	0.0043	0.31	1.027	1.429E-02
	33.3	29.8	3.5	388	900	0.0043	0.31	1.027	1.429E-02
	33.3	29.8	3.5	385	900	0.0042	0.31	1.027	1.418E-02
5	34.0	30.0	4.0	435	900	0.0048	0.35	1.027	1.402E-02
	34.0	30.0	4.0	435	900	0.0048	0.35	1.027	1.402E-02
	34.0	30.0	4.0	433	900	0.0048	0.35	1.027	1.395E-02
6	35.3	30.3	5.0	530	900	0.0058	0.44	1.027	1.366E-02
	35.3	30.3	5.0	528	900	0.0058	0.44	1.027	1.361E-02
	35.3	30.3	5.0	525	900	0.0058	0.44	1.027	1.354E-02
Average									1.434E-02

Remarks: Recompact sample (Medium Compaction, Air-dried).
Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction Proj. #: 843
Augusta
Client: SCS Engineers Date: 2-24-23
Sample ID: PC-6
Description: Brownish Yellow poorly graded sand with silt

Unit Weight Determination:

Diameter, D	11.35 cm	Height of Mold	8.25 in.
Area, A	101.2 cm ²	Height from top of Mold	1.24 in. (Ave.)
Length, L	11.43 cm	Height of Sample, H, in.	7.01 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.99	8.78	7.70	Initial: 5.9 %
Tare	0.00	1.10	1.10	Final: 16.4 %
Soil	6.99	7.68	6.60	
				Density 103.74 pcf
				Dry, W

Void Ratio, e: 0.6361
Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	31.2	29.2	2.0	200	900	0.0022	0.17	1.027	1.289E-02
	31.2	29.2	2.0	200	900	0.0022	0.17	1.027	1.289E-02
	31.2	29.2	2.0	198	900	0.0022	0.17	1.027	1.276E-02
2	31.7	29.3	2.4	240	900	0.0026	0.21	1.027	1.289E-02
	31.7	29.3	2.4	238	900	0.0026	0.21	1.027	1.278E-02
	31.7	29.3	2.4	238	900	0.0026	0.21	1.027	1.278E-02
3	32.5	29.5	3.0	298	900	0.0033	0.26	1.027	1.280E-02
	32.5	29.5	3.0	298	900	0.0033	0.26	1.027	1.280E-02
	32.5	29.5	3.0	298	900	0.0033	0.26	1.027	1.280E-02
4	33.2	29.7	3.5	340	900	0.0037	0.31	1.027	1.252E-02
	33.2	29.7	3.5	338	900	0.0037	0.31	1.027	1.245E-02
	33.2	29.7	3.5	338	900	0.0037	0.31	1.027	1.245E-02
5	34.0	29.9	4.1	388	900	0.0043	0.36	1.027	1.220E-02
	34.0	29.9	4.1	388	900	0.0043	0.36	1.027	1.220E-02
	34.0	29.9	4.1	385	900	0.0042	0.36	1.027	1.210E-02
6	35.3	30.3	5.0	460	900	0.0051	0.44	1.027	1.186E-02
	35.3	30.3	5.0	458	900	0.0050	0.44	1.027	1.181E-02
	35.3	30.3	5.0	458	900	0.0050	0.44	1.027	1.181E-02
Average									1.249E-02

Remarks: Recompact sample (Medium Compaction, Air-dried).
Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction
Augusta
Client: SCS Engineers

Proj. #: 843
Date: 5-3-23

Sample ID: PC-7
Description: Brownish Yellow poorly graded sand with silt

Unit Weight Determination:

Diameter, D	7.62 cm	Height of Mold	6.000 in.
Area, A	45.58 cm ²	Height from top of Mold	1.000 in.
Length, L	7.62 cm	Height of Sample, H, in.	5.000 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)
Soil & Tare	1.93	2.27	1.91
Tare	0.00	0.00	0.00
Soil	1.93	2.27	1.91

Moisture Content

Initial: 1.0 %
Final: 18.8 %

Density 93.38 pcf
Dry, W

Void Ratio, e: 0.8176
Specific Gravity: 2.7200
(Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	21.4	19.5	1.9	470	900	0.0115	0.25	1.114	5.119E-02
	21.4	19.5	1.9	470	900	0.0115	0.25	1.114	5.119E-02
	21.4	19.5	1.9	465	900	0.0113	0.25	1.114	5.064E-02
2	22.1	19.6	2.5	580	900	0.0141	0.33	1.114	4.801E-02
	22.1	19.6	2.5	580	900	0.0141	0.33	1.114	4.801E-02
	22.1	19.6	2.5	580	900	0.0141	0.33	1.114	4.801E-02
3	22.8	19.8	3.0	670	900	0.0163	0.39	1.114	4.621E-02
	22.8	19.8	3.0	665	900	0.0162	0.39	1.114	4.587E-02
	22.8	19.8	3.0	665	900	0.0162	0.39	1.114	4.587E-02
4	23.5	20.0	3.5	755	900	0.0184	0.46	1.114	4.464E-02
	23.5	20.0	3.5	750	900	0.0183	0.46	1.114	4.434E-02
	23.5	20.0	3.5	750	900	0.0183	0.46	1.114	4.434E-02
5	24.3	20.2	4.1	865	900	0.0211	0.54	1.114	4.366E-02
	24.3	20.2	4.1	865	900	0.0211	0.54	1.114	4.366E-02
	24.3	20.2	4.1	860	900	0.0210	0.54	1.114	4.340E-02
6	25.5	20.5	5.0	970	900	0.0236	0.66	1.114	4.014E-02
	25.5	20.5	5.0	970	900	0.0236	0.66	1.114	4.014E-02
	25.5	20.5	5.0	965	900	0.0235	0.66	1.114	3.994E-02
Average									4.551E-02

Remarks: Recompacted sample (low compaction).
-3/8" material tested. Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction
Augusta
Client: SCS Engineers

Proj. #: 843
Date: 5-3-23

Sample ID: PC-8
Description: Brownish Yellow poorly graded sand with silt

Unit Weight Determination:

Diameter, D	7.62 cm	Height of Mold	6.000 in.
Area, A	45.58 cm ²	Height from top of Mold	1.000 in.
Length, L	7.62 cm	Height of Sample, H, in.	5.000 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)
Soil & Tare	1.82	2.28	1.80
Tare	0.00	0.00	0.00
Soil	1.82	2.28	1.80

Moisture Content

Initial: 1.1 %
Final: 26.7 %

Density 88.00 pcf
Dry, W

Void Ratio, e: 0.9287
Specific Gravity: 2.7200
(Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	20.2	18.2	2.0	405	900	0.0099	0.26	1.114	4.190E-02
	20.2	18.2	2.0	405	900	0.0099	0.26	1.114	4.190E-02
	20.2	18.2	2.0	405	900	0.0099	0.26	1.114	4.190E-02
2	20.6	18.2	2.4	455	900	0.0111	0.31	1.114	3.923E-02
	20.6	18.2	2.4	450	900	0.0110	0.31	1.114	3.880E-02
	20.6	18.2	2.4	450	900	0.0110	0.31	1.114	3.880E-02
3	21.3	18.3	3.0	510	900	0.0124	0.39	1.114	3.518E-02
	21.3	18.3	3.0	510	900	0.0124	0.39	1.114	3.518E-02
	21.3	18.3	3.0	510	900	0.0124	0.39	1.114	3.518E-02
4	21.9	18.4	3.5	550	900	0.0134	0.46	1.114	3.252E-02
	21.9	18.4	3.5	545	900	0.0133	0.46	1.114	3.222E-02
	21.9	18.4	3.5	545	900	0.0133	0.46	1.114	3.222E-02
5	22.5	18.5	4.0	600	900	0.0146	0.52	1.114	3.104E-02
	22.5	18.5	4.0	595	900	0.0145	0.52	1.114	3.078E-02
	22.5	18.5	4.0	590	900	0.0144	0.52	1.114	3.052E-02
6	23.7	18.8	4.9	670	900	0.0163	0.64	1.114	2.829E-02
	23.7	18.8	4.9	665	900	0.0162	0.64	1.114	2.808E-02
	23.7	18.8	4.9	665	900	0.0162	0.64	1.114	2.808E-02
Average									3.455E-02

Remarks: Recompacted sample (low compaction).
-3/8" material tested. Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
 ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction
 Augusta
 Client: SCS Engineers

Proj. #: 843
 Date: 5-5-23

Sample ID: PC-9
 Description: Brownish Yellow poorly graded sand

Unit Weight Determination:

Diameter, D	7.62 cm	Height of Mold	6.000 in.
Area, A	45.58 cm ²	Height from top of Mold	1.000 in.
Length, L	7.62 cm	Height of Sample, H, in.	5.000 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)
Soil & Tare	1.91	2.32	1.90
Tare	0.00	0.00	0.00
Soil	1.91	2.32	1.90

