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January 13, 2016

Mr. Matt Ballance, PE
Senior Project Engineer
Dynergy Inc.
1500 Eastport Plaza Drive
Collinsville, Illinois 62234

RE: Geotechnical Data Package for Dynergy Havana Station; East Ash Pond CCR Unit

Dear Mr. Ballance:

AECOM is pleased to provide this Geotechnical Data Package for the East Ash Pond of the Coal Combustion Residuals (CCR) unit at Havana Station (Havana, IL). The Data Package includes summary tables, field exploration plan, and laboratory data.

At Havana, the geotechnical exploratory program included the following:

- 11 auger borings at the East Ash Pond
- 8 CPT soundings at the East Ash Pond

AECOM looks forward to providing continued support to Dynergy and working together on this important program. Please do not hesitate to call the undersigned if you have any questions or comments on this Geotechnical Data Package.

Sincerely,
AECOM



Wayne . Smith, PE
Senior Geotechnical Engineer
wayne.smith@aecom.com



Brian D. Linnan, PE
Senior Project Manager
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Victor Modeer, PE, D.GE
Program Manager
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Attachments:

Tables

Table 1 Exploratory Boring Summary – Havana East Ash Pond

Figures

Figure 1 Boring and CPT Location Plan – Havana East Ash Pond

Figure 2 Profile of Generalized Boring Logs – Havana East Ash Pond - Cell 3

Figure 3 Profile of Generalized Boring Logs – Havana East Ash Pond - Cells 2 & 4

Appendices

Appendix A Boring Logs

Appendix B CPT Sounding Logs

Appendix C Laboratory Test Results

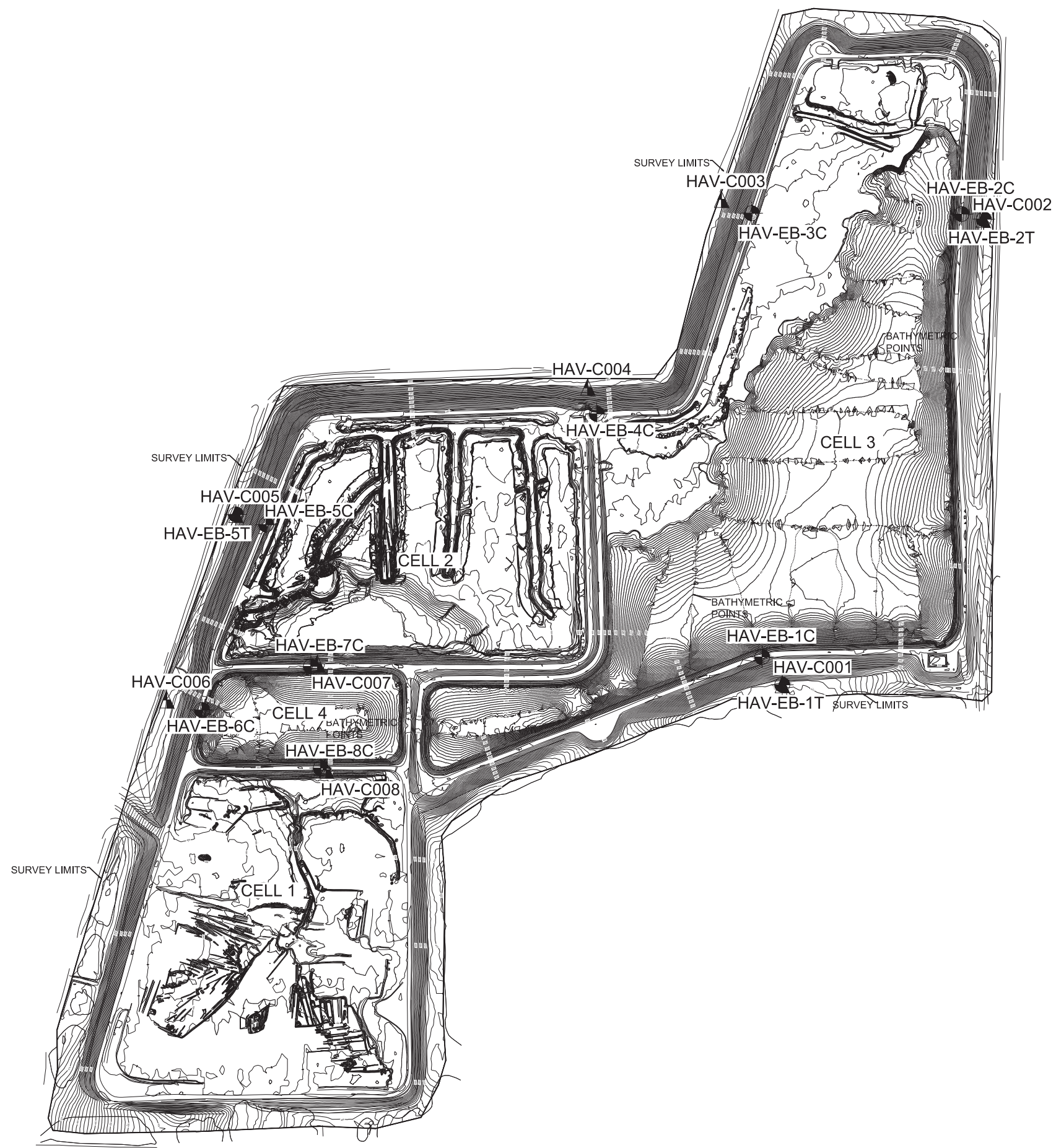
TABLES

Table 1
Exploratory Boring and CPT Summary
Geotechnical Data Report
Havana East Ash Pond



Boring or CPT Designation	Surface Elevation (Rounded to Nearest 0.1 ft) ⁽¹⁾	Northing ⁽¹⁾	Easting ⁽¹⁾	Boring or Sounding Depth (Rounded to Nearest 0.1 ft)
HAV-C001	470.0	1315557	2323963	40.0
HAV-C002	476.8	1317122	2324639	40.0
HAV-C003	466.2	1317190	2323758	40.0
HAV-C004	465 ⁽³⁾	1316558 ⁽³⁾	2323308 ⁽³⁾	40.0
HAV-C005	462.4	1316130	2322125	40.0
HAV-C006	467.5	1315507	2321893	45.1
HAV-C007	489.3 ⁽⁴⁾	1315619 ⁽⁴⁾	2322377 ⁽⁴⁾	85.5
HAV-C008	488.8 ⁽⁴⁾	1315277 ⁽⁴⁾	2322411 ⁽⁴⁾	85.5
HAV-EB-1C	495.6	1315651	2323895	61.5
HAV-EB-1T	470.0 ⁽²⁾	1315557 ⁽²⁾	2323963 ⁽²⁾	40.0
HAV-EB-2C	495.9	1317140	2324566	56.0
HAV-EB-2T	476.8 ⁽²⁾	1317122 ⁽²⁾	2324639 ⁽²⁾	42.5
HAV-EB-3C	495.7	1317143	2323860	61.5
HAV-EB-4C	495.4	1316468	2323339	40.0
HAV-EB-5C	490.1	1316096	2322227	62.5
HAV-EB-5T	462.4 ⁽²⁾	1316130 ⁽²⁾	2322125 ⁽²⁾	40.0
HAV-EB-6C	488.8	1315472	2322011	40.0
HAV-EB-7C	489.3	1315619	2322377	42.5
HAV-EB-8C	488.9	1315277	2322411	40.0

- Notes: (1) The boring elevations and locations were surveyed by others and the data were provided to AECOM by Dynegy.
(2) Toe borings not surveyed, surveyors unable to find boring location; assumed to be the same as CPT borings at respective locations
(3) Not surveyed, surveyors unable to find boring location; northing/easting and elevation approximate.
(4) HAV-C007 and C008 not surveyed, no evidence of boring; assumed to have same elevation and northing/easting as HAV-EB-7C and 8C.

FIGURES



LEGEND:

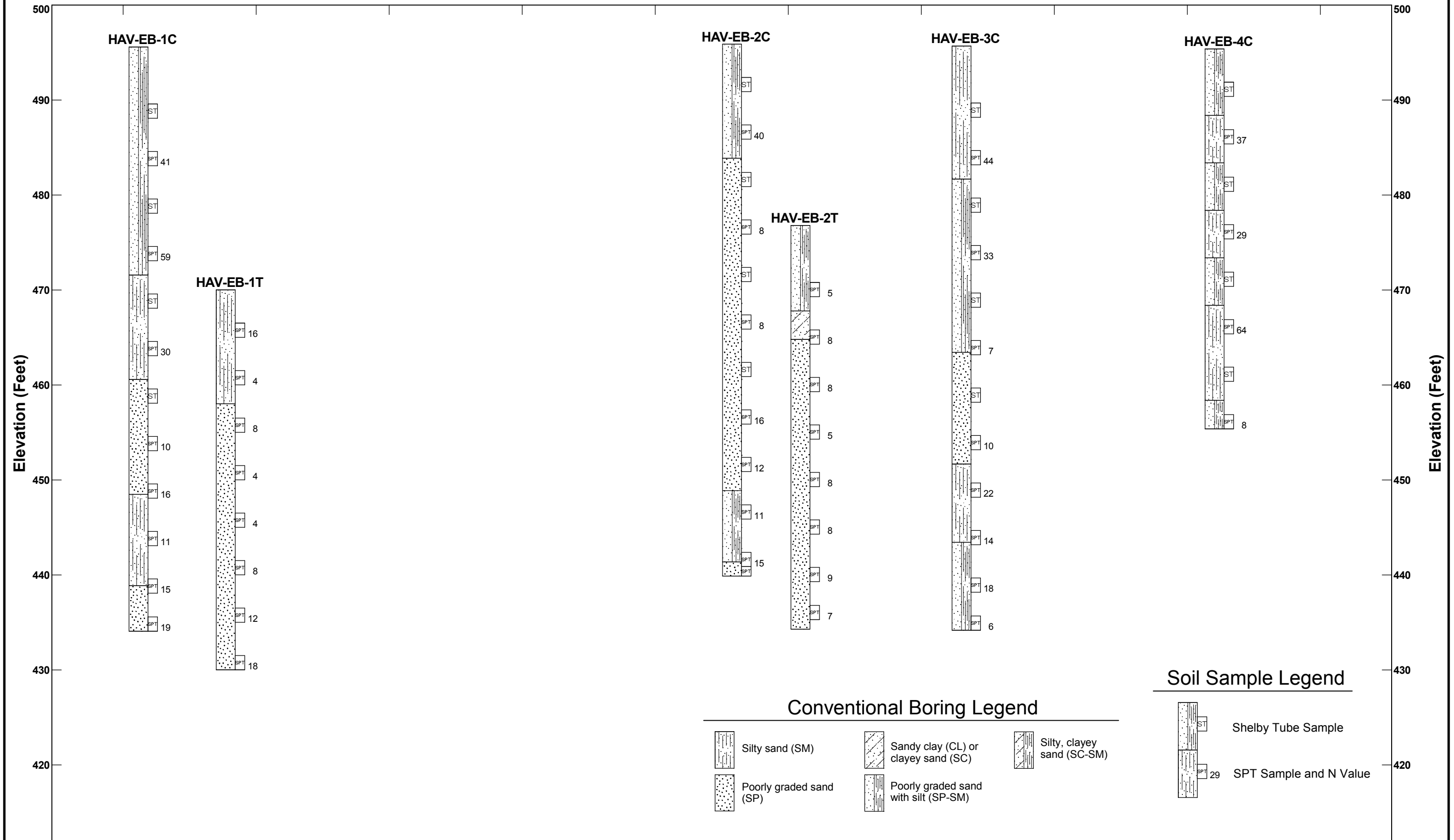
- 
HAV-EB-8C BORING LOCATION AND NUMBER
- 
HAV-C005 CPT SOUNDING LOCATION AND NUMBER

NOTE

THE TOPOGRAPHY SHOWN IN THIS FIGURE IS FROM A BATHYMETRIC SURVEY BY OTHERS.



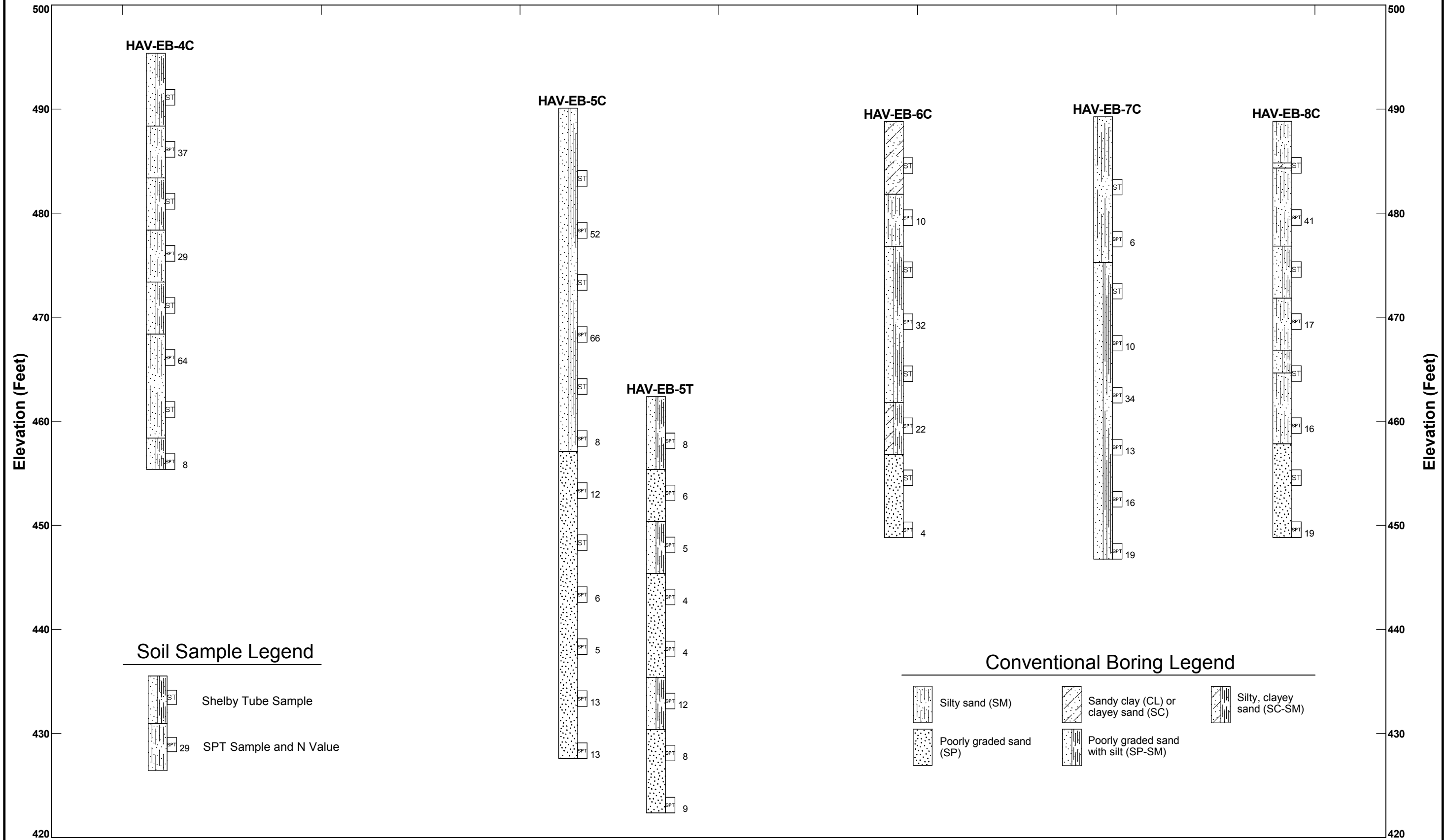
AECOM 8300 College Boulevard, Suite 200 Overland Park, Kansas 66210		
CLIENT: HAVANA STATION		
LOCATION: HAVANA, IL		
TITLE: BORING AND CPT LOCATION PLAN HAVANA EAST ASH POND		
DRAWN BY SMS	CHECKED BY JAA	APPROVED BY WDS
PROJECT NO. 60439304	DATE DEC. 2015	FIGURE NO. 1



NOTES

1. Toe borings are designated HAV-EB-#T and are displayed adjacent to corresponding crest boring.
2. Refer to Figure 1 for boring locations.

	8300 College Blvd, Suite 200 Overland Park, Kansas 66210 Tel: 913-344-1000 Fax: 913-344-1011	Dynegy Havana Power Plant, Havana, IL Profile of Generalized Boring Logs East Ash Pond - Cell 3		Project Number 60439304	Date 1/12/2016
				Checked By WDS	Figure No. 2



NOTES

1. Toe borings are designated HAV-EB-#T and are displayed adjacent to corresponding crest boring.
2. Refer to Figure 1 for boring locations.

	8300 College Blvd, Suite 200 Overland Park, Kansas 66210 Tel: 913-344-1000 Fax: 913-344-1011	Dynegy Havana Power Plant, Havana, IL Profile of Generalized Boring Logs East Ash Pond - Cells 2 & 4		Project Number 60439304	Date 1/12/2016
				Checked By WDS	Figure No. 3

APPENDIX A

The exploratory borings for Havana Station East Ash Pond were drilled between August 31 and September 4, 2015. AECOM subcontracted with Frontz Drilling to drill a total of 11 exploratory borings. Borings drilled on the crest of the embankment included HAV-EB-1C through HAV-EB-8C, while toe borings included HAV-EB-1T, HAV-EB-2T, and HAV-EB-5T. The locations of the exploratory borings are shown in Figure 1.

All of the exploratory borings were drilled by Frontz Drilling using an all-terrain Central Mine Equipment (CME-750) drill rig. The borings were advanced using hollow stem augers. Borings on the crest of the embankment were drilled to termination depths ranging between approximately 40 and 62.5 feet below ground surface (bgs), while borings at the toe of embankment were drilled to depths ranging between approximately 40 and 42.5 feet bgs. All borings were backfilled with cement-bentonite grout upon completion.

Relatively undisturbed samples of subsurface materials were obtained using thin-walled Shelby tubes that were advanced with a standard Shelby tube head in general accordance with ASTM D1587. The push length of the thin-walled tubes was approximately 18 inches. Disturbed samples were obtained with a split barrel sampler in general accordance with ASTM D1586 (Standard Penetration Test – SPT).

Recovered soil samples were initially identified and field logged by a geologist by observing the drilling characteristics, cuttings, and soil samples. All soil samples were transported to the AECOM laboratory in Overland Park, Kansas for designation of testing. Selected samples were sent to the Alpha-Omega laboratory located in Kansas City, Kansas. The field boring logs were revised based on review of the laboratory test results.

The final boring logs presented in this appendix were generated using gINT geotechnical software by Bentley Systems. The gINT software tools utilize a geotechnical database and graphics package to present various geotechnical outputs (i.e., boring logs, test summaries, etc.). The gINT logs herein show the soil classification in accordance with Unified Soil Classification System (USCS), sampler type, sample depths, recovery, resistance, and drilling method, as well as laboratory testing data such as moisture content, dry unit weight, Atterberg limits, and unconfined compression. The descriptions used to describe the consistency on the final logs are based on the strengths obtained by field testing.

Project: Dynegy	Log of Boring HAV-EB-1C
Project Location: Havana Power Plant, Havana, IL	Sheet 1 of 2
Project Number: 60439304	

Date(s) Drilled: 08/31/2015 12:00 AM to 08/31/2015 12:00 AM	Logged By: Rick Horner	Checked By: JAA and BDL
Drilling Method: Hollow Stem Auger	Drill Bit Size/Type: Finger Bit	Borehole Depth: 61.5 ft
Drill Rig Type: ATV-CME 750	Drilling Contractor: Frontz	Surface Elevation: 495.58 ft NAVD88
Borehole Backfill: Cement bentonite grout	Sampling Method(s): Split Spoon/Shelby Tube	Hammer Data: Auto Hammer, 140 pound
Boring Location: N 1315650.768 E 2323895.167 (ft NAD83)	Groundwater Level(s): 41 ft ATD	

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core ROD (%)	Recovery (%)	Graphic Symbol										
495	0						Dense, brown, poorly graded SAND with silt (SP-SM), fine grained with little medium grained, dry								
490	5	1		100				7.2	7.8						
485	10	1	10 16 25	94			becoming with few medium grained sand	5.8	9.2						
480	15	2		56			becoming with little medium grained sand	9.4	9.7						
475	20	2	19 26 33	100			becoming very dense with few medium grained sand	9.8	11.9						
470	25	3		94			Dense to medium dense, brown and dark brown, silty SAND (SM), fine grained with few medium grained, dry	9.6	20.4						
	30														

Report: GEO_SOIL_HAV; File G:\GINTFILES\PROJECTS\60439304 HAVANA.DYNEGY_2015.GPJ; 1/12/2016 5:54:09 PM

Project: Dynegy

Project Location: Havana Power Plant, Havana, IL

Project Number: 60439304

Log of Boring HAV-EB-1C

Sheet 2 of 2

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
465	30	3	13 13 17	100											
460	35	4		100		Loose, brown, poorly graded SAND (SP), fine grained with little medium grained and trace fines, wet									
455	40	4	3 5 5	89				3.4							
450	45	5	3 5 11	100		becoming medium dense									
445	50	6	3 3 8	89		becoming with little medium grained sand		30.8							
440	55	7	4 6 9	100		Medium dense, brown, poorly graded SAND (SP), medium grained with some fine grained and few coarse grained, few fines, and little fine gravel, wet		5.7							
435	60	8	3 8 11	100		increasing grain size with depth									
65						End of Boring at 61.5 ft									

Report: GEO_SOIL_HAV; File G:\GINT\FILES\PROJECTS\60439304 HAVANA DYNEGY_2015.GPJ; 1/12/2016 5:54:09 PM

Project: Dynegy	Log of Boring HAV-EB-1T
Project Location: Havana Power Plant, Havana, IL	Sheet 1 of 2
Project Number: 60439304	

Date(s) Drilled	09/01/2015 12:00 AM to 09/01/2015 12:00 AM	Logged By	Rick Horner	Checked By	JAA and BDL
Drilling Method	Hollow Stem Auger	Drill Bit Size/Type	Finger Bit	Borehole Depth	40.0 ft
Drill Rig Type	ATV-CME 750	Drilling Contractor	Frontz	Surface Elevation	470.014 ft NAVD88
Borehole Backfill	Cement bentonite grout	Sampling Method(s)	Split Spoon	Hammer Data	Auto Hammer, 140 pound
Boring Location	N 1315557.387 E 2323962.772 (ft NAD83)		Groundwater Level(s)	18.5 ft ATD	

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
470	0						Medium dense, dark brown, silty SAND (SM), fine grained with few medium grained, dry								
465	5	1	688	94				9.6	25.3						
460	10	2	222	100			becoming very loose, with trace medium grained sand, moist	13.9	16.3						
455	15	3	335	94			Loose, brown, poorly graded SAND (SP), fine grained with little medium grained and trace fines, moist	20.5	2.0						
450	20	4	122	100			becoming very loose, wet, with some medium grained sand and few fines								
445	25	5	122	67					6.3						Add drilling mud to augers
440	30	6	244	67			becoming loose, poorly graded sand with gravel, trace fines								

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Project: Dynegy

Project Location: Havana Power Plant, Havana, IL

Project Number: 60439304

Log of Boring HAV-EB-1T

Sheet 2 of 2

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
440	30					[Dotted Pattern]									
					becoming medium dense										
435	35	7	4 5 7	89											
					becoming medium grained with some fine grained, trace coarse grained, trace fine gravel, and trace fines										
430	40	8	6 9 9	89		430.0	40.0	5.0							End of Boring at 40 ft
425	45														
420	50														
415	55														
410	60														
405	65														

Report: GEO_SOIL_HAV; File G:\GINT\FILES\PROJECTS\60439304 HAVANA.DYNEGY_2015.GPJ; 1/12/2016 5:54:16 PM

Project: Dynegy	Log of Boring HAV-EB-2C
Project Location: Havana Power Plant, Havana, IL	Sheet 1 of 2
Project Number: 60439304	

Date(s) Drilled: 09/02/2015 12:00 AM to 09/02/2015 12:00 AM	Logged By: Rick Horner	Checked By: JAA and BDL
Drilling Method: Hollow Stem Auger	Drill Bit Size/Type: Finger Bit	Borehole Depth: 56.0 ft
Drill Rig Type: ATV-CME 750	Drilling Contractor: Frontz	Surface Elevation: 495.879 ft NAVD88
Borehole Backfill: Cement bentonite grout	Sampling Method(s): Split Spoon/Shelby Tube	Hammer Data: Auto Hammer, 140 pound
Boring Location: N 1317139.899 E 2324566.088 (ft NAD83)	Groundwater Level(s): Not observed prior to introduction of drilling fluid	

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core ROD (%)	Recovery (%)	Graphic Symbol										
495.9	0					Dense, brown, poorly graded SAND with silt (SP-SM), fine grained with little medium grained, dry									
495	1	1		83			6.5	7.4							
490	5														
485	10	1	8 20 20	100			7.6								
483.9	12.0					Loose, brown, poorly graded SAND (SP), fine grained with few medium grained and trace fines, dry									
480	15	2		83			5.3	4.6							
475	20	2	4 4 4	100											Stratified in lifts
470	25	3		100			6.4	2.8							
	30	3	4 4 4	94											

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Project: Dynegy

Project Location: Havana Power Plant, Havana, IL

Project Number: 60439304

Log of Boring HAV-EB-2C

Sheet 2 of 2

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
465	30														
		4		100		becoming with trace medium grained sand	5.2	3.3							
460	35														
		4	5 8 8	89		becoming medium dense, light brown, with little medium grained sand and trace fine gravel		4.6							Add drilling mud to augers
455	40														
		5	5 6 6	78		becoming light brown									
450	45														
		6	4 5 6	83		Medium dense, light brown, poorly graded SAND with silt (SP-SM), fine grained with little medium grained, wet		8.0							
445	50														
		7	3 7 8	89											
440	55	8	2 3	67		Medium dense, brown, poorly graded SAND (SP), fine grained with trace medium grained and trace fines		4.5							Auger bound up in boring at 55 ft
						End of Boring at 56 ft									
435	60														
430	65														

Report: GEO_SOIL_HAV; File G:\GINT\FILES\PROJECTS\60439304 HAVANA.DYNEGY_2015.GPJ; 1/12/2016 5:54:24 PM

Project: Dynegy	Log of Boring HAV-EB-2T
Project Location: Havana Power Plant, Havana, IL	Sheet 1 of 2
Project Number: 60439304	

Date(s) Drilled	09/01/2015 12:00 AM to 09/01/2015 12:00 AM	Logged By	Rick Horner	Checked By	JAA and BDL
Drilling Method	Hollow Stem Auger	Drill Bit Size/Type	Finger Bit	Borehole Depth	42.5 ft
Drill Rig Type	ATV-CME 750	Drilling Contractor	Frontz	Surface Elevation	476.808 ft NAVD88
Borehole Backfill	Cement bentonite grout	Sampling Method(s)	Split Spoon	Hammer Data	Auto Hammer, 140 pound
Boring Location	N 1317122.482 E 2324639.284 (ft NAD83)	Groundwater Level(s)	Not observed prior to introduction of drilling fluid		

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core ROD (%)	Recovery (%)	Graphic Symbol										
0	0.0														
475							Loose, brown, poorly graded SAND with silt (SP-SM), fine grained with few medium grained, dry								
470	1	2 2 3	100					6.3							
465	2	2 4 4	100				Loose, brown, clayey SAND (SC), fine grained with few medium grained, moist		22.0						
460	3	2 4 4	100				Loose, brown, poorly graded SAND (SP), fine grained with few medium grained and trace fines, dry								
455	4	2 2 3	94				becoming with little medium grained sand		2.0						Add drilling mud to augers
450	5	3 4 4	78				becoming with some medium grained sand, moist								
30															

Report: GEO_SOIL_HAV; File G:\GINTFILES\PROJECTS\60439304 HAVANA DYNEGY_2015.GPJ; 1/12/2016 5:54:31 PM

Project: Dynegy

Project Location: Havana Power Plant, Havana, IL

Project Number: 60439304

Log of Boring HAV-EB-2T

Sheet 2 of 2

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
445	30	6	2 4 4	83	[Stippled Pattern]	becoming wet		4.8							
440	35	7	3 4 5	72											
435	40	8	2 3 4	67											becoming poorly graded sand with gravel, trace fines
						End of Boring at 42.5 ft									
430	45														
425	50														
420	55														
415	60														
65	65														

Report: GEO_SOIL_HAV; File G:\GINTFILES\PROJECTS\60439304 HAVANA.DYNEGY_2015.GPJ; 1/12/2016 5:54:31 PM

Date(s) Drilled: 09/02/2015 12:00 AM to 09/02/2015 12:00 AM	Logged By: Rick Horner	Checked By: JAA and BDL
Drilling Method: Hollow Stem Auger	Drill Bit Size/Type: Finger Bit	Borehole Depth: 61.5 ft
Drill Rig Type: ATV-CME 750	Drilling Contractor: Frontz	Surface Elevation: 495.687 ft NAVD88
Borehole Backfill: Cement bentonite grout	Sampling Method(s): Split Spoon/Shelby Tube	Hammer Data: Auto Hammer, 140 pound
Boring Location: N 1317142.772 E 2323859.689 (ft NAD83)	Groundwater Level(s): Not observed prior to introduction of drilling fluid	

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core ROD (%)	Recovery (%)											
495	0						Dense, dark brown, silty SAND (SM), fine grained with few medium grained, dry								
490	5	1		100				8.7	21.5						
485	10	1	12 20 24	100				7.8	19.4						
480	15	2		67			Dense, brown, poorly graded SAND with silt (SP-SM), fine grained with little medium grained, dry	6.5	6.8						
475	20	2	14 16 17	100			interbedded dark brown fine grained with brown medium grained								
470	25	3		100			becoming reddish brown with few medium grained sand		10.7						
30	30														

Report: GEO_SOIL_HAV; File G:\GINTFILES\PROJECTS\60439304 HAVANA DYNEGY_2015.GPJ; 1/12/2016 5:54:38 PM

Project: Dynegy

Project Location: Havana Power Plant, Havana, IL

Project Number: 60439304

Log of Boring HAV-EB-3C

Sheet 2 of 2

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
465	30	3	4 4 3	100											
						Loose, brown, poorly graded SAND (SP), fine grained with some medium grained and trace fines, moist									
460	35	4		100				3.7							
455	40	4	2 4 6	100		increasing grain size									
450	45	5	6 10 12	78		Medium dense, brown, silty SAND (SM), some fine grained, some medium grained, trace coarse grained, trace fine gravel, wet		20.2							
445	50	6	4 6 8	89											
440	55	7	4 8 10	89		Medium dense, brown, poorly graded SAND with silt (SP-SM), fine grained with some medium grained, trace coarse grained, and trace fines, wet		5.4							
435	60	8	2 3 3	78		becoming loose									
						End of Boring at 61.5 ft									
	65													Add drilling mud to augers	

Report: GEO_SOIL_HAV; File G:\GINT\FILES\PROJECTS\60439304 HAVANA.DYNEGY_2015.GPJ; 1/12/2016 5:54:39 PM

Project: Dynegy	Log of Boring HAV-EB-4C
Project Location: Havana Power Plant, Havana, IL	Sheet 1 of 2
Project Number: 60439304	

Date(s) Drilled: 09/01/2015 12:00 AM to 09/01/2015 12:00 AM	Logged By: Rick Horner	Checked By: JAA and BDL
Drilling Method: Hollow Stem Auger	Drill Bit Size/Type: Finger Bit	Borehole Depth: 40.0 ft
Drill Rig Type: ATV-CME 750	Drilling Contractor: Frontz	Surface Elevation: 495.379 ft NAVD88
Borehole Backfill: Cement bentonite grout	Sampling Method(s): Split Spoon/Shelby Tube	Hammer Data: Auto Hammer, 140 pound
Boring Location: N 1316468.402 E 2323338.783 (ft NAD83)	Groundwater Level(s): Not observed prior to introduction of drilling fluid	

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core ROD (%)	Recovery (%)	Graphic Symbol										
495	0					Brown, poorly graded SAND with silt (SP-SM), fine grained with little medium grained, dry									
490	5	1		100				5.2							
485	10	1	9 17 20	89		Dense, brown, silty SAND (SM), fine grained with few medium grained, dry		13.8							
480	15	2		100		Brown, poorly graded SAND with silt (SP-SM), fine grained with few medium grained, dry		11.2							
475	20	2	9 14 15	89		Medium dense, brown, mottled dark brown, silty SAND (SM), fine grained with few medium grained, dry		13.6							
470	25	3		100		Gray, mottled light reddish brown, poorly graded SAND with silt (SP-SM), fine grained with little medium grained, dry		7.3							
	30	3	17 27 37	94		Very dense, brown, silty SAND (SM), fine grained with little medium grained, dry		12.9							

Report: GEO_SOIL_HAV; File G:\GINTFILES\PROJECTS\60439304 HAVANA DYNEGY_2015.GPJ; 1/12/2016 5:54:46 PM

Project: Dynegy

Project Location: Havana Power Plant, Havana, IL

Project Number: 60439304

Log of Boring HAV-EB-4C

Sheet 2 of 2

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
465	30														
		4		33		becoming dark brown with few medium grained sand		28.6	14	1					
460	35														
						Loose, light brown, poorly graded SAND with silt (SP-SM), fine to medium grained, moist, stratified as placed in lifts									
455	40	4	2 3 5	100											
						End of Boring at 40 ft									
450	45														
445	50														
440	55														
435	60														
	65														

Report: GEO_SOIL_HAV; File G:\GINT\FILES\PROJECTS\60439304 HAVANA DYNEGY_2015.GPJ; 1/12/2016 5:54:46 PM

Project: Dynegy	Log of Boring HAV-EB-5C
Project Location: Havana Power Plant, Havana, IL	Sheet 1 of 2
Project Number: 60439304	

Date(s) Drilled: 09/04/2015 12:00 AM to 09/04/2015 12:00 AM	Logged By: Rick Horner	Checked By: JAA and BDL
Drilling Method: Hollow Stem Auger	Drill Bit Size/Type: Finger Bit	Borehole Depth: 62.5 ft
Drill Rig Type: ATV-CME 750	Drilling Contractor: Frontz	Surface Elevation: 490.085 ft NAVD88
Borehole Backfill: Cement bentonite grout	Sampling Method(s): Split Spoon/Shelby Tube	Hammer Data: Auto Hammer, 140 pound
Boring Location: N 1316095.545 E 2322227.332 (ft NAD83)	Groundwater Level(s): 46 ft ATD	

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core ROD (%)	Recovery (%)	Graphic Symbol										
490	0					Very dense, reddish brown, poorly graded SAND with silt (SP-SM), fine grained with few medium grained	0.0								
485	5	1		89			9.1	10.1							
480	10	1	19 25 27	89		becoming moist with little medium grained sand and trace coarse grained sand	7.2	9.2							
475	15	2		67		becoming with some medium grained sand	7.0	6.4							
470	20	2	16 27 39	89											
465	25	3		89		becoming with little medium grained sand	8.0	5.8							
	30														

Report: GEO_SOIL_HAV; File G:\GINT\FILES\PROJECTS\60439304 HAVANA DYNEGY_2015.GPJ; 1/12/2016 5:54:54 PM

Project: Dynegy

Project Location: Havana Power Plant, Havana, IL

Project Number: 60439304

Log of Boring HAV-EB-5C

Sheet 2 of 2

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
460	30	3	3 4 4	100		becoming loose, dry									
						457.1		33.0							
455	35	4	4 8 4	100		Loose to medium dense, brown, poorly graded SAND (SP), fine grained with little medium grained and trace fines, moist									
450	40	4		83				0.8							
445	45	5	1 3 3	67		becoming wet		1.1						Add drilling mud to augers	
440	50	6	2 2 3	83		increasing grain size									
435	55	7	2 6 7	89		becoming medium grained sand with some fine grained sand, trace coarse grained sand, few fine gravel, trace coarse gravel, and trace fines		2.2							
430	60	8	4 6 7	78											
						427.6		62.5							
														End of Boring at 62.5 ft	
65															

Report: GEO_SOIL_HAV; File G:\GINTFILES\PROJECTS\60439304 HAVANA DYNEGY_2015.GPJ; 1/12/2016 5:54:54 PM

Project: Dynegy	Log of Boring HAV-EB-5T
Project Location: Havana Power Plant, Havana, IL	Sheet 1 of 2
Project Number: 60439304	

Date(s) Drilled: 09/03/2015 12:00 AM to 09/03/2015 12:00 AM	Logged By: Rick Horner	Checked By: JAA and BDL
Drilling Method: Hollow Stem Auger	Drill Bit Size/Type: Finger Bit	Borehole Depth: 40.0 ft
Drill Rig Type: ATV-CME 750	Drilling Contractor: Frontz	Surface Elevation: 462.361 ft NAVD88
Borehole Backfill: Cement bentonite grout	Sampling Method(s): Split Spoon	Hammer Data: Auto Hammer, 140 pound
Boring Location: N 1316129.918 E 2322124.964 (ft NAD83)	Groundwater Level(s): 18.5 ft ATD	

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
0	0						462.4	0.0							
460							Loose, brown, poorly graded SAND with silt (SP-SM), fine grained with trace medium grained, dry								
5	5	1	3 4 4	100				8.0							
455							455.4	7.0							
10	10	2	2 3 3	100			Loose, brown, poorly graded SAND (SP), fine grained with some medium grained and trace fines, dry trace fine gravel at 9.25 ft	4.6							
450							450.4	12.0							
15	15	3	2 3 2	94			Loose, brown, poorly graded SAND with silt (SP-SM), fine grained with little medium grained, moist	5.8							
445							445.4	17.0							
20	20	4	2 2 2	100			Very loose, brown, poorly graded SAND (SP), some fine grained, some medium grained, trace coarse grained, trace fines, trace fine gravel, wet	4.0							Add drilling mud to augers
440															
25	25	5	2 2 2	78											
435							435.4	27.0							
30	30	6	4 5 7	83			Medium dense, brown, poorly graded SAND with silt (SP-SM), fine grained with few medium grained, wet	5.3							

Report: GEO_SOIL_HAV; File G:\GINTFILES\PROJECTS\60439304 HAVANA DYNEGY_2015.GPJ; 1/12/2016 5:55:01 PM

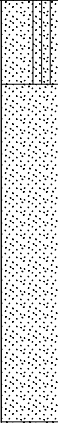
Project: Dynegy

Project Location: Havana Power Plant, Havana, IL

Project Number: 60439304

Log of Boring HAV-EB-5T

Sheet 2 of 2

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
30															
430															
	35	7	2 3 5	78		Loose, brown, poorly graded SAND (SP), fine grained with some medium grained, trace coarse grained, few fine gravel, and trace fines, wet		2.2							
	40	8	3 3 6	72											
						End of Boring at 40 ft									
420															
45															
415															
50															
410															
55															
405															
60															
400															
65															

Report: GEO_SOIL_HAV; File G:\GINTFILES\PROJECTS\60439304 HAVANA DYNEGY_2015.GPJ; 1/12/2016 5:55:01 PM

Project: Dynegy	Log of Boring HAV-EB-6C
Project Location: Havana Power Plant, Havana, IL	Sheet 1 of 2
Project Number: 60439304	