Moisture Content

Initial: 0.5 %
 Final: 22.1 %

Density 92.89 pcf
 Dry, W

Void Ratio, e: 0.8272
 Specific Gravity: 2.7200
 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	19.2	17.3	1.9	665	900	0.0162	0.25	1.114	7.243E-02
	19.2	17.3	1.9	660	900	0.0161	0.25	1.114	7.188E-02
	19.2	17.3	1.9	660	900	0.0161	0.25	1.114	7.188E-02
2	20.0	17.5	2.5	905	900	0.0221	0.33	1.114	7.491E-02
	20.0	17.5	2.5	900	900	0.0219	0.33	1.114	7.449E-02
	20.0	17.5	2.5	900	900	0.0219	0.33	1.114	7.449E-02
3	20.5	17.5	3.0	970	900	0.0236	0.39	1.114	6.691E-02
	20.5	17.5	3.0	965	900	0.0235	0.39	1.114	6.656E-02
	20.5	17.5	3.0	960	900	0.0234	0.39	1.114	6.622E-02
4	21.2	17.6	3.6	1095	900	0.0267	0.47	1.114	6.294E-02
	21.2	17.6	3.6	1090	900	0.0266	0.47	1.114	6.265E-02
	21.2	17.6	3.6	1090	900	0.0266	0.47	1.114	6.265E-02
5	21.8	17.7	4.1	1200	900	0.0293	0.54	1.114	6.056E-02
	21.8	17.7	4.1	1195	900	0.0291	0.54	1.114	6.031E-02
	21.8	17.7	4.1	1195	900	0.0291	0.54	1.114	6.031E-02
6	22.9	17.9	5.0	1300	900	0.0317	0.66	1.114	5.380E-02
	22.9	17.9	5.0	1300	900	0.0317	0.66	1.114	5.380E-02
	22.9	17.9	5.0	1300	900	0.0317	0.66	1.114	5.380E-02
Average									6.503E-02

Remarks: Recompacted sample (low compaction).
 -3/8" material tested. Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction
Augusta
Client: SCS Engineers

Proj. #: 843
Date: 5-5-23

Sample ID: PC-10
Description: Brownish Yellow poorly graded sand

Unit Weight Determination:

Diameter, D	7.62 cm	Height of Mold	6.000 in.
Area, A	45.58 cm ²	Height from top of Mold	1.000 in.
Length, L	7.62 cm	Height of Sample, H, in.	5.000 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)
Soil & Tare	1.84	2.31	1.82
Tare	0.00	0.00	0.00
Soil	1.84	2.31	1.82

Moisture Content

Initial: 1.1 %
Final: 26.9 %

Density 88.98 pcf
Dry, W

Void Ratio, e: 0.9075
Specific Gravity: 2.7200
(Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	19.1	17.0	2.1	750	900	0.0183	0.28	1.114	7.390E-02
	19.1	17.0	2.1	750	900	0.0183	0.28	1.114	7.390E-02
	19.1	17.0	2.1	750	900	0.0183	0.28	1.114	7.390E-02
2	19.5	17.0	2.5	875	900	0.0213	0.33	1.114	7.243E-02
	19.5	17.0	2.5	865	900	0.0211	0.33	1.114	7.160E-02
	19.5	17.0	2.5	865	900	0.0211	0.33	1.114	7.160E-02
3	20.2	17.1	3.1	1025	900	0.0250	0.41	1.114	6.842E-02
	20.2	17.1	3.1	1025	900	0.0250	0.41	1.114	6.842E-02
	20.2	17.1	3.1	1020	900	0.0249	0.41	1.114	6.809E-02
4	20.7	17.2	3.5	1140	900	0.0278	0.46	1.114	6.740E-02
	20.7	17.2	3.5	1135	900	0.0277	0.46	1.114	6.710E-02
	20.7	17.2	3.5	1135	900	0.0277	0.46	1.114	6.710E-02
5	21.3	17.3	4.0	1245	900	0.0303	0.52	1.114	6.441E-02
	21.3	17.3	4.0	1245	900	0.0303	0.52	1.114	6.441E-02
	21.3	17.3	4.0	1240	900	0.0302	0.52	1.114	6.415E-02
6	22.6	17.6	5.0	1420	900	0.0346	0.66	1.114	5.877E-02
	22.6	17.6	5.0	1420	900	0.0346	0.66	1.114	5.877E-02
	22.6	17.6	5.0	1420	900	0.0346	0.66	1.114	5.877E-02
Average									6.740E-02

Remarks: Recompacted sample (low compaction).
-3/8" material tested. Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction Proj. #: 843
Augusta
Client: SCS Engineers Date: 5-2-23
Sample ID: PC-14
Description: Light Orange poorly graded sand

Unit Weight Determination:

Diameter, D 11.35 cm Height of Mold 8.25 in.
Area, A 101.2 cm² Height from top of Mold 1.25 in. (Ave.)
Length, L 11.43 cm Height of Sample, H, in. 7.00 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.69	7.64	6.48	Initial: 3.2 %
Tare	0.00	0.00	0.00	Final: 17.9 %
Soil	6.69	7.64	6.48	

Density 102.00 pcf
Dry, W

Void Ratio, e: 0.6640
Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	31.3	29.4	1.9	140	900	0.0015	0.17	1.111	1.028E-02
	31.3	29.4	1.9	140	900	0.0015	0.17	1.111	1.028E-02
	31.3	29.4	1.9	140	900	0.0015	0.17	1.111	1.028E-02
2	31.9	29.4	2.5	195	900	0.0021	0.22	1.111	1.088E-02
	31.9	29.4	2.5	190	900	0.0021	0.22	1.111	1.060E-02
	31.9	29.4	2.5	190	900	0.0021	0.22	1.111	1.060E-02
3	32.5	29.4	3.1	275	900	0.0030	0.27	1.111	1.237E-02
	32.5	29.4	3.1	275	900	0.0030	0.27	1.111	1.237E-02
	32.5	29.4	3.1	275	900	0.0030	0.27	1.111	1.237E-02
4	33.1	29.5	3.6	340	900	0.0037	0.31	1.111	1.317E-02
	33.1	29.5	3.6	335	900	0.0037	0.31	1.111	1.298E-02
	33.1	29.5	3.6	335	900	0.0037	0.31	1.111	1.298E-02
5	33.6	29.6	4.0	435	900	0.0048	0.35	1.111	1.517E-02
	33.6	29.6	4.0	430	900	0.0047	0.35	1.111	1.499E-02
	33.6	29.6	4.0	430	900	0.0047	0.35	1.111	1.499E-02
6	34.6	29.6	5.0	550	900	0.0060	0.44	1.111	1.534E-02
	34.6	29.6	5.0	545	900	0.0060	0.44	1.111	1.520E-02
	34.6	29.6	5.0	540	900	0.0059	0.44	1.111	1.506E-02
Average									1.277E-02

Remarks: Recompacted sample (Medium Compaction, Air-dried).
Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction Proj. #: 843
Augusta
Client: SCS Engineers Date: 5-2-23
Sample ID: PC-15
Description: Brownish Yellow poorly graded sand

Unit Weight Determination:

Diameter, D	11.35 cm	Height of Mold	8.25 in.
Area, A	101.2 cm ²	Height from top of Mold	1.25 in. (Ave.)
Length, L	11.43 cm	Height of Sample, H, in.	7.00 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.68	8.51	7.49	Initial: 4.5 %
Tare	0.00	1.10	1.10	Final: 16.0 %
Soil	6.68	7.41	6.39	
				Density 100.58 pcf
				Dry, W

Void Ratio, e: 0.6874
Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	31.8	29.8	2.0	208	900	0.0023	0.17	1.027	1.341E-02
	31.8	29.8	2.0	205	900	0.0023	0.17	1.027	1.321E-02
	31.8	29.8	2.0	205	900	0.0023	0.17	1.027	1.321E-02
2	32.4	29.9	2.5	253	900	0.0028	0.22	1.027	1.305E-02
	32.4	29.9	2.5	250	900	0.0027	0.22	1.027	1.289E-02
	32.4	29.9	2.5	250	900	0.0027	0.22	1.027	1.289E-02
3	33.2	30.2	3.0	303	900	0.0033	0.26	1.027	1.302E-02
	33.2	30.2	3.0	303	900	0.0033	0.26	1.027	1.302E-02
	33.2	30.2	3.0	300	900	0.0033	0.26	1.027	1.289E-02
4	33.8	30.3	3.5	353	900	0.0039	0.31	1.027	1.300E-02
	33.8	30.3	3.5	353	900	0.0039	0.31	1.027	1.300E-02
	33.8	30.3	3.5	350	900	0.0038	0.31	1.027	1.289E-02
5	34.5	30.6	3.9	385	900	0.0042	0.34	1.027	1.273E-02
	34.5	30.6	3.9	383	900	0.0042	0.34	1.027	1.266E-02
	34.5	30.6	3.9	383	900	0.0042	0.34	1.027	1.266E-02
6	36.0	31.0	5.0	483	900	0.0053	0.44	1.027	1.245E-02
	36.0	31.0	5.0	483	900	0.0053	0.44	1.027	1.245E-02
	36.0	31.0	5.0	480	900	0.0053	0.44	1.027	1.238E-02
Average									1.288E-02

Remarks: Recompacted sample (Medium Compaction, Air-dried).
Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction Proj. #: 843
Augusta
Client: SCS Engineers Date: 5-2-23
Sample ID: PC-16
Description: Light Brown poorly graded sand with silt

Unit Weight Determination:

Diameter, D	11.35 cm	Height of Mold	8.25 in.
Area, A	101.2 cm ²	Height from top of Mold	1.25 in. (Ave.)
Length, L	11.43 cm	Height of Sample, H, in.	7.00 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.87	7.68	6.51	Initial: 5.5 %
Tare	0.00	0.00	0.00	Final: 18.0 %
Soil	6.87	7.68	6.51	