Date(s) Drilled: 09/03/2015 12:00 AM to 09/03/2015 12:00 AM	Logged By: Rick Horner	Checked By: JAA and BDL
Drilling Method: Hollow Stem Auger	Drill Bit Size/Type: Finger Bit	Borehole Depth: 40.0 ft
Drill Rig Type: ATV-CME 750	Drilling Contractor: Frontz	Surface Elevation: 488.816 ft NAVD88
Borehole Backfill: Cement bentonite grout	Sampling Method(s): Split Spoon/Shelby Tube	Hammer Data: Auto Hammer, 140 pound
Boring Location: N 1315472.242 E 2322011.383 (ft NAD83)	Groundwater Level(s): 33.5 ft ATD	

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core ROD (%)	Recovery (%)	Graphic Symbol										
488.8	0														
485	5	1		100		Dark brown, mottled gray, clayey SAND (SC), some fine grained, trace medium and coarse grained, and few fine gravel, dry	12.3	43.1	25	11					
481.8	7.0														
480	10	1	4 5 5	89		Loose, brown, silty SAND (SM), fine grained with trace medium and coarse grained sand and trace fine gravel	36.3	14	1						
476.8	12.0														
475	15	2		100		Dense, brown, poorly graded SAND with silt (SP-SM), fine grained with trace medium grained, dry	9.3	10.0							
470	20	2	11 13 19	89											
465	25	3		50		becoming brown and dark brown with few medium grained sand	12.1	6.4							
461.8	27.0														
460	30	3	9 11 11	100		Medium dense, dark brown, silty, clayey SAND (SC-SM), fine grained with trace medium grained, dry	37.7	18	5						

Report: GEO_SOIL_HAV; File G:\GINTFILES\PROJECTS\60439304 HAVANA.DYNEGY_2015.GPJ; 1/12/2016 5:55:08 PM

Project: Dynegy

Project Location: Havana Power Plant, Havana, IL

Project Number: 60439304

Log of Boring HAV-EB-6C

Sheet 2 of 2

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
30															
455	35	4		100		Very loose, brown, poorly graded SAND (SP), fine grained with little medium grained and trace fines, wet		3.4							
450	40	4	2 2 2	100		becoming moist with trace medium grained sand		4.1							
						End of Boring at 40 ft									
445	45														
440	50														
435	55														
430	60														
425	65														

Report: GEO_SOIL_HAV; File G:\GINTFILES\PROJECTS\60439304 HAVANA.DYNEGY_2015.GPJ; 1/12/2016 5:55:08 PM

Project: Dynegy	Log of Boring HAV-EB-7C
Project Location: Havana Power Plant, Havana, IL	Sheet 1 of 2
Project Number: 60439304	

Date(s) Drilled: 09/03/2015 12:00 AM to 09/03/2015 12:00 AM	Logged By: Rick Horner	Checked By: JAA and BDL
Drilling Method: Hollow Stem Auger	Drill Bit Size/Type: Finger Bit	Borehole Depth: 42.5 ft
Drill Rig Type: ATV-CME 750	Drilling Contractor: Frontz	Surface Elevation: 489.253 ft NAVD88
Borehole Backfill: Cement bentonite grout	Sampling Method(s): Split Spoon/Shelby Tube	Hammer Data: Auto Hammer, 140 pound
Boring Location: N 1315618.981 E 2322377.352 (ft NAD83)	Groundwater Level(s): 26 ft ATD	

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core ROD (%)	Recovery (%)	Graphic Symbol										
0	0						Brown, mottled dark brown and gray, silty SAND (SM), fine grained with trace medium grained, dry								
485	5	1		100				8.0	21.8						
480	10	1	3 3 3	89			becoming loose	4.6	17.8						
475	15	2		100			Loose, brown, poorly graded SAND with silt (SP-SM), fine grained with trace medium grained	7.9	11.7						
470	20	2	4 5 5	100			becoming moist	8.2	10.6						
465	25	3	5 13 21	100			becoming dense, wet lense of stiff, dry, dark brown, low plastic silty clay								Lost sample in tube, drove split spoon in place
460	30														

Report: GEO_SOIL_HAV; File G:\GINTFILES\PROJECTS\60439304 HAVANA.DYNEGY_2015.GPJ; 1/12/2016 5:55:15 PM

Project: Dynegy

Project Location: Havana Power Plant, Havana, IL

Project Number: 60439304

Log of Boring HAV-EB-7C

Sheet 2 of 2

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
30		4	67	83		becoming medium dense, with few medium grained sand		10.0						Add drilling mud to augers	
455	35	5	679	89											
450	40	6	6811	83			becoming with little medium grained sand, trace coarse grained sand, and trace fine gravel		8.7						
445	45						End of Boring at 42.5 ft								
440	50														
435	55														
430	60														
425	65														

Report: GEO_SOIL_HAV; File G:\GINTFILES\PROJECTS\60439304 HAVANA DYNEGY_2015.GPJ; 1/12/2016 5:55:16 PM

Project: Dynegy
 Project Location: Havana Power Plant, Havana, IL
 Project Number: 60439304

Log of Boring HAV-EB-8C
 Sheet 1 of 2

Date(s) Drilled	08/31/2015 12:00 AM to 08/31/2015 12:00 AM	Logged By	Rick Horner	Checked By	JAA and BDL
Drilling Method	Hollow Stem Auger	Drill Bit Size/Type	Finger Bit	Borehole Depth	40.0 ft
Drill Rig Type	ATV-CME 750	Drilling Contractor	Frontz	Surface Elevation	488.839 ft NAVD88
Borehole Backfill	Cement bentonite grout	Sampling Method(s)	Split Spoon/Shelby Tube	Hammer Data	Auto Hammer, 140 pound
Boring Location	N 1315276.961 E 2322410.504 (ft NAD83)		Groundwater Level(s)	38.5 ft ATD	

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
488.8	0.0					Brown, silty SAND (SM), fine grained with few medium grained and trace fine gravel									
484.8	4.0	1				Dark gray sandy CLAY (CL), with trace fine gravel and few coarse gravel	17.4	24.7	30	15					
484.3	4.5					Dense, brown, silty SAND (SM), fine grained with trace medium grained	12.8	60.8							
480	8.0	1	20 21	72			9.1	19.0							
476.8	12.0	2		89		Brown, poorly graded SAND with silt (SP-SM), fine grained with trace medium grained	6.9	6.7							
471.8	17.0					Medium dense, brown, silty SAND (SM), fine grained with trace medium grained									
466.8	22.0	2	8 9 8	72			9.5	27.7							
464.6	24.2	3		67		Brown, poorly graded SAND with silt (SP-SM), fine grained with few medium grained	11.5	8.5							
						Medium dense, dark brown, silty SAND (SM), fine grained with trace medium grained	9.7	26.7							
460	30.0	3	5 8 8	100		becoming reddish brown to brown, slight increase in grain size									

Report: GEO_SOIL_HAV; File G:\GINTFILES\PROJECTS\60439304 HAVANA.DYNEGY_2015.GPJ; 1/12/2016 5:55:23 PM

Project: Dynegy

Log of Boring HAV-EB-8C

Project Location: Havana Power Plant, Havana, IL

Sheet 2 of 2

Project Number: 60439304

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Percent Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
30															
455	35	4		100		Medium dense, brown, poorly graded SAND (SP), fine grained with few medium grained and trace fines		3.1							
450	40	4	5 8 11	89		becoming wet, with some medium and fine grained sand, few coarse grained sand, trace fine gravel, and trace fines		3.1							
445						End of Boring at 40 ft									
440	50														
435	55														
430	60														
425															
65															

Report: GEO_SOIL_HAV; File G:\GINTFILES\PROJECTS\60439304 HAVANA.DYNEGY_2015.GPJ; 1/12/2016 5:55:23 PM

APPENDIX B

The seismic cone penetration tests for Havana Station East Ash Pond were completed on August 27, 2015. AECOM subcontracted ConeTec Inc. to perform a total of eight seismic cone penetration tests designated as HAV-C001 through HAV-C008. These tests were advanced at the toe of the embankment adjacent to crest borings, with the exception of HAV-C007 and HAV-C008, which were advanced from the crest of the embankment. The locations of the exploratory borings and CPT soundings are shown in Figure 1.



Dynegy Energy CCR
 Havana Power Plant, Havana, Illinois
 Project Number: 60439304

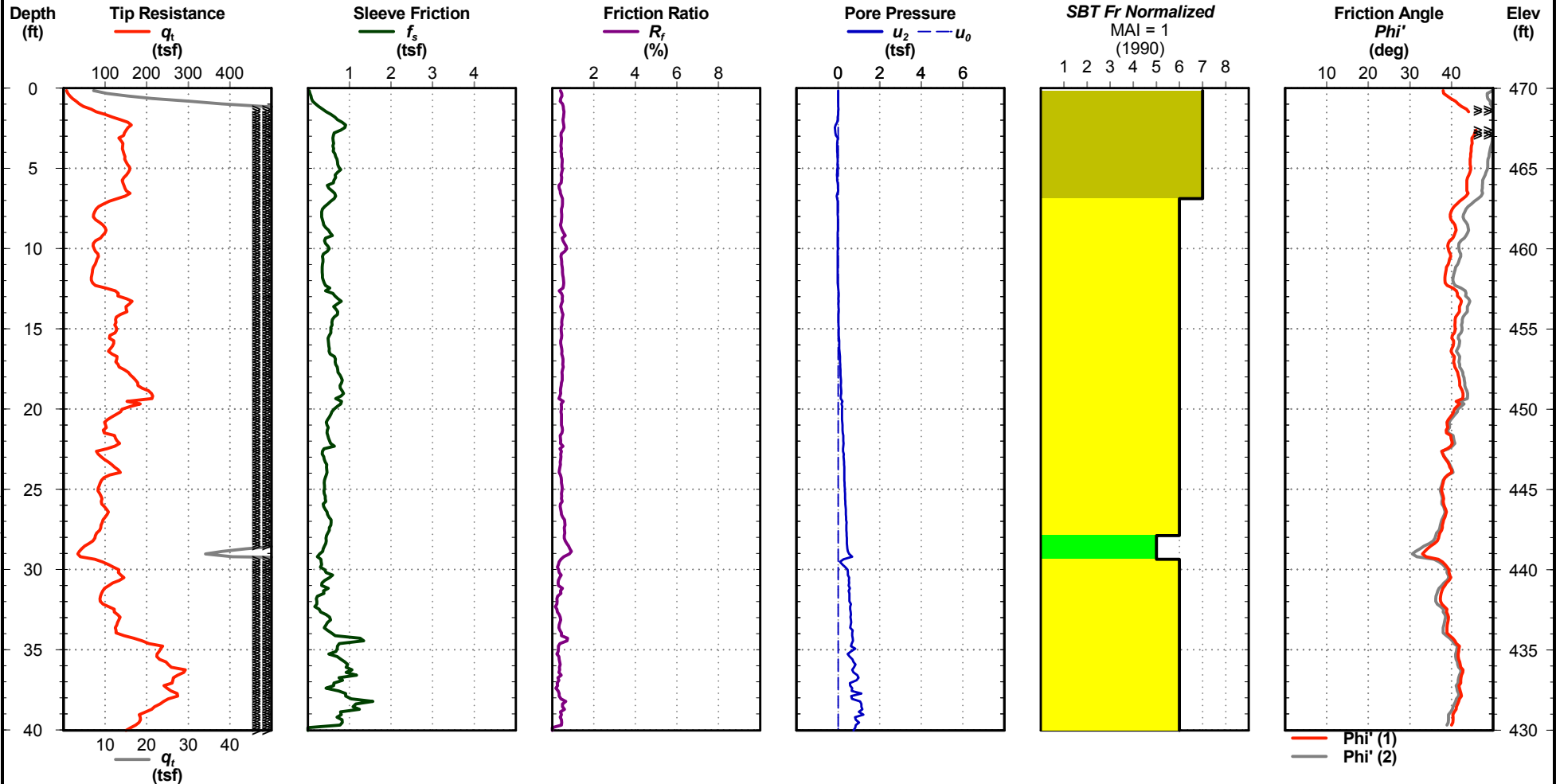
Cone Penetration Test

HAV-C001

Date: Aug. 27, 2015
 Estimated Water Depth: Not Encountered
 Rig/Operator: CPT Track Rig

Northing: 1315557.4 ft
 Easting: 2323962.8 ft
 Elevation: 470.0 ft

Total Depth: 40.0 ft
 Termination Criteria: Depth Selected
 Cone Size: 15 cm² Tip Area



- | | | |
|--|--|---|
| ■ 1 - Sensitive, Fine Grained Soils | ■ 4 - Silt Mixtures-Clay Silt to Silty Clay | ■ 7 - Gravelly Sand to Sand |
| ■ 2 - Organic Soils, Peats | ■ 5 - Sand Mixtures-Silty Sand to Sandy Silt | ■ 8 - Very Stiff Clay to Clayey Sand |
| ■ 3 - Clays-Clay to Silty Clay | ■ 6 - Silty Sands & Sandy Silts | ■ 9 - Very Stiff Fine Grained Soils |

$\Phi_i'(1): \phi' = 17.6 + 11.0 \text{ Log}[q/(\sigma'_{vo})^{0.5}]$
 $\Phi_i'(2): \phi' = \arctan[0.1 + 0.38 \text{ Log}[q/(\sigma'_{vo})]]$

CPT REPORT - DYNAMIC DYNENGY (HAVANA) CPTS.GPJ CPT.V3.0.GDT 11/18/15
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Dynegy Energy CCR
 Havana Power Plant, Havana, Illinois
 Project Number: 60439304

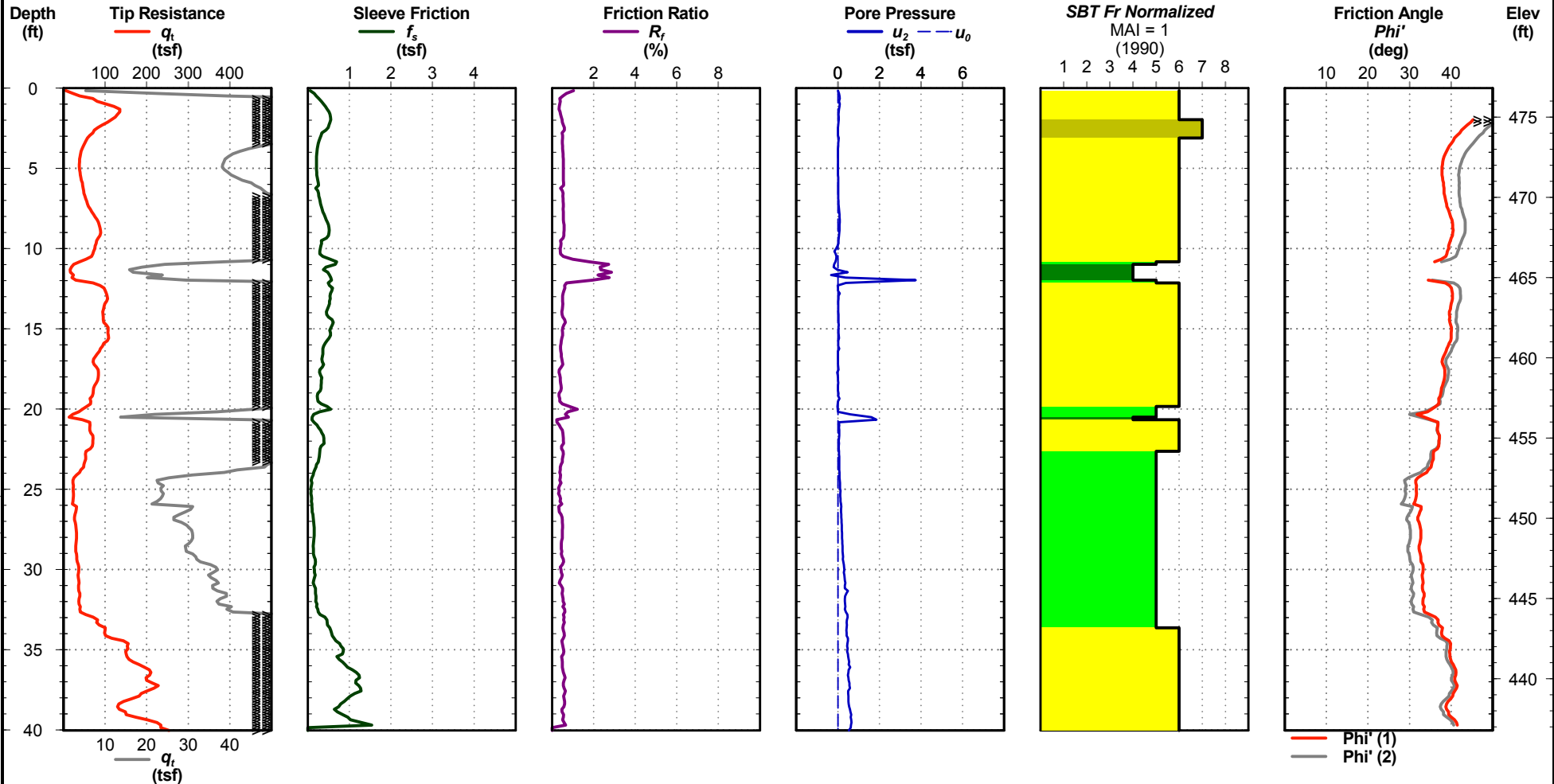
Cone Penetration Test

HAV-C002

Date: Aug. 27, 2015
 Estimated Water Depth: Not Encountered
 Rig/Operator: CPT Track Rig

Northing: 1317122.5 ft
 Easting: 2324639.3 ft
 Elevation: 476.8 ft

Total Depth: 40.0 ft
 Termination Criteria: Depth Selected
 Cone Size: 15 cm² Tip Area



- | | | |
|--|--|--|
| ■ 1 - Sensitive, Fine Grained Soils | ■ 4 - Silt Mixtures-Clay Silt to Silty Clay | ■ 7 - Gravelly Sand to Sand |
| ■ 2 - Organic Soils, Peats | ■ 5 - Sand Mixtures-Silty Sand to Sandy Silt | ■ 8 - Very Stiff Clay to Clayey Sand |
| ■ 3 - Clays-Clay to Silty Clay | ■ 6 - Silty Sands & Sandy Silts | ■ 9 - Very Stiff Fine Grained Soils |

$\Phi_i'(1): \phi' = 17.6 + 11.0 \text{ Log}[q/(\sigma'_{vo})^{0.5}]$
 $\Phi_i'(2): \phi' = \arctan[0.1 + 0.38 \text{ Log}[q/(\sigma'_{vo})]]$

CPT REPORT - DYNAMIC DYNENGY (HAVANA) CPTS.GPJ CPT V3.0.GDT 11/18/15
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Dynegy Energy CCR
 Havana Power Plant, Havana, Illinois
 Project Number: 60439304

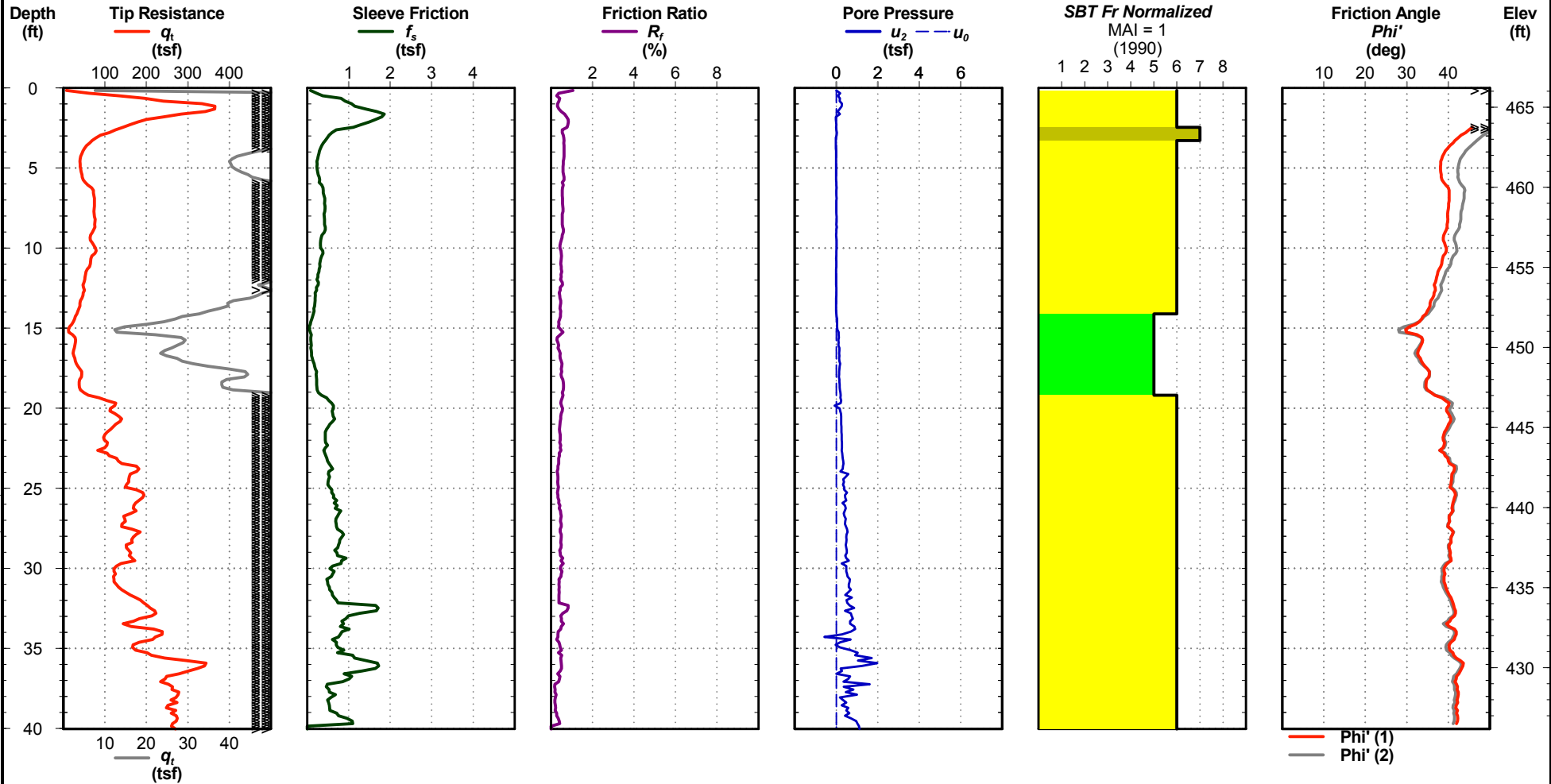
Cone Penetration Test

HAV-C003

Date: Aug. 27, 2015
 Estimated Water Depth: Not Encountered
 Rig/Operator: CPT Track Rig

Northing: 1317189.6 ft
 Easting: 2323758.3 ft
 Elevation: 466.2 ft

Total Depth: 40.0 ft
 Termination Criteria: Depth Selected
 Cone Size: 15 cm² Tip Area



- | | | |
|--|--|--|
| ■ 1 - Sensitive, Fine Grained Soils | ■ 4 - Silt Mixtures-Clay Silt to Silty Clay | ■ 7 - Gravelly Sand to Sand |
| ■ 2 - Organic Soils, Peats | ■ 5 - Sand Mixtures-Silty Sand to Sandy Silt | ■ 8 - Very Stiff Clay to Clayey Sand |
| ■ 3 - Clays-Clay to Silty Clay | ■ 6 - Silty Sands & Sandy Silts | ■ 9 - Very Stiff Fine Grained Soils |

$\Phi_i'(1): \phi' = 17.6 + 11.0 \text{ Log}[q_t / (\sigma'_{v0})^{0.5}]$
 $\Phi_i'(2): \phi' = \arctan[0.1 + 0.38 \text{ Log}[q_t / (\sigma'_{v0})]]$

CPT REPORT - DYNAMIC DYNENGY (HAVANA) CPTS.GPJ CPT V3.0.GDT 11/18/15
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Dynegy Energy CCR
 Havana Power Plant, Havana, Illinois
 Project Number: 60439304

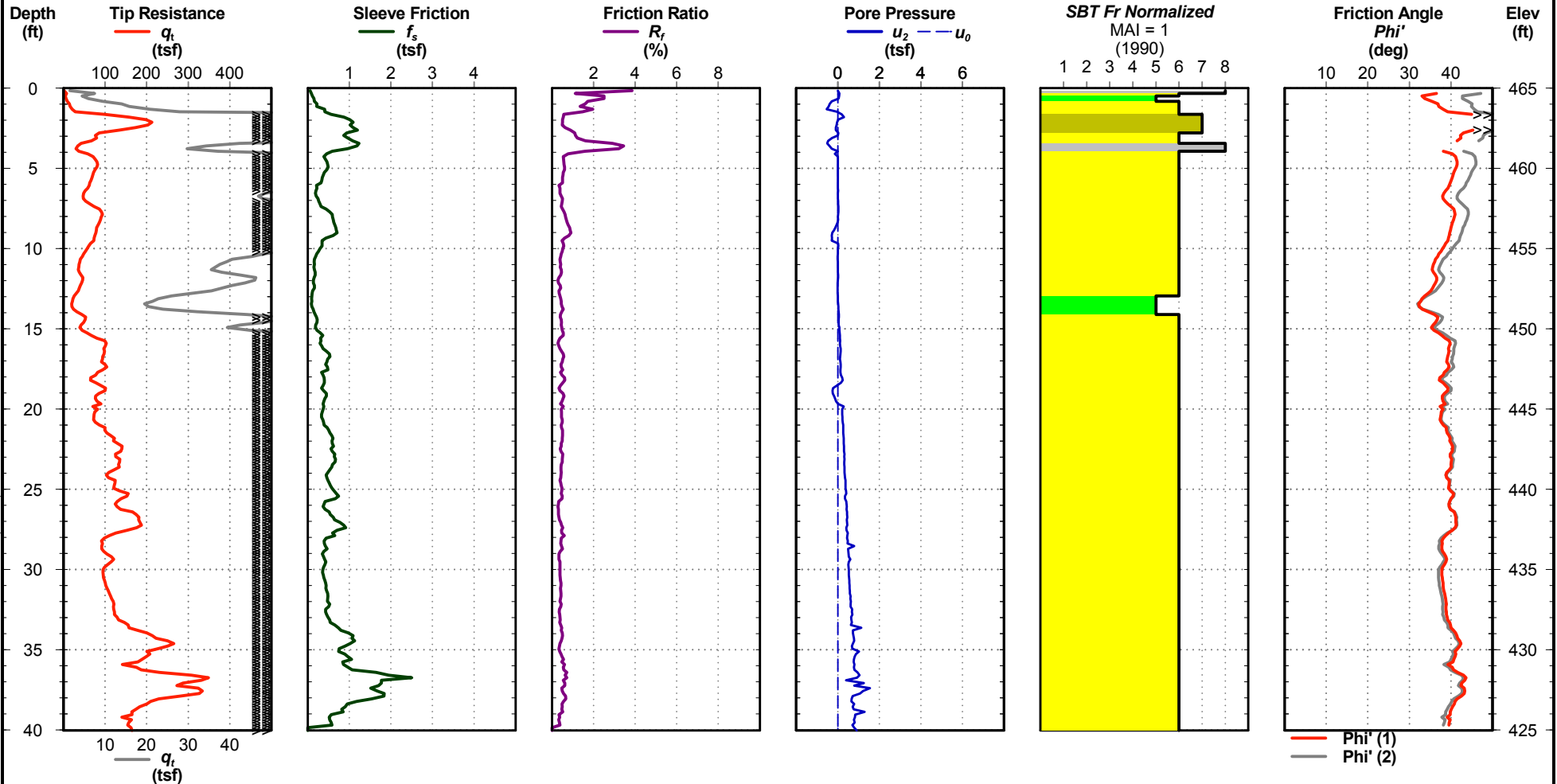
Cone Penetration Test

HAV-C004

Date: Aug. 27, 2015
 Estimated Water Depth: Not Encountered
 Rig/Operator: CPT Track Rig

Northing: 1316557.7 ft
 Easting: 2323308.3 ft
 Elevation: 465.0 ft

Total Depth: 40.0 ft
 Termination Criteria: Depth Selected
 Cone Size: 15 cm² Tip Area



- | | | |
|--|--|---|
| ■ 1 - Sensitive, Fine Grained Soils | ■ 4 - Silt Mixtures-Clay Silt to Silty Clay | ■ 7 - Gravelly Sand to Sand |
| ■ 2 - Organic Soils, Peats | ■ 5 - Sand Mixtures-Silty Sand to Sandy Silt | ■ 8 - Very Stiff Clay to Clayey Sand |
| ■ 3 - Clays-Clay to Silty Clay | ■ 6 - Silty Sands & Sandy Silts | ■ 9 - Very Stiff Fine Grained Soils |

$\Phi_i'(1): \phi' = 17.6 + 11.0 \text{ Log}[q/(\sigma'_{vo})^{0.5}]$
 $\Phi_i'(2): \phi' = \arctan[0.1 + 0.38 \text{ Log}[q/(\sigma'_{vo})]]$



Dynegy Energy CCR
Havana Power Plant, Havana, Illinois
 Project Number: 60439304

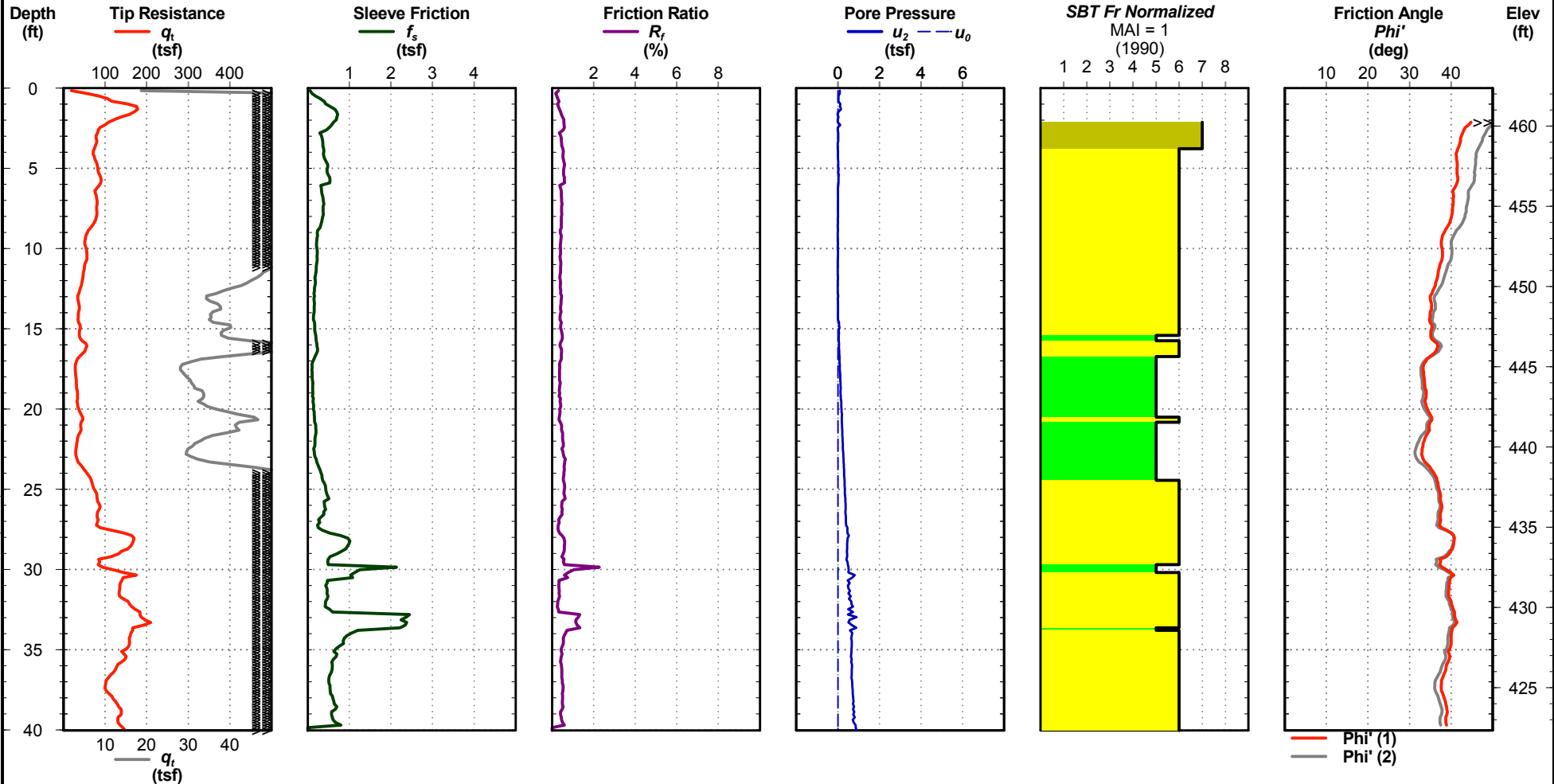
Cone Penetration Test

HAV-C005

Date: Aug. 27, 2015
Estimated Water Depth: Not Encountered
Rig/Operator: CPT Track Rig

Northing: 1316129.9 ft
Easting: 2322125.0 ft
Elevation: 462.4 ft

Total Depth: 40.0 ft
Termination Criteria: Depth Selected
Cone Size: 15 cm² Tip Area



- | | | |
|--|--|--|
| ■ 1 - Sensitive, Fine Grained Soils | ■ 4 - Silt Mixtures-Clay Silt to Silty Clay | ■ 7 - Gravelly Sand to Sand |
| ■ 2 - Organic Soils, Peats | ■ 5 - Sand Mixtures-Silty Sand to Sandy Silt | ■ 8 - Very Stiff Clay to Clayey Sand |
| ■ 3 - Clays-Clay to Silty Clay | ■ 6 - Silty Sands & Sandy Silts | ■ 9 - Very Stiff Fine Grained Soils |

$\Phi_i'(1): \phi' = 17.6 + 11.0 \text{ Log}[q/(\sigma'_{vo})^{0.5}]$
 $\Phi_i'(2): \phi' = \arctan[0.1 + 0.38 \text{ Log}[q/(\sigma'_{vo})]]$

CPT REPORT - DYNAMIC DYNENGY (HAVANA) CPTS.GPJ CPT V3.0.GDT 11/18/15
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Dynegy Energy CCR
 Havana Power Plant, Havana, Illinois
 Project Number: 60439304

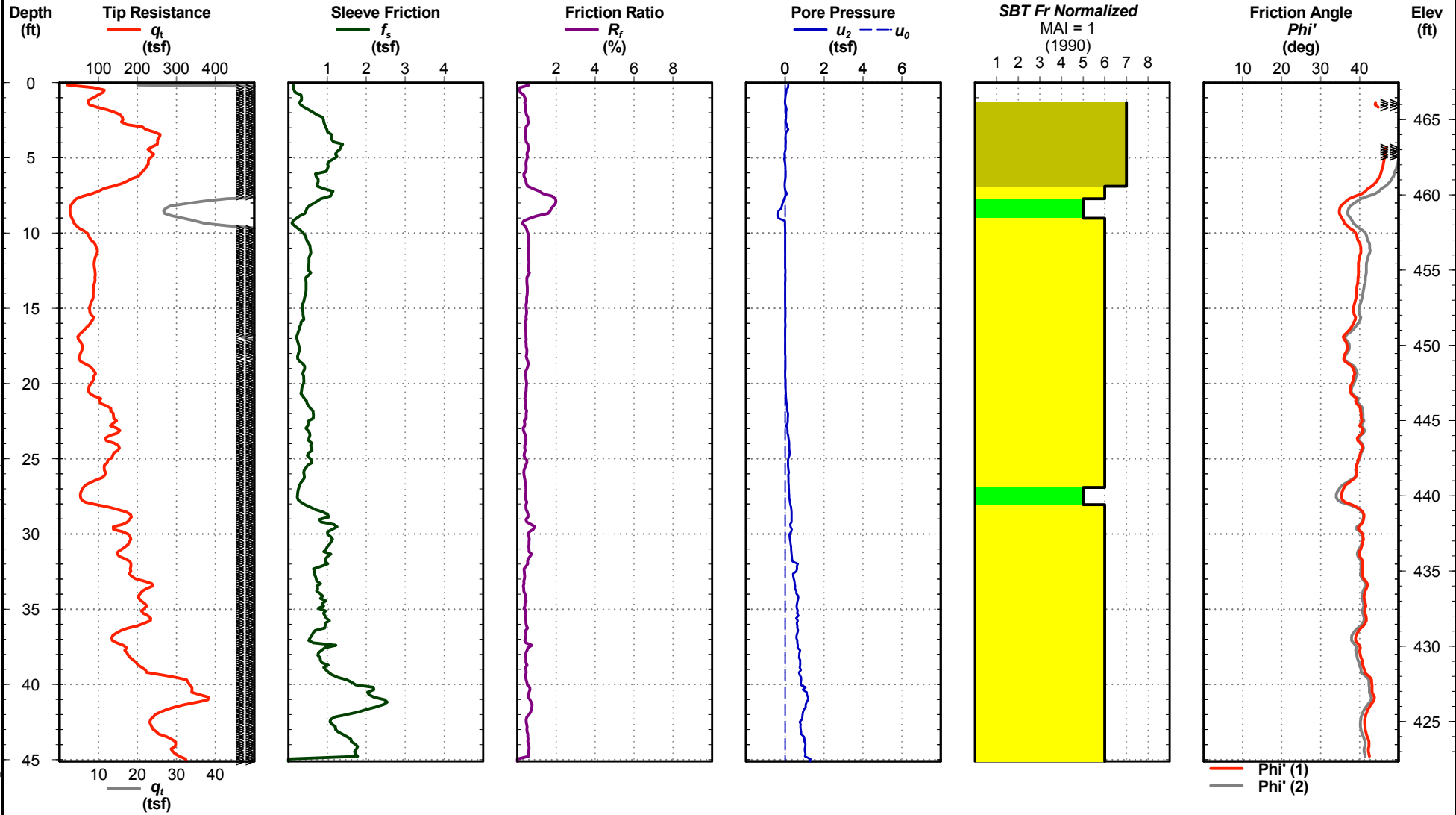
Cone Penetration Test

HAV-C006

Date: Aug. 27, 2015
 Estimated Water Depth: Not Encountered
 Rig/Operator: CPT Track Rig

Northing: 1315507.4 ft
 Easting: 2321892.8 ft
 Elevation: 467.5 ft

Total Depth: 45.1 ft
 Termination Criteria: Depth Selected
 Cone Size: 15 cm² Tip Area



- | | | |
|--|--|---|
| ■ 1 - Sensitive, Fine Grained Soils | ■ 4 - Silt Mixtures-Clay Silt to Silty Clay | ■ 7 - Gravelly Sand to Sand |
| ■ 2 - Organic Soils, Peats | ■ 5 - Sand Mixtures-Silty Sand to Sandy Silt | ■ 8 - Very Stiff Clay to Clayey Sand |
| ■ 3 - Clays-Clay to Silty Clay | ■ 6 - Silty Sands & Sandy Silts | ■ 9 - Very Stiff Fine Grained Soils |

$\Phi_i'(1): \phi' = 17.6 + 11.0 \text{ Log}[q_t / (\sigma'_{vo})^{0.5}]$
 $\Phi_i'(2): \phi' = \arctan[0.1 + 0.38 \text{ Log}[q_t / (\sigma'_{vo})]]$