Density 102.47 pcf
Dry, W

Void Ratio, e: 0.6563
Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	31.5	29.5	2.0	150	900	0.0016	0.17	1.111	1.046E-02
	31.5	29.5	2.0	150	900	0.0016	0.17	1.111	1.046E-02
	31.5	29.5	2.0	150	900	0.0016	0.17	1.111	1.046E-02
2	32.1	29.6	2.5	180	900	0.0020	0.22	1.111	1.004E-02
	32.1	29.6	2.5	180	900	0.0020	0.22	1.111	1.004E-02
	32.1	29.6	2.5	180	900	0.0020	0.22	1.111	1.004E-02
3	32.8	29.7	3.1	225	900	0.0025	0.27	1.111	1.012E-02
	32.8	29.7	3.1	225	900	0.0025	0.27	1.111	1.012E-02
	32.8	29.7	3.1	225	900	0.0025	0.27	1.111	1.012E-02
4	33.4	29.9	3.5	255	900	0.0028	0.31	1.111	1.016E-02
	33.4	29.9	3.5	255	900	0.0028	0.31	1.111	1.016E-02
	33.4	29.9	3.5	255	900	0.0028	0.31	1.111	1.016E-02
5	34.3	30.2	4.1	330	900	0.0036	0.36	1.111	1.122E-02
	34.3	30.2	4.1	330	900	0.0036	0.36	1.111	1.122E-02
	34.3	30.2	4.1	330	900	0.0036	0.36	1.111	1.122E-02
6	35.4	30.4	5.0	460	900	0.0051	0.44	1.111	1.283E-02
	35.4	30.4	5.0	455	900	0.0050	0.44	1.111	1.269E-02
	35.4	30.4	5.0	450	900	0.0049	0.44	1.111	1.255E-02
Average									1.078E-02

Remarks: Recompact sample (Medium Compaction, Air-dried).
Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction Proj. #: 843
Augusta
Client: SCS Engineers Date: 5-2-23
Sample ID: PC-17
Description: Light Orange poorly graded sand

Unit Weight Determination:

Diameter, D	11.35 cm	Height of Mold	8.25 in.
Area, A	101.2 cm ²	Height from top of Mold	1.25 in. (Ave.)
Length, L	11.43 cm	Height of Sample, H, in.	7.00 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.49	7.53	6.27	Initial: 3.5 %
Tare	0.00	0.00	0.00	Final: 20.1 %
Soil	6.49	7.53	6.27	
				Density 98.70 pcf
				Dry, W

Void Ratio, e: 0.7197
Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	30.5	28.5	2.0	215	900	0.0024	0.17	1.111	1.499E-02
	30.5	28.5	2.0	210	900	0.0023	0.17	1.111	1.464E-02
	30.5	28.5	2.0	210	900	0.0023	0.17	1.111	1.464E-02
2	31.0	28.5	2.5	255	900	0.0028	0.22	1.111	1.422E-02
	31.0	28.5	2.5	250	900	0.0027	0.22	1.111	1.395E-02
	31.0	28.5	2.5	250	900	0.0027	0.22	1.111	1.395E-02
3	31.7	28.6	3.1	290	900	0.0032	0.27	1.111	1.305E-02
	31.7	28.6	3.1	290	900	0.0032	0.27	1.111	1.305E-02
	31.7	28.6	3.1	290	900	0.0032	0.27	1.111	1.305E-02
4	32.3	28.7	3.6	325	900	0.0036	0.31	1.111	1.259E-02
	32.3	28.7	3.6	325	900	0.0036	0.31	1.111	1.259E-02
	32.3	28.7	3.6	320	900	0.0035	0.31	1.111	1.240E-02
5	32.9	28.8	4.1	340	900	0.0037	0.36	1.111	1.156E-02
	32.9	28.8	4.1	340	900	0.0037	0.36	1.111	1.156E-02
	32.9	28.8	4.1	340	900	0.0037	0.36	1.111	1.156E-02
6	34.1	29.1	5.0	400	900	0.0044	0.44	1.111	1.116E-02
	34.1	29.1	5.0	395	900	0.0043	0.44	1.111	1.102E-02
	34.1	29.1	5.0	395	900	0.0043	0.44	1.111	1.102E-02
Average									1.283E-02

Remarks: Recompacted sample (Medium Compaction, Air-dried).
Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction Proj. #: 843
Augusta
Client: SCS Engineers Date: 5-2-23
Sample ID: PC-18
Description: Brownish Yellow poorly graded sand with silt

Unit Weight Determination:

Diameter, D 11.35 cm Height of Mold 8.25 in.
Area, A 101.2 cm² Height from top of Mold 1.24 in. (Ave.)
Length, L 11.43 cm Height of Sample, H, in. 7.01 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.99	8.78	7.70	Initial: 5.9 %
Tare	0.00	1.10	1.10	Final: 16.4 %
Soil	6.99	7.68	6.60	
				Density 103.74 pcf
				Dry, W

Void Ratio, e: 0.6361
Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	31.2	29.2	2.0	200	900	0.0022	0.17	1.027	1.289E-02
	31.2	29.2	2.0	200	900	0.0022	0.17	1.027	1.289E-02
	31.2	29.2	2.0	198	900	0.0022	0.17	1.027	1.276E-02
2	31.7	29.3	2.4	240	900	0.0026	0.21	1.027	1.289E-02
	31.7	29.3	2.4	238	900	0.0026	0.21	1.027	1.278E-02
	31.7	29.3	2.4	238	900	0.0026	0.21	1.027	1.278E-02
3	32.5	29.5	3.0	298	900	0.0033	0.26	1.027	1.280E-02
	32.5	29.5	3.0	298	900	0.0033	0.26	1.027	1.280E-02
	32.5	29.5	3.0	298	900	0.0033	0.26	1.027	1.280E-02
4	33.2	29.7	3.5	340	900	0.0037	0.31	1.027	1.252E-02
	33.2	29.7	3.5	338	900	0.0037	0.31	1.027	1.245E-02
	33.2	29.7	3.5	338	900	0.0037	0.31	1.027	1.245E-02
5	34.0	29.9	4.1	388	900	0.0043	0.36	1.027	1.220E-02
	34.0	29.9	4.1	388	900	0.0043	0.36	1.027	1.220E-02
	34.0	29.9	4.1	385	900	0.0042	0.36	1.027	1.210E-02
6	35.3	30.3	5.0	460	900	0.0051	0.44	1.027	1.186E-02
	35.3	30.3	5.0	458	900	0.0050	0.44	1.027	1.181E-02
	35.3	30.3	5.0	458	900	0.0050	0.44	1.027	1.181E-02
Average									1.249E-02

Remarks: Recompact sample (Medium Compaction, Air-dried).
Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction Proj. #: 843
Augusta
Client: SCS Engineers Date: 5-2-23
Sample ID: PC-19
Description: Light Brown poorly graded sand with silt

Unit Weight Determination:

Diameter, D	11.35 cm	Height of Mold	8.25 in.
Area, A	101.2 cm ²	Height from top of Mold	1.25 in. (Ave.)
Length, L	11.43 cm	Height of Sample, H, in.	7.00 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.79	7.64	6.43	Initial: 5.6 %
Tare	0.00	0.00	0.00	Final: 18.8 %
Soil	6.79	7.64	6.43	
				Density 101.21 pcf
				Dry, W

Void Ratio, e: 0.6769
Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	31.0	29.0	2.0	185	900	0.0020	0.17	1.111	1.290E-02
	31.0	29.0	2.0	180	900	0.0020	0.17	1.111	1.255E-02
	31.0	29.0	2.0	180	900	0.0020	0.17	1.111	1.255E-02
2	31.4	29.0	2.4	210	900	0.0023	0.21	1.111	1.220E-02
	31.4	29.0	2.4	210	900	0.0023	0.21	1.111	1.220E-02
	31.4	29.0	2.4	210	900	0.0023	0.21	1.111	1.220E-02
3	32.1	29.1	3.0	225	900	0.0025	0.26	1.111	1.046E-02
	32.1	29.1	3.0	225	900	0.0025	0.26	1.111	1.046E-02
	32.1	29.1	3.0	220	900	0.0024	0.26	1.111	1.023E-02
4	32.7	29.1	3.6	260	900	0.0029	0.31	1.111	1.007E-02
	32.7	29.1	3.6	260	900	0.0029	0.31	1.111	1.007E-02
	32.7	29.1	3.6	260	900	0.0029	0.31	1.111	1.007E-02
5	33.1	29.2	3.9	290	900	0.0032	0.34	1.111	1.037E-02
	33.1	29.2	3.9	290	900	0.0032	0.34	1.111	1.037E-02
	33.1	29.2	3.9	290	900	0.0032	0.34	1.111	1.037E-02
6	34.4	29.4	5.0	360	900	0.0040	0.44	1.111	1.004E-02
	34.4	29.4	5.0	360	900	0.0040	0.44	1.111	1.004E-02
	34.4	29.4	5.0	360	900	0.0040	0.44	1.111	1.004E-02
Average									1.096E-02

Remarks: Recompact sample (Medium Compaction, Air-dried).
Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction
Augusta
Client: SCS Engineers

Proj. #: 843
Date: 5-8-23

Sample ID: PC-20
Description: Reddish Yellow poorly graded sand with silt

Unit Weight Determination:

Diameter, D	7.62 cm	Height of Mold	6.000 in.
Area, A	45.58 cm ²	Height from top of Mold	1.000 in.
Length, L	7.62 cm	Height of Sample, H, in.	5.000 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)
Soil & Tare	1.90	2.34	1.89
Tare	0.00	0.00	0.00
Soil	1.90	2.34	1.89

Moisture Content

Initial: 0.5 %
Final: 23.8 %

Density 92.40 pcf
Dry, W

Void Ratio, e: 0.8369
Specific Gravity: 2.7200
(Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	20.5	18.4	2.1	875	900	0.0213	0.28	1.114	8.622E-02
	20.5	18.4	2.1	875	900	0.0213	0.28	1.114	8.622E-02
	20.5	18.4	2.1	870	900	0.0212	0.28	1.114	8.573E-02
2	21.0	18.5	2.5	1015	900	0.0247	0.33	1.114	8.401E-02
	21.0	18.5	2.5	1010	900	0.0246	0.33	1.114	8.360E-02
	21.0	18.5	2.5	1000	900	0.0244	0.33	1.114	8.277E-02
3	21.5	18.5	3.0	1170	900	0.0285	0.39	1.114	8.070E-02
	21.5	18.5	3.0	1170	900	0.0285	0.39	1.114	8.070E-02
	21.5	18.5	3.0	1170	900	0.0285	0.39	1.114	8.070E-02
4	22.2	18.6	3.6	1370	900	0.0334	0.47	1.114	7.875E-02
	22.2	18.6	3.6	1365	900	0.0333	0.47	1.114	7.846E-02
	22.2	18.6	3.6	1360	900	0.0332	0.47	1.114	7.817E-02
5	22.7	18.6	4.1	1500	900	0.0366	0.54	1.114	7.571E-02
	22.7	18.6	4.1	1500	900	0.0366	0.54	1.114	7.571E-02
	22.7	18.6	4.1	1495	900	0.0364	0.54	1.114	7.545E-02
6	23.8	18.8	5.0	1785	900	0.0435	0.66	1.114	7.387E-02
	23.8	18.8	5.0	1780	900	0.0434	0.66	1.114	7.367E-02
	23.8	18.8	5.0	1775	900	0.0433	0.66	1.114	7.346E-02
Average									7.966E-02

Remarks: Recompacted sample (low compaction).
-3/8" material tested. Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction
Augusta
Client: SCS Engineers

Proj. #: 843
Date: 5-8-23

Sample ID: PC-21
Description: Reddish Yellow poorly graded sand with silt

Unit Weight Determination:

Diameter, D	7.62 cm	Height of Mold	6.000 in.
Area, A	45.58 cm ²	Height from top of Mold	1.000 in.
Length, L	7.62 cm	Height of Sample, H, in.	5.000 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)
Soil & Tare	1.90	2.34	1.89
Tare	0.00	0.00	0.00
Soil	1.90	2.34	1.89

Moisture Content

Initial: 0.5 %
Final: 23.8 %

Density 92.40 pcf
Dry, W

Void Ratio, e: 0.8369
Specific Gravity: 2.7200
(Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	20.8	18.7	2.1	575	900	0.0140	0.28	1.106	5.625E-02
	20.8	18.7	2.1	570	900	0.0139	0.28	1.106	5.576E-02
	20.8	18.7	2.1	570	900	0.0139	0.28	1.106	5.576E-02
2	21.0	18.5	2.5	745	900	0.0182	0.33	1.106	6.122E-02
	21.0	18.5	2.5	745	900	0.0182	0.33	1.106	6.122E-02
	21.0	18.5	2.5	740	900	0.0180	0.33	1.106	6.081E-02
3	22.0	18.9	3.1	960	900	0.0234	0.41	1.106	6.362E-02
	22.0	18.9	3.1	960	900	0.0234	0.41	1.106	6.362E-02
	22.0	18.9	3.1	960	900	0.0234	0.41	1.106	6.362E-02
4	22.5	18.9	3.6	1160	900	0.0283	0.47	1.106	6.620E-02
	22.5	18.9	3.6	1155	900	0.0282	0.47	1.106	6.591E-02
	22.5	18.9	3.6	1150	900	0.0280	0.47	1.106	6.563E-02
5	23.0	19.0	4.0	1385	900	0.0338	0.52	1.106	7.113E-02
	23.0	19.0	4.0	1380	900	0.0336	0.52	1.106	7.088E-02
	23.0	19.0	4.0	1375	900	0.0335	0.52	1.106	7.062E-02
6	24.1	19.2	4.9	1705	900	0.0416	0.64	1.106	7.149E-02
	24.1	19.2	4.9	1705	900	0.0416	0.64	1.106	7.149E-02
	24.1	19.2	4.9	1705	900	0.0416	0.64	1.106	7.149E-02
Average									6.482E-02

Remarks: Recompacted sample (low compaction).
-3/8" material tested. Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
 ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction Proj. #: 843
 Augusta
 Client: SCS Engineers Date: 5-15-23
 Sample ID: PC-24
 Description: Yellow poorly graded sand

Unit Weight Determination:

Diameter, D	11.35 cm	Height of Mold	8.25 in.
Area, A	101.2 cm ²	Height from top of Mold	1.25 in. (Ave.)
Length, L	11.43 cm	Height of Sample, H, in.	7.00 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.43	7.71	6.42	Initial: 0.2 %
Tare	0.00	0.00	0.00	Final: 20.1 %
Soil	6.43	7.71	6.42	

Density 101.06 pcf
 Dry, W

Void Ratio, e: 0.6795
 Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	30.8	28.8	2.0	275	900	0.0030	0.17	1.030	1.778E-02
	30.8	28.8	2.0	270	900	0.0030	0.17	1.030	1.745E-02
	30.8	28.8	2.0	270	900	0.0030	0.17	1.030	1.745E-02
2	30.5	28.0	2.5	335	900	0.0037	0.22	1.030	1.732E-02
	30.5	28.0	2.5	330	900	0.0036	0.22	1.030	1.707E-02
	30.5	28.0	2.5	325	900	0.0036	0.22	1.030	1.681E-02
3	31.2	28.2	3.0	450	900	0.0049	0.26	1.030	1.939E-02
	31.2	28.2	3.0	450	900	0.0049	0.26	1.030	1.939E-02
	31.2	28.2	3.0	445	900	0.0049	0.26	1.030	1.918E-02
4	31.8	28.2	3.6	500	900	0.0055	0.31	1.030	1.796E-02
	31.8	28.2	3.6	495	900	0.0054	0.31	1.030	1.778E-02
	31.8	28.2	3.6	495	900	0.0054	0.31	1.030	1.778E-02
5	32.2	28.2	4.0	540	900	0.0059	0.35	1.030	1.745E-02
	32.2	28.2	4.0	540	900	0.0059	0.35	1.030	1.745E-02
	32.2	28.2	4.0	540	900	0.0059	0.35	1.030	1.745E-02
6	33.4	28.4	5.0	605	900	0.0066	0.44	1.030	1.564E-02
	33.4	28.4	5.0	595	900	0.0065	0.44	1.030	1.538E-02
	33.4	28.4	5.0	590	900	0.0065	0.44	1.030	1.526E-02
Average									1.744E-02

Remarks: Recompacted sample (Light Compaction).
 Tested with tap water.



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PERMEABILITY TEST BY CONSTANT HEAD METHOD
 ASTM D2434

Project: Deans Bridge Road Cell 3B2 Construction Proj. #: 843
 Augusta
 Client: SCS Engineers Date: 5-15-23
 Sample ID: PC-27
 Description: Brownish Yellow poorly graded sand

Unit Weight Determination:

Diameter, D	11.35 cm	Height of Mold	8.25 in.
Area, A	101.2 cm ²	Height from top of Mold	1.25 in. (Ave.)
Length, L	11.43 cm	Height of Sample, H, in.	7.00 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.22	7.51	6.19	Initial: 0.5 %
Tare	0.00	0.00	0.00	Final: 21.3 %
Soil	6.22	7.51	6.19	