CPT REPORT - DYNAMIC DYNENGY (HAVANA) CPTS.GPJ CPT.V3.0.GDT 11/18/15
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Dynergy Energy CCR
 Havana Power Plant, Havana, Illinois
 Project Number: 60439304

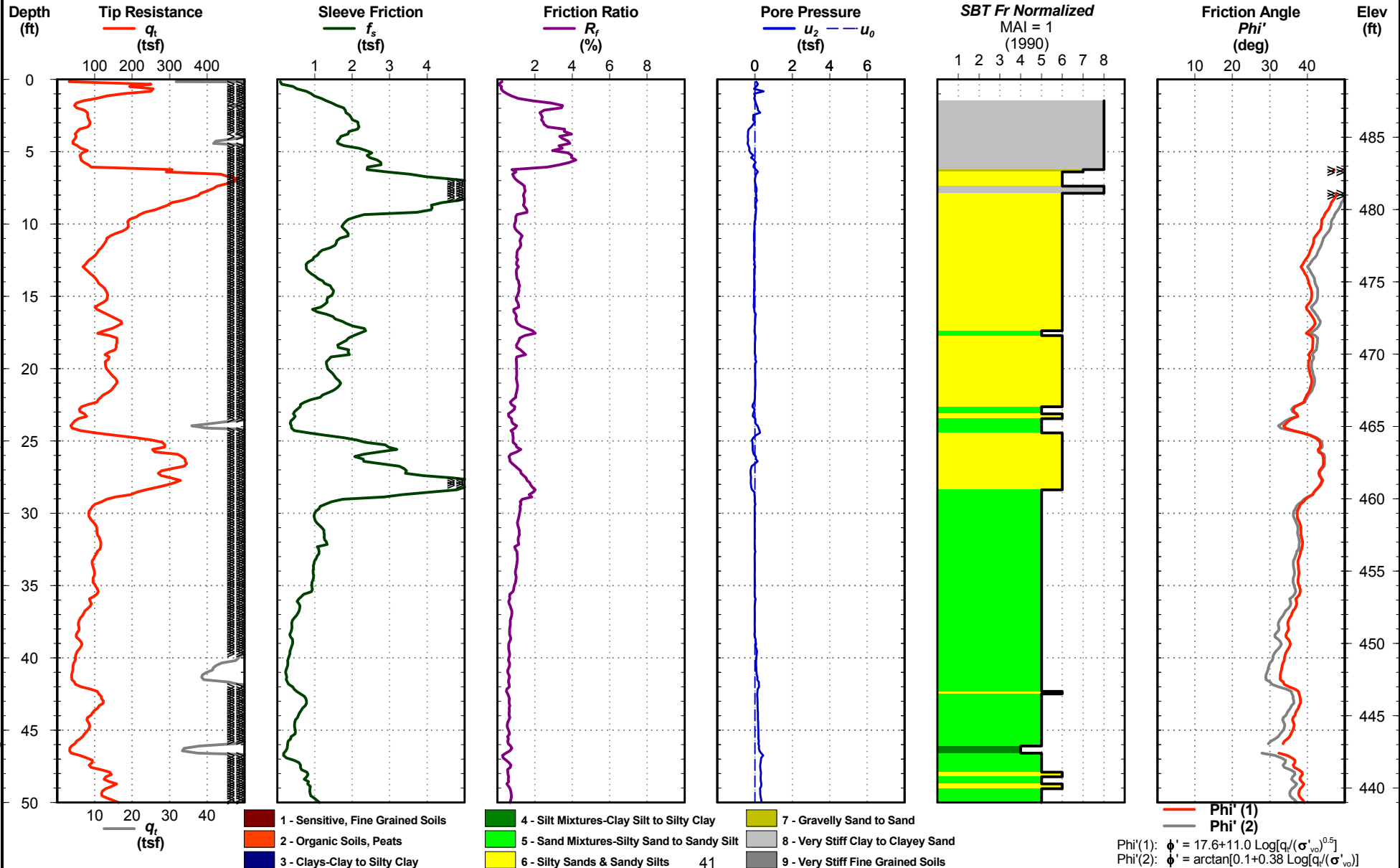
Cone Penetration Test

HAV-C007

Date: Aug. 27, 2015
 Estimated Water Depth: Not Encountered
 Rig/Operator: CPT Track Rig

Northing: 1315585.0 ft
 Easting: 2322457.0 ft
 Elevation: 489.0 ft

Total Depth: 85.5 ft
 Termination Criteria: Depth Selected
 Cone Size: 15 cm² Tip Area



CPT REPORT - DYNAMIC DYNENERGY (HAVANA) CPTS.GPJ CPT V3.0.GDT 11/18/15
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Dynegy Energy CCR
 Havana Power Plant, Havana, Illinois
 Project Number: 60439304

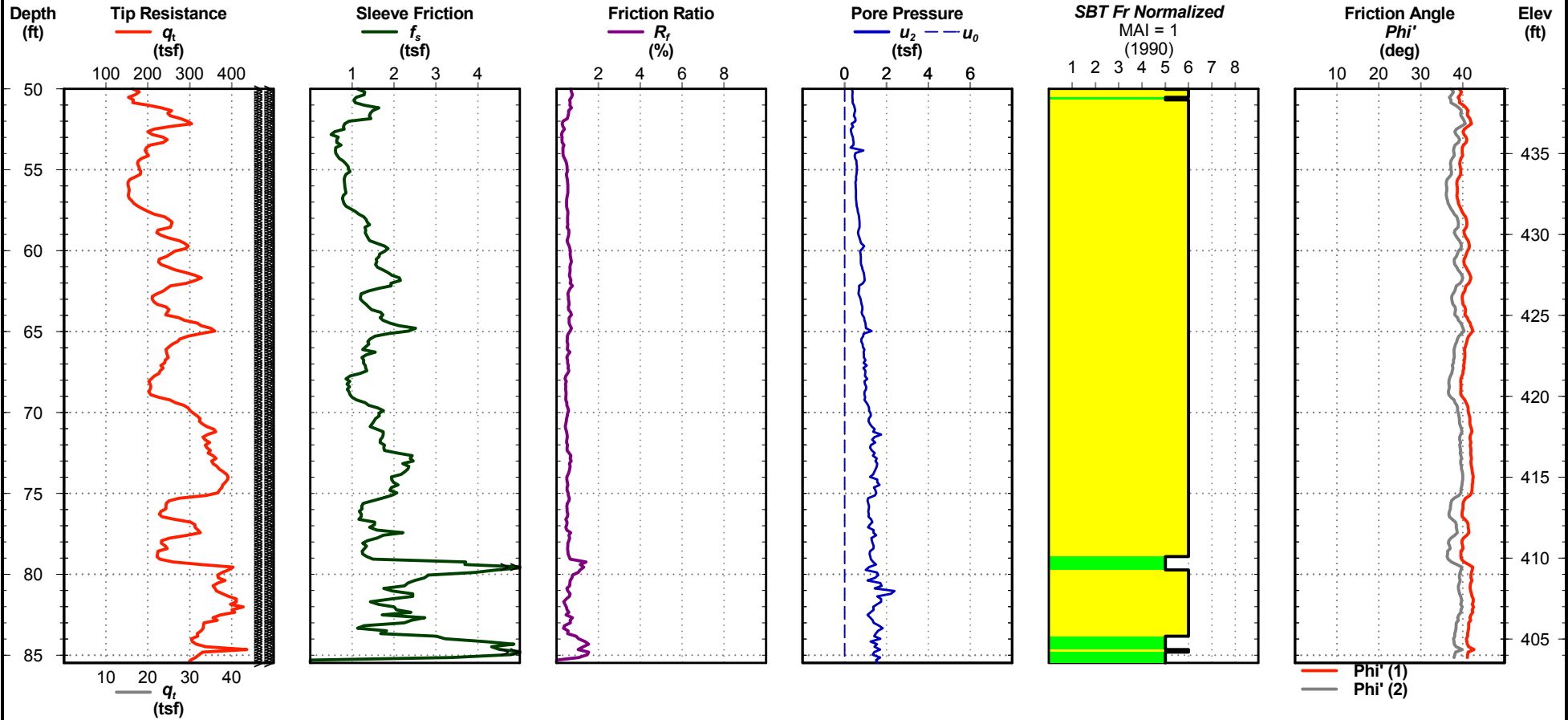
Cone Penetration Test

HAV-C007

Date: Aug. 27, 2015
 Estimated Water Depth: Not Encountered
 Rig/Operator: CPT Track Rig

Northing: 1315585.0 ft
 Easting: 2322457.0 ft
 Elevation: 489.0 ft

Total Depth: 85.5 ft
 Termination Criteria: Depth Selected
 Cone Size: 15 cm² Tip Area



- | | | |
|--|--|--|
| ■ 1 - Sensitive, Fine Grained Soils | ■ 4 - Silt Mixtures-Clay Silt to Silty Clay | ■ 7 - Gravelly Sand to Sand |
| ■ 2 - Organic Soils, Peats | ■ 5 - Sand Mixtures-Silty Sand to Sandy Silt | ■ 8 - Very Stiff Clay to Clayey Sand |
| ■ 3 - Clays-Clay to Silty Clay | ■ 6 - Silty Sands & Sandy Silts | ■ 9 - Very Stiff Fine Grained Soils |

Phi'(1): $\phi' = 17.6 + 11.0 \text{ Log}[q/(\sigma'_{vo})^{0.5}]$
 Phi'(2): $\phi' = \arctan[0.1 + 0.38 \text{ Log}[q/(\sigma'_{vo})]]$

CPT REPORT - DYNAMIC DYNENGY (HAVANA) CPTS.GPJ CPT.V3.0.GDT 11/18/15
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Dynegy Energy CCR
Havana Power Plant, Havana, Illinois
 Project Number: 60439304

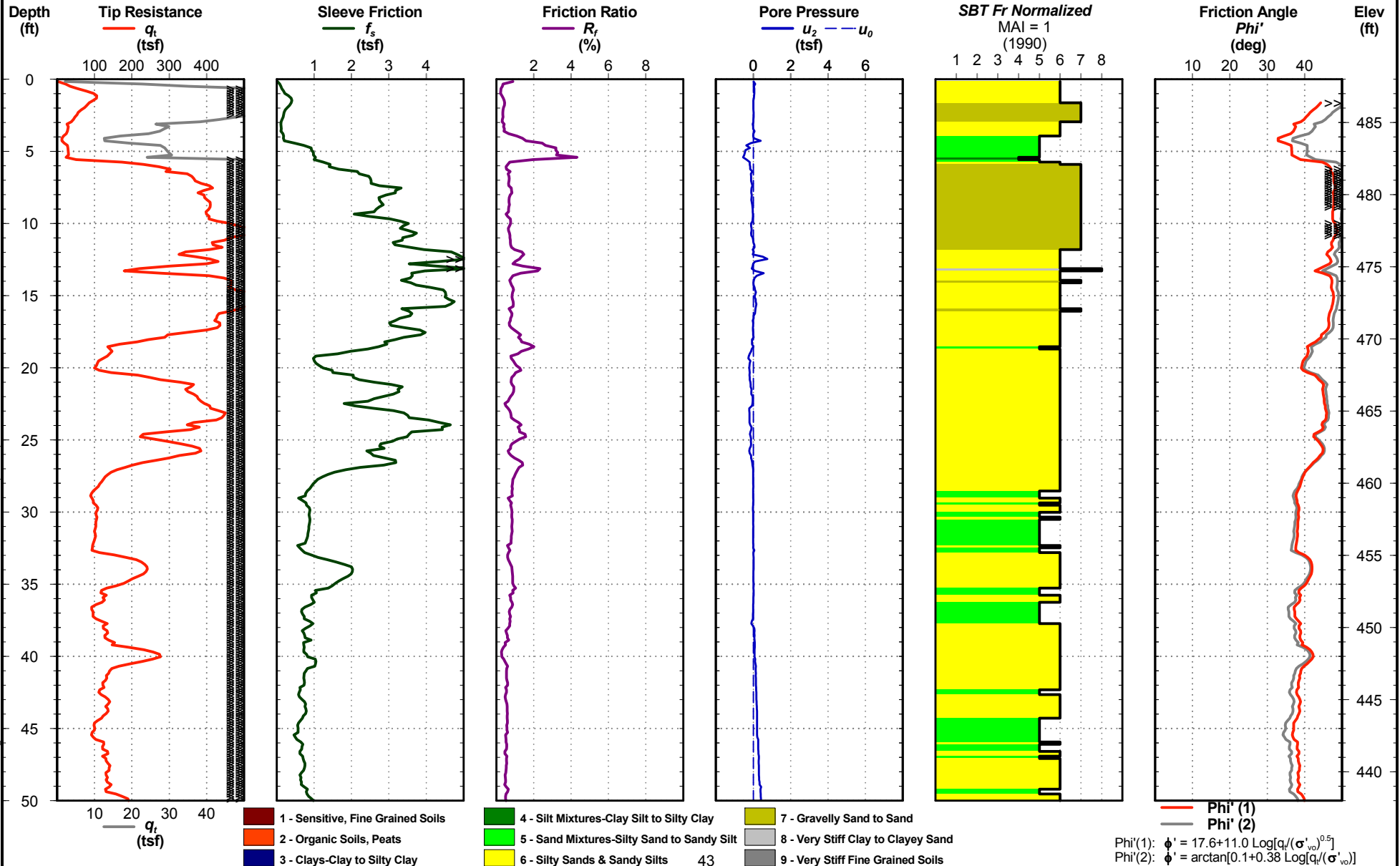
Cone Penetration Test

HAV-C008

Date: Aug. 27, 2015
Estimated Water Depth: Not Encountered
Rig/Operator: CPT Track Rig

Northing: 1315227.0 ft
Easting: 2322487.0 ft
Elevation: 488.0 ft

Total Depth: 85.5 ft
Termination Criteria: Depth Selected
Cone Size: 15 cm² Tip Area



CPT REPORT - DYNAMIC DYNENGY (HAVANA) CPTS.GPJ CPT.V3.0.GDT 11/18/15
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Dynegy Energy CCR
 Havana Power Plant, Havana, Illinois
 Project Number: 60439304

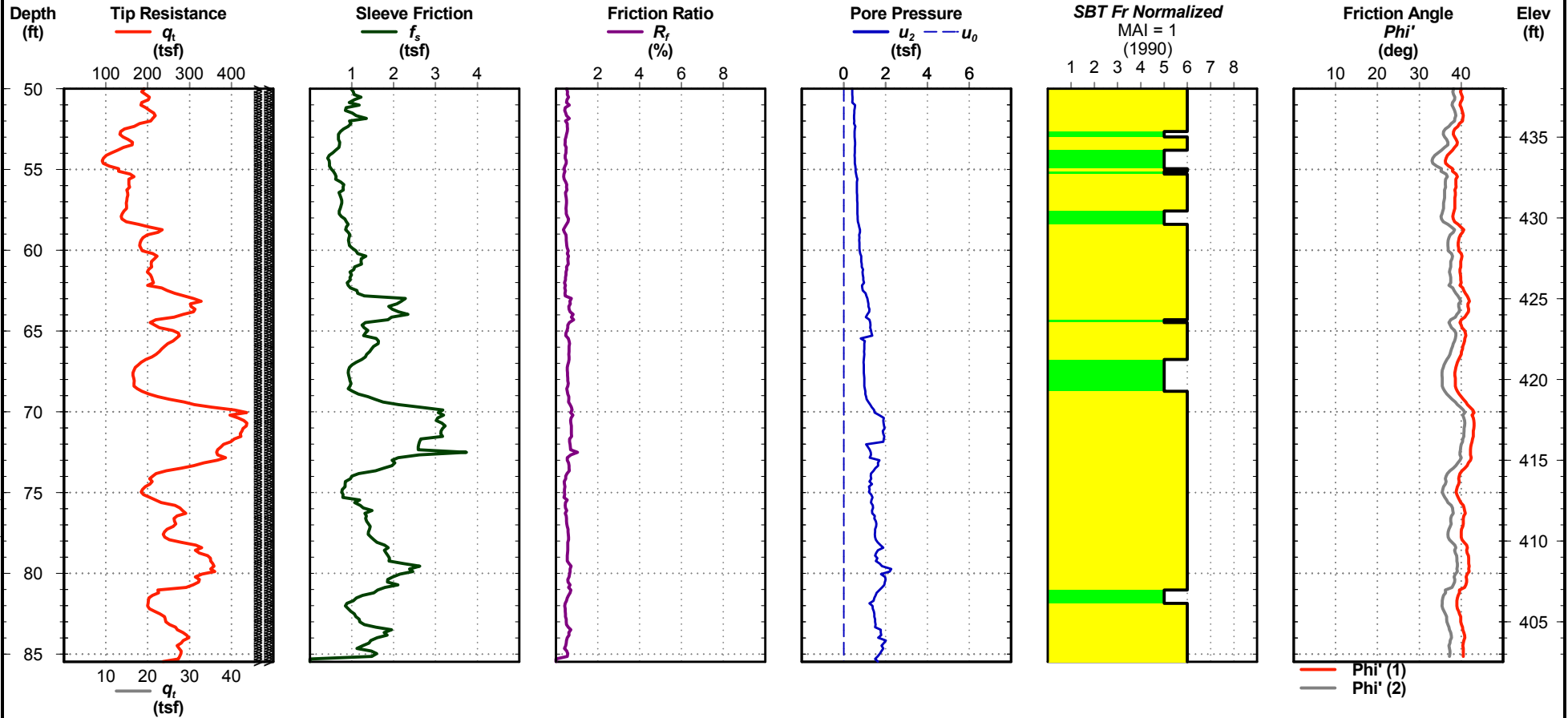
Cone Penetration Test

HAV-C008

Date: Aug. 27, 2015
 Estimated Water Depth: Not Encountered
 Rig/Operator: CPT Track Rig

Northing: 1315227.0 ft
 Easting: 2322487.0 ft
 Elevation: 488.0 ft

Total Depth: 85.5 ft
 Termination Criteria: Depth Selected
 Cone Size: 15 cm² Tip Area



- | | | |
|--|--|--|
| ■ 1 - Sensitive, Fine Grained Soils | ■ 4 - Silt Mixtures-Clay Silt to Silty Clay | ■ 7 - Gravelly Sand to Sand |
| ■ 2 - Organic Soils, Peats | ■ 5 - Sand Mixtures-Silty Sand to Sandy Silt | ■ 8 - Very Stiff Clay to Clayey Sand |
| ■ 3 - Clays-Clay to Silty Clay | ■ 6 - Silty Sands & Sandy Silts | ■ 9 - Very Stiff Fine Grained Soils |

$\Phi'(1): \phi' = 17.6 + 11.0 \text{ Log}[q/(\sigma'_{vo})^{0.5}]$
 $\Phi'(2): \phi' = \arctan[0.1 + 0.38 \text{ Log}[q/(\sigma'_{vo})]]$

CPT REPORT - DYNAMIC DYNENGY (HAVANA) CPTS.GPJ CPT.V3.0.GDT 11/18/15
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APPENDIX C

Soil samples obtained during the geotechnical investigation were transported to the AECOM laboratory in Overland Park, Kansas for designation of testing. Selected samples were sent to the Alpha-Omega laboratory located in Kansas City, Kansas. Laboratory tests provide data for classification of soils and evaluation of their engineering properties. Test performed on the samples included those described below.

Basic Properties and Soil Classification Tests:

Index testing including water content, grain size analyses, and liquid and plastic (Atterberg) limits was performed on selected samples. The following test methods were used:

- ASTM D2487 – Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System);
- ASTM D2488 – Standard Practice for Description and Identification of Soils (Visual-Manual Procedure);
- ASTM D422 – Standard Test Method for Particle Size Analysis for Soils;
- ASTM D1140 – Standard Test Methods for Amount of Material in Soils Finer than No. 200 (75- μm) Sieve;
- ASTM D2216 – Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass;
- ASTM D4318 – Standard Test Method for Liquid Limit, Plastic Limit and Plasticity Index of Soils;

Summary of Laboratory Testing

SLT 22205

Alpha-Omega Geotech, Inc.

1701 State Avenue
 Kansas City, KS 66102
 Office: (913) 371-0000 Fax: (913) 371-6710
 Website: www.aogeotech.com



PROJECT NAME: Dynergy CCR Ph 3/7- Havana
 PROJECT LOCATION: Havana, IL

PROJECT NUMBER: 15-391T
 DATE: 9/28/2015

Boring Number	Sample Number	Depth or Elevation	Description	Natural Moisture (%)	Dry Unit Weight (pcf)	Atterberg Limits			USCS / Visual - Manual	% Passing No. 200	Unconfined Compression PSF	%e	% Swell	Material Description per Methodology
						LL	PL	PI						
EP-1C	ST-1	6'-7.5'	Brown poorly graded sand with silt	7.2					SP-SM	7.8				ASTM D2488
EP-1C	SPT-1	11'-12.5'	Brown poorly graded sand with silt	5.8					SP-SM	9.2				ASTM D2488
EP-1C	ST-2	16'-17.5'	Brown poorly graded sand with silt	9.4					SP-SM	9.7				ASTM D2488
EP-1C	SPT-2	21'-22.5'	Brown poorly graded sand with silt	9.8					SP-SM	11.9				ASTM D2488
EP-1C	ST-3	26'-27.5'	Brown and dark brown silty sand	9.6		NV	NP	NP	SM	20.4				ASTM D2487
EP-1C	SPT-4	41'-42.5'	Brown poorly graded sand						SP	3.4				ASTM D2488
EP-1C	SPT-6	51'-52.5'	Brown silty sand						SM	30.8				ASTM D2488
EP-1C	SPT-7	56'-57.5'	Brown poorly graded sand						SP	5.7				ASTM D2488
EP-1T	SPT-1	3.5'-5'	Dark brown silty sand	9.6					SM	25.3				ASTM D2488
EP-1T	SPT-2	8.5'-10'	Brown silty sand	13.9					SM	16.3				ASTM D2488

Summary of Laboratory Testing

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 PROJECT LOCATION: Havana, IL

PROJECT NUMBER: 15-391T
 DATE: 9/28/2015

Boring Number	Sample Number	Depth or Elevation	Description	Natural Moisture (%)	Dry Unit Weight (pcf)	Atterberg Limits			USCS / Visual - Manual	% Passing No. 200	Unconfined Compression PSF		% Swell	Material Description per Methodology
						LL	PL	PI						
EP-1T	SPT-3	13.5'-15'	Brown poorly graded sand	20.5					SP	2.0				ASTM D2488
EP-1T	SPT-5	23.5'-25'	Brown poorly graded sand						SP	6.3				ASTM D2488
EP-1T	SPT-7	33.5'-34.7'	Brown poorly graded sand with gravel						SP	4.8				ASTM D2488
EP-1T	SPT-8	38.5'-39.75'	Brown poorly graded sand						SP	5.0				ASTM D2488
EP-2C	ST-1	3.5'-5'	Brown poorly graded sand with silt	6.5		NV	NP	NP	SP-SM	7.4				ASTM D2487
EP-2C	SPT-1	8.5'-10'	Brown poorly graded sand with silt	7.6					SP-SM					ASTM D2488
EP-2C	ST-2	13.5'-15'	Brown poorly graded sand	5.3					SP	4.6				ASTM D2488
EP-2C	ST-3	23.5'-25'	Brown poorly graded sand	6.4					SP	2.8				ASTM D2488
EP-2C	ST-4	33.5'-35'	Brown poorly graded sand	5.2					SP	3.3				ASTM D2488
EP-2C	SPT-4	38.5'-40'	Light brown poorly graded sand						SP	4.6				ASTM D2488

Summary of Laboratory Testing

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 PROJECT LOCATION: Havana, IL

PROJECT NUMBER: 15-391T
 DATE: 9/28/2015

Boring Number	Sample Number	Depth or Elevation	Description	Natural Moisture (%)	Dry Unit Weight (pcf)	Atterberg Limits			USCS / Visual - Manual	% Passing No. 200	Unconfined Compression PSF	% Swell	Material Description per Methodology
						LL	PL	PI					
EP-2C	SPT-5	43.5'-45'	Light brown poorly graded sand						SP				ASTM D2488
EP-2C	SPT-6	48.5'-50'	Brown poorly graded sand with silt						SP-SM	8.0			ASTM D2488
EP-2C	SPT-8	55'-56'	Brown poorly graded sand						SP	4.5			ASTM D2488
EP-2T	SPT-1	6'-7.5'	Brown poorly graded sand with silt						SP-SM	6.3			ASTM D2488
EP-2T	SPT-2	11'-12.5'	Brown Clayey sand						SC	22.0			ASTM D2488
EP-2T	SPT-4	21'-22.5'	Brown poorly graded sand						SP	2.0			ASTM D2488
EP-2T	SPT-6	31'-32.5'	Brown poorly graded sand						SP	4.8			ASTM D2488
EP-2T	SPT-8	40'-41.5'	Brown poorly graded sand with gravel						SP	2.3			ASTM D2488

Summary of Laboratory Testing

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 PROJECT LOCATION: Havana, IL

PROJECT NUMBER: 15-391T
 DATE: 9/28/2015

Boring Number	Sample Number	Depth or Elevation	Description	Natural Moisture (%)	Dry Unit Weight (pcf)	Atterberg Limits			USCS / Visual - Manual	% Passing No. 200	Unconfined Compression PSF	%e	% Swell	Material Description per Methodology
						LL	PL	PI						
EP-3C	ST-1	6'-7.5'	Dark brown silty sand	8.7					SM	21.5				ASTM D2488
EP-3C	SPT-1	11'-12.5'	Brown silty sand	7.8		NV	NP	NP	SM	19.4				ASTM D2487
EP-3C	ST-2	16'-17.5'	Brown poorly graded sand with silt	6.5					SP-SM	6.8				ASTM D2488
EP-3C	ST-3	26'-27.5'	Reddish brown poorly graded sand with silt						SP-SM	10.7				ASTM D2488
EP-3C	ST-4	36'-37.5'	Brown poorly graded sand						SP	3.7				ASTM D2488
EP-3C	SPT-5	46'-47.5'	Brown silty sand						SM	20.2				ASTM D2488
EP-3C	SPT-7	56'-57.5'	Brown poorly graded sand with silt						SP-SM	5.4				ASTM D2488

Summary of Laboratory Testing

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 Website: www.aogeotech.com



PROJECT NAME: Dyegy CCR Ph 3/7- Havana
 PROJECT LOCATION: Havana, IL

PROJECT NUMBER: 15-391T
 DATE: 9/28/2015

Boring Number	Sample Number	Depth or Elevation	Description	Natural Moisture (%)	Dry Unit Weight (pcf)	Atterberg Limits			USCS / Visual - Manual	% Passing No. 200	Unconfined Compression PSF	%e	% Swell	Material Description per Methodology
						LL	PL	PI						
EP-4C	ST-1	3.5'-5'	Brown poorly graded sand with silt						SP-SM	5.2				ASTM D2488
EP-4C	SPT-1	8.5'-10'	Brown silty sand						SM	13.8				ASTM D2488
EP-4C	ST-2	13.5'-15'	Brown poorly graded sand with silt						SP-SM	11.2				ASTM D2488
EP-4C	SPT-2	18.5'-20'	Brown, mottled dark brown silty sand						SM	13.6				ASTM D2488
EP-4C	ST-3	23.5'-25'	Gray, mottled light reddish brown poorly graded sand with silt						SP-SM	7.3				ASTM D2488
EP-4C	SPT-3	28.5'-30'	Brown silty sand						SM	12.9				ASTM D2488
EP-4C	ST-4	33.5'-34'	Dark brown silty sand			14	13	1	SM	28.6				ASTM D2487
EP-4C	SPT-4	38.5'-40'	Light brown poorly graded sand with silt						SP-SM					ASTM D2488

Summary of Laboratory Testing

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PROJECT NAME: Dynegy CCR Ph 3/7- Havana
 PROJECT LOCATION: Havana, IL

PROJECT NUMBER: 15-391T
 DATE: 9/28/2015

Boring Number	Sample Number	Depth or Elevation	Description	Natural Moisture (%)	Dry Unit Weight (pcf)	Atterberg Limits			USCS / Visual - Manual	% Passing No. 200	Unconfined Compression PSF	%e	% Swell	Material Description per Methodology
						LL	PL	PI						
EP-5C	ST-1	6'-7.5'	Reddish brown poorly graded sand with silt	9.1					SP-SM	10.1				ASTM D2488
EP-5C	SPT-1	11'-12.5'	Brown poorly graded sand with silt	7.2					SP-SM	9.2				ASTM D2488
EP-5C	ST-2	16'-17'	Brown poorly graded sand with silt	7.0					SP-SM	6.4				ASTM D2488
EP-5C	ST-3	26'-27.5'	Brown poorly graded sand with silt	8.0					SP-SM	5.8				ASTM D2488
EP-5C	ST-4	41'-42.5'	Brown poorly graded sand						SP	0.8				ASTM D2488
EP-5C	SPT-5	46'-47.5'	Brown poorly graded sand						SP	1.1				ASTM D2488
EP-5C	SPT-7	56'-57.5'	Brown poorly graded sand						SP	2.2				ASTM D2488

Summary of Laboratory Testing

SLT 22205

Alpha-Omega Geotech, Inc.

1701 State Avenue
 Kansas City, KS 66102
 Office: (913) 371-0000 Fax: (913) 371-6710
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PROJECT NAME: Dyegy CCR Ph 3/7- Havana
 PROJECT LOCATION: Havana, IL

PROJECT NUMBER: 15-391T
 DATE: 9/28/2015

Boring Number	Sample Number	Depth or Elevation	Description	Natural Moisture (%)	Dry Unit Weight (pcf)	Atterberg Limits			USCS / Visual - Manual	% Passing No. 200	Unconfined Compression PSF	%e	% Swell	Material Description per Methodology
						LL	PL	PI						
EP-5T	SPT-1	3.5'-5'	Brown poorly graded sand with silt						SP-SM	8.0				ASTM D2488
EP-5T	SPT-2	8.5'-10'	Brown poorly graded sand						SP	4.6				ASTM D2488
EP-5T	SPT-3	13.5'-15'	Brown poorly graded sand with silt						SP-SM	5.8				ASTM D2488
EP-5T	SPT-4	18.5'-20'	Brown poorly graded sand						SP	4.0				ASTM D2488
EP-5T	SPT-5	23.5'-25'	Brown poorly graded sand						SP					ASTM D2488
EP-5T	SPT-6	28.5'-30'	Brown poorly graded sand with silt						SP-SM	5.3				ASTM D2488
EP-5T	SPT-7	33.5'-35'	Brown poorly graded sand						SP					ASTM D2488
EP-5T	SPT-8	38.5'-40'	Brown poorly graded sand						SP	2.2				ASTM D2488

Summary of Laboratory Testing

SLT 22205

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PROJECT NAME: Dyegy CCR Ph 3/7- Havana
 PROJECT LOCATION: Havana, IL

PROJECT NUMBER: 15-391T
 DATE: 9/28/2015

Boring Number	Sample Number	Depth or Elevation	Description	Natural Moisture (%)	Dry Unit Weight (pcf)	Atterberg Limits			USCS / Visual - Manual	% Passing No. 200	Unconfined Compression PSF	%e	% Swell	Material Description per Methodology
						LL	PL	PI						
EP-6C	ST-1	3.5'-5'	Dark brown, mottled gray clayey sand	12.3		25	14	11	SC	43.1				ASTM D2487
EP-6C	SPT-1	8.5'-10'	Brown silty sand			14	13	1	SM	36.3				ASTM D2487
EP-6C	ST-2	13.5'-15'	Brown poorly graded sand with silt	9.3					SP-SM	10.0				ASTM D2488
EP-6C	ST-3	23.5'-24.25'	Brown and dark brown poorly graded sand with silt	12.1					SP-SM	6.4				ASTM D2488
EP-6C	SPT-3	28.5'-30'	Dark brown silty, clayey sand			18	13	5	SC-SM	37.7				ASTM D2487
EP-6C	ST-4	33.5'-35'	Brown poorly graded sand						SP	3.4				ASTM D2488
EP-6C	SPT-4	38.5'-40'	Brown poorly graded sand						SP	4.1				ASTM D2488

Summary of Laboratory Testing

SLT 22205

Alpha-Omega Geotech, Inc.

1701 State Avenue
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 Office: (913) 371-0000 Fax: (913) 371-6710
 Website: www.aogeotech.com



PROJECT NAME: Dyegy CCR Ph 3/7- Havana
 PROJECT LOCATION: Havana, IL

PROJECT NUMBER: 15-391T
 DATE: 9/28/2015

Boring Number	Sample Number	Depth or Elevation	Description	Natural Moisture (%)	Dry Unit Weight (pcf)	Atterberg Limits			USCS / Visual - Manual	% Passing No. 200	Unconfined Compression PSF	%e	% Swell	Material Description per Methodology
						LL	PL	PI						
EP-7C	ST-1	6'-7.5'	Brown, mottled dark brown and gray silty sand	8.0					SM	21.8				ASTM D2488
EP-7C	SPT-1	11'-12.5'	Brown silty sand	4.6					SM	17.8				ASTM D2488
EP-7C	ST-2	16'-17.5'	Brown poorly graded sand with silt	7.9					SP-SM	11.7				ASTM D2488
EP-7C	SPT-2	21'-22.5'	Brown poorly graded sand with silt	8.2					SP-SM	10.6				ASTM D2488
EP-7C	SPT-4	31'-32.5'	Brown poorly graded sand with silt						SP-SM	10.0				ASTM D2488
EP-7C	SPT-6	41'-42.5'	Brown poorly graded sand with silt						SP-SM	8.7				ASTM D2488

Summary of Laboratory Testing

SLT 22205

Alpha-Omega Geotech, Inc.

1701 State Avenue
 Kansas City, KS 66102
 Office: (913) 371-0000 Fax: (913) 371-6710
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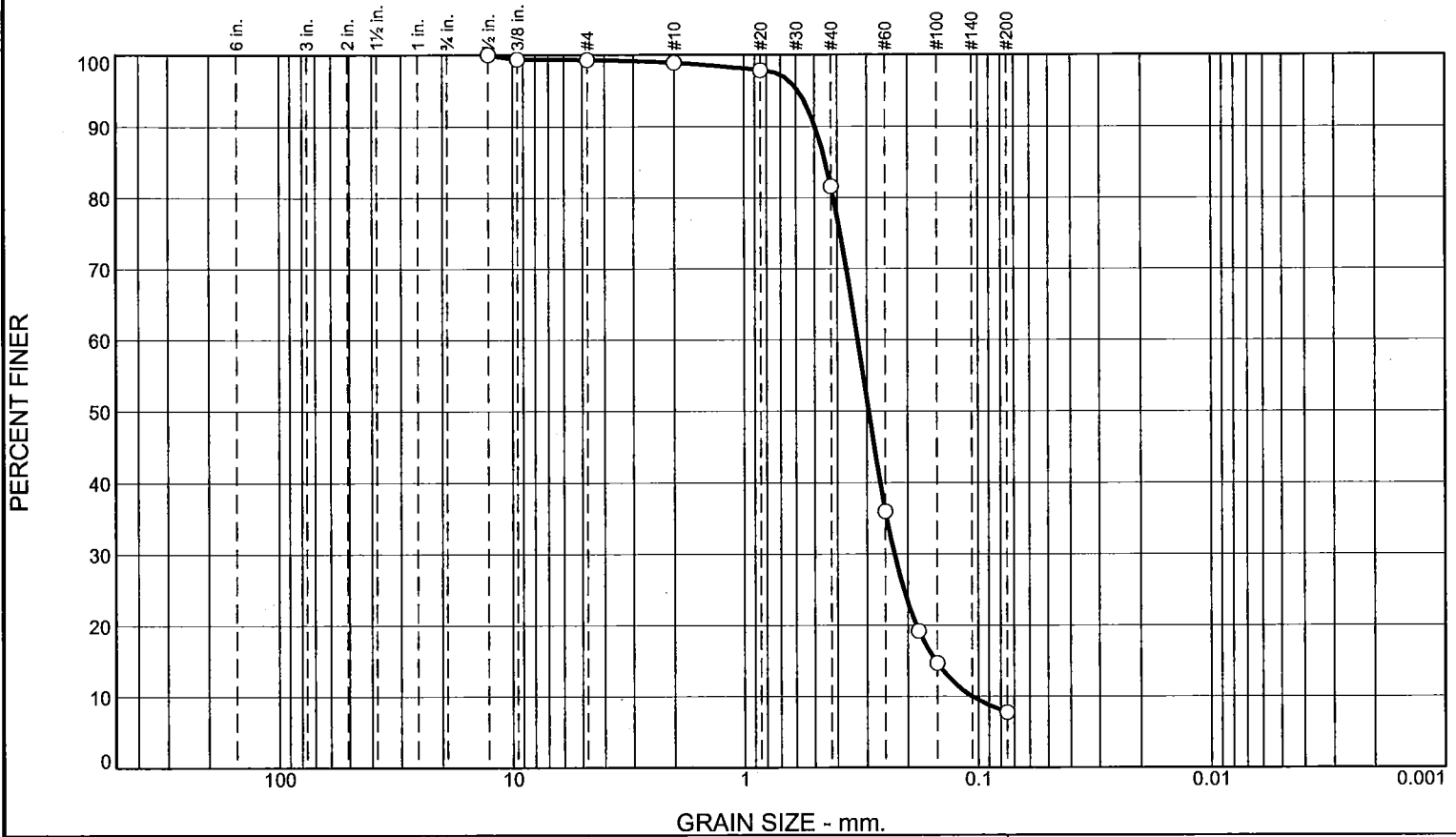


PROJECT NAME: Dynegy CCR Ph 3/7- Havana
 PROJECT LOCATION: Havana, IL

PROJECT NUMBER: 15-391T
 DATE: 9/28/2015

Boring Number	Sample Number	Depth or Elevation	Description	Natural Moisture (%)	Dry Unit Weight (pcf)	Atterberg Limits			USCS / Visual - Manual	% Passing No. 200	Unconfined Compression PSF	%e	% Swell	Material Description per Methodology
						LL	PL	PI						
EP-8C	ST-1	3.5'-5' Upper Portion	Brown silty sand	17.4					SM	24.7				ASTM D2488
EP-8C	ST-1	3.5'-5' Middle Portion	Dark gray sandy LEAN CLAY	12.8		30	15	15	CL	60.8				ASTM D2487
EP-8C	ST-1	3.5'-5' Lower Portion	Brown silty sand	12.2					SM	17.6				ASTM D2488
EP-8C	SPT-1	8.5'-10'	Brown silty sand	9.1					SM	19.0				ASTM D2488
EP-8C	ST-2	13.5'-15'	Brown poorly graded sand with silt	6.9					SP-SM	6.7				ASTM D2488
EP-8C	SPT-2	18.5'-20'	Brown silty sand	9.5					SM	27.7				ASTM D2488
EP-8C	ST-3	23.5'-25' Upper Portion	Brown poorly graded sand with silt	11.5					SP-SM	8.5				ASTM D2488
EP-8C	ST-3	23.5'-25' Lower Portion	Dark brown silty sand	9.7					SM	26.7				ASTM D2488
EP-8C	ST-4	33.5'-35'	Brown poorly graded sand						SP	3.1				ASTM D2488
EP-8C	SPT-4	38.5'-40'	Brown poorly graded sand						SP	3.1				ASTM D2488

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.7	0.4	17.3	73.8	7.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.5	100.0		
.375	99.4		
#4	99.3		
#10	98.9		
#20	97.9		
#40	81.6		
#60	36.0		
#80	19.2		
#100	14.7		
#200	7.8		

Material Description

Brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.4974 D₈₅= 0.4489 D₆₀= 0.3286
D₅₀= 0.2952 D₃₀= 0.2287 D₁₅= 0.1525
D₁₀= 0.1064 C_u= 3.09 C_c= 1.50

Classification

USCS= AASHTO=

Remarks

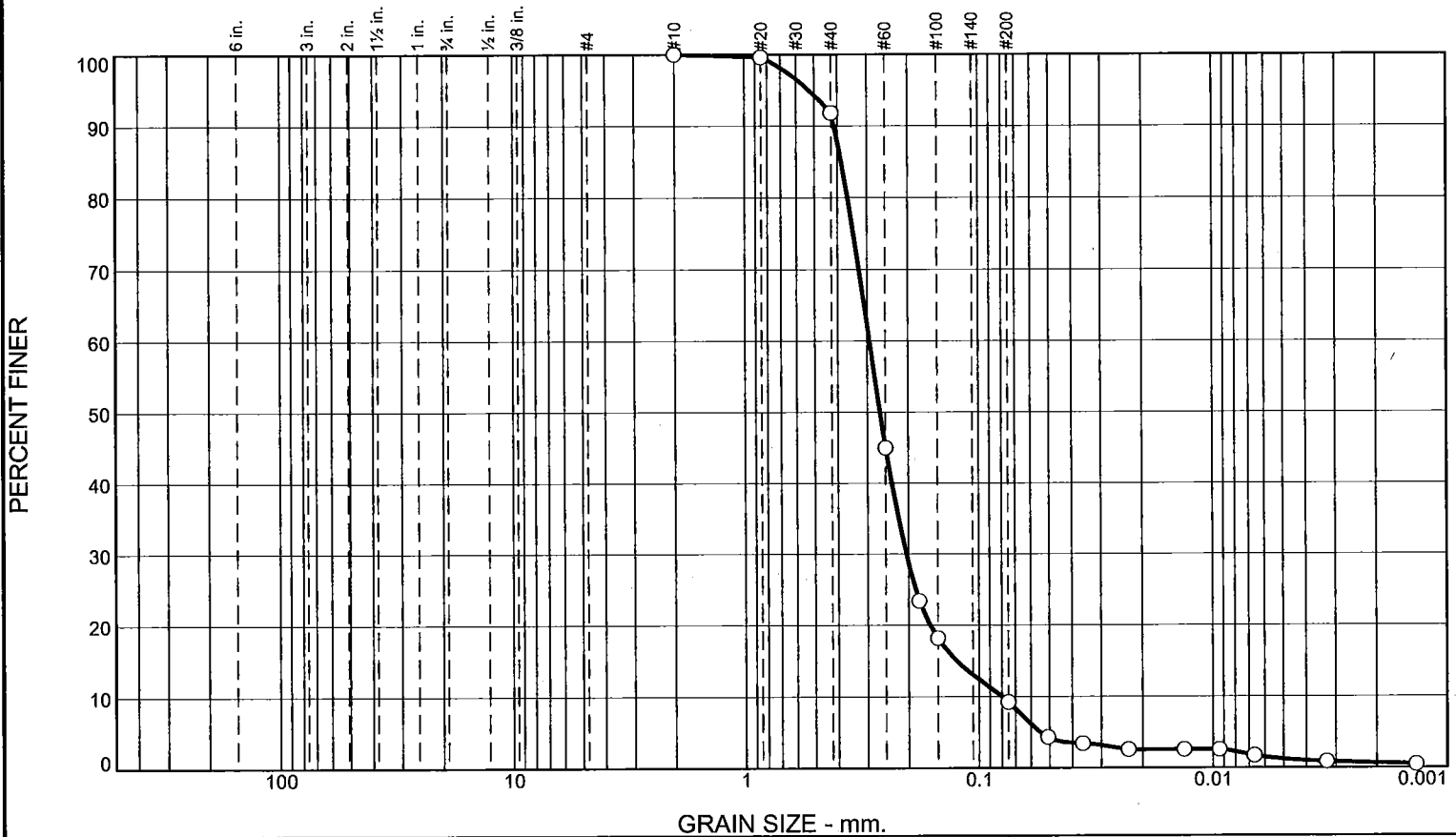
* (no specification provided)

Sample Number: EP-1C ST-1 Depth: 6'-7.5' Date: 10/20/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM Project: Dynege CCR Ph 3/7 - Havana Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	8.2	82.6	8.0	1.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.7		
#40	91.8		
#60	45.0		
#80	23.4		
#100	18.2		
#200	9.2		

Material Description

Brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.4127 D₈₅= 0.3851 D₆₀= 0.2933
D₅₀= 0.2643 D₃₀= 0.2048 D₁₅= 0.1245
D₁₀= 0.0799 C_u= 3.67 C_c= 1.79

Classification

USCS= AASHTO=

Remarks

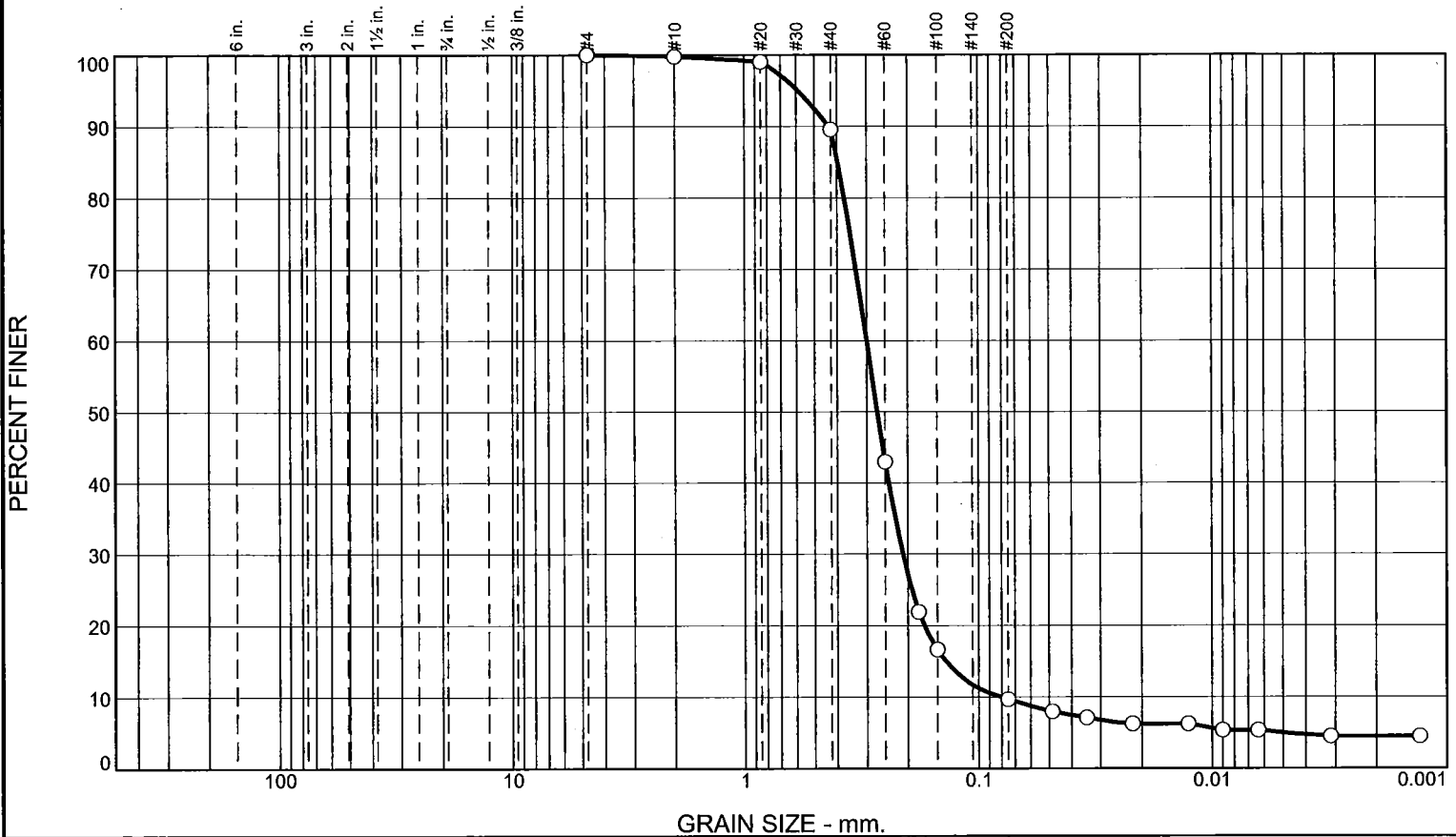
* (no specification provided)

Sample Number: EP-1C SPT-1 Depth: 11'-12.5' Date: 10/16/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM Project: Dynegy CCR Ph 3/7 - Havana Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.3	10.2	79.8	4.7	5.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.7		
#20	99.0		
#40	89.5		
#60	42.9		
#80	21.9		
#100	16.6		
#200	9.7		

Material Description

Brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.4352 D₈₅= 0.3972 D₆₀= 0.3003
D₅₀= 0.2705 D₃₀= 0.2104 D₁₅= 0.1379
D₁₀= 0.0807 C_u= 3.72 C_c= 1.83

Classification

USCS= AASHTO=

Remarks

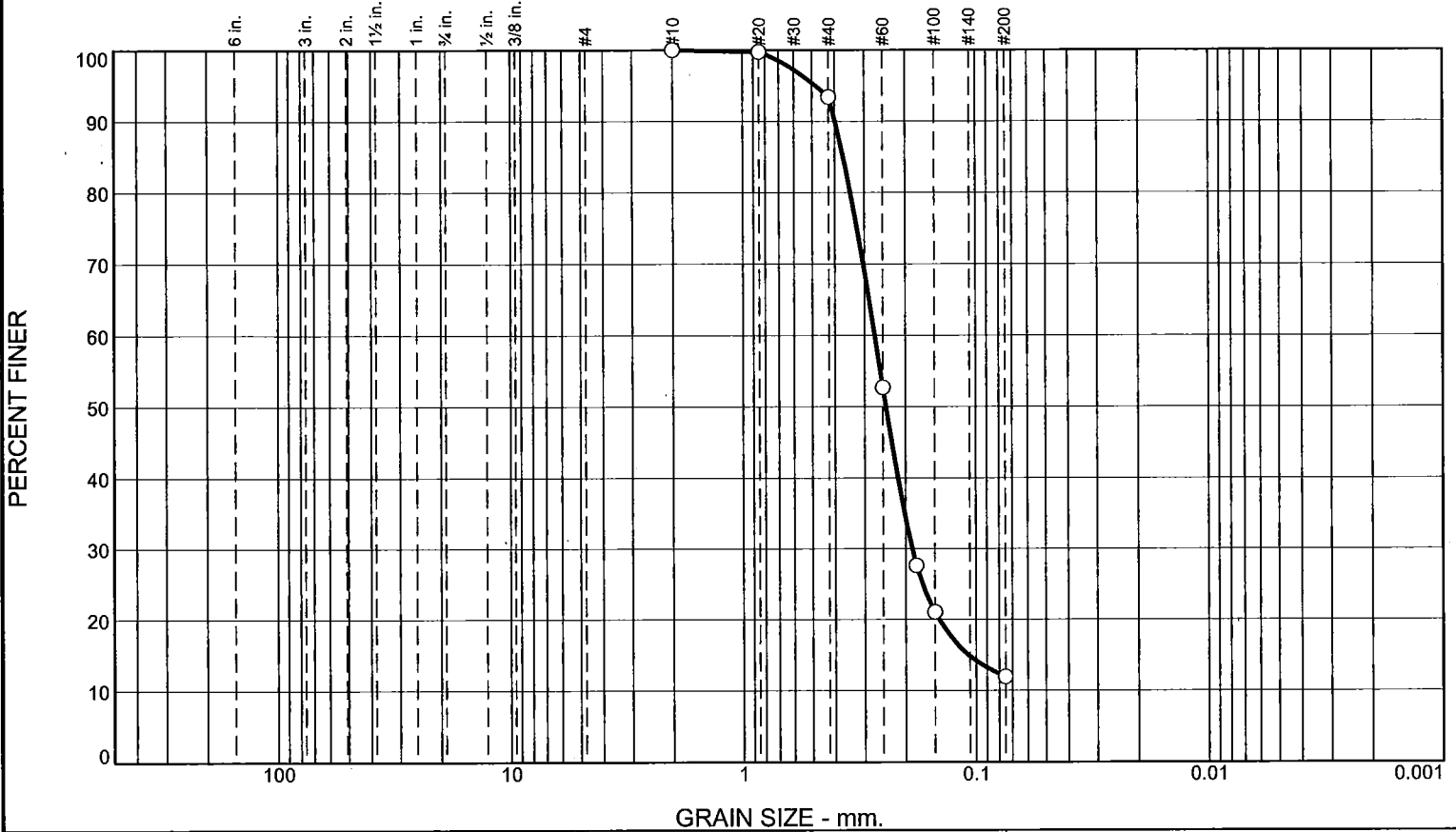
* (no specification provided)

Sample Number: EP-1C ST-2 Depth: 16'-17.5' Date: 10/24/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>	<p>Figure 1 of 1</p>
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Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	6.6	81.5	11.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.7		
#40	93.4		
#60	52.7		
#80	27.6		
#100	21.0		
#200	11.9		

Material Description

Brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3984 D₈₅= 0.3681 D₆₀= 0.2713
D₅₀= 0.2427 D₃₀= 0.1878 D₁₅= 0.1079
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

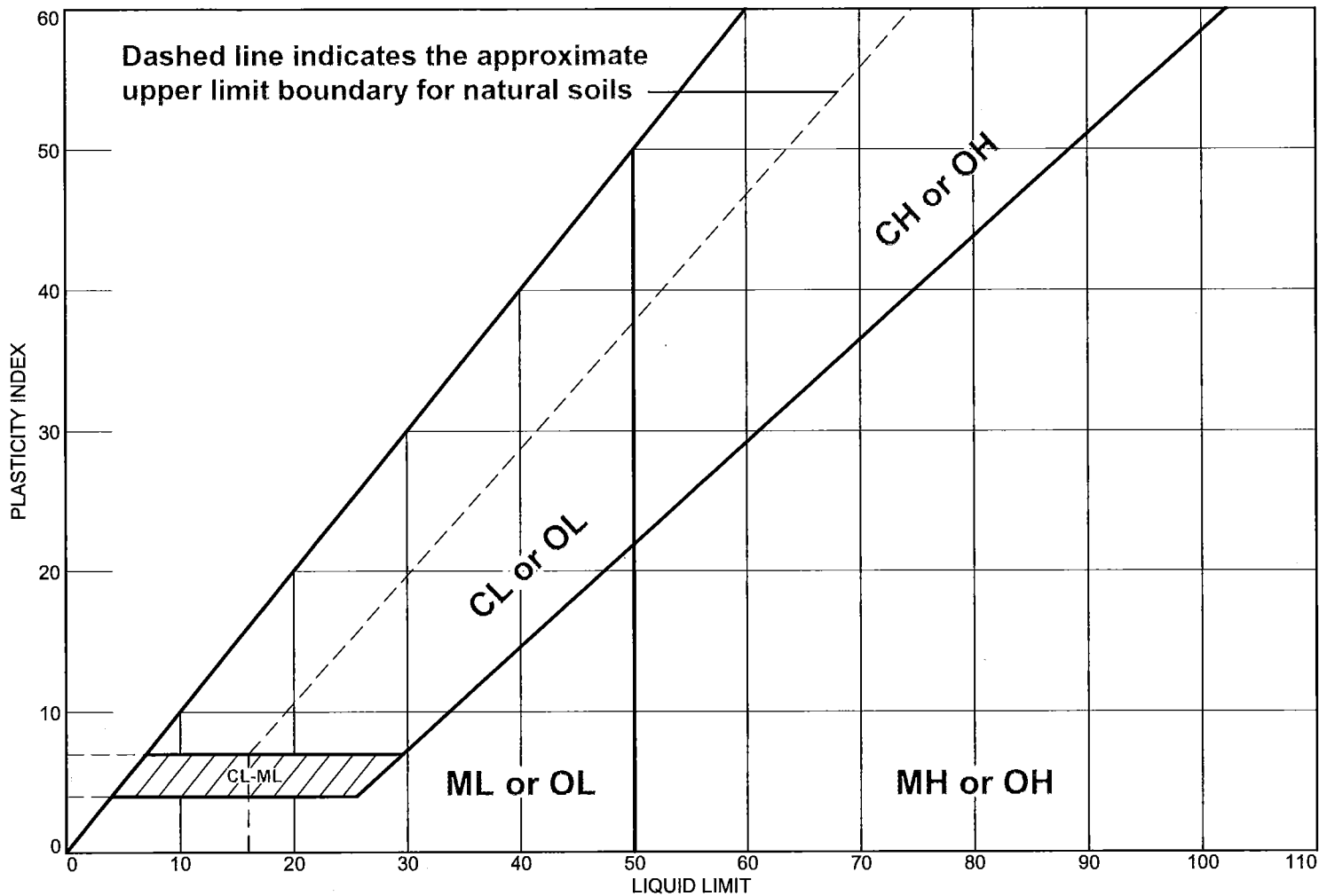
Sample Number: EP-1C SPT-2 Depth: 21'-22.5'

Date: 10/15/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM Project: Dynege CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>	<p>Figure 1 of 1</p>
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Tested By: DB Checked By: TB

LIQUID AND PLASTIC LIMITS TEST REPORT



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● Brown and dark brown silty sand	NV	NP	NP	93.5	20.4	SM

Project No. 15-391T **Client:** AECOM
Project: Dynege CCR Ph 3/7 - Havana

● Depth: 26'-27.5' **Sample Number:** EP-1C ST-3

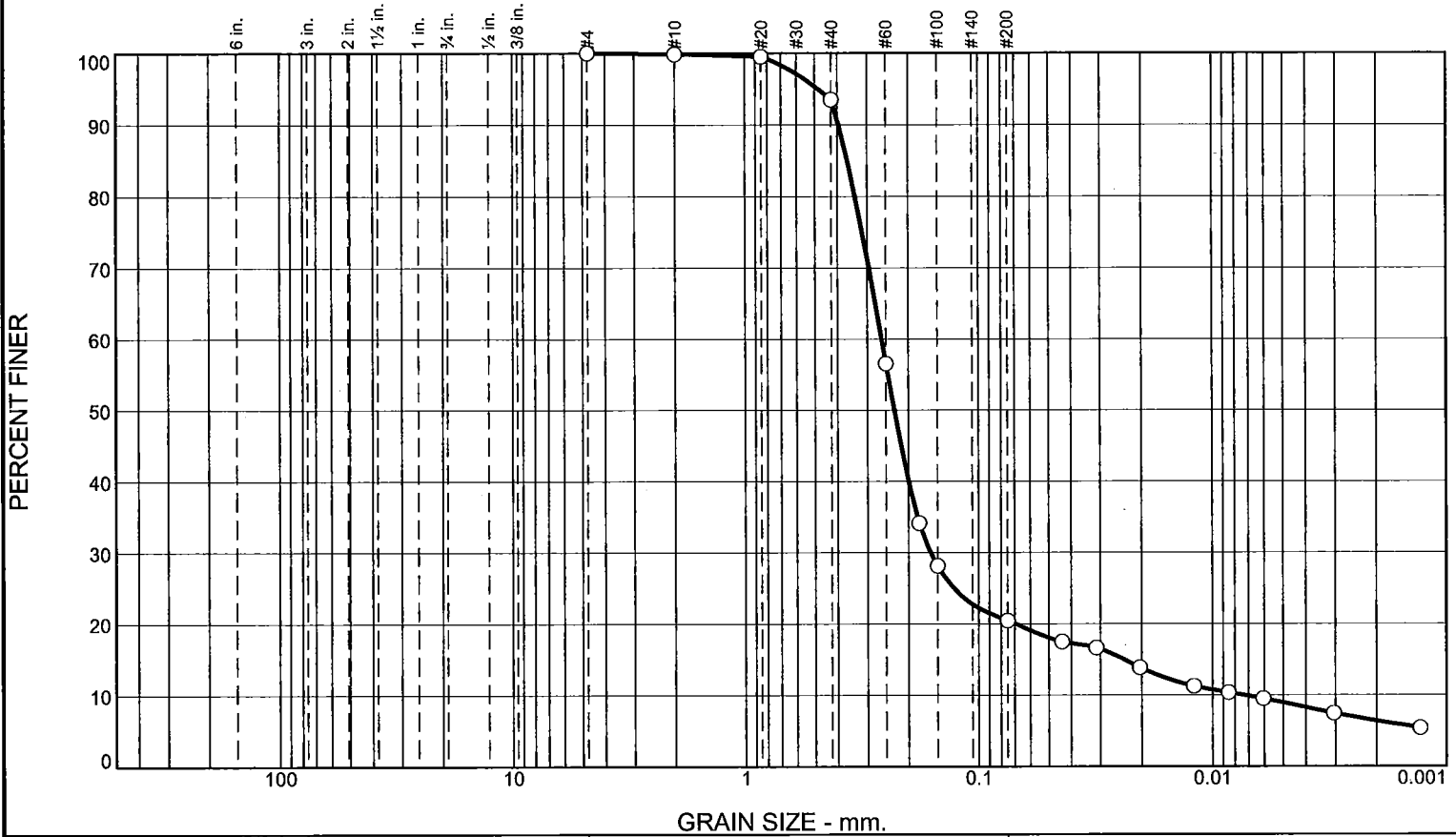
Remarks:



Figure 1 of 1

Tested By: D.B. **Checked By:** T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	6.4	73.1	11.5	8.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.5		
#40	93.5		
#60	56.5		
#80	34.1		
#100	28.1		
#200	20.4		

Material Description

Brown and dark brown silty sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D₉₀= 0.3954 D₈₅= 0.3633 D₆₀= 0.2610
 D₅₀= 0.2302 D₃₀= 0.1610 D₁₅= 0.0239
 D₁₀= 0.0074 C_u= 35.39 C_c= 13.47

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

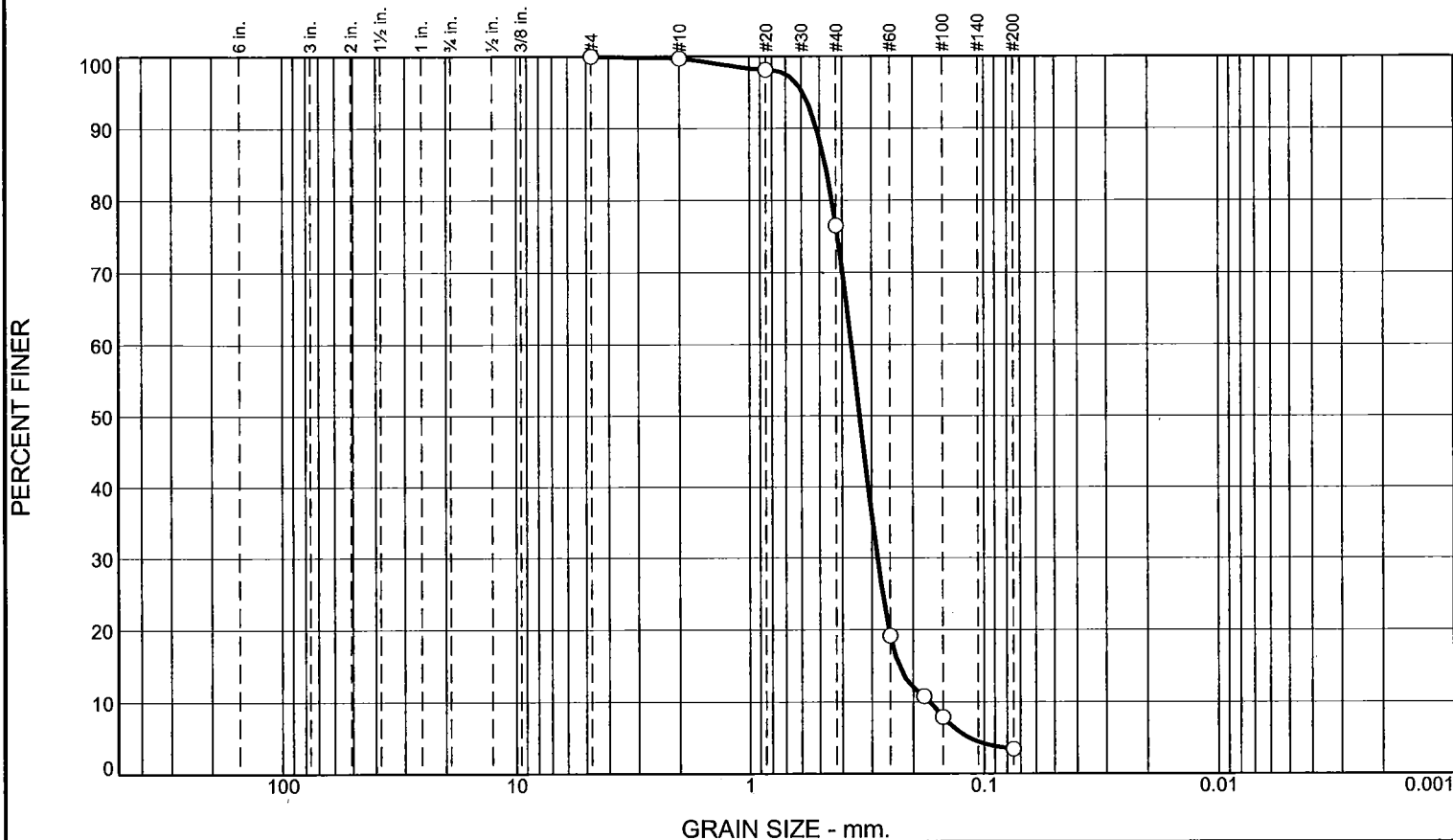
* (no specification provided)

Sample Number: EP-1C ST-3 Depth: 26'-27.5' Date: 10/202015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM Project: Dynege CCR Ph 3/7 - Havana Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.3	23.2	73.1	3.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.7		
#20	98.1		
#40	76.5		
#60	19.2		
#80	10.8		
#100	7.9		
#200	3.4		

Material Description

Brown poorly graded sand

PL= **Atterberg Limits** LL= PI=

Coefficients

D₉₀= 0.5156 D₈₅= 0.4726 D₆₀= 0.3657
D₅₀= 0.3372 D₃₀= 0.2840 D₁₅= 0.2297
D₁₀= 0.1705 C_u= 2.14 C_c= 1.29

USCS= **Classification** AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-1C SPT-4

Depth: 41'-42.5'

Date: 10/15/2015



ALPHA-OMEGA GEOTECH

Client: AECOM

Project: Dynegy CCR Ph 3/7 - Havana

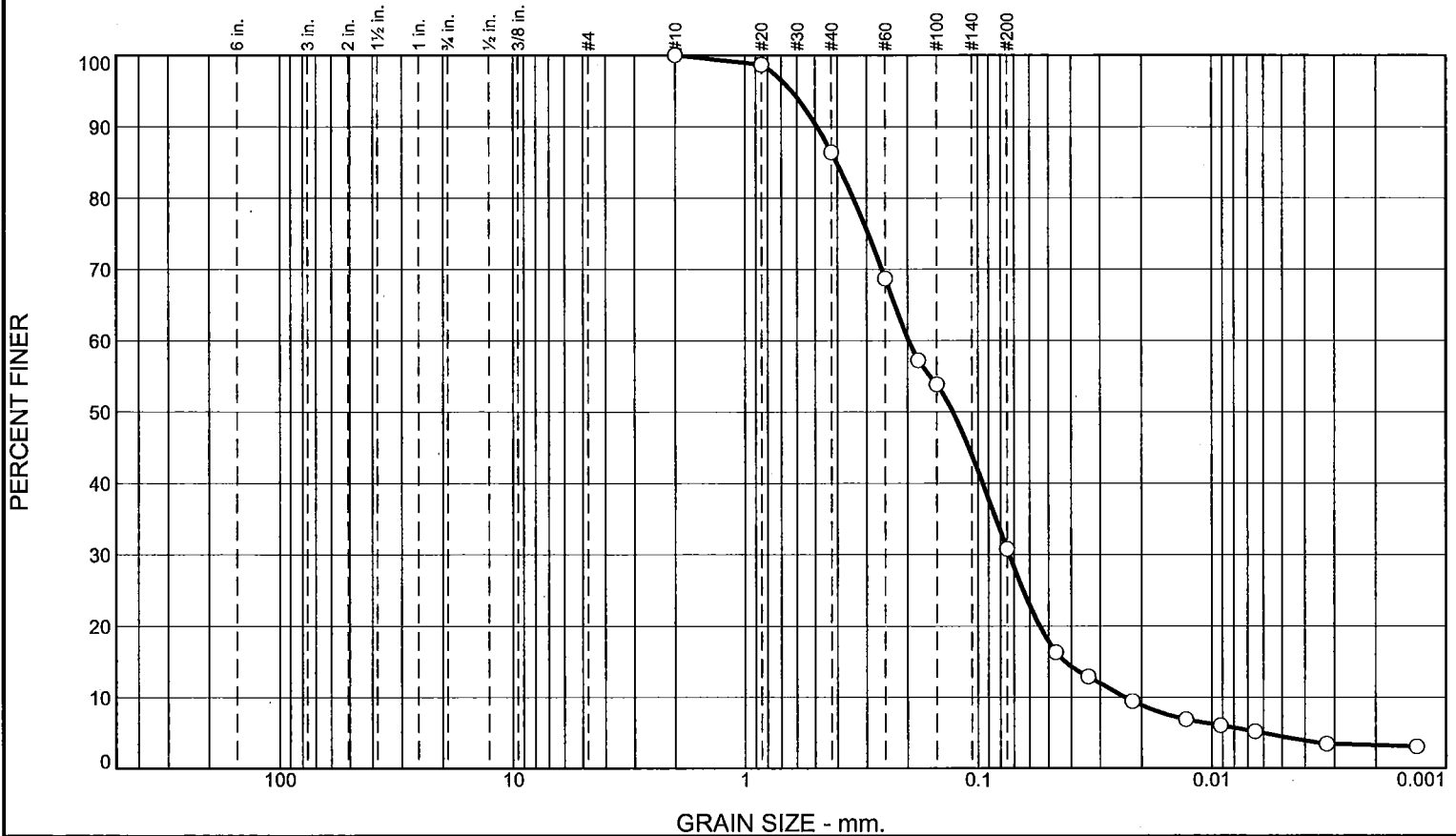
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	13.6	55.6	26.4	4.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	98.7		
#40	86.4		
#60	68.7		
#80	57.2		
#100	53.8		
#200	30.8		

Material Description

Brown silty sand

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= 0.4902 D₈₅= 0.4035 D₆₀= 0.1985
 D₅₀= 0.1280 D₃₀= 0.0735 D₁₅= 0.0425
 D₁₀= 0.0236 C_u= 8.42 C_c= 1.15

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

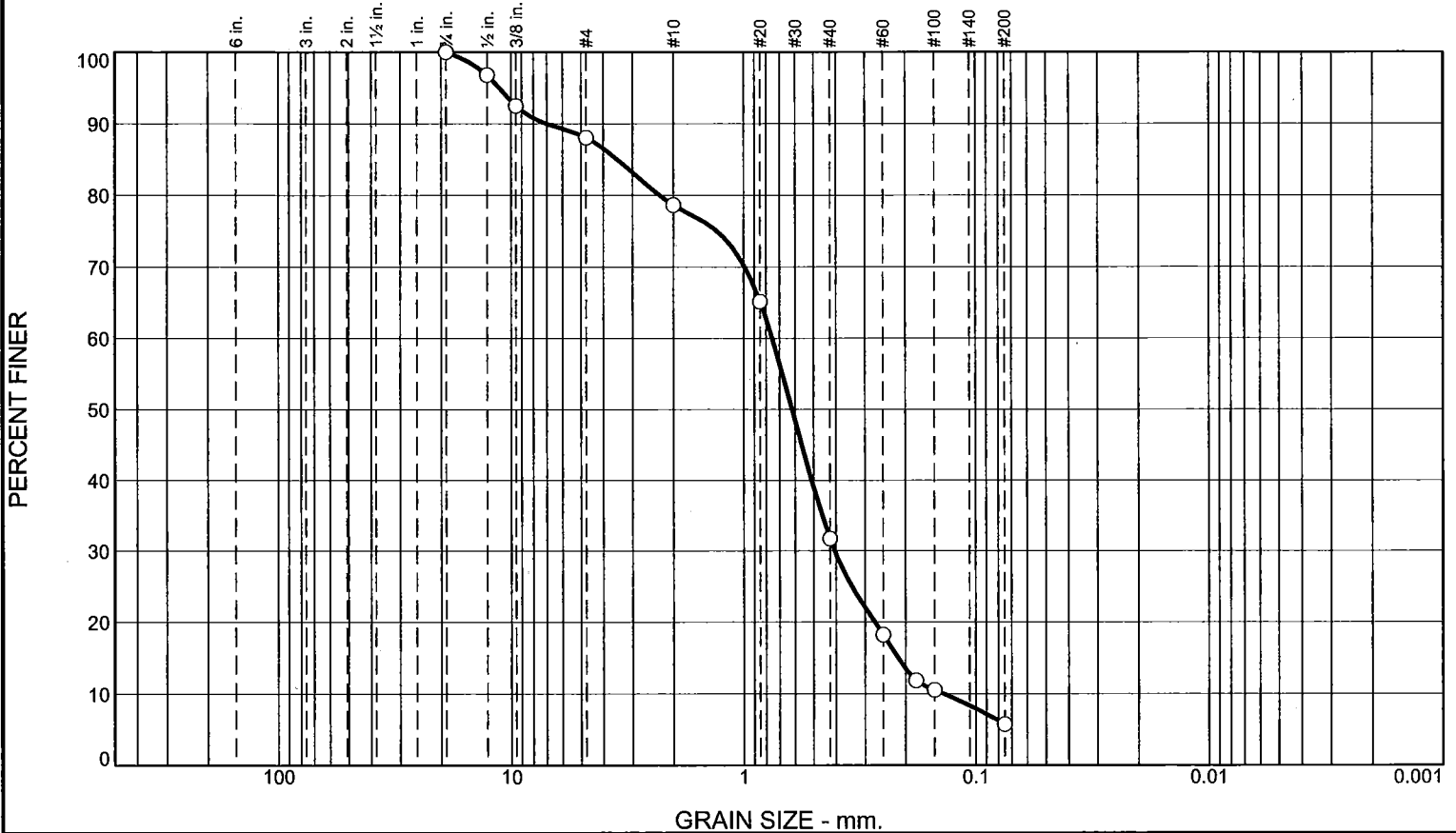
Sample Number: EP-1C SPT-6 Depth: 51'-52.5'

Date: 10/15/2015

 ALPHA-OMEGA GEOTECH	Client: AECOM Project: Dynegy CCR Ph 3/7 - Havana Project No: 15-391T	Figure 1 of 1
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Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	12.0	9.4	46.9	26.0	5.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.5	96.8		
.375	92.5		
#4	88.0		
#10	78.6		
#20	65.1		
#40	31.7		
#60	18.2		
#80	11.8		
#100	10.5		
#200	5.7		

Material Description

Brown poorly graded sand

PL=	Atterberg Limits	PI=
	LL=	

Coefficients		
D ₉₀ = 7.0628	D ₈₅ = 3.4809	D ₆₀ = 0.7535
D ₅₀ = 0.6183	D ₃₀ = 0.4053	D ₁₅ = 0.2158
D ₁₀ = 0.1371	C _u = 5.50	C _c = 1.59

USCS=	Classification	AASHTO=
	Remarks	

* (no specification provided)

Sample Number: EP-1C SPT-7

Depth: 56'-57.5'

Date: 10/15/2015



ALPHA-OMEGA GEOTECH

Client: AECOM

Project: Dynegy CCR Ph 3/7 - Havana

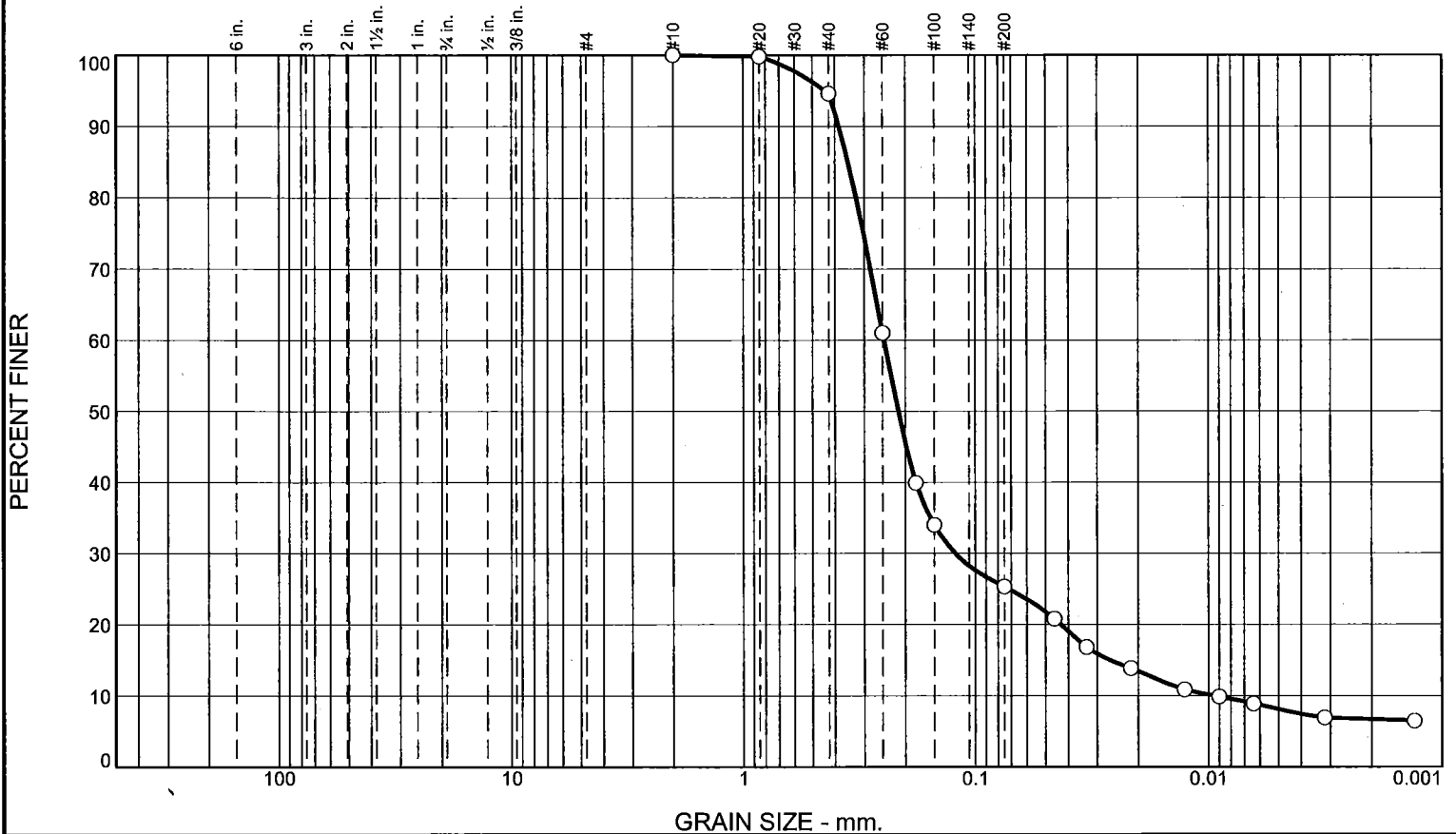
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	5.4	69.3	17.2	8.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.8		
#40	94.6		
#60	61.0		
#80	39.9		
#100	34.0		
#200	25.3		