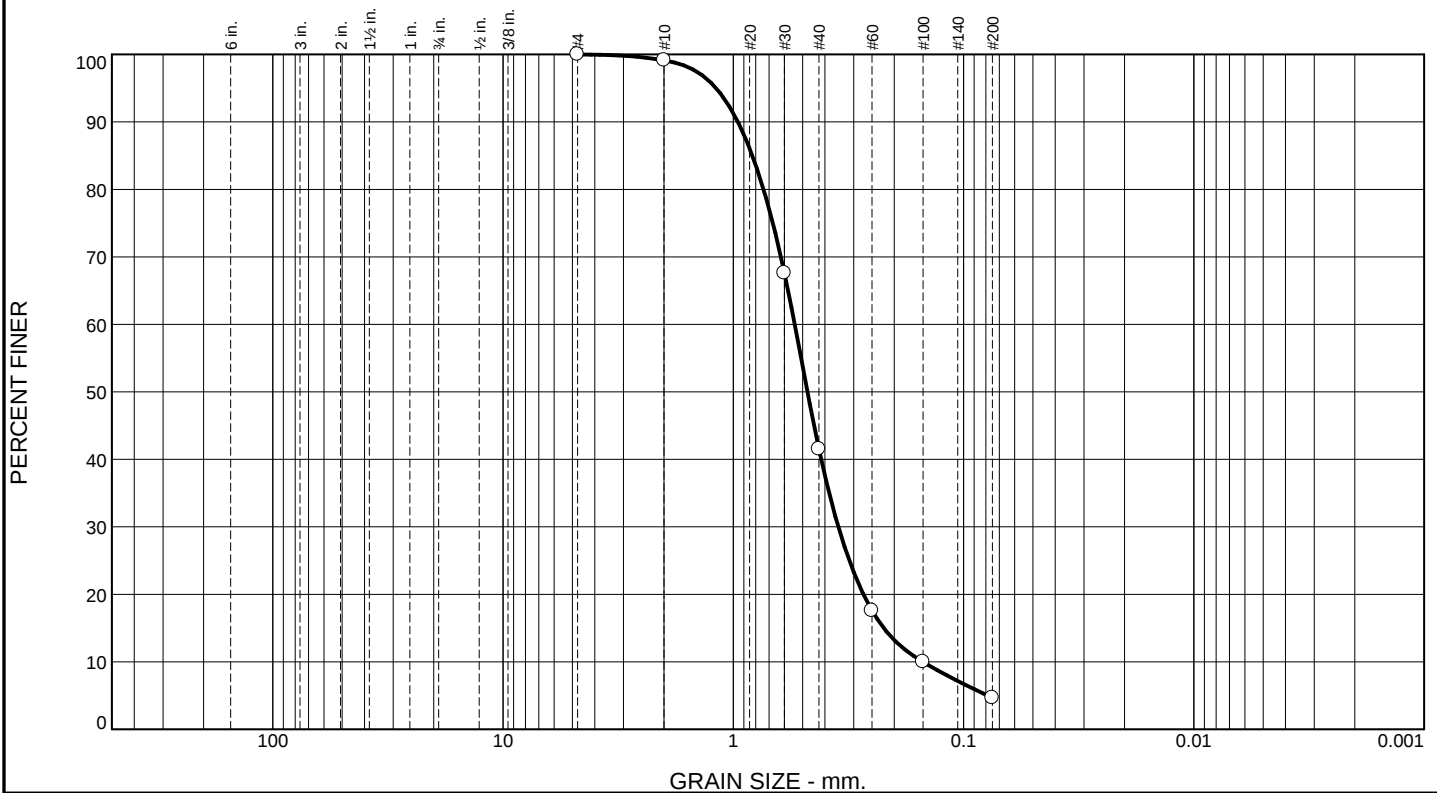
Density 97.44 pcf
 Dry, W

Void Ratio, e: 0.7419
 Specific Gravity: 2.7200 (Assumed)

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s
	h1	h2							
1	30.8	28.8	2.0	335	900	0.0037	0.17	1.025	2.155E-02
	30.8	28.8	2.0	330	900	0.0036	0.17	1.025	2.123E-02
	30.8	28.8	2.0	330	900	0.0036	0.17	1.025	2.123E-02
2	30.7	28.2	2.5	420	900	0.0046	0.22	1.025	2.161E-02
	30.7	28.2	2.5	420	900	0.0046	0.22	1.025	2.161E-02
	30.7	28.2	2.5	420	900	0.0046	0.22	1.025	2.161E-02
3	31.3	28.3	3.0	510	900	0.0056	0.26	1.025	2.187E-02
	31.3	28.3	3.0	510	900	0.0056	0.26	1.025	2.187E-02
	31.3	28.3	3.0	510	900	0.0056	0.26	1.025	2.187E-02
4	31.8	28.4	3.4	585	900	0.0064	0.30	1.025	2.214E-02
	31.8	28.4	3.4	580	900	0.0064	0.30	1.025	2.195E-02
	31.8	28.4	3.4	580	900	0.0064	0.30	1.025	2.195E-02
5	32.4	28.4	4.0	640	900	0.0070	0.35	1.025	2.059E-02
	32.4	28.4	4.0	635	900	0.0070	0.35	1.025	2.042E-02
	32.4	28.4	4.0	630	900	0.0069	0.35	1.025	2.026E-02
6	33.6	28.7	4.9	725	900	0.0080	0.43	1.025	1.904E-02
	33.6	28.7	4.9	725	900	0.0080	0.43	1.025	1.904E-02
	33.6	28.7	4.9	720	900	0.0079	0.43	1.025	1.890E-02
Average									2.104E-02

Remarks: Recompact sample (Light Compaction).
 Tested with tap water.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.9	57.6	36.8	4.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.1		
#30	67.6		
#40	41.5		
#60	17.6		
#100	10.0		
#200	4.7		

* (no specification provided)

Sample Number: PC-53

Material Description
Yellowish Red poorly graded sand

Atterberg Limits
 PL= NP LL= NV PI= NP

Coefficients
 D₉₀= 0.9551 D₈₅= 0.8269 D₆₀= 0.5413
 D₅₀= 0.4764 D₃₀= 0.3501 D₁₅= 0.2223
 D₁₀= 0.1502 C_u= 3.60 C_c= 1.51

Classification
 USCS= SP AASHTO= A-1-b

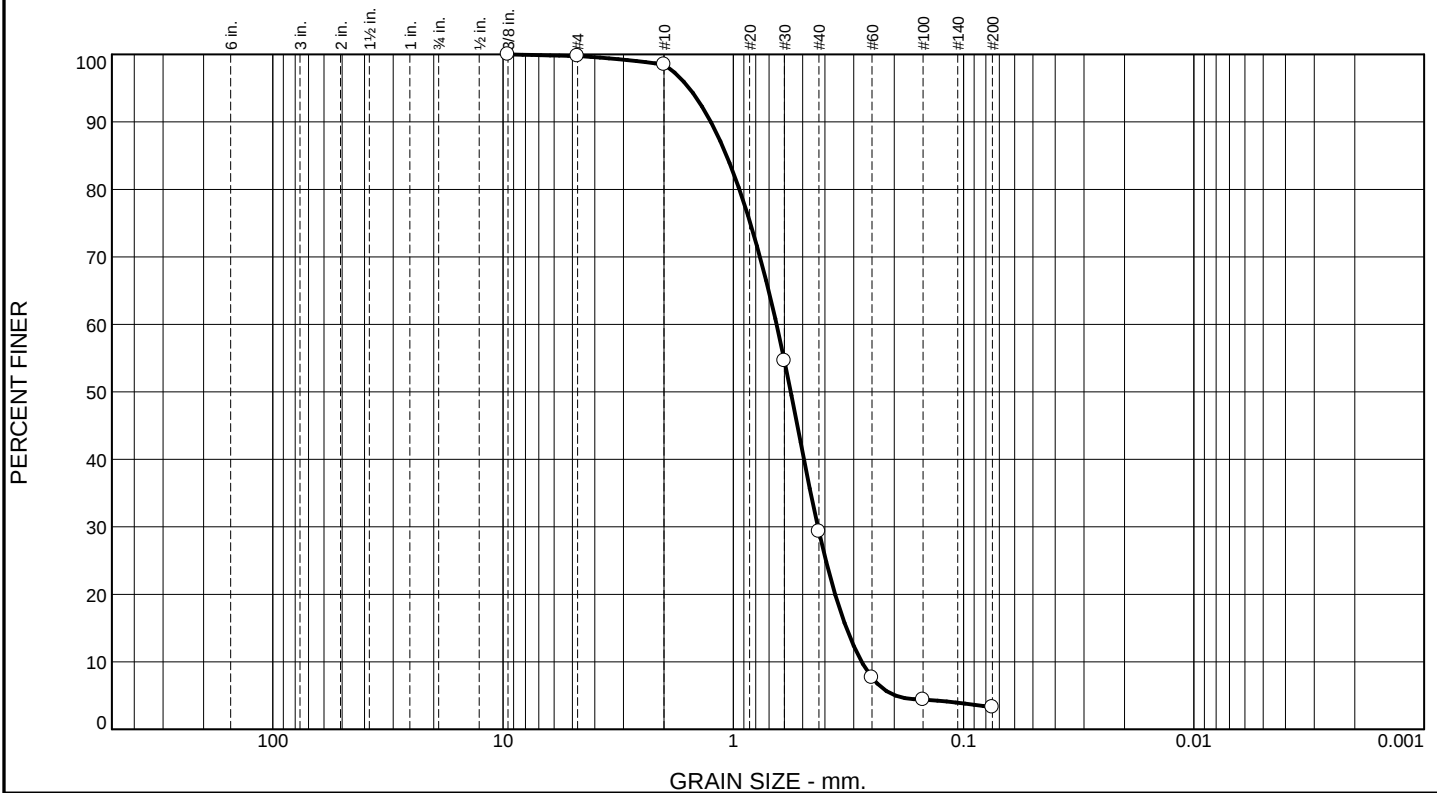
Remarks

Date: 5-15-25

RSA Geolab Union, New Jersey	Client: SCS Engineers Project: Augusta DBRLF 3B2, Blythe, GA PO 09-AT00021
	Project No: 843 Figure

Tested By: NC Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	1.3	69.2	26.0	3.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.8		
#10	98.5		
#30	54.6		
#40	29.3		
#60	7.7		
#100	4.4		
#200	3.3		

* (no specification provided)

Sample Number: PC-54

Date: 5-15-25

Material Description

Reddish Yellow poorly graded sand

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.2524

D₈₅= 1.0698

D₆₀= 0.6491

D₅₀= 0.5633

D₃₀= 0.4294

D₁₅= 0.3229

D₁₀= 0.2772

C_u= 2.34

C_c= 1.02

Classification

USCS= SP

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Augusta DBRLF 3B2, Blythe, GA
PO 09-AT00021

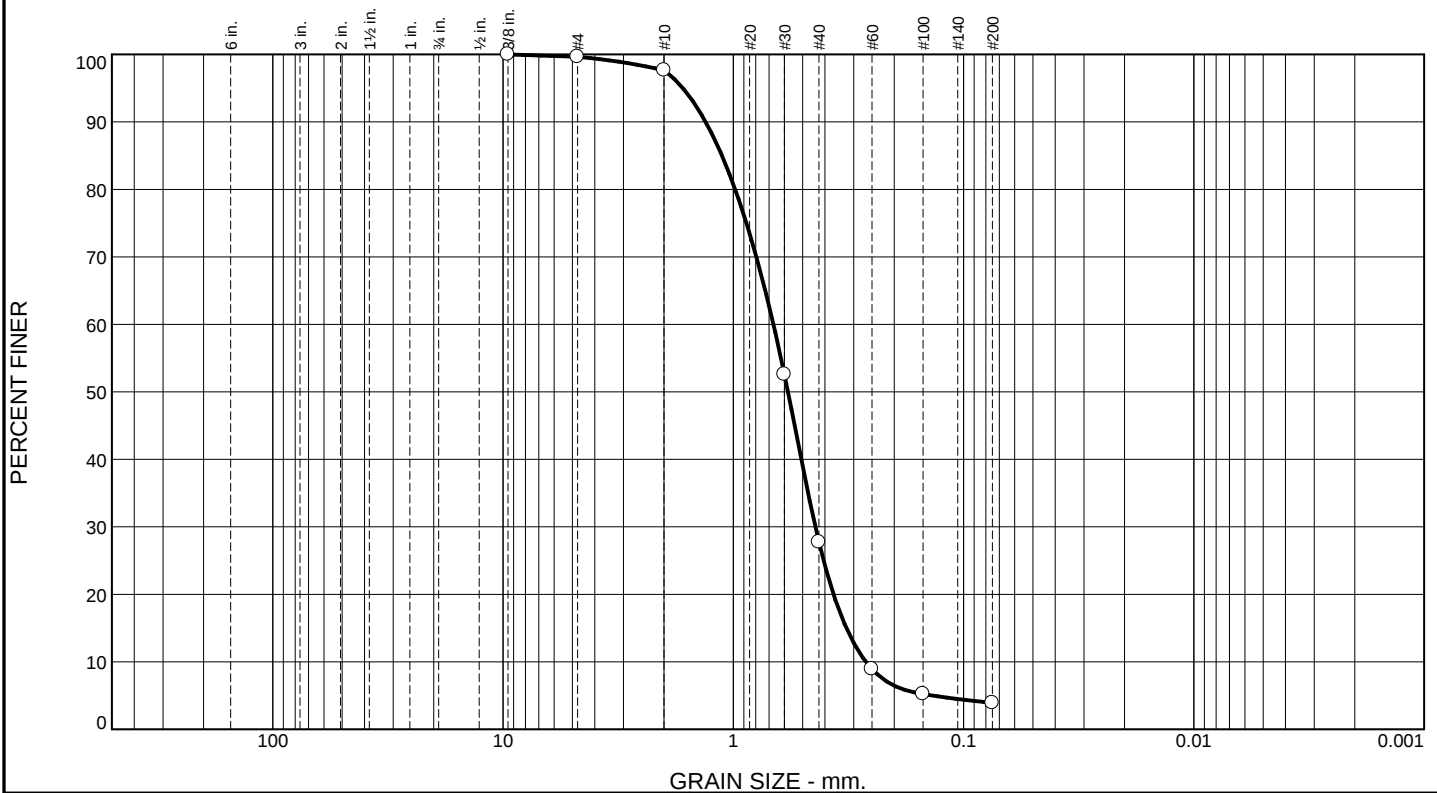
Project No: 843

Figure

Tested By: NC

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	2.0	69.9	23.9	3.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.7		
#10	97.7		
#30	52.6		
#40	27.8		
#60	8.9		
#100	5.2		
#200	3.9		

* (no specification provided)

Sample Number: PC-55

Date: 5-15-25

Material Description

Reddish Yellow poorly graded sand

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.3194

D₈₅= 1.1205

D₆₀= 0.6697

D₅₀= 0.5790

D₃₀= 0.4403

D₁₅= 0.3230

D₁₀= 0.2657

C_u= 2.52

C_c= 1.09

Classification

USCS= SP

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Augusta DBRLF 3B2, Blythe, GA
PO 09-AT00021

Project No: 843

Figure

Tested By: NC

Checked By: KP



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848.316.9950

PERMEABILITY TEST BY CONSTANT HEAD METHOD
ASTM D2434

Project: Augusta DBRLF Cell 3B2, Blythe, GA

Proj. #: 843

PO 09-AT00021

Client: SCS Engineers

Date: 5-15-25

Sample ID: PC-53
Description: Yellowish Red poorly graded sand

Unit Weight Determination:

Diameter, D	11.43 cm	Height of Mold	7.57 in.
Area, A	102.61 cm ²	Height from top of Mold	0.65 in.
Length, L	11.43 cm	Height of Sample, H, in.	6.92 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	5.69	8.21	6.76	Initial: 3.1 %
Tare	0.00	1.24	1.24	Final: 26.3 %
Soil	5.69	6.97	5.52	

Void Ratio, e:	0.9310		Density	87.89 pcf
Specific Gravity:	2.7200	(Assumed)	Dry	
			Density	110.98 pcf
			Final (wet)	

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s	k in/hr
	h1	h2								
1	3.5	1.5	2.0	45	90	0.0049	0.17	0.908	2.529E-02	3.584E+01
	3.5	1.5	2.0	45	90	0.0049	0.17	0.908	2.529E-02	3.584E+01
	3.5	1.5	2.0	50	90	0.0054	0.17	0.908	2.810E-02	3.982E+01
2	4.1	1.6	2.5	65	90	0.0070	0.22	0.908	2.922E-02	4.141E+01
	4.1	1.6	2.5	65	90	0.0070	0.22	0.908	2.922E-02	4.141E+01
	4.1	1.6	2.5	60	90	0.0065	0.22	0.908	2.697E-02	3.823E+01
3	4.6	1.6	3.0	75	90	0.0081	0.26	0.908	2.810E-02	3.982E+01
	4.6	1.6	3.0	75	90	0.0081	0.26	0.908	2.810E-02	3.982E+01
	4.6	1.6	3.0	70	90	0.0076	0.26	0.908	2.622E-02	3.717E+01
4	5.3	1.8	3.5	115	90	0.0125	0.31	0.908	3.693E-02	5.234E+01
	5.3	1.8	3.5	110	90	0.0119	0.31	0.908	3.532E-02	5.006E+01
	5.3	1.8	3.5	110	90	0.0119	0.31	0.908	3.532E-02	5.006E+01
5	5.8	1.8	4.0	125	90	0.0135	0.35	0.908	3.512E-02	4.978E+01
	5.8	1.8	4.0	125	90	0.0135	0.35	0.908	3.512E-02	4.978E+01
	5.8	1.8	4.0	120	90	0.0130	0.35	0.908	3.371E-02	4.778E+01
6	6.3	1.8	4.5	145	90	0.0157	0.39	0.908	3.621E-02	5.132E+01
	6.3	1.8	4.5	145	90	0.0157	0.39	0.908	3.621E-02	5.132E+01
	6.3	1.8	4.5	140	90	0.0152	0.39	0.908	3.496E-02	4.955E+01
Average									3.141E-02	4.452E+01

Remarks: Recompacted sample (Light compaction).
Tested with tap water.

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PERMEABILITY TEST BY CONSTANT HEAD METHOD ASTM D2434

Project: Augusta DBRLF Cell 3B2, Blythe, GA

Proj. #: 843

PO 09-AT00021

Client: SCS Engineers

Date: 5-15-25

Sample ID: PC-55
Description: Reddish Yellow poorly graded sand

Unit Weight Determination:

Diameter, D	11.43 cm	Height of Mold	7.57 in.
Area, A	102.61 cm ²	Height from top of Mold	0.65 in.
Length, L	11.43 cm	Height of Sample, H, in.	6.92 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.38	8.86	7.45	Initial: 2.9 %
Tare	0.00	1.25	1.25	Final: 22.7 %
Soil	6.38	7.61	6.20	