Material Description

Dark brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3840 D₈₅= 0.3515 D₆₀= 0.2467
D₅₀= 0.2146 D₃₀= 0.1218 D₁₅= 0.0265
D₁₀= 0.0094 C_u= 26.24 C_c= 6.40

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-1T SPT-1

Depth: 3.5'-5'

Date: 10/22/2015



ALPHA-OMEGA GEOTECH

Client: AECOM

Project: Dynegy CCR Ph 3/7 - Havana

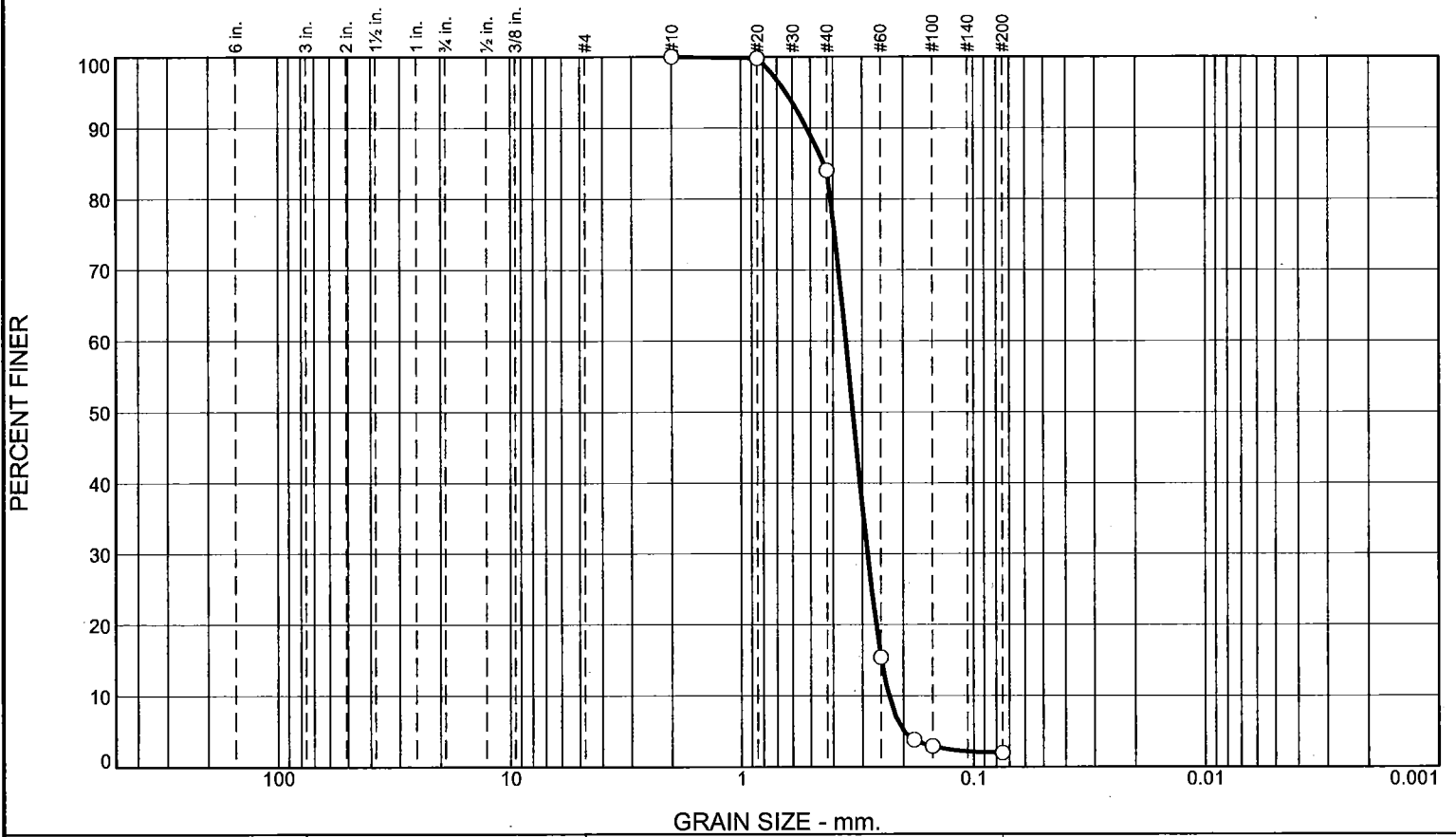
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	16.0	82.0	2.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.8		
#40	84.0		
#60	15.4		
#80	3.8		
#100	2.9		
#200	2.0		

Material Description

Brown poorly graded sand

PL=	Atterberg Limits LL=	PI=
Coefficients		
D ₉₀ = 0.5189	D ₈₅ = 0.4380	D ₆₀ = 0.3525
D ₅₀ = 0.3293	D ₃₀ = 0.2857	D ₁₅ = 0.2488
D ₁₀ = 0.2312	C _u = 1.52	C _c = 1.00
Classification		
USCS=	AASHTO=	
Remarks		

* (no specification provided)

Sample Number: EP-1T SPT-3

Depth: 13.5'-15'

Date: 10/15/2015



ALPHA-OMEGA GEOTECH

Client: AECOM

Project: Dynegy CCR Ph 3/7 - Havana

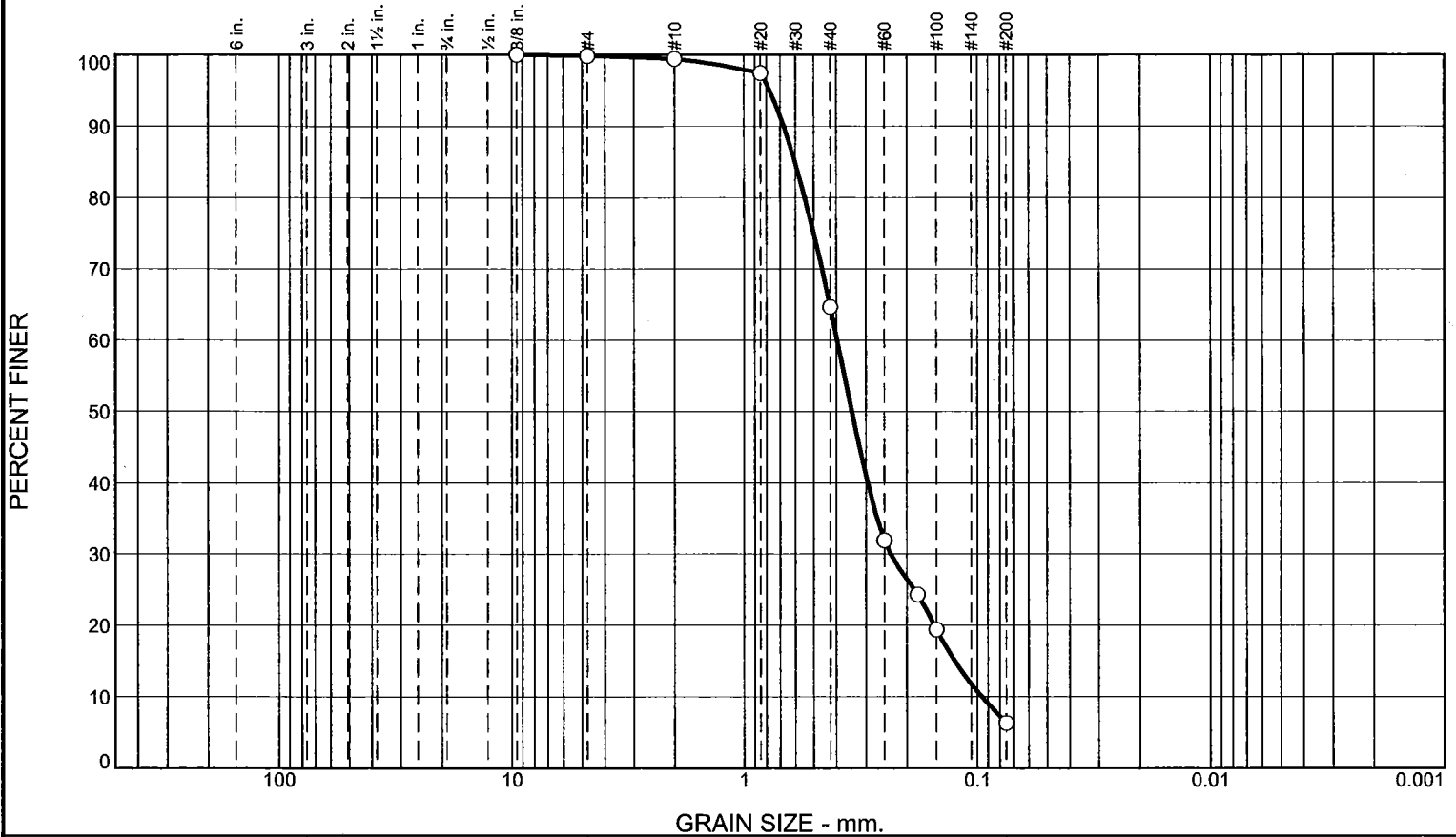
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.5	34.8	58.3	6.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.9		
#10	99.4		
#20	97.4		
#40	64.6		
#60	31.9		
#80	24.3		
#100	19.4		
#200	6.3		

Material Description

Brown poorly graded sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.6738 D₈₅= 0.6021 D₆₀= 0.3974
 D₅₀= 0.3447 D₃₀= 0.2356 D₁₅= 0.1253
 D₁₀= 0.0957 C_u= 4.15 C_c= 1.46

Classification

USCS= AASHTO=

Remarks

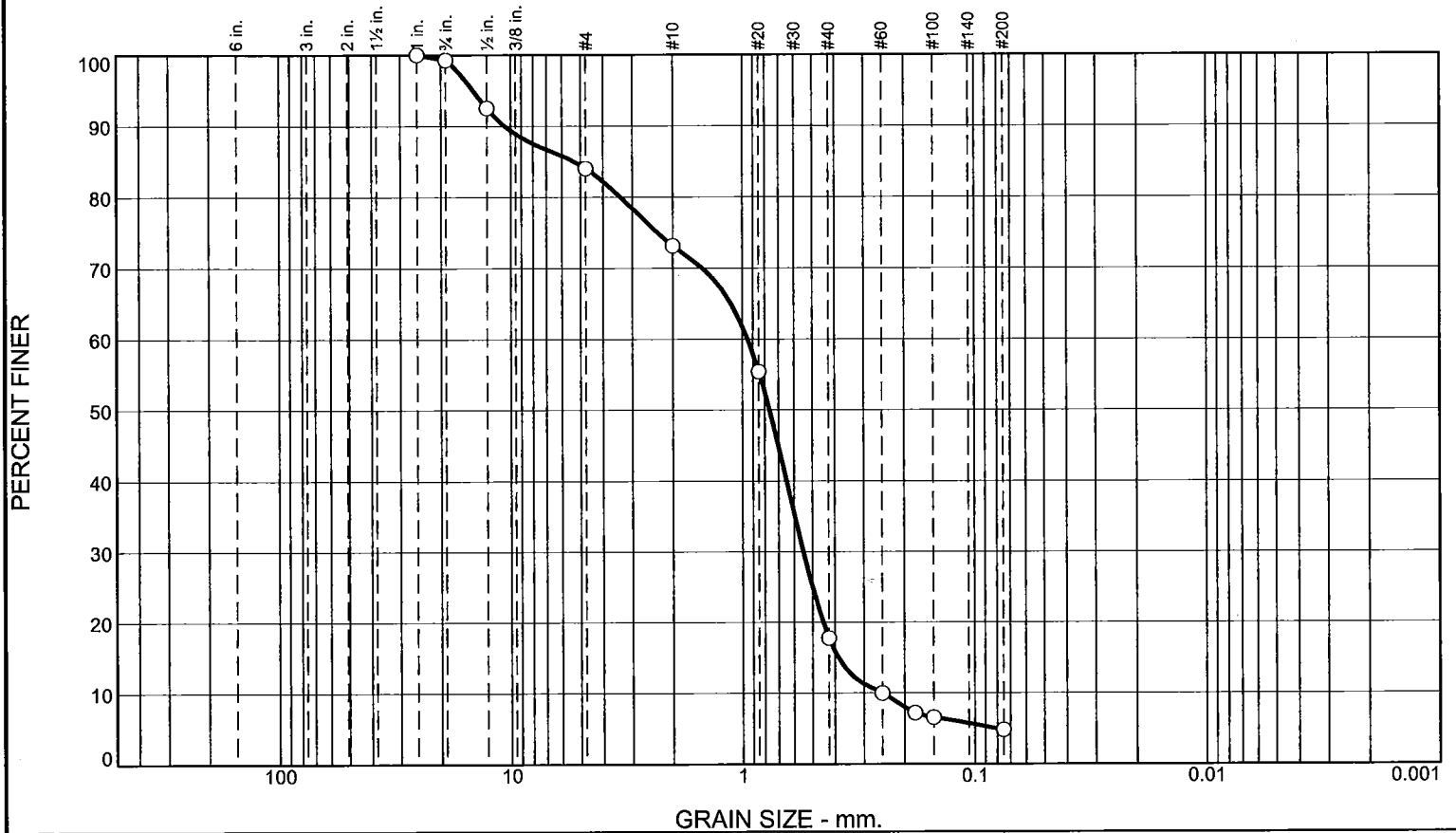
* (no specification provided)

Sample Number: EP-1T SPT-5 Depth: 23.5'-25' Date: 10/15/2015

	Client: AECOM Project: Dynege CCR Ph 3/7 - Havana	Project No: 15-391T Figure 1 of 1
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Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.7	15.3	10.9	55.4	12.9	4.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.0	100.0		
.75	99.3		
.5	92.5		
#4	84.0		
#10	73.1		
#20	55.4		
#40	17.7		
#60	10.0		
#80	7.2		
#100	6.6		
#200	4.8		

Material Description

Brown poorly graded sand with gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 10.6157 D₈₅= 5.3408 D₆₀= 0.9502
D₅₀= 0.7652 D₃₀= 0.5472 D₁₅= 0.3876
D₁₀= 0.2507 C_u= 3.79 C_c= 1.26

Classification

USCS= AASHTO=

Remarks

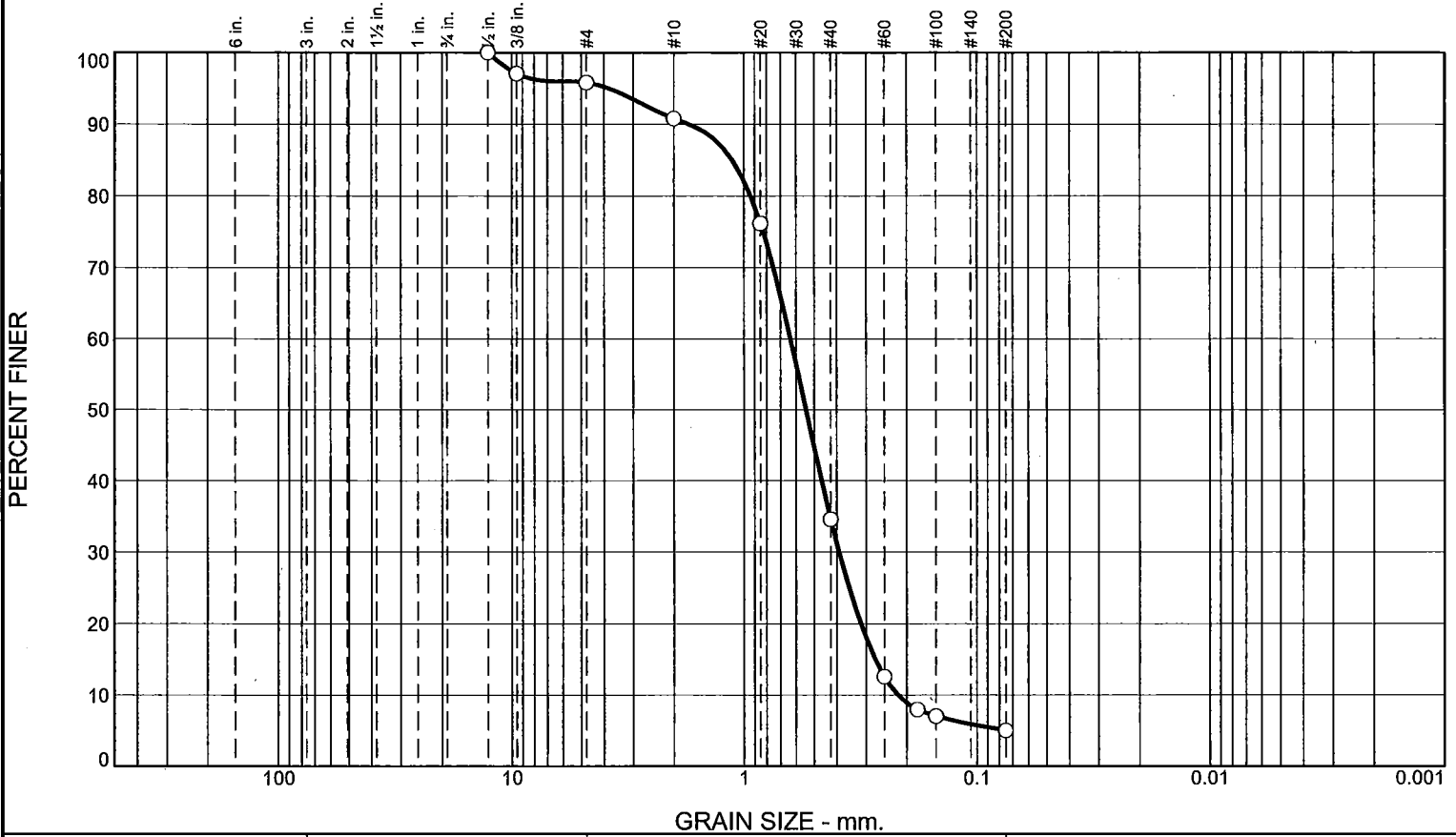
* (no specification provided)

Sample Number: EP-1T SPT-7 Depth: 33.5'-34.7' Date: 10/15/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM Project: Dynege CCR Ph 3/7 - Havana Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	4.2	5.0	56.2	29.6	5.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.5	100.0		
.375	97.1		
#4	95.8		
#10	90.8		
#20	76.2		
#40	34.6		
#60	12.6		
#80	7.9		
#100	7.0		
#200	5.0		

Material Description

Brown poorly graded sand

PL=	Atterberg Limits	PI=
	LL=	

D ₉₀ = 1.7286	Coefficients	D ₆₀ = 0.6341
D ₅₀ = 0.5433	D ₈₅ = 1.1224	D ₁₅ = 0.2739
D ₁₀ = 0.2187	D ₃₀ = 0.3916	C _c = 1.11
	C _u = 2.90	

USCS=	Classification	AASHTO=
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Remarks

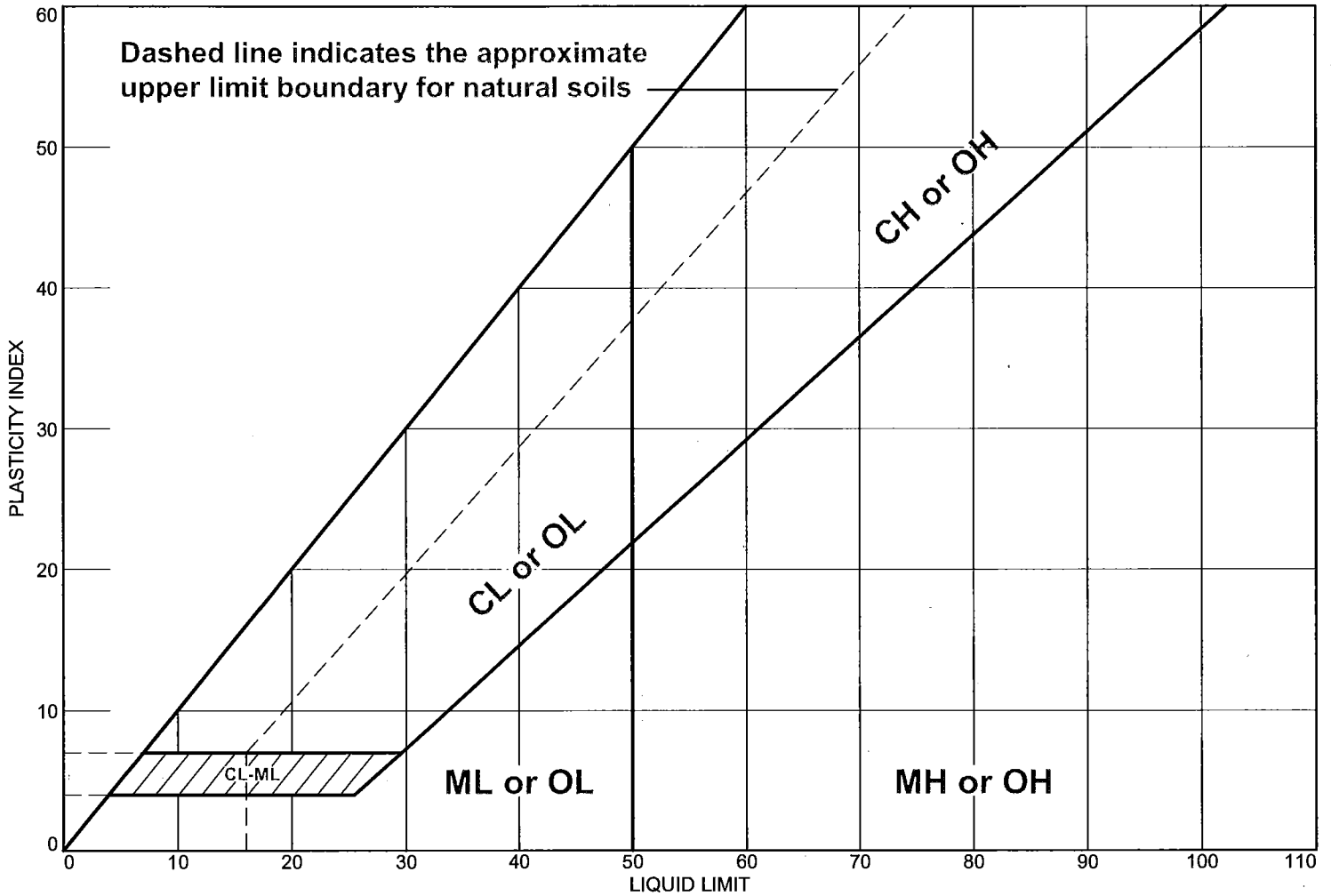
* (no specification provided)

Sample Number: EP-1T SPT-8 **Depth:** 38.5'-39.75' **Date:** 10/15/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynege CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>
<p>Figure 1 of 1</p>	

Tested By: DB **Checked By:** TB

LIQUID AND PLASTIC LIMITS TEST REPORT



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● Brown poorly graded sand with silt	NV	NP	NP	88.8	7.4	SP-SM

Project No. 15-391T **Client:** AECOM
Project: Dynege CCR Ph 3/7 - Havana
● Depth: 3.5'-5' **Sample Number:** EP-2C ST-1

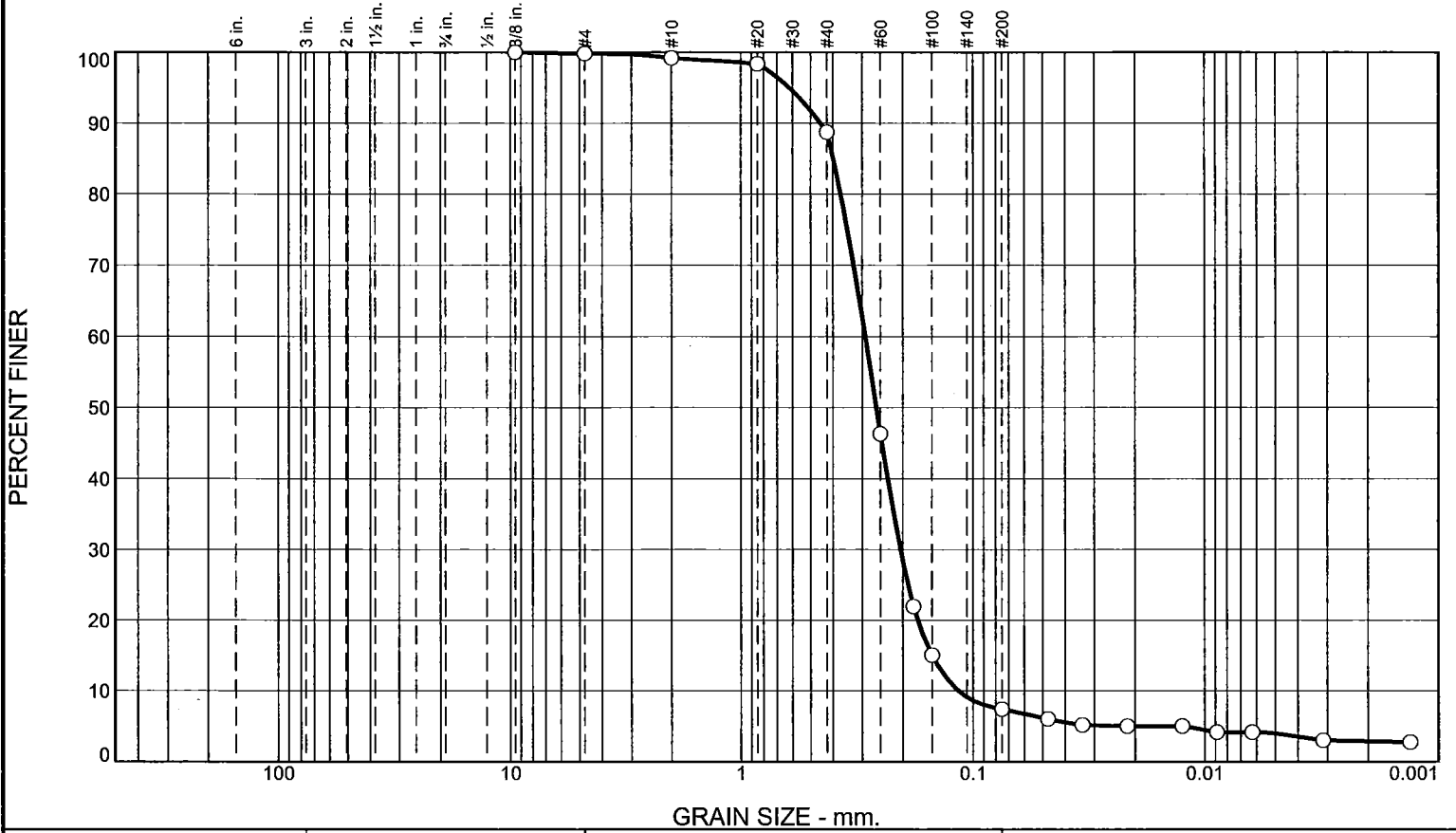
Remarks:



Figure 1 of 1

Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.7	10.4	81.4	3.5	3.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.9		
#10	99.2		
#20	98.4		
#40	88.8		
#60	46.3		
#80	21.9		
#100	15.1		
#200	7.4		

Material Description

Brown poorly graded sand with silt

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D₉₀= 0.4535 D₈₅= 0.3983 D₆₀= 0.2911
 D₅₀= 0.2606 D₃₀= 0.2049 D₁₅= 0.1497
 D₁₀= 0.1156 C_u= 2.52 C_c= 1.25

Classification

USCS= SP-SM AASHTO= A-3

Remarks

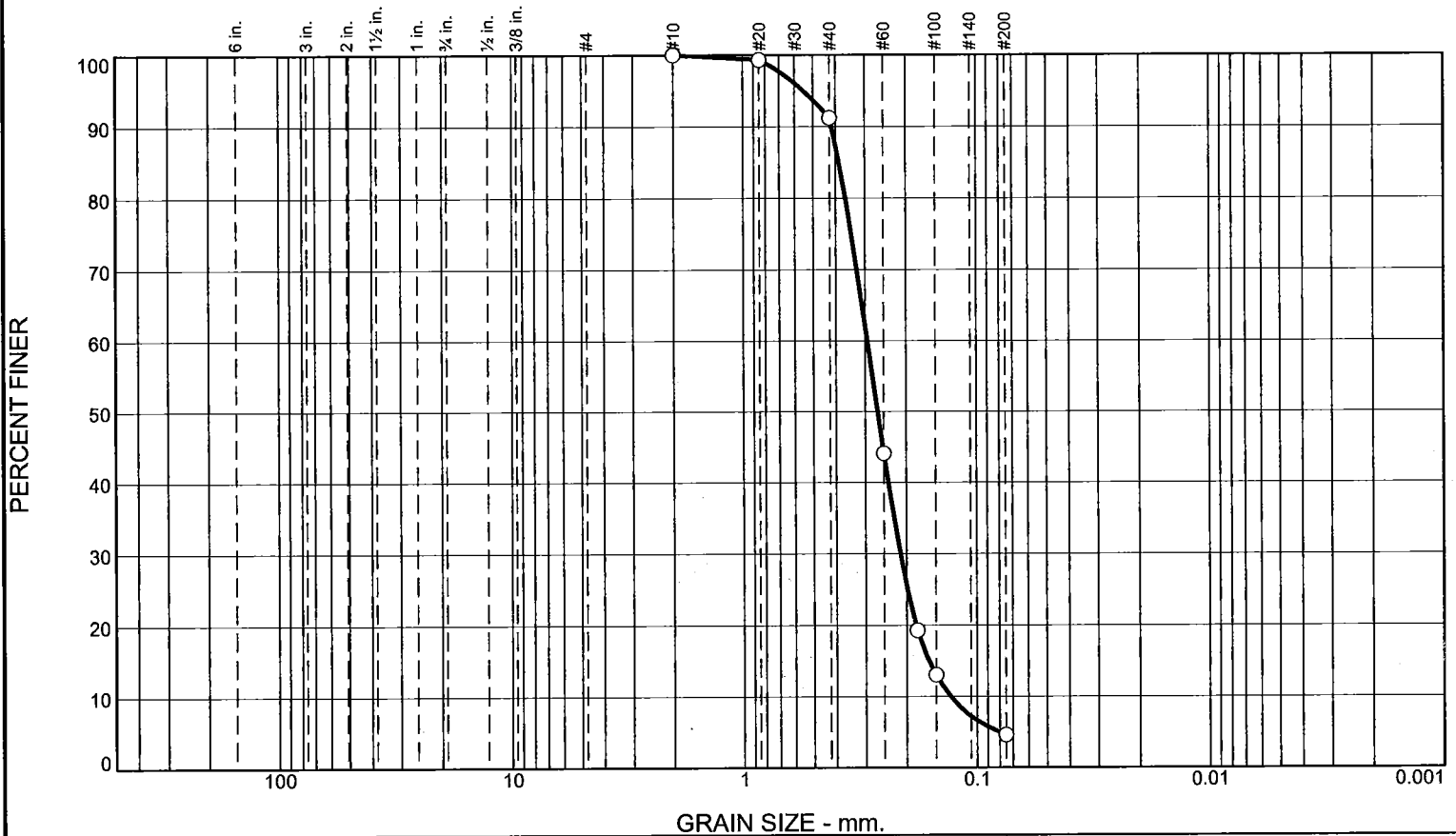
* (no specification provided)

Sample Number: EP-2C ST-1 Depth: 3.5'-5' Date: 10/20/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>	<p>Figure 1 of 1</p>
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Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	8.8	86.6	4.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.3		
#40	91.2		
#60	44.0		
#80	19.3		
#100	13.0		
#200	4.6		

Material Description
Brown poorly graded sand

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= 0.4166 D₈₅= 0.3874 D₆₀= 0.2941
 D₅₀= 0.2659 D₃₀= 0.2128 D₁₅= 0.1612
 D₁₀= 0.1298 C_u= 2.27 C_c= 1.19

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-2C ST-2

Depth: 13.5'-15'

Date: 10/21/2015



ALPHA-OMEGA GEOTECH

Client: AECOM

Project: Dynegy CCR Ph 3/7 - Havana

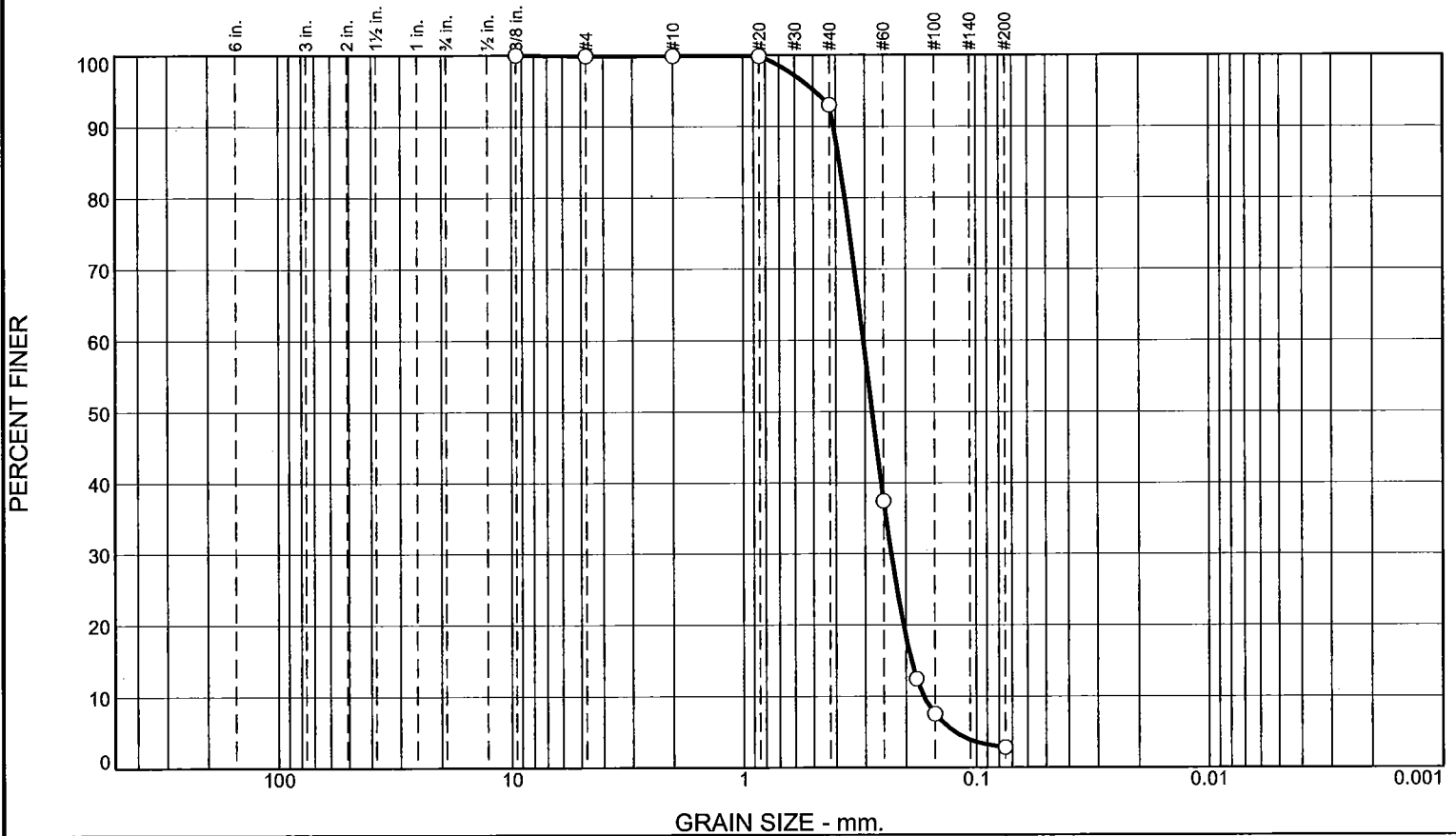
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.0	6.9	90.2	2.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.9		
#10	99.9		
#20	99.9		
#40	93.0		
#60	37.4		
#80	12.4		
#100	7.5		
#200	2.8		

Material Description

Brown poorly graded sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.4081 D₈₅= 0.3849 D₆₀= 0.3052
D₅₀= 0.2801 D₃₀= 0.2319 D₁₅= 0.1898
D₁₀= 0.1680 C_u= 1.82 C_c= 1.05

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-2C ST-3

Depth: 23.5'-25'

Date: 10/21/2015



ALPHA-OMEGA GEOTECH

Client: AECOM

Project: Dynegy CCR Ph 3/7 - Havana

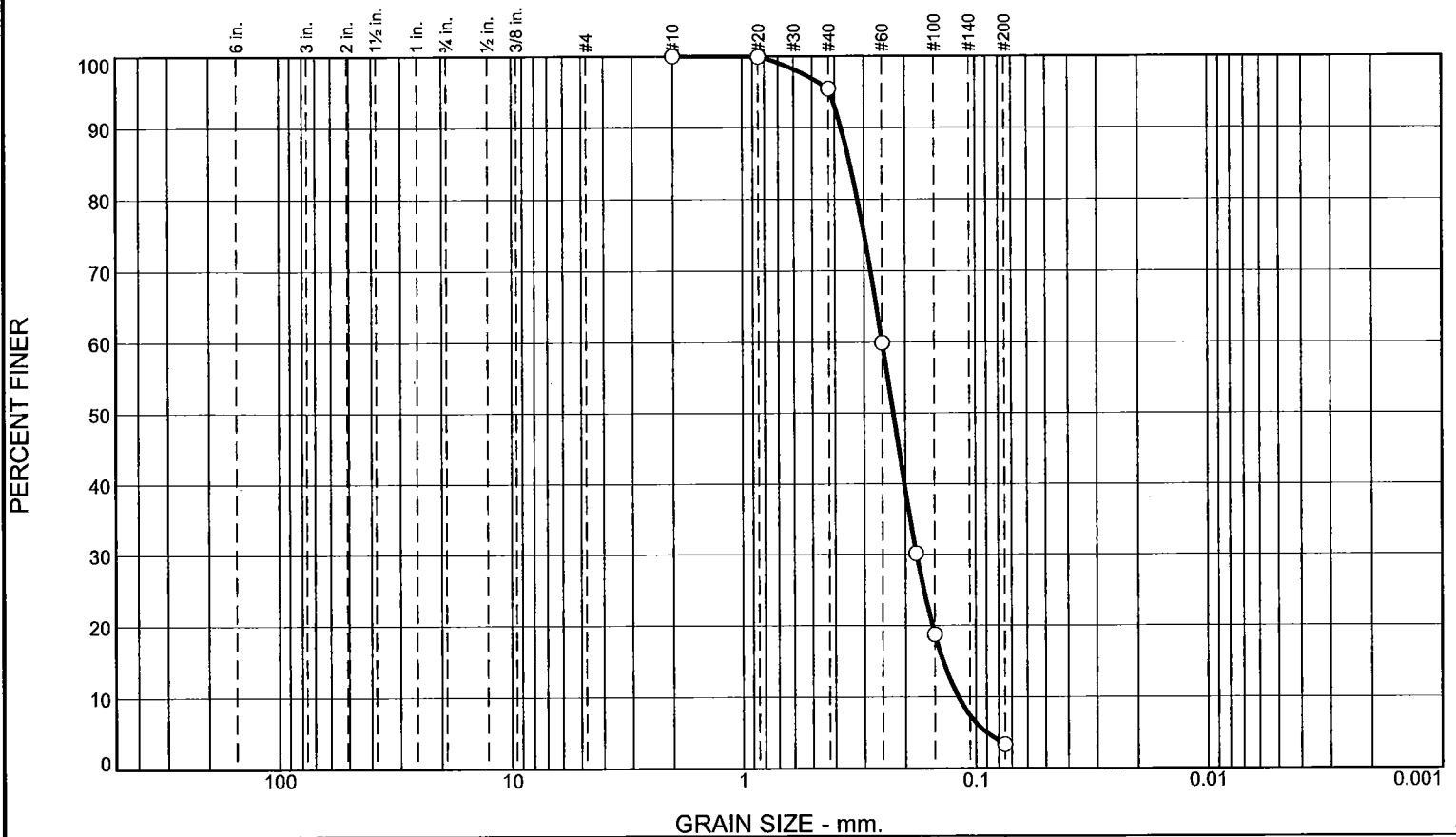
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	4.6	92.1	3.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#40	95.4		
#60	59.9		
#80	30.1		
#100	18.7		
#200	3.3		

Material Description

Brown poorly graded sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3759 D₈₅= 0.3446 D₆₀= 0.2503
D₅₀= 0.2251 D₃₀= 0.1797 D₁₅= 0.1382
D₁₀= 0.1191 C_u= 2.10 C_c= 1.08

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-2C ST-4 **Depth:** 33.5'-35'

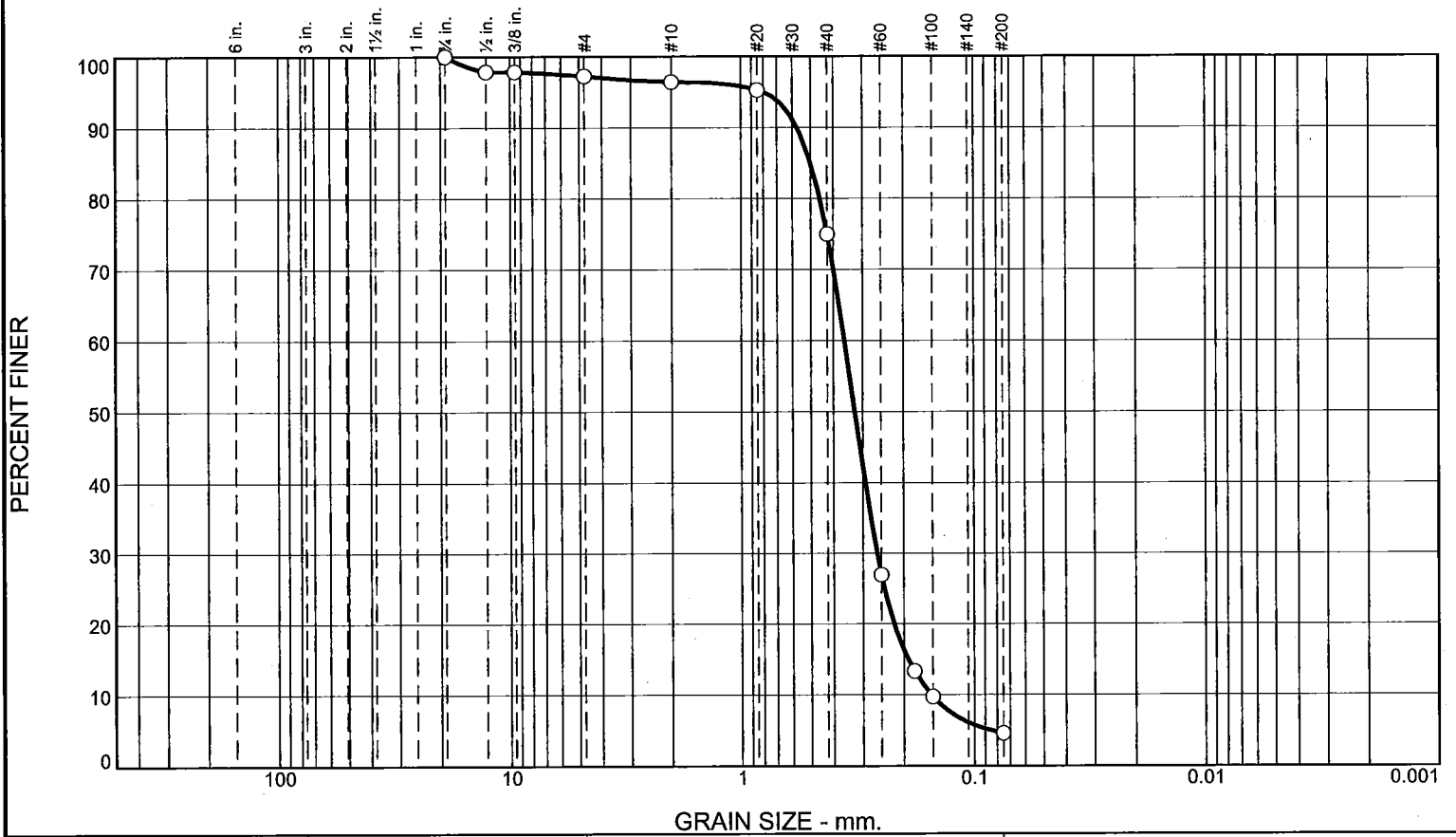
Date: 10/21/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>	<p>Figure 1 of 1</p>
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Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.7	0.9	21.5	70.3	4.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.5	97.9		
.375	97.9		
#4	97.3		
#10	96.4		
#20	95.3		
#40	74.9		
#60	26.9		
#80	13.3		
#100	9.7		
#200	4.6		

Material Description

Light brown poorly graded sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.5727 D₈₅= 0.5016 D₆₀= 0.3589
D₅₀= 0.3245 D₃₀= 0.2608 D₁₅= 0.1922
D₁₀= 0.1525 C_u= 2.35 C_c= 1.24

Classification

USCS= AASHTO=

Remarks

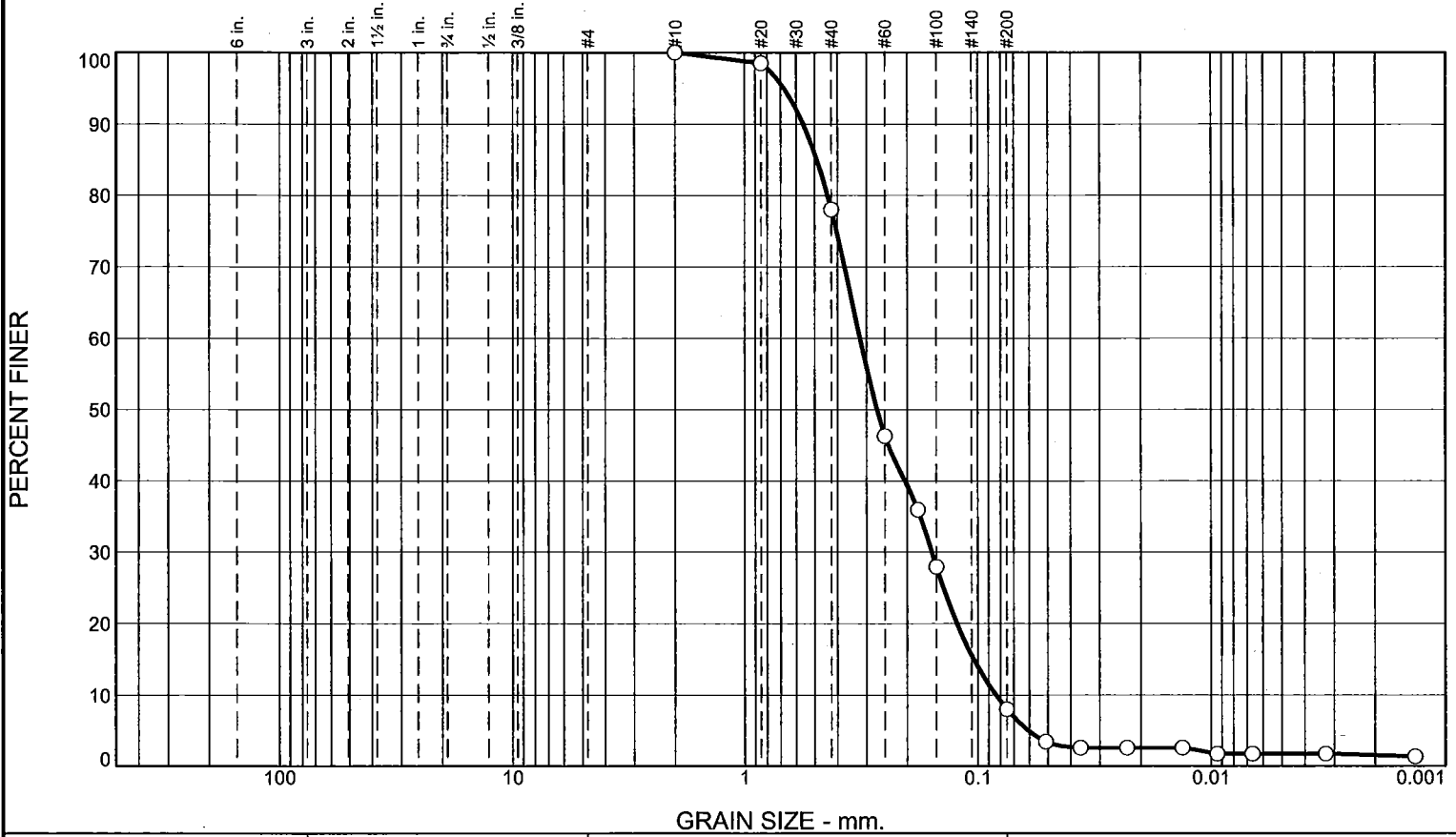
* (no specification provided)

Sample Number: EP-2C SPT-4 **Depth:** 38.5'-40' **Date:** 10/15/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM Project: Dynegy CCR Ph 3/7 - Havana Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: DB **Checked By:** TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	22.0	70.0	6.3	1.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	98.5		
#40	78.0		
#60	46.3		
#80	35.9		
#100	27.9		
#200	8.0		

Material Description

Brown poorly graded sand with silt

PL=	Atterberg Limits LL=	PI=
-----	--------------------------------	-----

D ₉₀ = 0.5591	Coefficients D ₈₅ = 0.4897	D ₆₀ = 0.3203
D ₅₀ = 0.2708	D ₃₀ = 0.1571	D ₁₅ = 0.1039
D ₁₀ = 0.0837	C _u = 3.83	C _c = 0.92

USCS=	Classification AASHTO=	
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Remarks

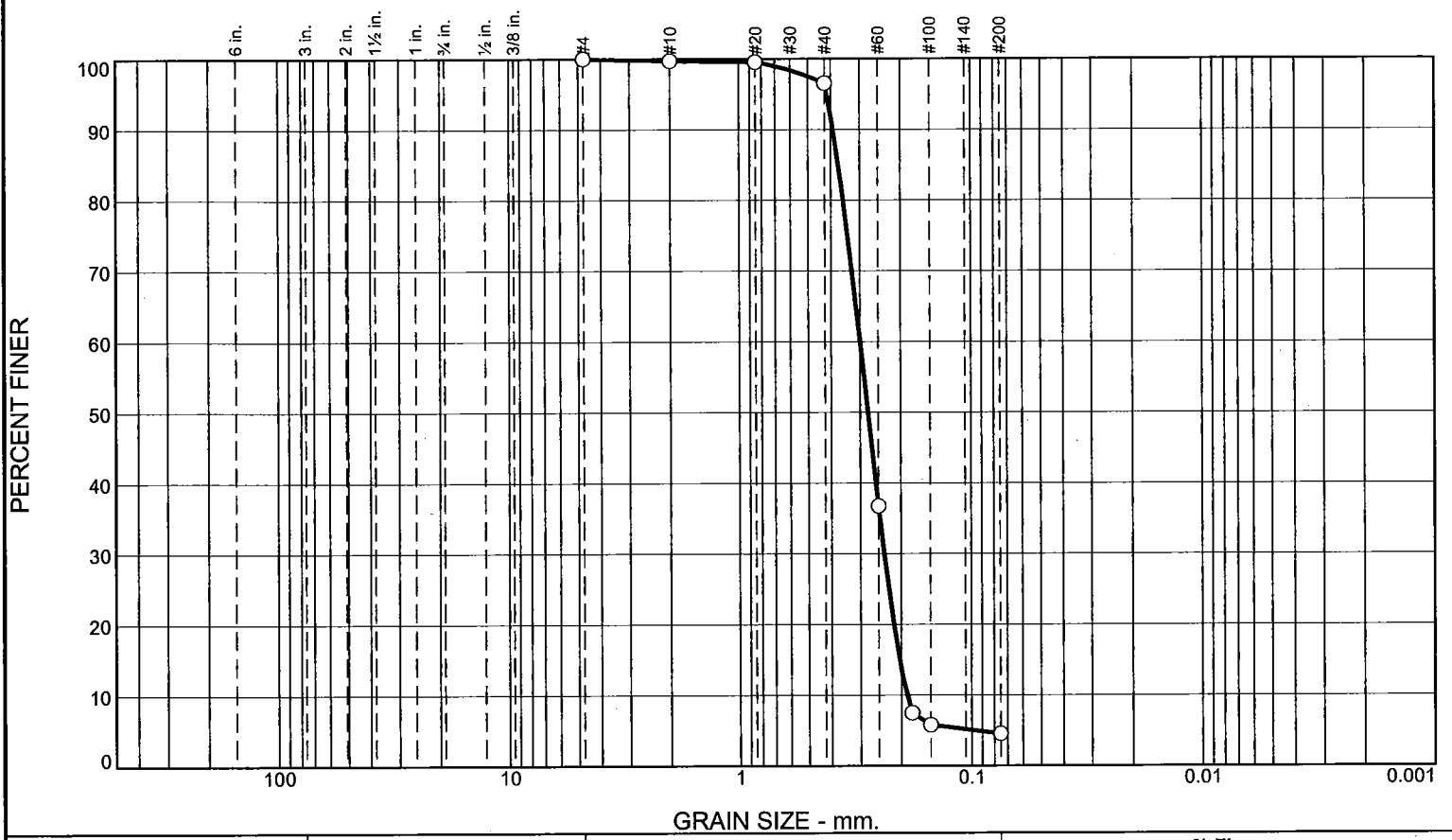
* (no specification provided)

Sample Number: EP-2C SPT-6 **Depth:** 48.5'-50' **Date:** 10/16/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: DB **Checked By:** TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.3	3.1	92.1	4.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.7		
#20	99.5		
#40	96.6		
#60	36.7		
#80	7.5		
#100	5.8		
#200	4.5		

Material Description
Brown poorly graded sand

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= 0.3911 D₈₅= 0.3712 D₆₀= 0.3000
 D₅₀= 0.2776 D₃₀= 0.2364 D₁₅= 0.2039
 D₁₀= 0.1899 C_u= 1.58 C_c= 0.98

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-2C SPT-8 Depth: 55'-56' Date: 10/15/2015

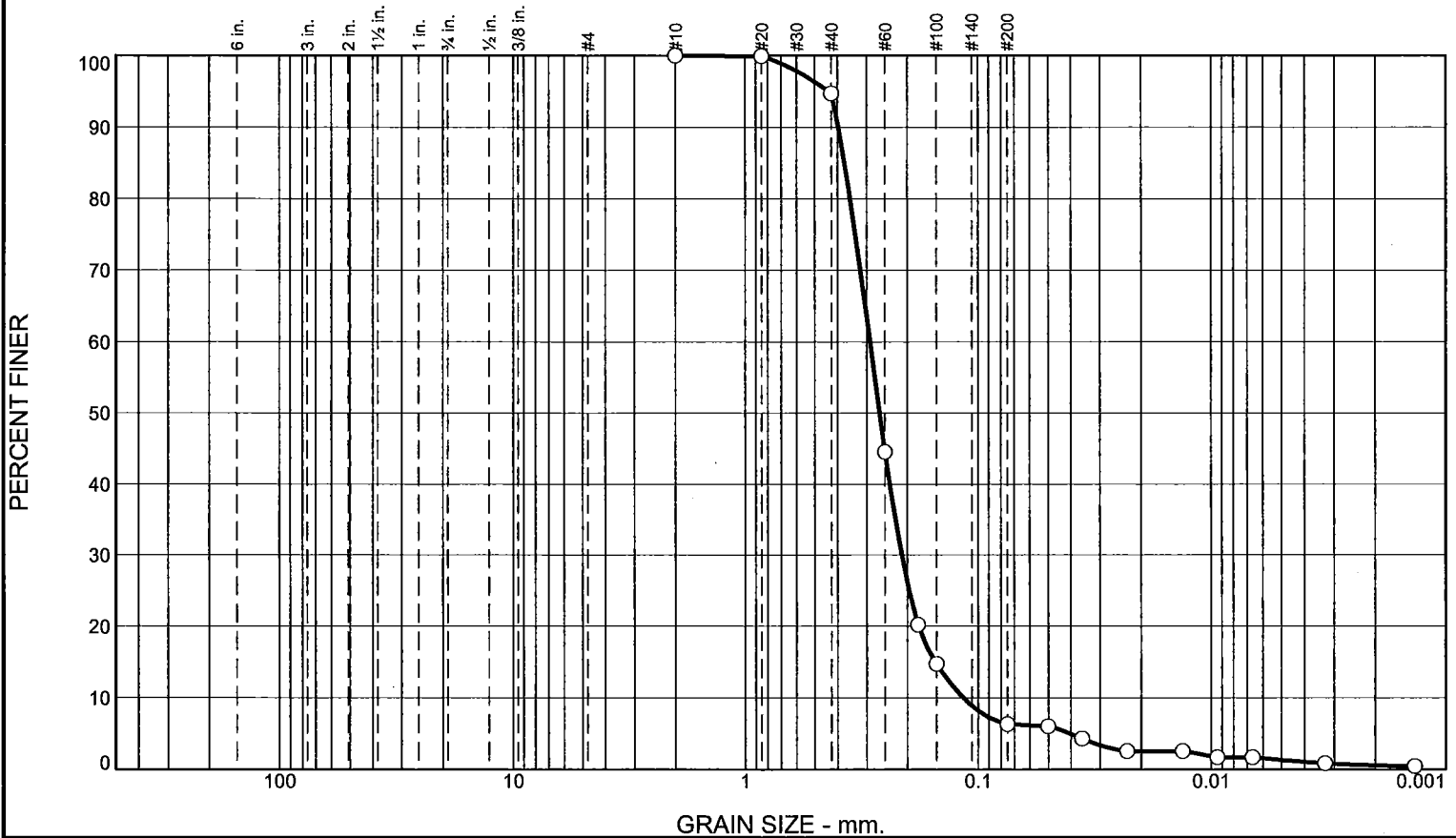


Client: AECOM
 Project: Dynegy CCR Ph 3/7 - Havana
 Project No: 15-391T

Figure 1 of 1

Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	5.3	88.4	5.0	1.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#40	94.7		
#60	44.5		
#80	20.2		
#100	14.7		
#200	6.3		

Material Description

Brown poorly graded sand with silt

PL=	Atterberg Limits	PI=
	LL=	

Coefficients		
D ₉₀ = 0.3967	D ₈₅ = 0.3730	D ₆₀ = 0.2905
D ₅₀ = 0.2640	D ₃₀ = 0.2117	D ₁₅ = 0.1521
D ₁₀ = 0.1155	C _u = 2.51	C _c = 1.34

USCS=	Classification	AASHTO=
	Remarks	

* (no specification provided)

Sample Number: EP-2T SPT-1

Depth: 6'-7.5'

Date: 10/22/2015



Client: AECOM
Project: Dynegy CCR Ph 3/7 - Havana

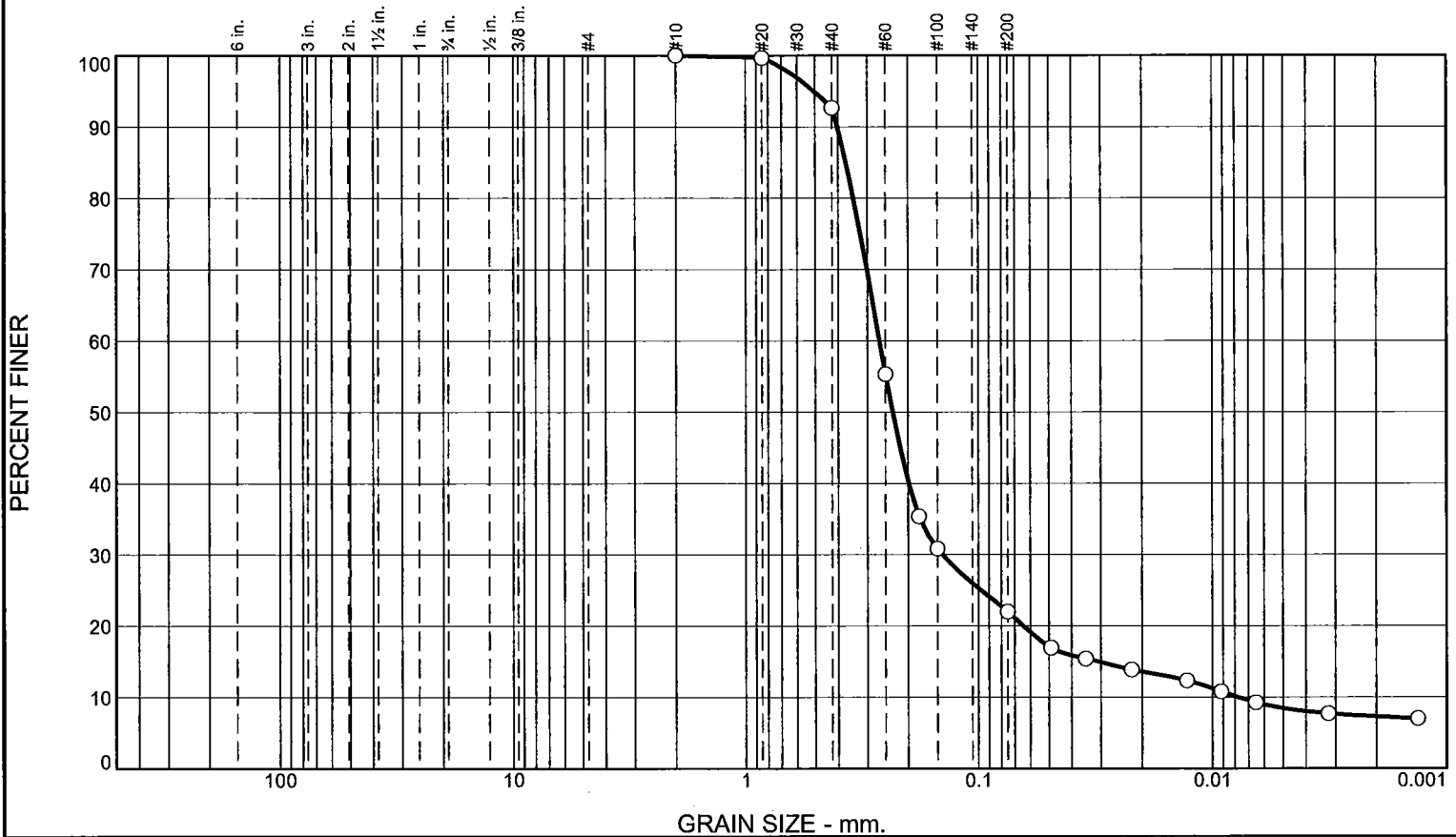
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	7.3	70.7	13.6	8.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.7		
#40	92.7		
#60	55.3		
#80	35.4		
#100	30.8		
#200	22.0		

Material Description

Brown Clayey sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.4028 D₈₅= 0.3703 D₆₀= 0.2656
D₅₀= 0.2328 D₃₀= 0.1427 D₁₅= 0.0309
D₁₀= 0.0078 C_u= 34.14 C_c= 9.85

Classification

USCS= AASHTO=

Remarks

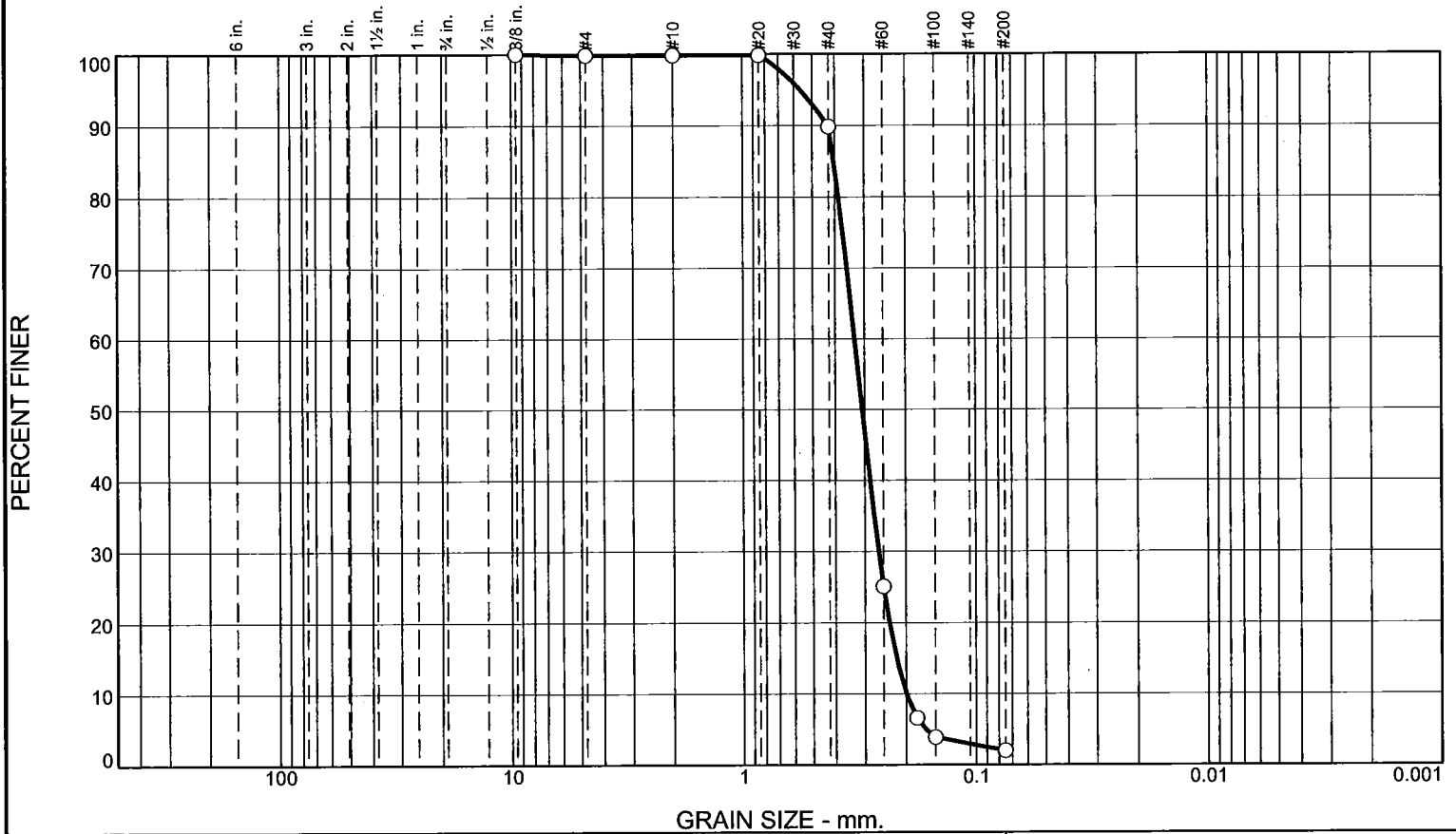
* (no specification provided)

Sample Number: EP-2T SPT-2 Depth: 11'-12.5' Date: 10/22/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.0	10.1	87.8	2.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.9		
#10	99.9		
#20	99.9		
#40	89.8		
#60	25.1		
#80	6.6		
#100	3.8		
#200	2.0		

Material Description

Brown poorly graded sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.4281 D₈₅= 0.4042 D₆₀= 0.3305
D₅₀= 0.3072 D₃₀= 0.2620 D₁₅= 0.2202
D₁₀= 0.1999 C_u= 1.65 C_c= 1.04

Classification

USCS= AASHTO=

Remarks

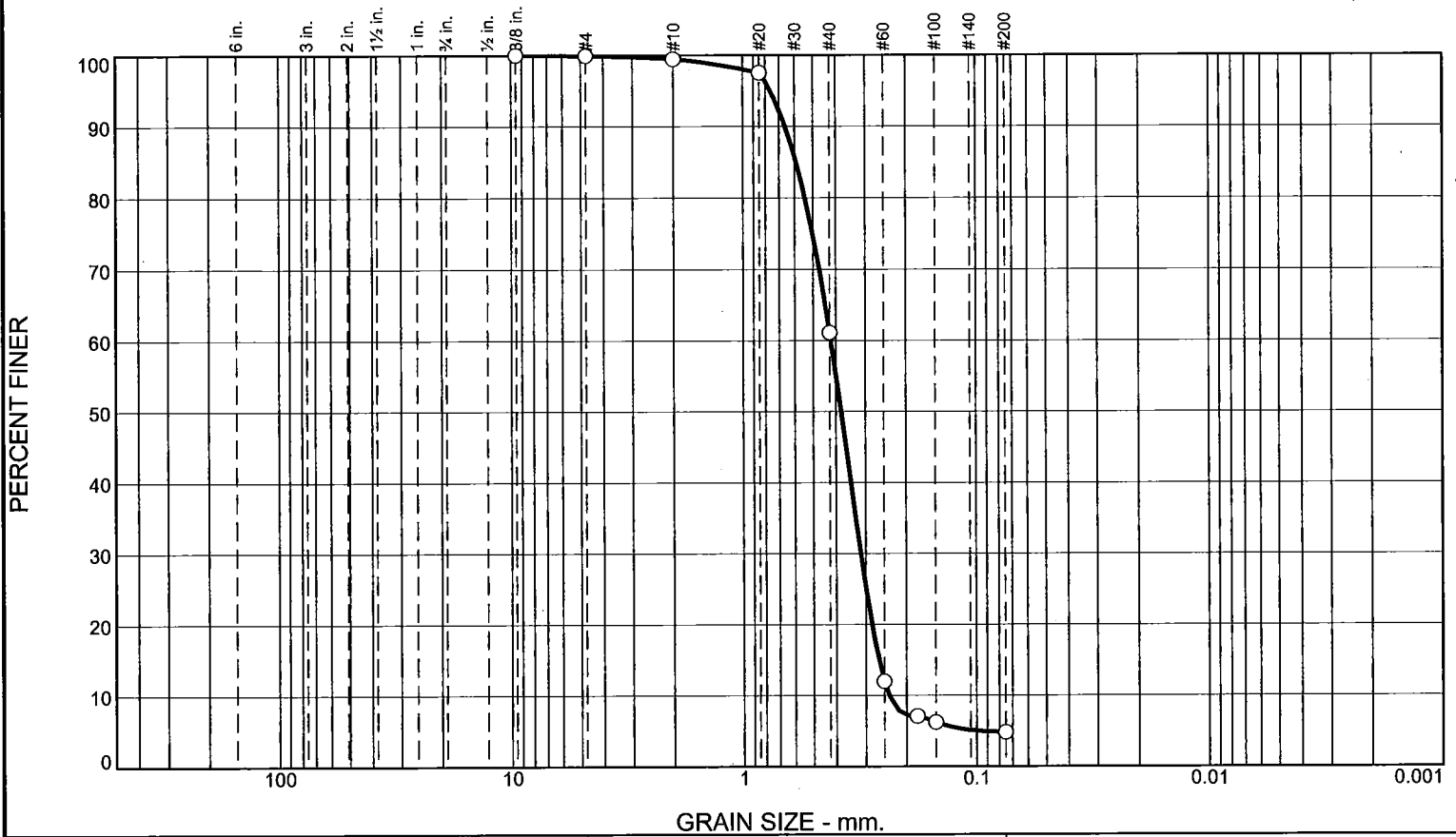
* (no specification provided)

Sample Number: EP-2T SPT-4 **Depth:** 21'-22.5' **Date:** 10/15/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: DB **Checked By:** TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.4	38.4	56.3	4.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.9		
#10	99.5		
#20	97.5		
#40	61.1		
#60	12.0		
#80	7.0		
#100	6.2		
#200	4.8		

Material Description

Brown poorly graded sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.6584 D₈₅= 0.5910 D₆₀= 0.4201
 D₅₀= 0.3809 D₃₀= 0.3151 D₁₅= 0.2638
 D₁₀= 0.2382 C_u= 1.76 C_c= 0.99

Classification

USCS= AASHTO=

Remarks

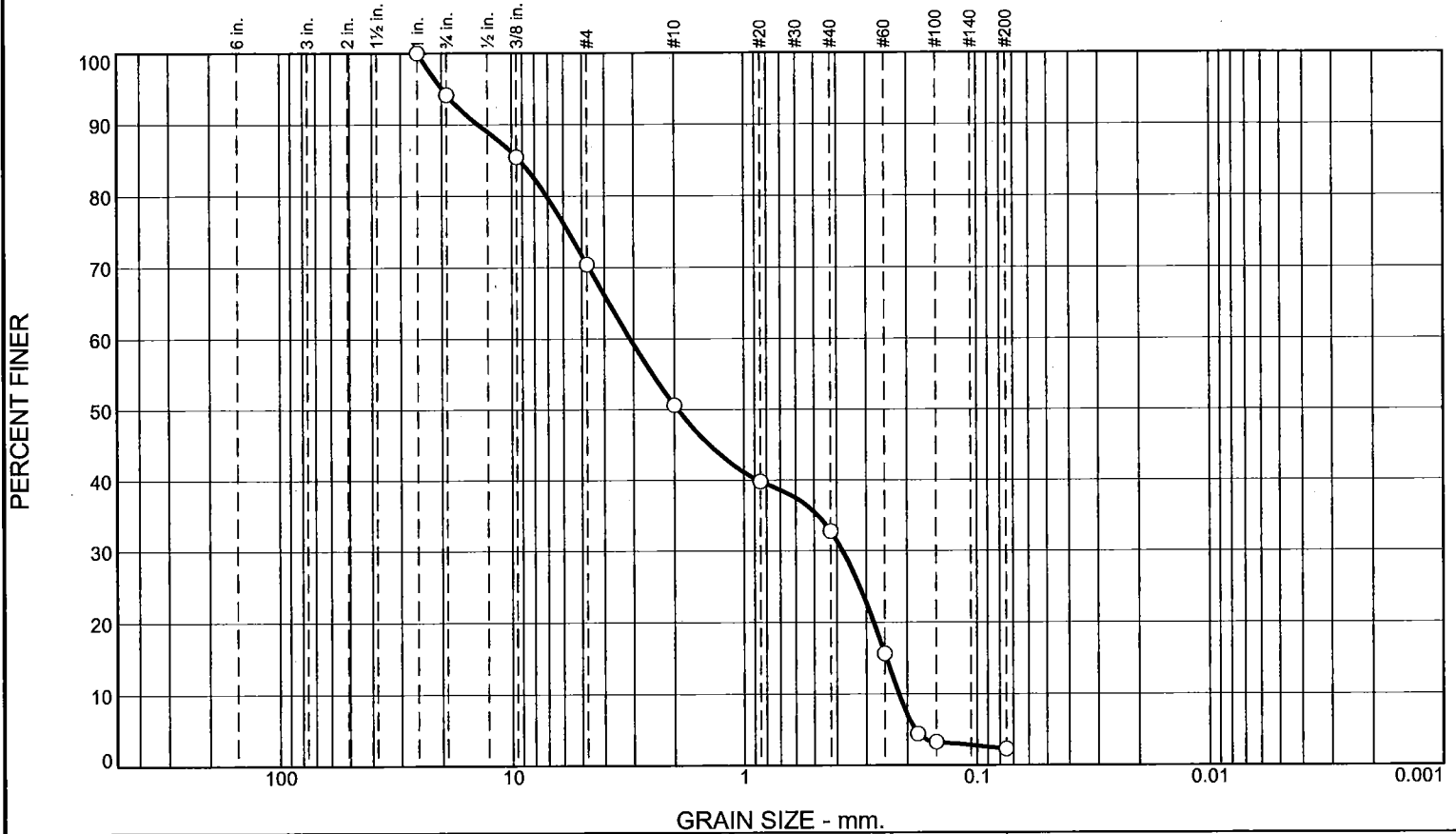
* (no specification provided)

Sample Number: EP-2T SPT-6 **Depth:** 31'-32.5' **Date:** 10/15/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: DB **Checked By:** TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	5.8	23.8	19.8	17.9	30.4	2.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	94.2		
.375	85.5		
#4	70.4		
#10	50.6		
#20	39.8		
#40	32.7		
#60	15.6		
#80	4.4		
#100	3.2		
#200	2.3		

Material Description

Brown poorly graded sand with gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 13.9259 D₈₅= 9.2522 D₆₀= 3.1041
D₅₀= 1.9384 D₃₀= 0.3787 D₁₅= 0.2461
D₁₀= 0.2177 C_u= 14.26 C_c= 0.21

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-2T SPT-8

Depth: 40'-41.5'

Date: 10/15/2015



ALPHA-OMEGA GEOTECH

Client: AECOM

Project: Dynegy CCR Ph 3/7 - Havana

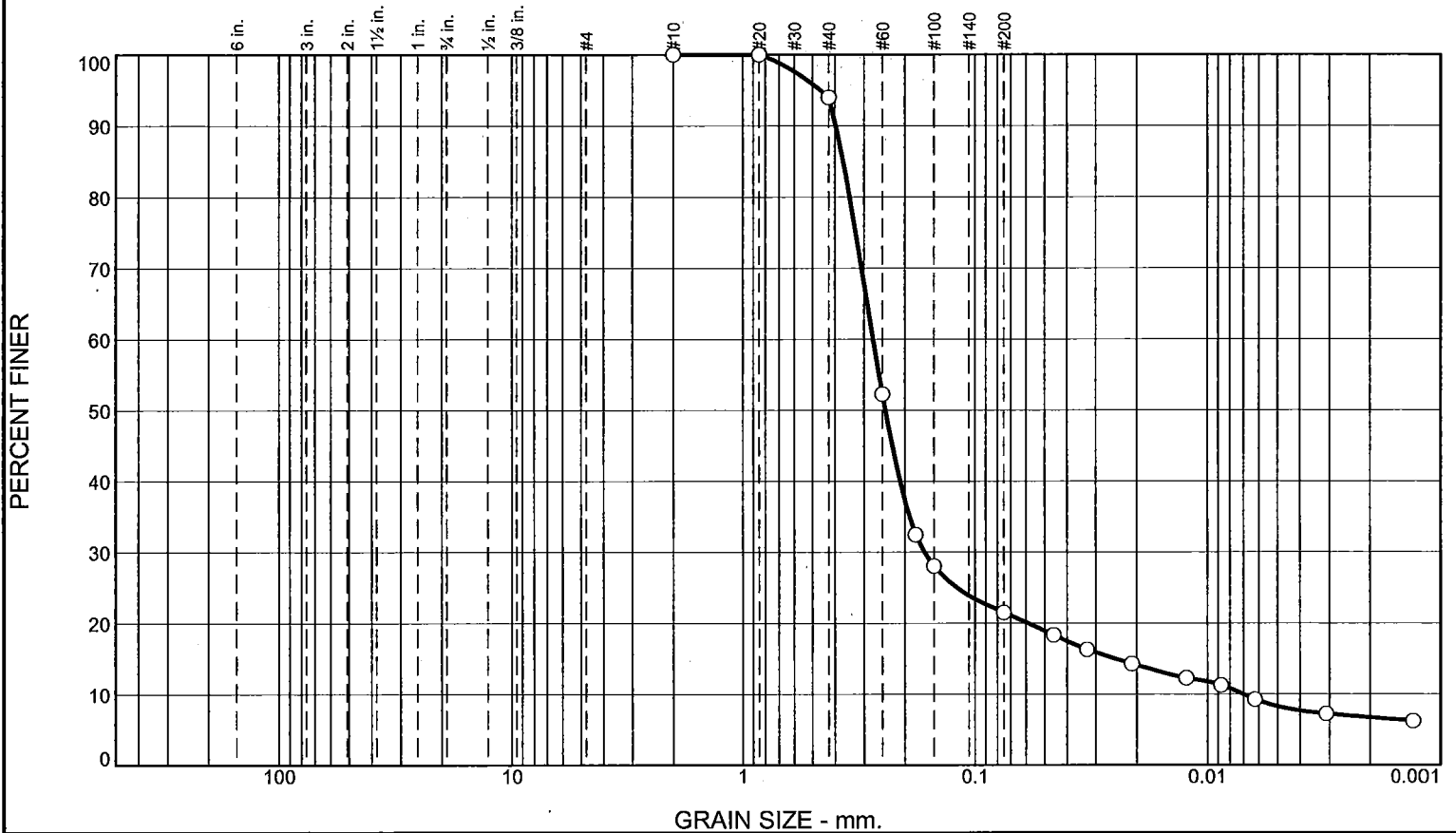
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	6.0	72.5	13.3	8.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	100.0		
#40	94.0		
#60	52.2		
#80	32.4		
#100	28.1		
#200	21.5		