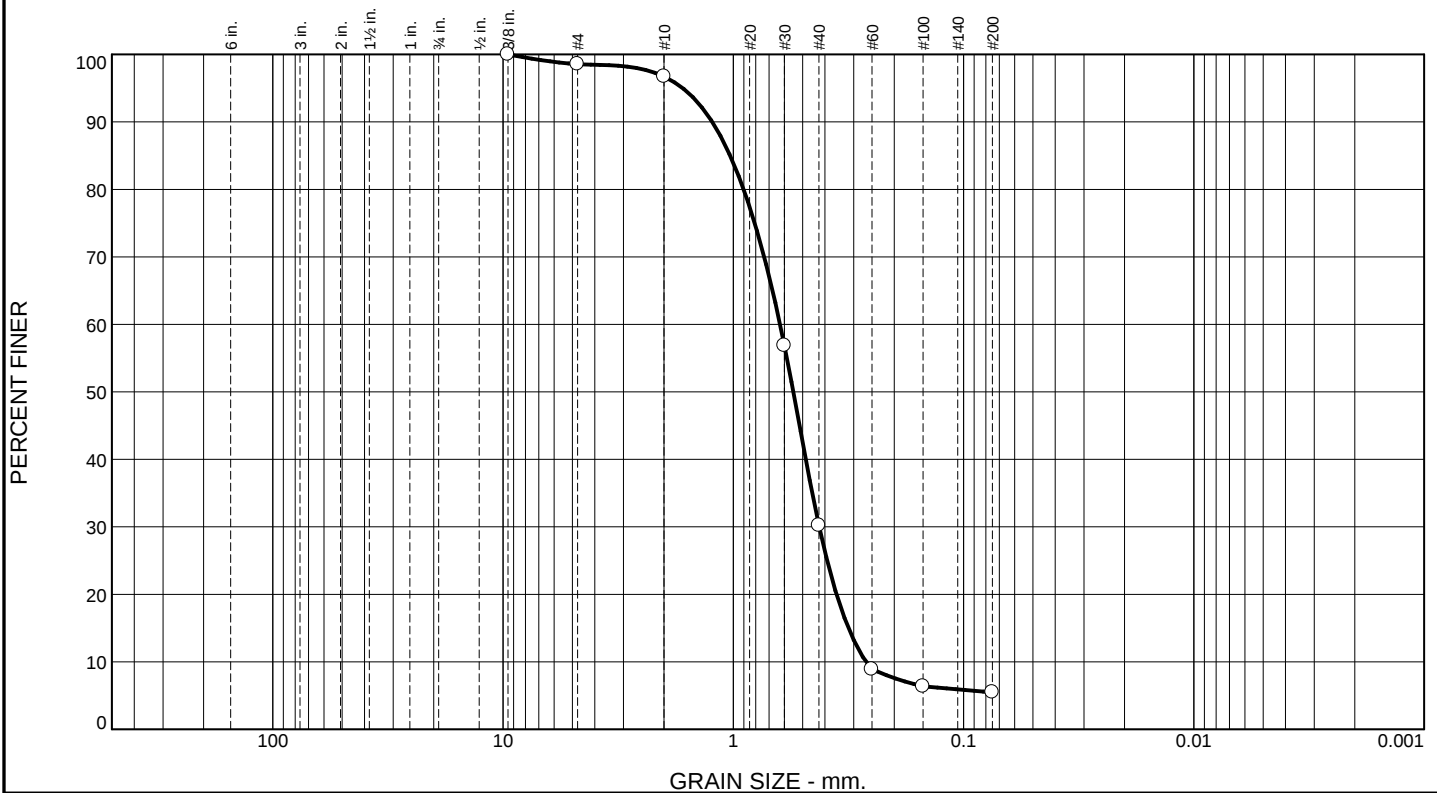
Void Ratio, e:	0.7192		Density	98.72 pcf
Specific Gravity:	2.7200	(Assumed)	Dry	
			Density	121.17 pcf
			Final (wet)	

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s	k in/hr
	h1	h2								
1	5.5	3.5	2.0	60	90	0.0065	0.17	0.999	3.709E-02	5.257E+01
	5.5	3.5	2.0	60	90	0.0065	0.17	0.999	3.709E-02	5.257E+01
	5.5	3.5	2.0	55	90	0.0060	0.17	0.999	3.400E-02	4.819E+01
2	6.0	3.5	2.5	75	90	0.0081	0.22	0.999	3.709E-02	5.257E+01
	6.0	3.5	2.5	75	90	0.0081	0.22	0.999	3.709E-02	5.257E+01
	6.0	3.5	2.5	70	90	0.0076	0.22	0.999	3.462E-02	4.907E+01
3	6.5	3.5	3.0	90	90	0.0097	0.26	0.999	3.709E-02	5.257E+01
	6.5	3.5	3.0	90	90	0.0097	0.26	0.999	3.709E-02	5.257E+01
	6.5	3.5	3.0	85	90	0.0092	0.26	0.999	3.503E-02	4.965E+01
4	7.0	3.5	3.5	110	90	0.0119	0.31	0.999	3.886E-02	5.508E+01
	7.0	3.5	3.5	110	90	0.0119	0.31	0.999	3.886E-02	5.508E+01
	7.0	3.5	3.5	105	90	0.0114	0.31	0.999	3.709E-02	5.257E+01
5	7.5	3.5	4.0	120	90	0.0130	0.35	0.999	3.709E-02	5.257E+01
	7.5	3.5	4.0	120	90	0.0130	0.35	0.999	3.709E-02	5.257E+01
	7.5	3.5	4.0	115	90	0.0125	0.35	0.999	3.555E-02	5.038E+01
6	8.0	3.5	4.5	140	90	0.0152	0.39	0.999	3.847E-02	5.452E+01
	8.0	3.5	4.5	135	90	0.0146	0.39	0.999	3.709E-02	5.257E+01
	8.0	3.5	4.5	135	90	0.0146	0.39	0.999	3.709E-02	5.257E+01
									Average	Average
									3.686E-02	5.224E+01

Remarks: Recompacted sample (Light compaction).
Tested with tap water.

<https://www.rsageolab.com>
email: rsa@rsageolab.com

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.4	1.9	66.5	24.7	5.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	98.6		
#10	96.7		
#30	56.8		
#40	30.2		
#60	8.9		
#100	6.4		
#200	5.5		

* (no specification provided)

Sample Number: PC-56

Date: 5-29-25

Material Description

Reddish Yellow poorly graded sand with silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 1.2352

D₈₅= 1.0325

D₆₀= 0.6269

D₅₀= 0.5490

D₃₀= 0.4237

D₁₅= 0.3163

D₁₀= 0.2651

C_u= 2.37

C_c= 1.08

Classification

USCS= SP-SM

AASHTO= A-1-b

Remarks

RSA Geolab

Union, New Jersey

Client: SCS Engineers

Project: Augusta DBRLF 3B2, Blythe, GA
PO 09-AT00021

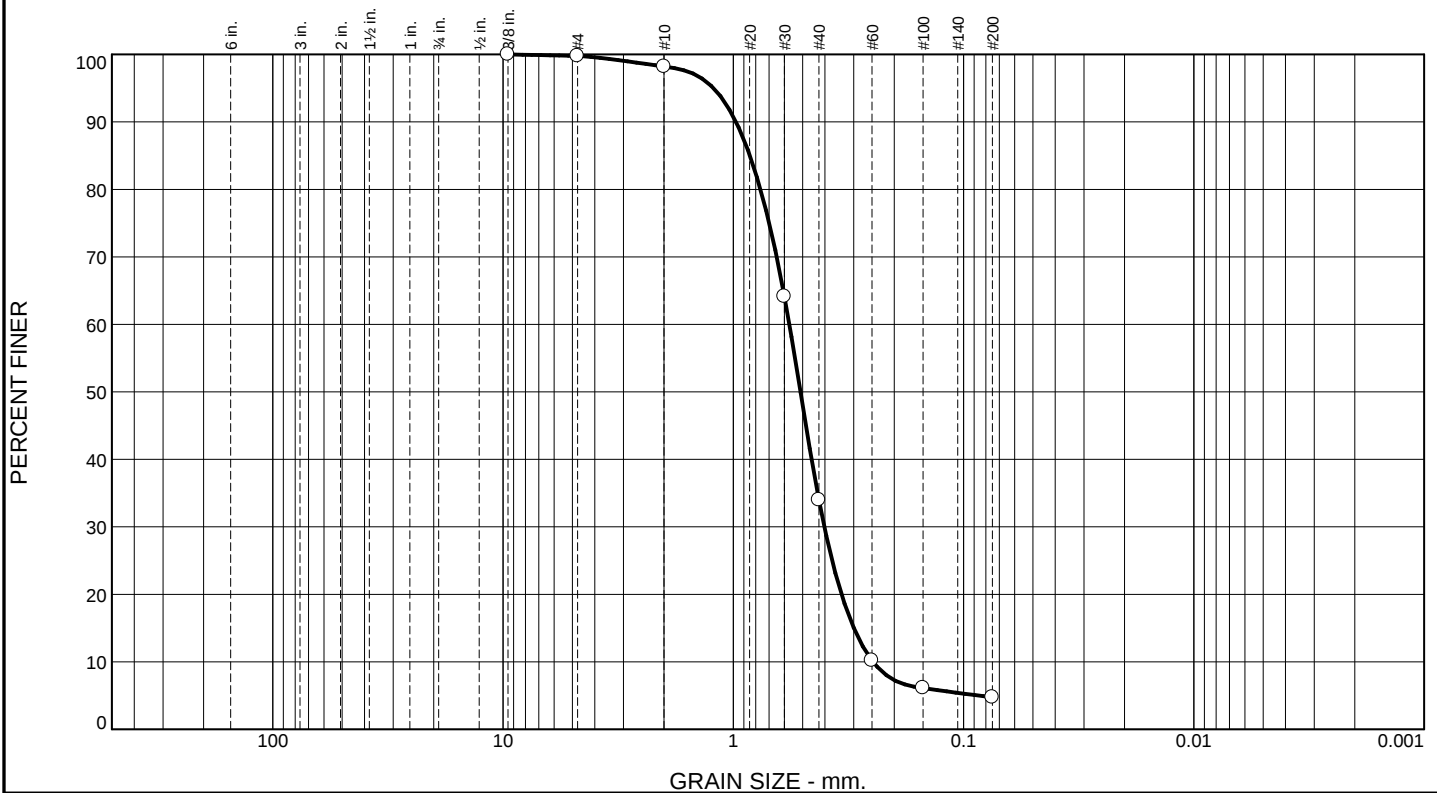
Project No: 843

Figure

Tested By: NC

Checked By: KP

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	1.6	64.2	29.3	4.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.8		
#10	98.2		
#30	64.1		
#40	34.0		
#60	10.2		
#100	6.1		
#200	4.7		