Material Description

Dark brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3968 D₈₅= 0.3692 D₆₀= 0.2743
 D₅₀= 0.2430 D₃₀= 0.1656 D₁₅= 0.0248
 D₁₀= 0.0070 C_u= 38.96 C_c= 14.20

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-3C ST-1 Depth: 6'-7.5'

Date: 10/30/2015



ALPHA-OMEGA GEOTECH

Client: AECOM
 Project: Dynege CCR Ph 3/7 - Havana

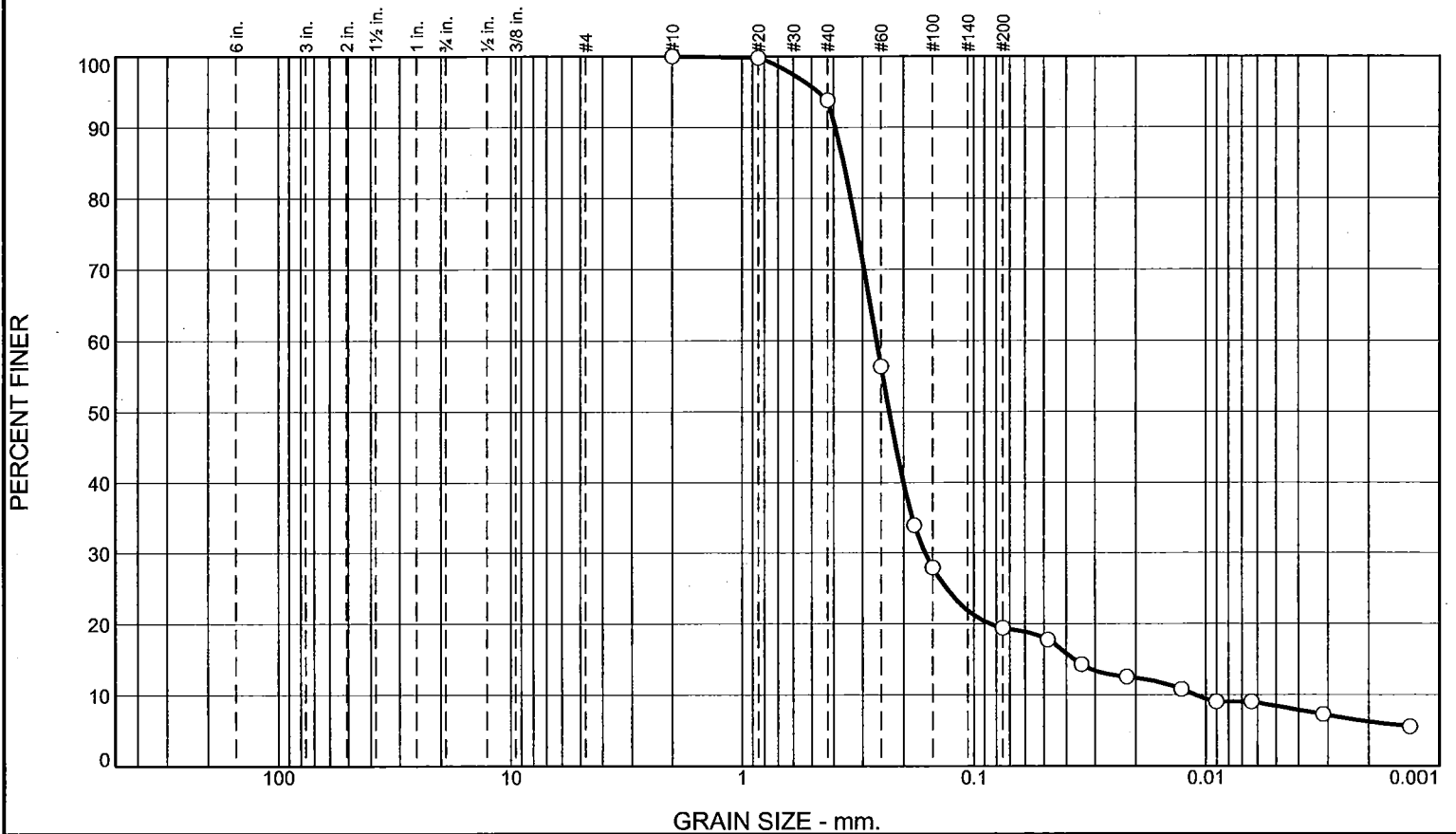
Project No: 15-391T

Figure 1 of 1

Tested By: D.B.

Checked By: T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	6.2	74.4	11.0	8.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.8		
#40	93.8		
#60	56.4		
#80	33.9		
#100	27.9		
#200	19.4		

Material Description

Brown silty sand

Atterberg Limits
 PL= NP LL= NV PI= NP

Coefficients
 D₉₀= 0.3936 D₈₅= 0.3623 D₆₀= 0.2614
 D₅₀= 0.2308 D₃₀= 0.1621 D₁₅= 0.0370
 D₁₀= 0.0111 C_u= 23.48 C_c= 9.02

Classification
 USCS= SM AASHTO= A-2-4(0)

Remarks

* (no specification provided)

Sample Number: EP-3C SPT-1

Depth: 11'-12.5'

Date: 10/22/2015



ALPHA-OMEGA GEOTECH

Client: AECOM

Project: Dynegy CCR Ph 3/7 - Havana

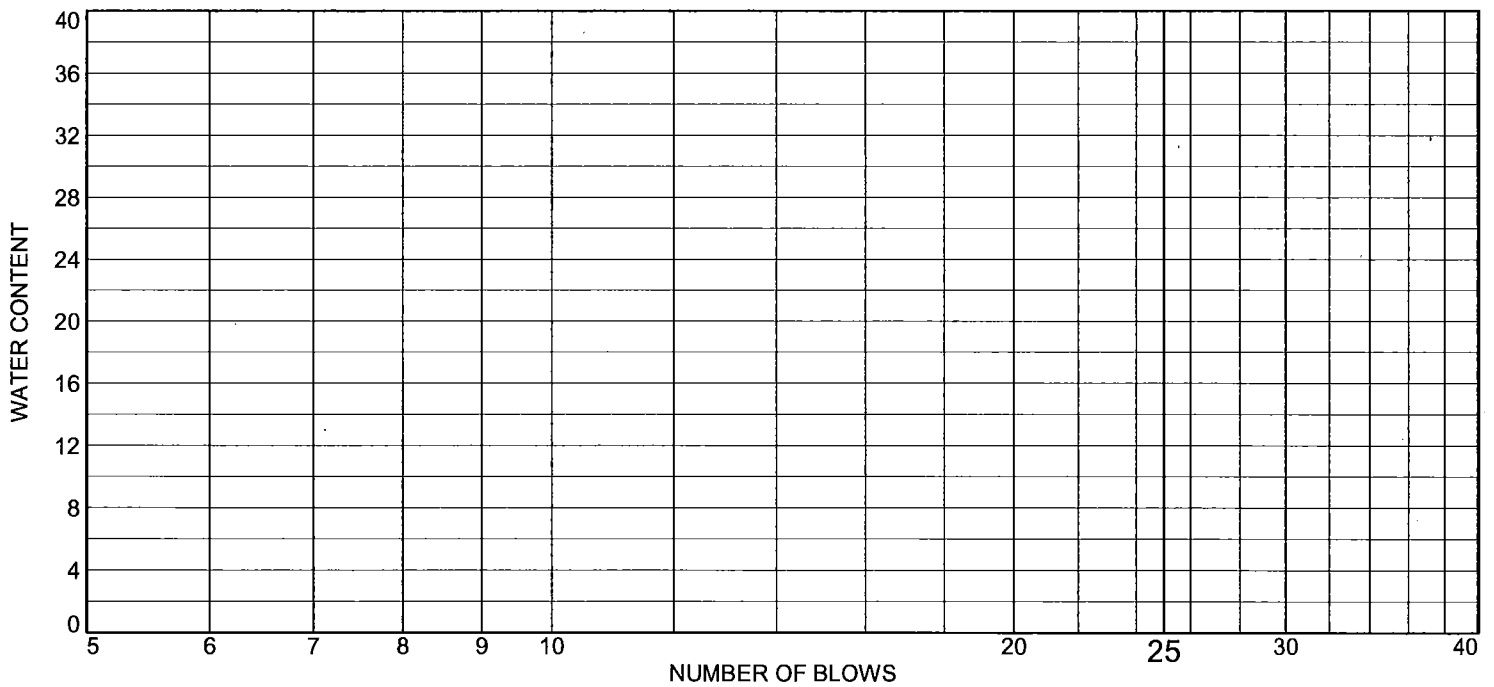
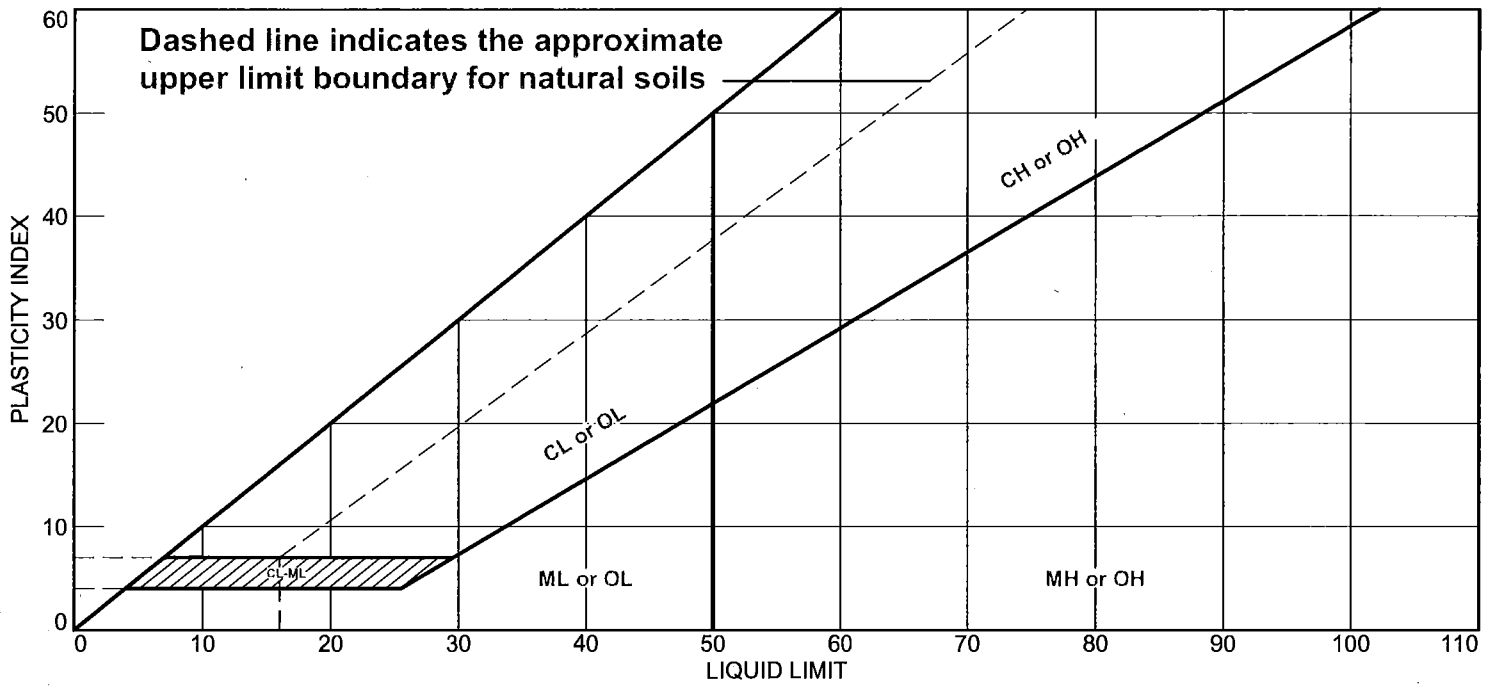
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

LIQUID AND PLASTIC LIMITS TEST REPORT



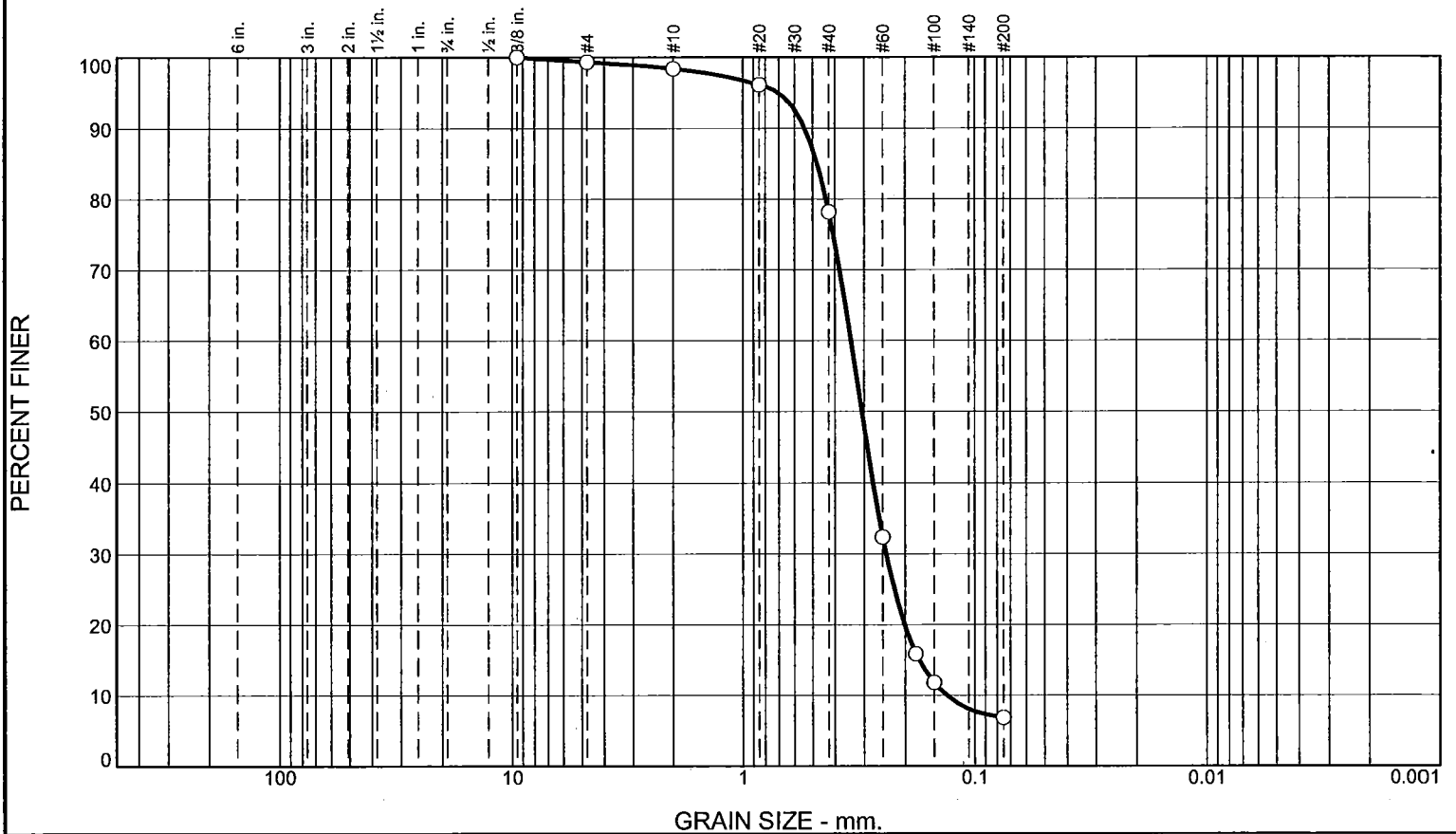
MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● Brown silty sand	NV	NP	NP	93.8	19.4	SM

Project No. 15-391T **Client:** AECOM
Project: Dynege CCR Ph 3/7 - Havana
Sample Number: EP-3C SPT-1 **Depth:** 11'-12.5'

AQG
ALPHA-OMEGA GEOTECH

Remarks:

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.7	0.9	20.2	71.4	6.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.3		
#10	98.4		
#20	96.1		
#40	78.2		
#60	32.4		
#80	15.9		
#100	11.8		
#200	6.8		

Material Description

Brown poorly graded sand with silt

PL=	Atterberg Limits	PI=
	LL=	
	Coefficients	
D ₉₀ = 0.5415	D ₈₅ = 0.4779	D ₆₀ = 0.3417
D ₅₀ = 0.3071	D ₃₀ = 0.2418	D ₁₅ = 0.1745
D ₁₀ = 0.1324	C _u = 2.58	C _c = 1.29

USCS=	Classification
	AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-3C ST-2

Depth: 16'-17.5'

Date: 10/27/2015



ALPHA-OMEGA GEOTECH

Client: AECOM

Project: Dynegy CCR Ph 3/7 - Havana

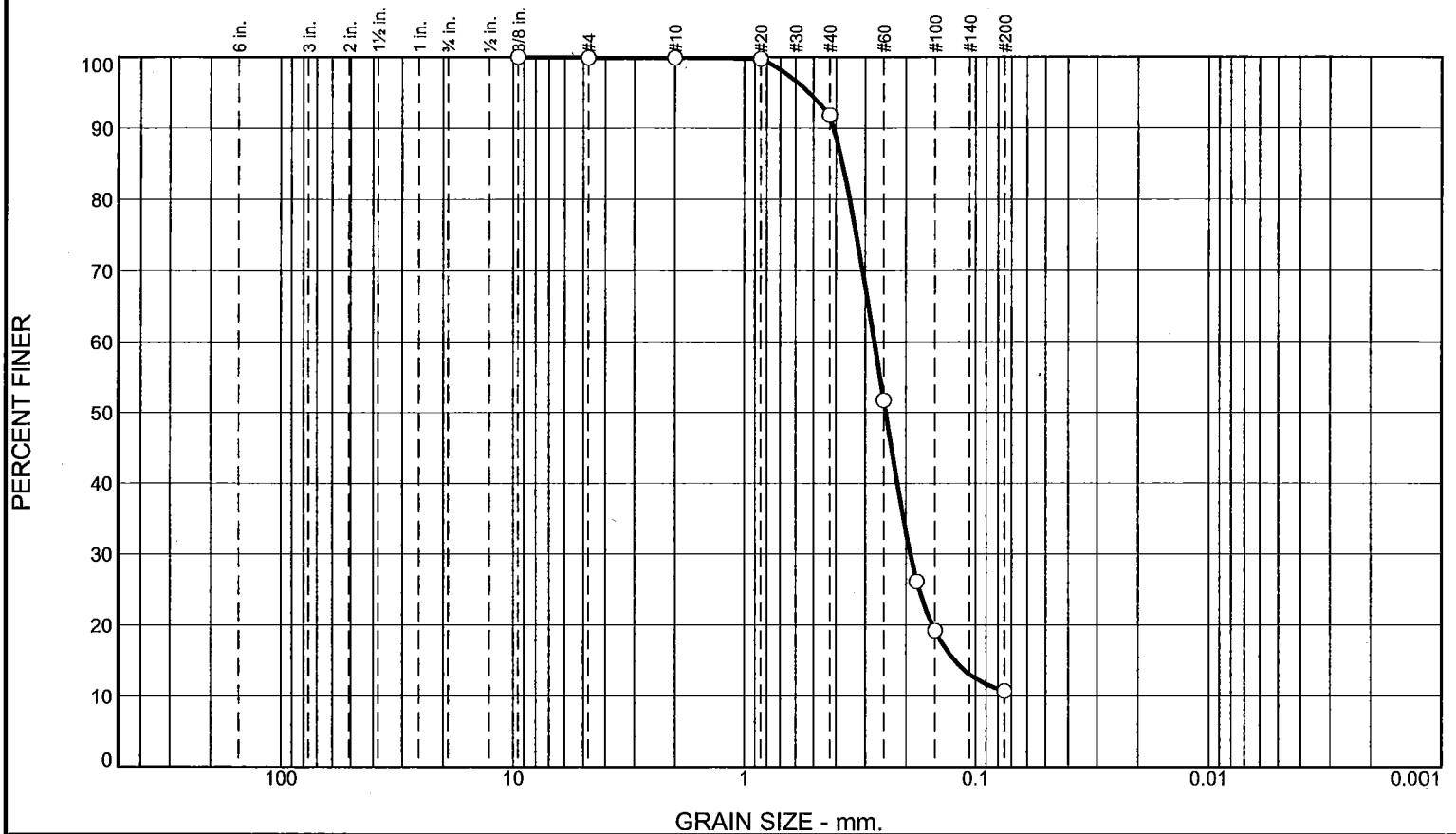
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.0	8.1	81.1	10.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.9		
#10	99.9		
#20	99.7		
#40	91.8		
#60	51.7		
#80	26.1		
#100	19.2		
#200	10.7		

Material Description
Reddish brown poorly graded sand with silt

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= 0.4097 D₈₅= 0.3763 D₆₀= 0.2743
 D₅₀= 0.2453 D₃₀= 0.1920 D₁₅= 0.1233
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-3C ST-3

Depth: 26'-27.5'

Date: 10/25/2015



ALPHA-OMEGA GEOTECH

Client: AECOM

Project: Dynege CCR Ph 3/7 - Havana

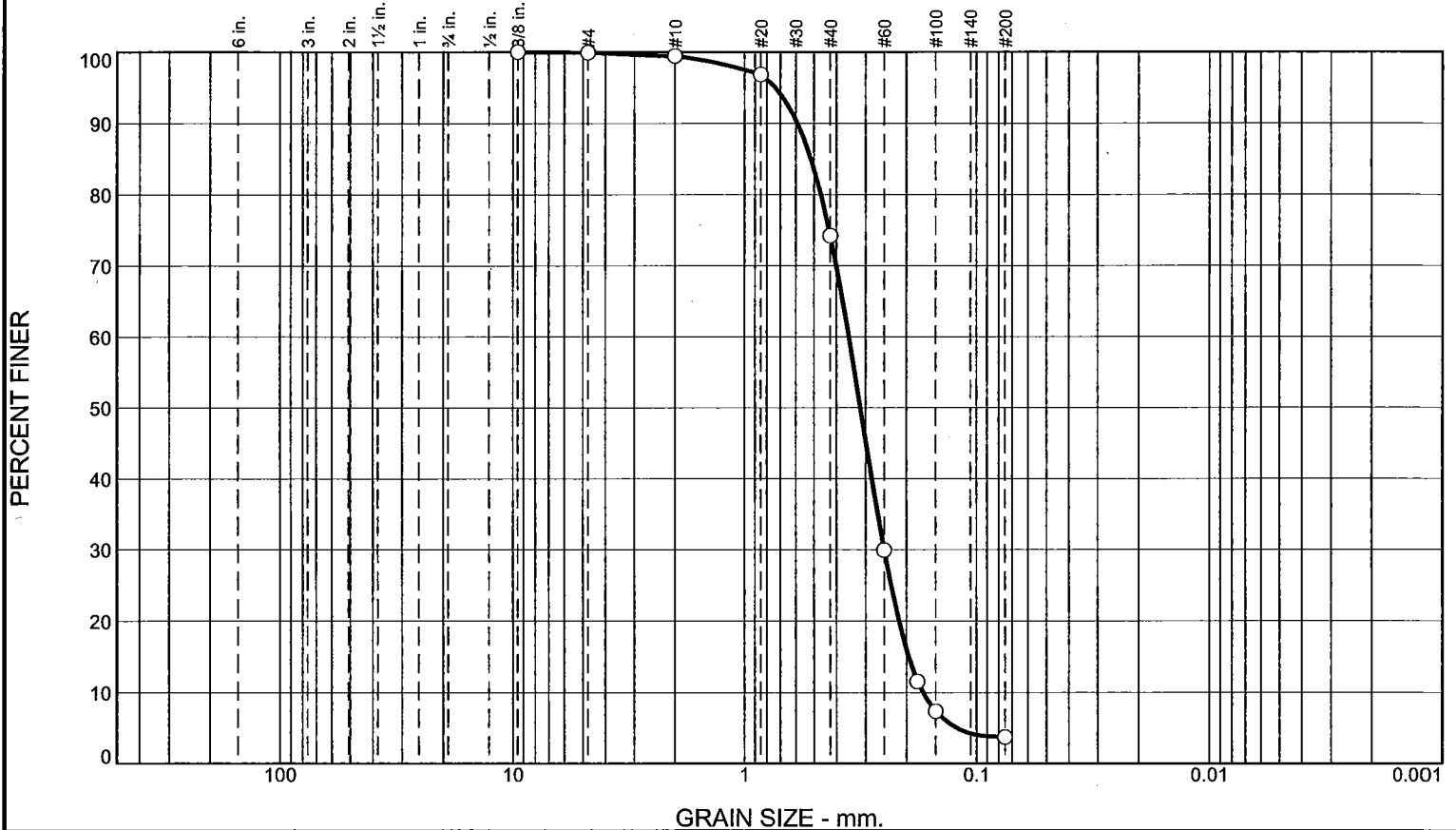
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.4	25.3	70.5	3.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.9		
#10	99.5		
#20	96.8		
#40	74.2		
#60	29.9		
#80	11.5		
#100	7.4		
#200	3.7		

Material Description

Brown poorly graded sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.5895 D₈₅= 0.5155 D₆₀= 0.3545
 D₅₀= 0.3165 D₃₀= 0.2502 D₁₅= 0.1964
 D₁₀= 0.1710 C_u= 2.07 C_c= 1.03

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

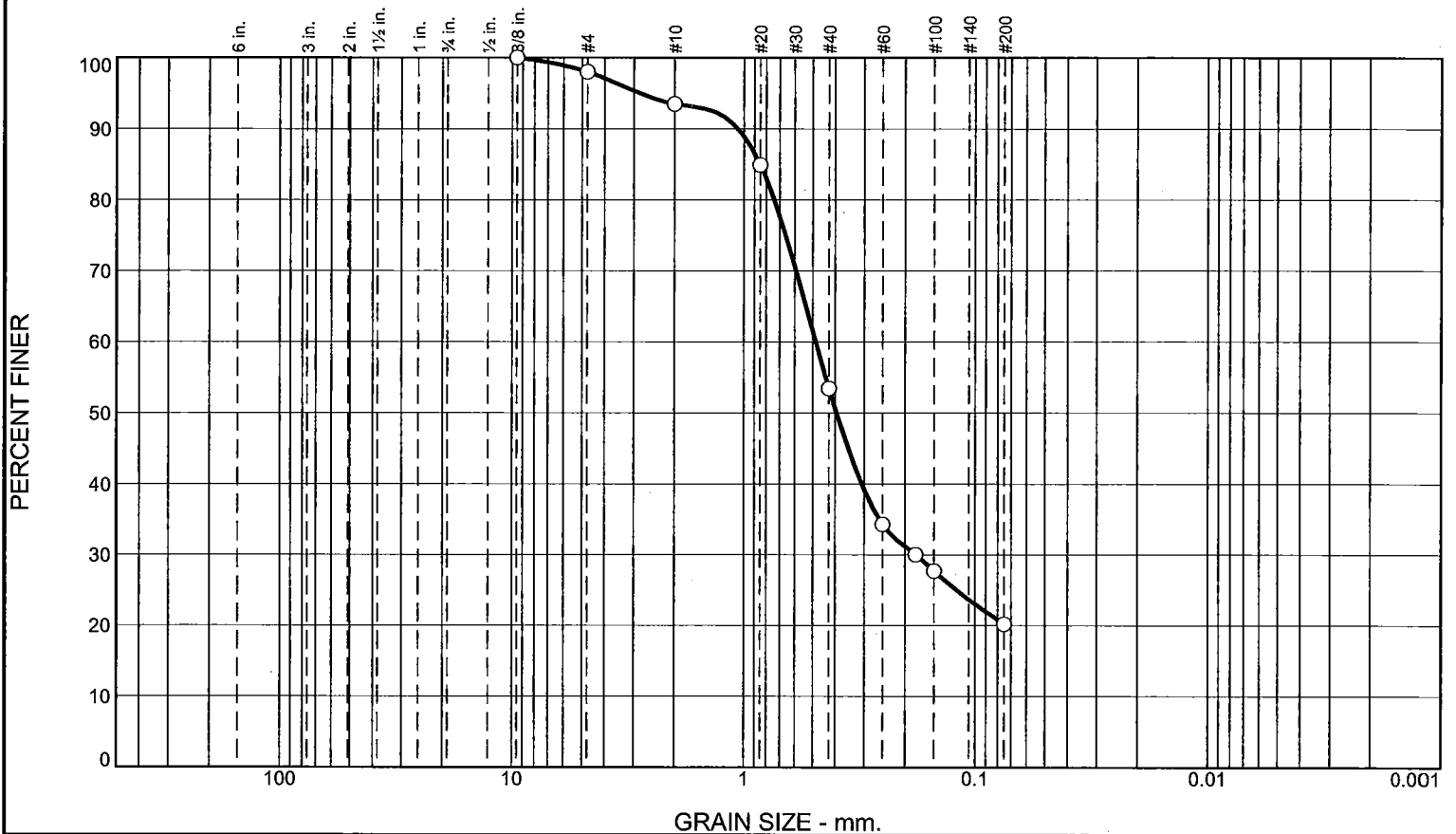
Sample Number: EP-3C ST-4 Depth: 36'-37.5'

Date: 10/25/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynege CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>
<p>Figure 1 of 1</p>	

Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.0	4.5	40.1	33.2	20.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	98.0		
#10	93.5		
#20	84.9		
#40	53.4		
#60	34.3		
#80	30.0		
#100	27.7		
#200	20.2		

Material Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 1.0641 D₈₅= 0.8525 D₆₀= 0.4856
D₅₀= 0.3950 D₃₀= 0.1795 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-3C SPT-5

Depth: 46'-47.5'

Date: 10/22/2015



ALPHA-OMEGA GEOTECH

Client: AECOM
Project: Dynege CCR Ph 3/7 - Havana

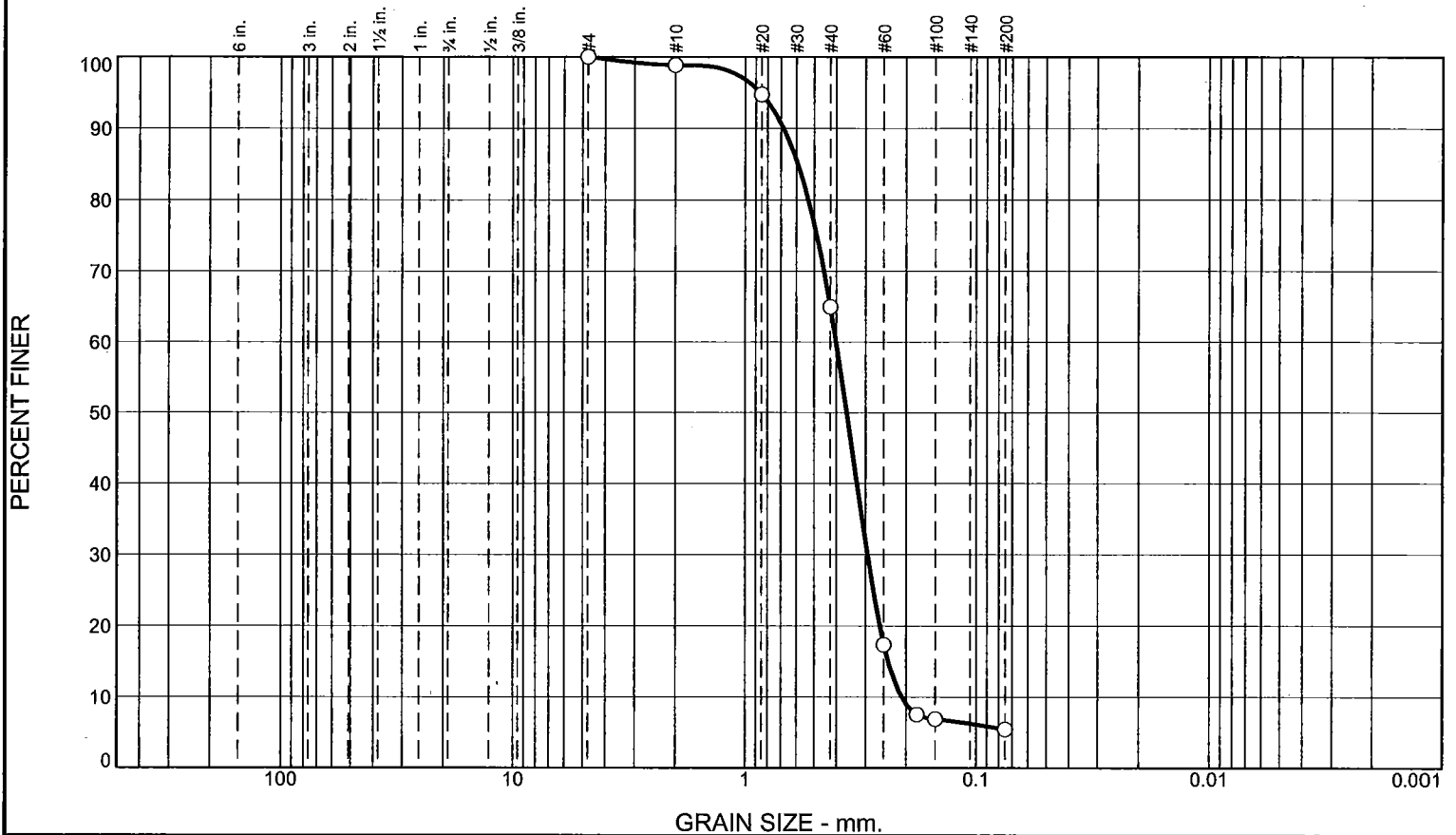
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.1	34.0	59.5	5.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	98.9		
#20	94.7		
#40	64.9		
#60	17.4		
#80	7.5		
#100	6.9		
#200	5.4		

Material Description

Brown poorly graded sand with silt

PL=	Atterberg Limits	PI=
	LL=	
	Coefficients	
D ₉₀ = 0.6818	D ₈₅ = 0.5904	D ₆₀ = 0.4016
D ₅₀ = 0.3618	D ₃₀ = 0.2945	D ₁₅ = 0.2395
D ₁₀ = 0.2097	C _u = 1.92	C _c = 1.03
USCS=	Classification	AASHTO=
	Remarks	

* (no specification provided)

Sample Number: EP-3C SPT-7

Depth: 56'-57.5'

Date: 10/30/2015



ALPHA-OMEGA GEOTECH

Client: AECOM

Project: Dynege CCR Ph 3/7 - Havana

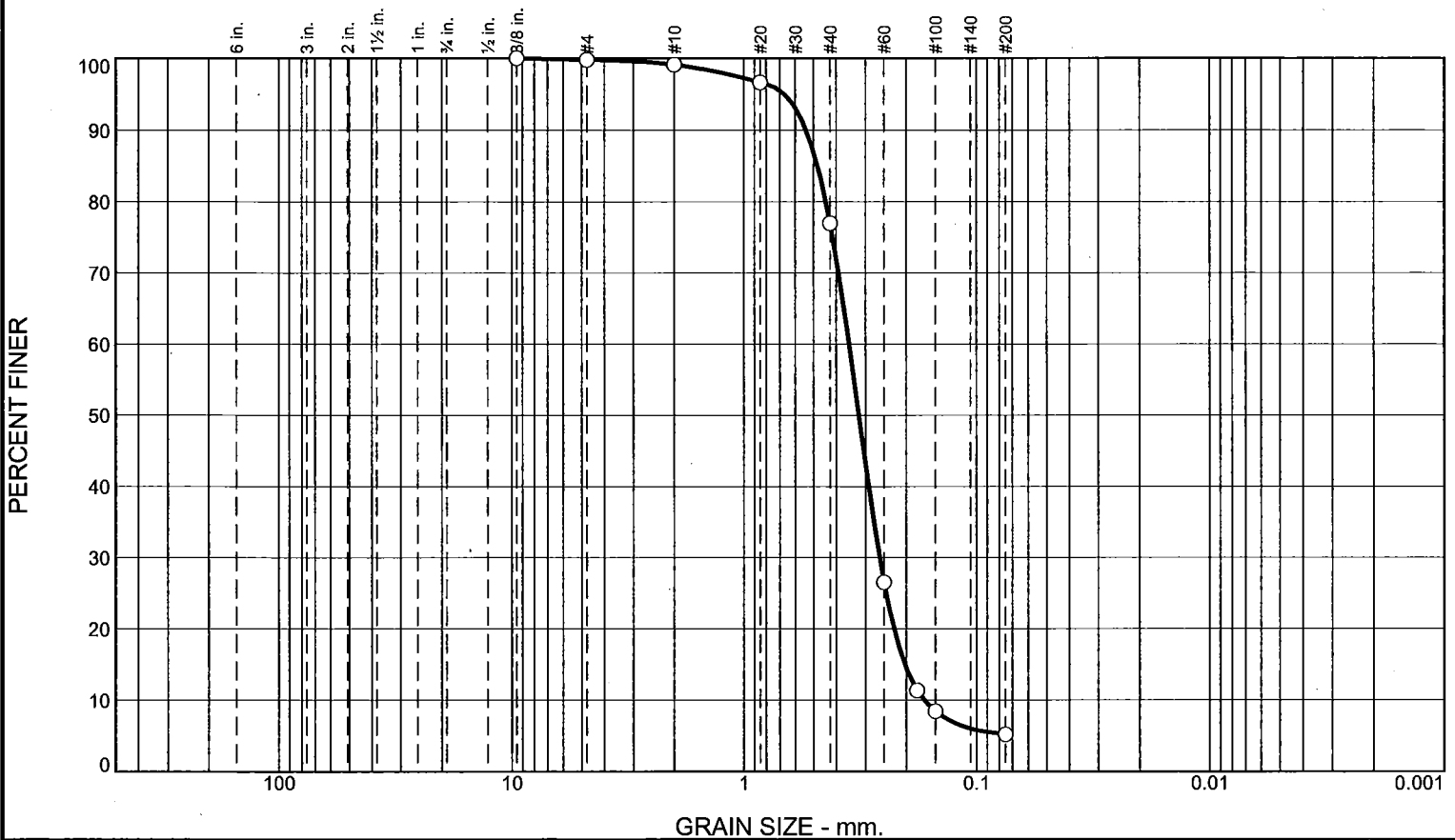
Project No: 15-391T

Figure 1 of 1

Tested By: D.B.

Checked By: T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.7	22.1	71.8	5.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.8		
#10	99.1		
#20	96.7		
#40	77.0		
#60	26.5		
#80	11.3		
#100	8.4		
#200	5.2		

Material Description

Brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.5383 D₈₅= 0.4809 D₆₀= 0.3533

D₅₀= 0.3208 D₃₀= 0.2611 D₁₅= 0.2034

D₁₀= 0.1685 C_u= 2.10 C_c= 1.15

Classification

USCS= AASHTO=

Remarks

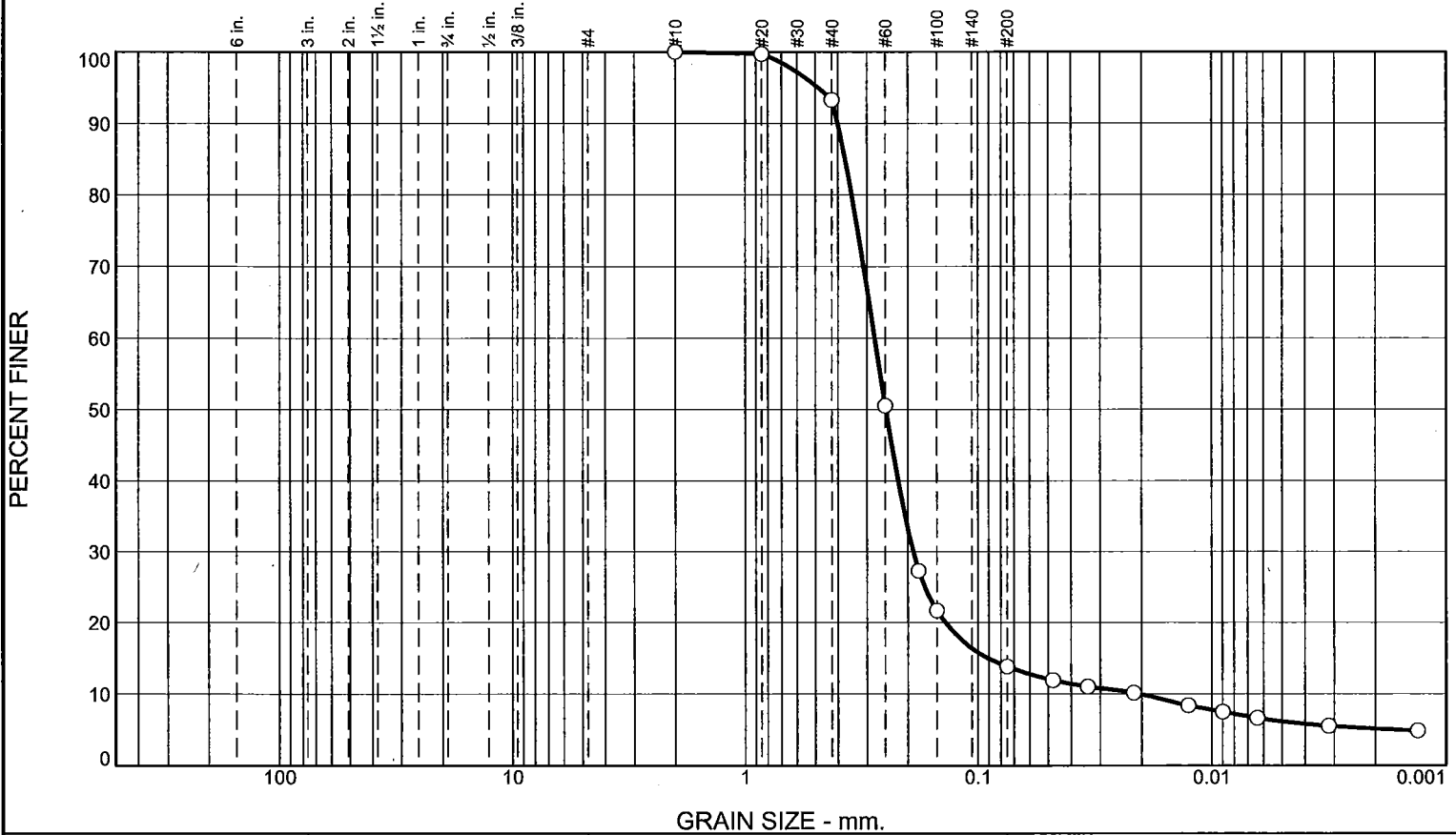
* (no specification provided)

Sample Number: EP-4C ST-1 Depth: 3.5'-5' Date: 10/25/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	6.7	79.5	7.7	6.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.7		
#40	93.3		
#60	50.5		
#80	27.3		
#100	21.7		
#200	13.8		

Material Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.4011 D₈₅= 0.3724 D₆₀= 0.2778
D₅₀= 0.2486 D₃₀= 0.1900 D₁₅= 0.0908
D₁₀= 0.0207 C_u= 13.43 C_c= 6.28

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-4C SPT-1 Depth: 8.5'-10'

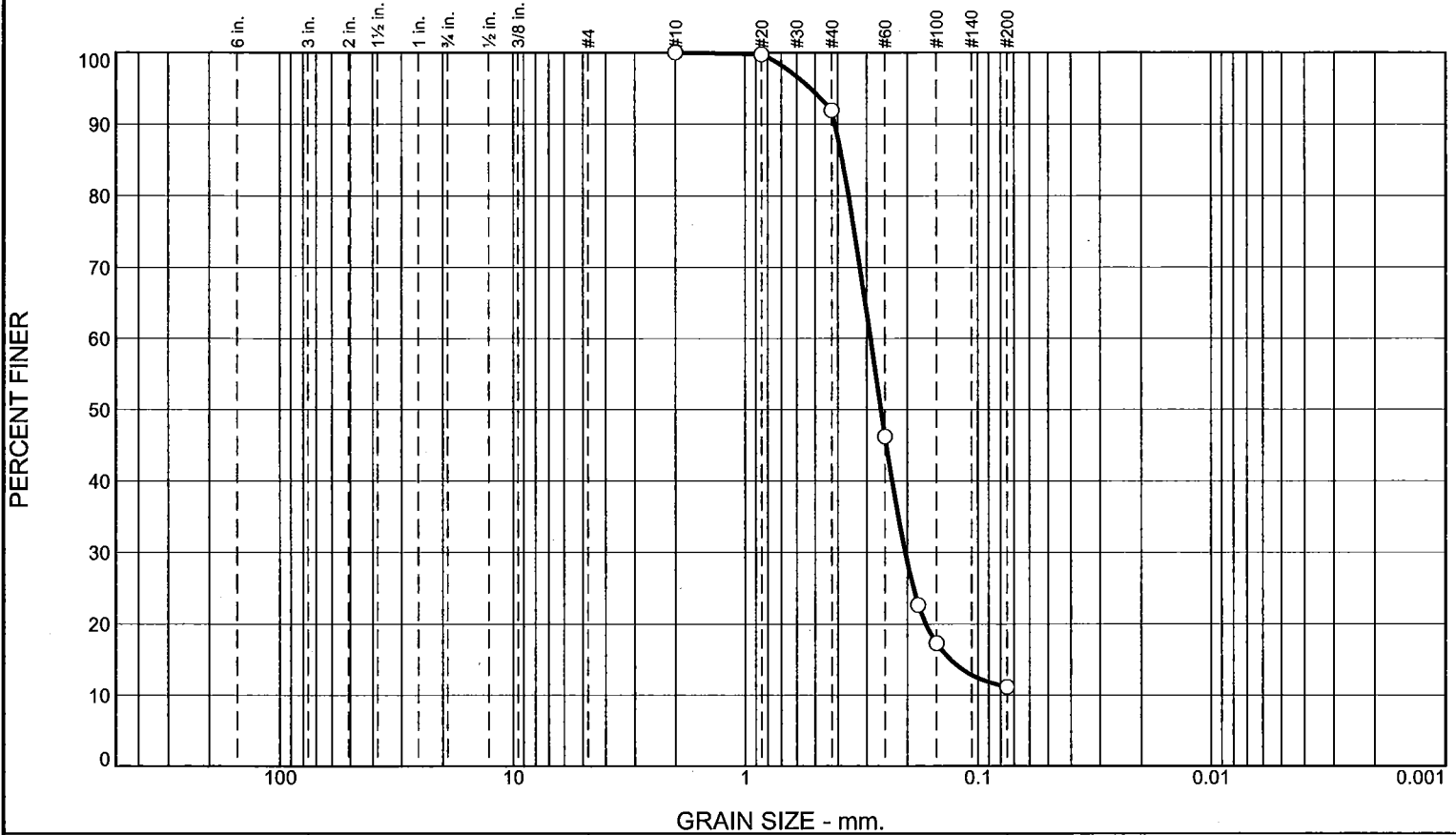
Date: 10/23/2015



Client: AECOM
Project: Dynege CCR Ph 3/7 - Havana
Project No: 15-391T
Figure 1 of 1

Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	8.1	80.7	11.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.8		
#40	91.9		
#60	46.2		
#80	22.7		
#100	17.3		
#200	11.2		

Material Description

Brown poorly graded sand with silt

PL=	Atterberg Limits	PI=
	LL=	

D ₉₀ = 0.4114	Coefficients	D ₆₀ = 0.2891
D ₅₀ = 0.2605	D ₈₅ = 0.3827	D ₁₅ = 0.1308
D ₁₀ =	D ₃₀ = 0.2049	C _c =
	C _u =	

USCS=	Classification	AASHTO=
	Remarks	

* (no specification provided)

Sample Number: EP-4C ST-2 **Depth:** 13.5'-15'

Date: 10/25/2015

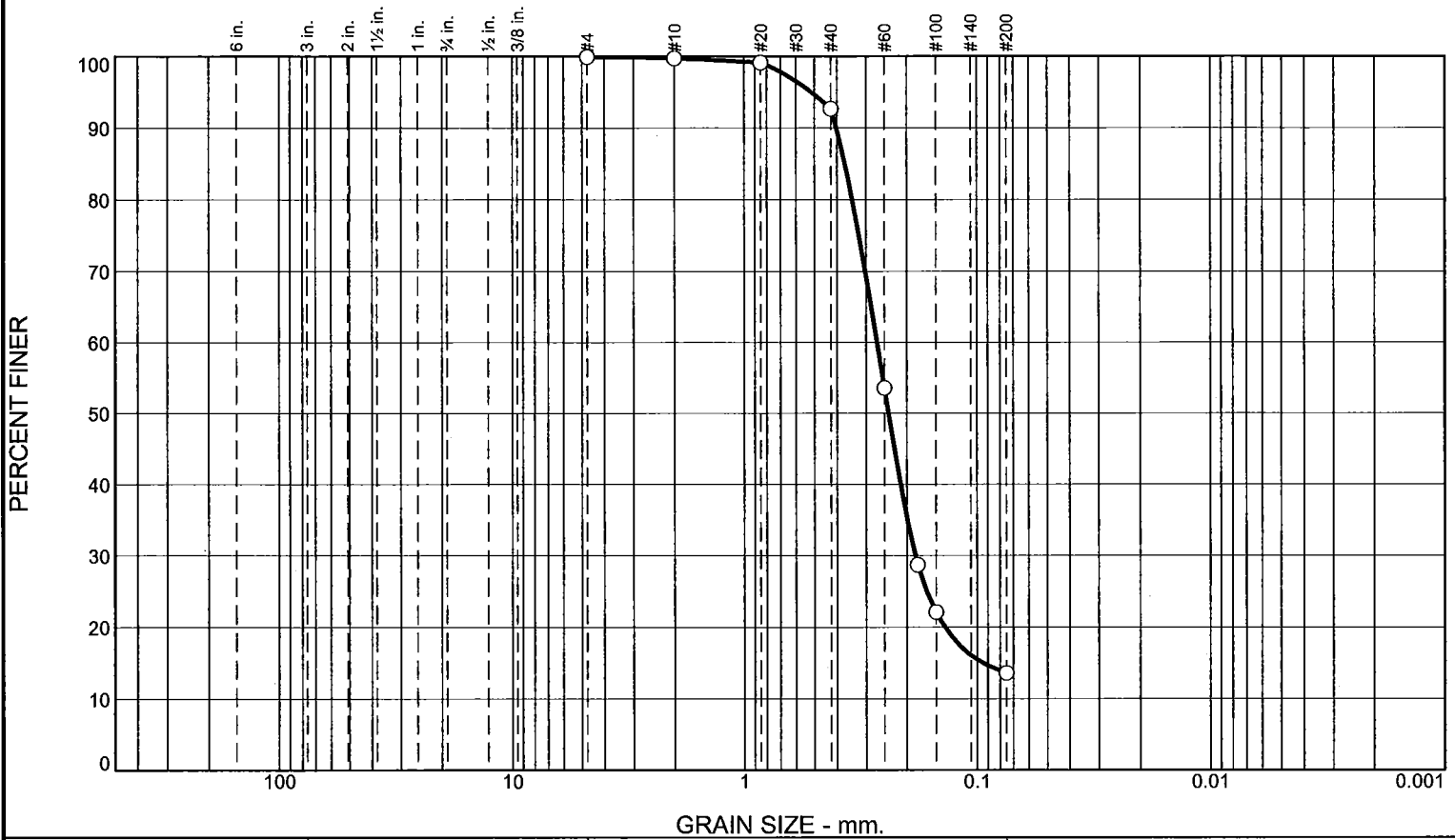


Client: AECOM
Project: Dynegy CCR Ph 3/7 - Havana
Project No: 15-391T

Figure 1 of 1

Tested By: DB **Checked By:** TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
			0.3	7.0	79.1		13.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.7		
#20	99.1		
#40	92.7		
#60	53.5		
#80	28.7		
#100	22.1		
#200	13.6		

Material Description

Brown, mottled dark brown silty sand

PL=	Atterberg Limits	PI=
	LL=	

Coefficients		
D ₉₀ = 0.4026	D ₈₅ = 0.3700	D ₆₀ = 0.2692
D ₅₀ = 0.2402	D ₃₀ = 0.1844	D ₁₅ = 0.0942
D ₁₀ =	C _u =	C _c =

USCS=	Classification	AASHTO=
	Remarks	

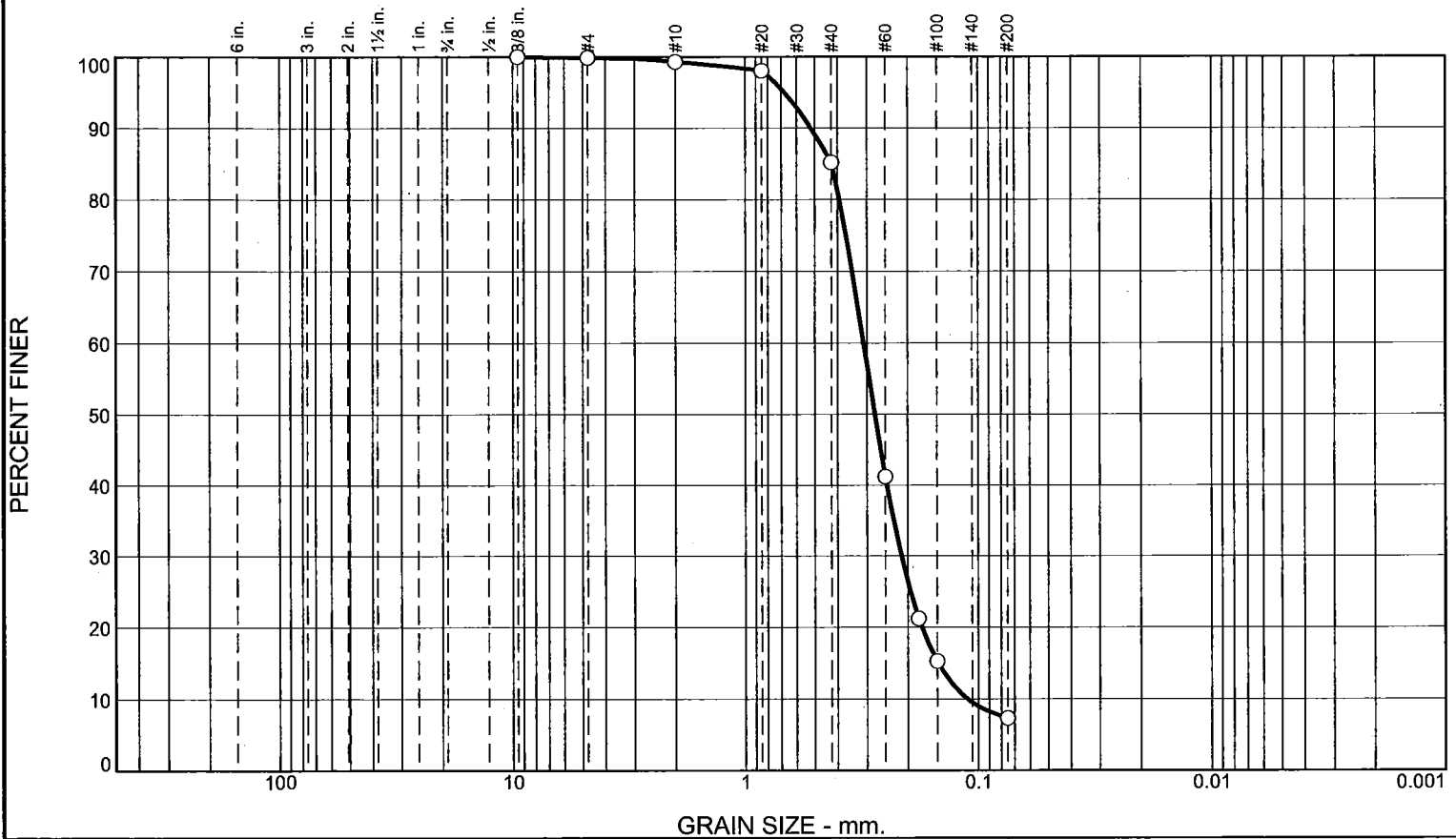
* (no specification provided)

Sample Number: EP-4C SPT-2 Depth: 18.5'-20' Date: 10/27/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.6	14.1	77.9	7.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.9		
#10	99.3		
#20	98.0		
#40	85.2		
#60	41.2		
#80	21.2		
#100	15.3		
#200	7.3		

Material Description

Gray, mottled light reddish brown poorly graded sand with silt

PL=	Atterberg Limits	PI=
	LL=	

D ₉₀ = 0.5198	Coefficients	D ₆₀ = 0.3102
D ₅₀ = 0.2775	D ₈₅ = 0.4239	D ₁₅ = 0.1484
D ₁₀ = 0.1114	D ₃₀ = 0.2133	C _c = 1.32
	C _u = 2.78	

USCS=	Classification	AASHTO=
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Remarks

* (no specification provided)

Sample Number: EP-4C ST-3

Depth: 23.5'-25'

Date: 10/25/2015



ALPHA-OMEGA GEOTECH

Client: AECOM

Project: Dynegy CCR Ph 3/7 - Havana

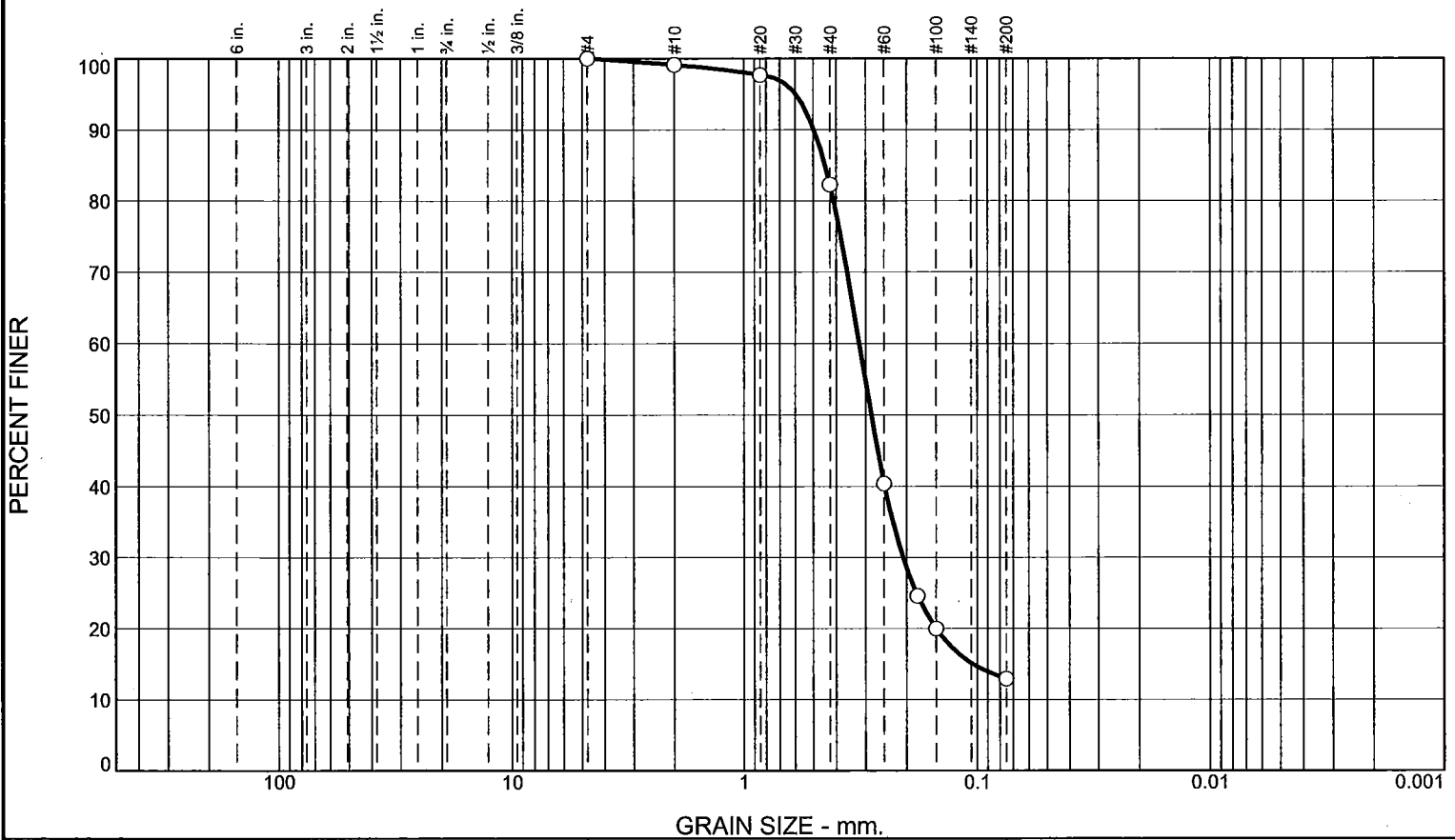
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.9	16.8	69.4	12.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.1		
#20	97.7		
#40	82.3		
#60	40.4		
#80	24.6		
#100	20.0		
#200	12.9		

Material Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.4966 D₈₅= 0.4454 D₆₀= 0.3193

D₅₀= 0.2838 D₃₀= 0.2076 D₁₅= 0.1044

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

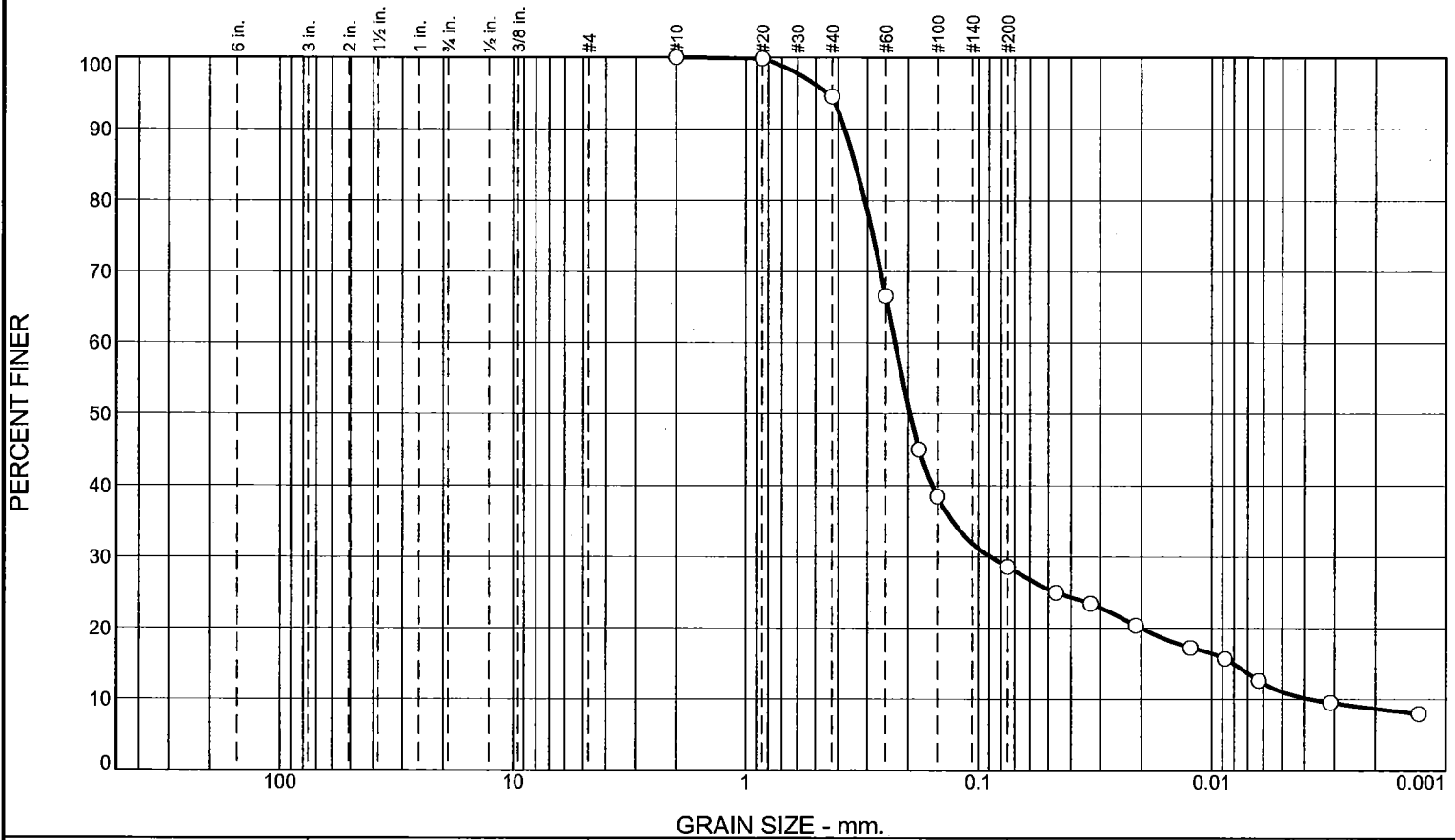
Remarks

* (no specification provided)

Sample Number: EP-4C SPT-3 **Depth:** 28.5'-30' **Date:** 10/27/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>
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Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	5.5	65.9	17.6	11.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.8		
#40	94.5		
#60	66.6		
#80	45.0		
#100	38.4		
#200	28.6		

Material Description

Dark brown silty sand

Atterberg Limits
 PL= 13 LL= 14 PI= 1

Coefficients

D ₉₀ = 0.3753	D ₈₅ = 0.3374	D ₆₀ = 0.2281
D ₅₀ = 0.1969	D ₃₀ = 0.0887	D ₁₅ = 0.0080
D ₁₀ = 0.0038	C _u = 59.83	C _c = 9.04

Classification
 USCS= SM AASHTO= A-2-4(0)

Remarks

* (no specification provided)

Sample Number: EP-4C ST-4 Depth: 33.5'-34'

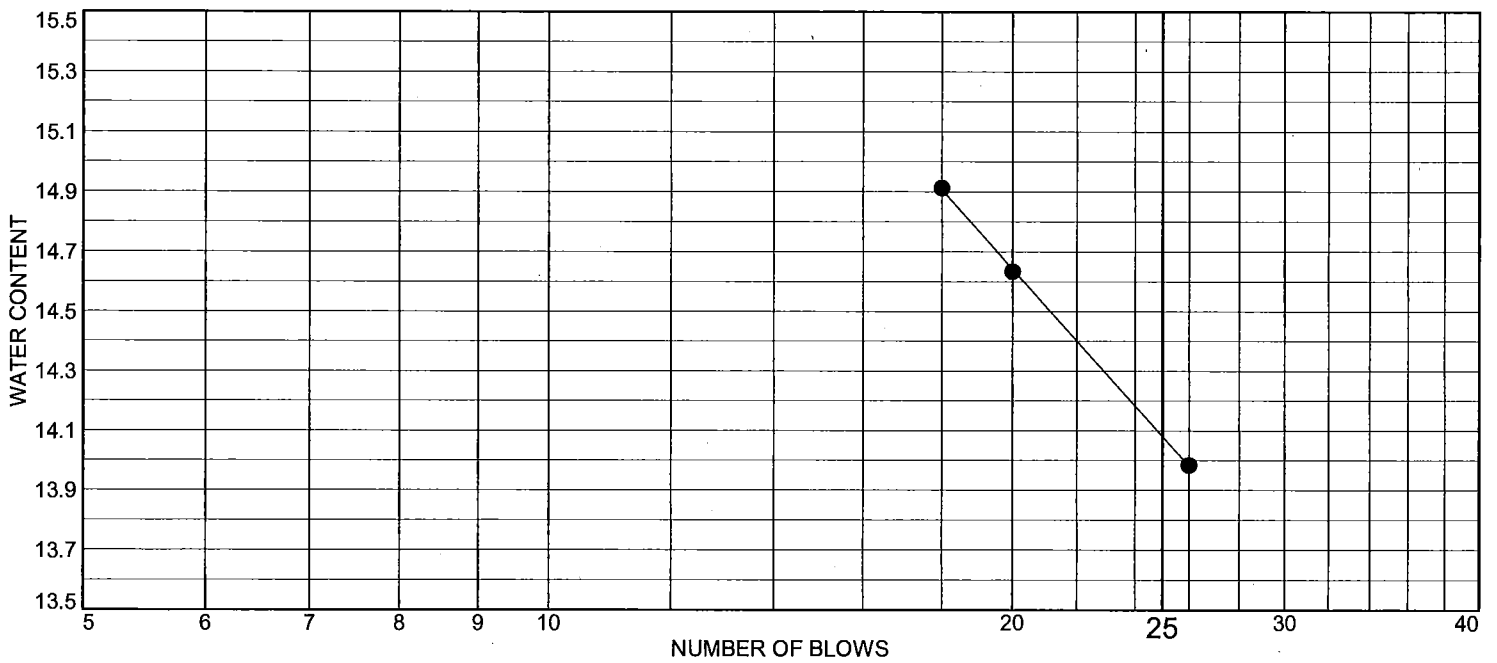
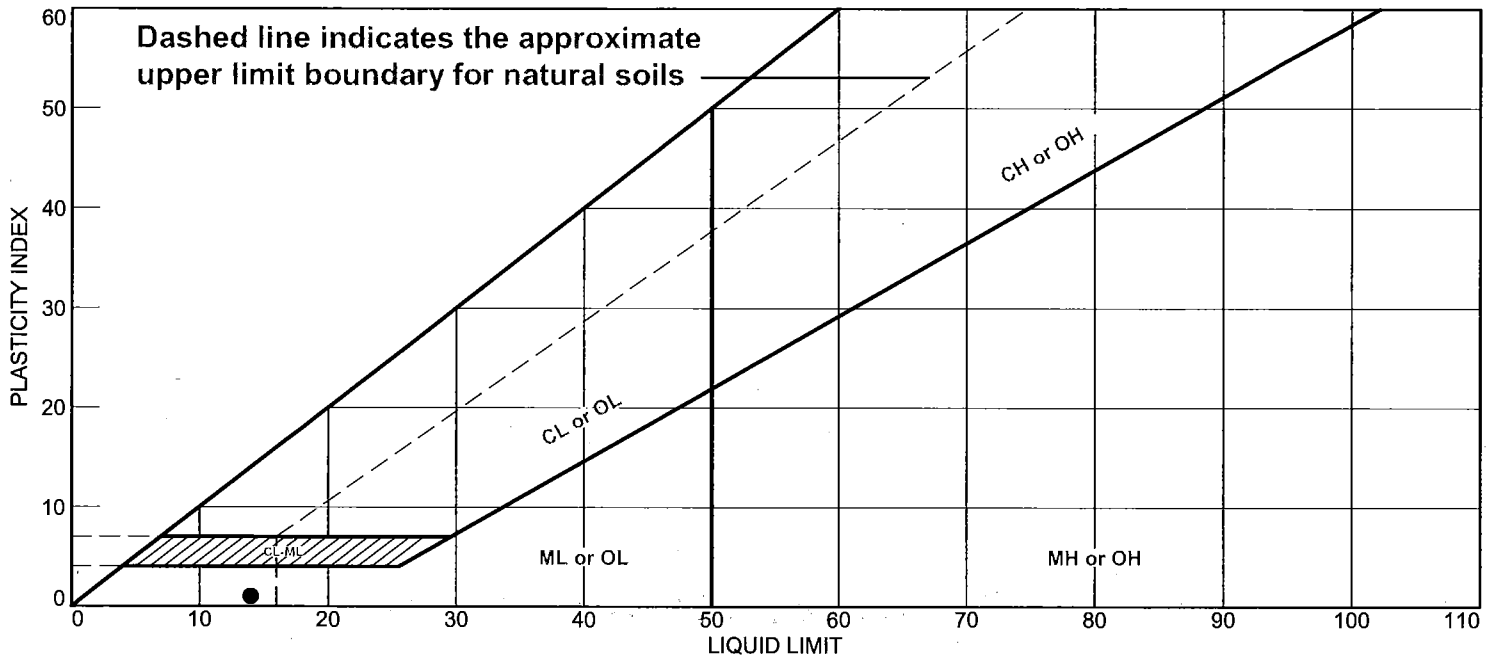
Date: 10/30/2015



Client: AECOM	Project: Dynegy CCR Ph 3/7 - Havana	
Project No: 15-391T		Figure 1 of 1

Tested By: D.B. Checked By: T.B.

LIQUID AND PLASTIC LIMITS TEST REPORT



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
Dark brown silty sand	14	13	1	94.5	28.6	SM

Project No. 15-391T **Client:** AECOM

Project: Dynegy CCR Ph 3/7 - Havana

Sample Number: EP-4C ST-4 **Depth:** 33.5'-34'

Remarks:

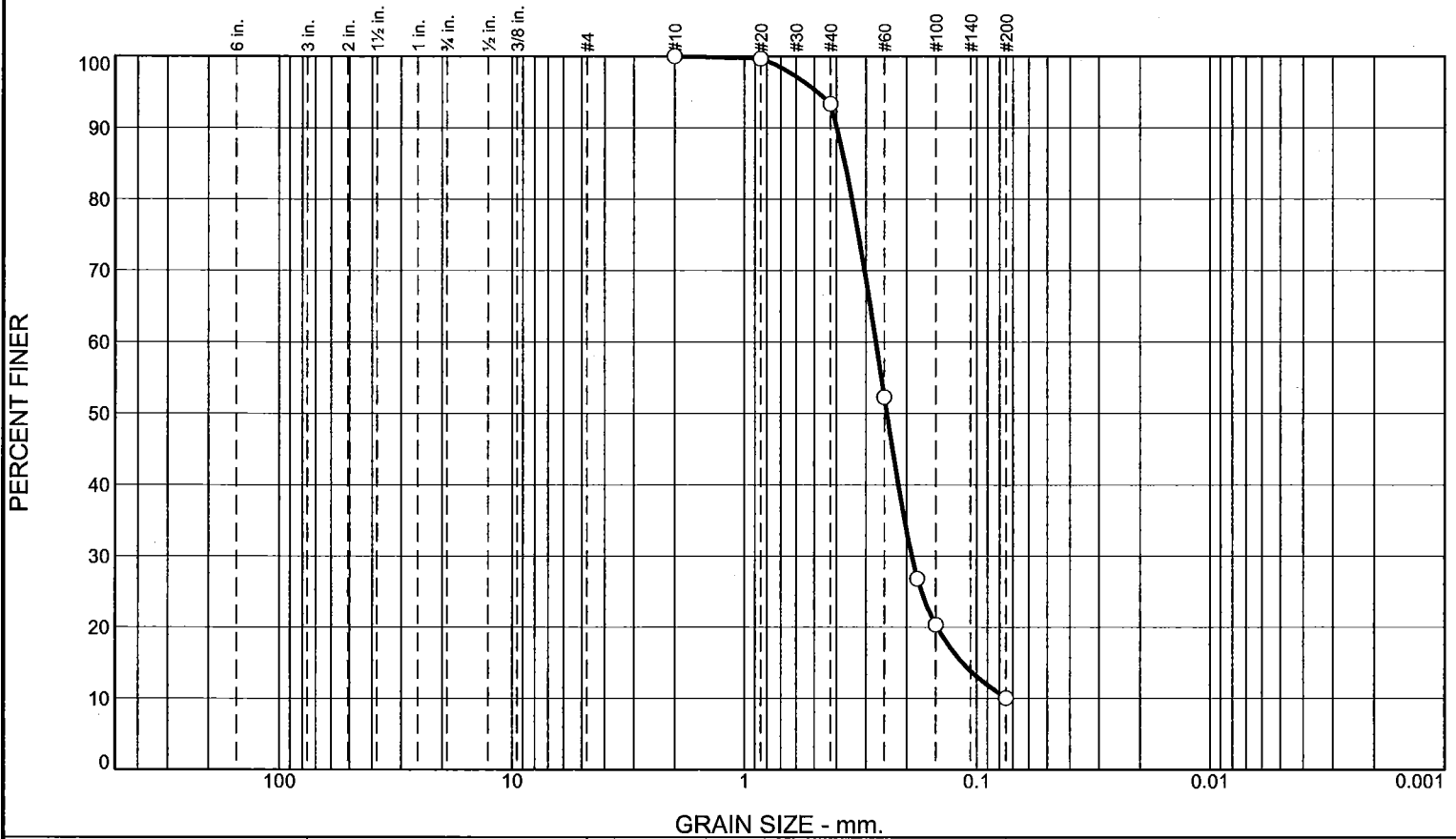


Figure 1 of 1

Tested By: D.B.

Checked By: T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	6.7	83.2	10.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.7		
#40	93.3		
#60	52.3		
#80	26.8		
#100	20.3		
#200	10.1		

Material Description

Reddish brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3987 D₈₅= 0.3685 D₆₀= 0.2721

D₅₀= 0.2439 D₃₀= 0.1903 D₁₅= 0.1150

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