* (no specification provided)

Material Description
 Reddish Yellow poorly graded sand

Atterberg Limits
 PL= NP LL= NV PI= NP

Coefficients
 D₈₅= 0.8473 D₆₀= 0.5712
 D₅₀= 0.5111 D₁₅= 0.2997
 D₁₀= 0.2475 C_u= 2.31 C_c= 1.15

Classification
 USCS= SP AASHTO= A-1-b

Remarks

Sample Number: PC-57

Date: 5-29-25

RSA Geolab Union, New Jersey	Client: SCS Engineers Project: Augusta DBRLF 3B2, Blythe, GA PO 09-AT00021
	Project No: 843 Figure

Tested By: NC Checked By: KP



GEOLAB

• NEW JERSEY
1017 GREELEY AVE SOUTH
UNION, NJ 07083
908.964.0786

• SOUTH CAROLINA
49 BROWNS COVE ROAD SUITE 6
RIDGELAND, SC 29936
848.316.9950

PERMEABILITY TEST BY CONSTANT HEAD METHOD ASTM D2434

Project: Augusta DBRLF Cell 3B2, Blythe, GA

Proj. #: 843

PO 09-AT00021

Client: SCS Engineers

Date: 5-29-25

Sample ID: PC-57
Description: Reddish Yellow poorly graded sand

Unit Weight Determination:

Diameter, D	11.43 cm	Height of Mold	7.57 in.
Area, A	102.61 cm ²	Height from top of Mold	0.65 in.
Length, L	11.43 cm	Height of Sample, H, in.	6.92 in.

	Initial (lbs.)	Final (lbs.)	Dry (lbs.)	<u>Moisture Content</u>
Soil & Tare	6.26	8.74	7.34	Initial: 2.3 %
Tare	0.00	1.22	1.22	Final: 22.9 %
Soil	6.26	7.52	6.12	

Void Ratio, e:	0.7417		Density	97.45 pcf
Specific Gravity:	2.7200	(Assumed)	Dry	
			Density	119.74 pcf
			Final (wet)	

Test #	Manometers		Head, h cm	Q ml	t sec.	Q/At	h/L	Temp C	k cm/s	k in/hr
	h1	h2								
1	11.6	9.6	2.0	65	90	0.0070	0.17	0.929	3.737E-02	5.296E+01
	11.6	9.6	2.0	60	90	0.0065	0.17	0.929	3.449E-02	4.889E+01
	11.6	9.6	2.0	65	90	0.0070	0.17	0.929	3.737E-02	5.296E+01
2	12.1	9.6	2.5	80	90	0.0087	0.22	0.929	3.679E-02	5.215E+01
	12.1	9.6	2.5	75	90	0.0081	0.22	0.929	3.449E-02	4.889E+01
	12.1	9.6	2.5	80	90	0.0087	0.22	0.929	3.679E-02	5.215E+01
3	12.7	9.7	3.0	90	90	0.0097	0.26	0.929	3.449E-02	4.889E+01
	12.7	9.7	3.0	90	90	0.0097	0.26	0.929	3.449E-02	4.889E+01
	12.7	9.7	3.0	95	90	0.0103	0.26	0.929	3.641E-02	5.161E+01
4	13.3	9.8	3.5	110	90	0.0119	0.31	0.929	3.614E-02	5.122E+01
	13.3	9.8	3.5	115	90	0.0125	0.31	0.929	3.778E-02	5.355E+01
	13.3	9.8	3.5	115	90	0.0125	0.31	0.929	3.778E-02	5.355E+01
5	13.8	9.8	4.0	125	90	0.0135	0.35	0.929	3.593E-02	5.093E+01
	13.8	9.8	4.0	120	90	0.0130	0.35	0.929	3.449E-02	4.889E+01
	13.8	9.8	4.0	125	90	0.0135	0.35	0.929	3.593E-02	5.093E+01
6	14.5	10.0	4.5	140	90	0.0152	0.39	0.929	3.577E-02	5.070E+01
	14.5	10.0	4.5	145	90	0.0157	0.39	0.929	3.705E-02	5.251E+01
	14.5	10.0	4.5	140	90	0.0152	0.39	0.929	3.577E-02	5.070E+01
Average									3.608E-02	5.113E+01

Remarks: Recompacted sample (Light compaction).
Tested with tap water.

<https://www.rsageolab.com>
email: rsa@rsageolab.com

SECTION 01010

SUMMARY OF WORK

PART 1 – GENERAL

1.01 PROJECT DESCRIPTION

- A. The project work to be performed by the CONTRACTOR consists of furnishing all labor, materials, equipment, tools, transportation, services, incidentals, and performing all work necessary to complete the project, in place and ready for service in accordance with the Plans and Specifications prepared therefore and entitled “Phase III, Stage II, South Cell 2 Phase 1 Construction”.
- B. The WORK for this project includes, but is not limited to, excavation and grading, dewatering, and installation of a Subtitle D composite-lined disposal cell, tie-ins to existing conditions, stormwater control structures and conveyances and other appurtenances as detailed in the Drawings.

1.02 WORK SEQUENCE

Construction work is to be sequenced to accommodate work with any other contractors on site or COUNTY forces. WORK shall be sequenced in order to prevent disruption of leachate forcemain, landfilling activities, or any other critical operations at the landfill.

1.03 CONTRACTOR USE OF PREMISES

- A. Limit use of premises for work, storage, and access to allow work by other contractors, owner occupancy, and normal landfill operations.
- B. Access: No later than 10 days after notice to proceed, the CONTRACTOR shall arrange with the COUNTY a sequence of procedures, means of access, space for storage of materials and equipment, and use of approaches and roadways. CONTRACTOR's use of the premises shall be confined to the areas approved by the COUNTY.
- C. Smoking: Smoking is prohibited at the landfill.

- D. CONTRACTOR shall not dispose any refuse on site without approval of the COUNTY and in accordance with Section 02220, Excavation, Backfill, Fill, and Grading.
- E. CONTRACTOR shall coordinate with the COUNTY for available area to locate CONTRACTOR's trailer and laydown/staging area.
- F. Areas outside the limits of construction that have been disturbed by the CONTRACTOR shall be returned to its original condition or better upon completion of the WORK at no additional cost to the COUNTY.

1.04 WORK HOURS

- A. Regular working hours are defined as detailed in the Owner's specifications, allowable work times shall be Monday through Saturday from 7:00 a.m. to 5:00 p.m., excluding Sundays and Facility observed Holidays. Contractor shall request in writing to the Facility 48 hours prior to Sunday or Facility observed Holidays to work.
- B. Requests for approval by the COUNTY to work other than regular working hours must be submitted to the COUNTY at least 48 hours prior to any proposed weekend work or scheduled extended workweek hours.
- C. Periodic unscheduled work hours on weekdays will be permitted provided that two hours' notice is provided to the COUNTY. Maintenance and cleanup may be performed during hours other than regular working hours.
- D. The CONTRACTOR shall reimburse the COUNTY for additional construction management and/or inspection costs incurred as a result of unscheduled work in excess of regular working hours. At the COUNTY 's option, unscheduled work costs may either be deducted from the Contractor's monthly payment request or deducted from the CONTRACTOR 's retainage prior to release of final payment. Construction management/inspection costs shall be as follows: Overtime rates shall be at 1.5 times the prevailing staff rates; and Sunday and holiday rates will be at 2 times the prevailing staff rates.

1.05 COUNTY OCCUPANCY AND LANDFILL OPERATIONS

The CONTRACTOR shall cooperate with the COUNTY during construction operations to minimize conflicts with COUNTY work and facilitate COUNTY usage. The CONTRACTOR shall perform the WORK so as not to interfere with the COUNTY's operations, maintenance, environmental monitoring, and other COUNTY activities at the site.

1.06 SITE CONDITIONS

- A. Existing Grades: The existing grades may vary from those indicated on the Plans due to landfill settlement and ongoing filling operations.
- B. Existing Features: The Contract Documents require the CONTRACTOR to field verify the location of existing features, see Section 01050, Site Conditions Surveys. Existing features include but may not be limited to the following: stormwater drainage structures and underground pipes, stormwater terraces and swales, leachate collection system cleanouts, sumps, pump stations, electrical panels, forcemain, utilities, roads, drainage culverts, monitoring wells and piezometers, fences, and buildings.
- C. The CONTRACTOR shall enforce safety procedures to minimize hazards to workers, the public, and the environment.

1.07 ERRORS AND/OR OMISSIONS IN PLANS AND SPECIFICATIONS

The intent of the Specifications is to outline or indicate the items of work, or both, which cannot be readily shown on the Drawings and, further to indicate the types and qualities of materials. Drawings and specifications shall be considered as being complimentary and items or work mentioned or indicated in one and not in the other shall be included as if mentioned in both. Should Drawings disagree in themselves or with the Specifications the better quality or greater quantity of work or materials shall be estimated upon, and shall be provided.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION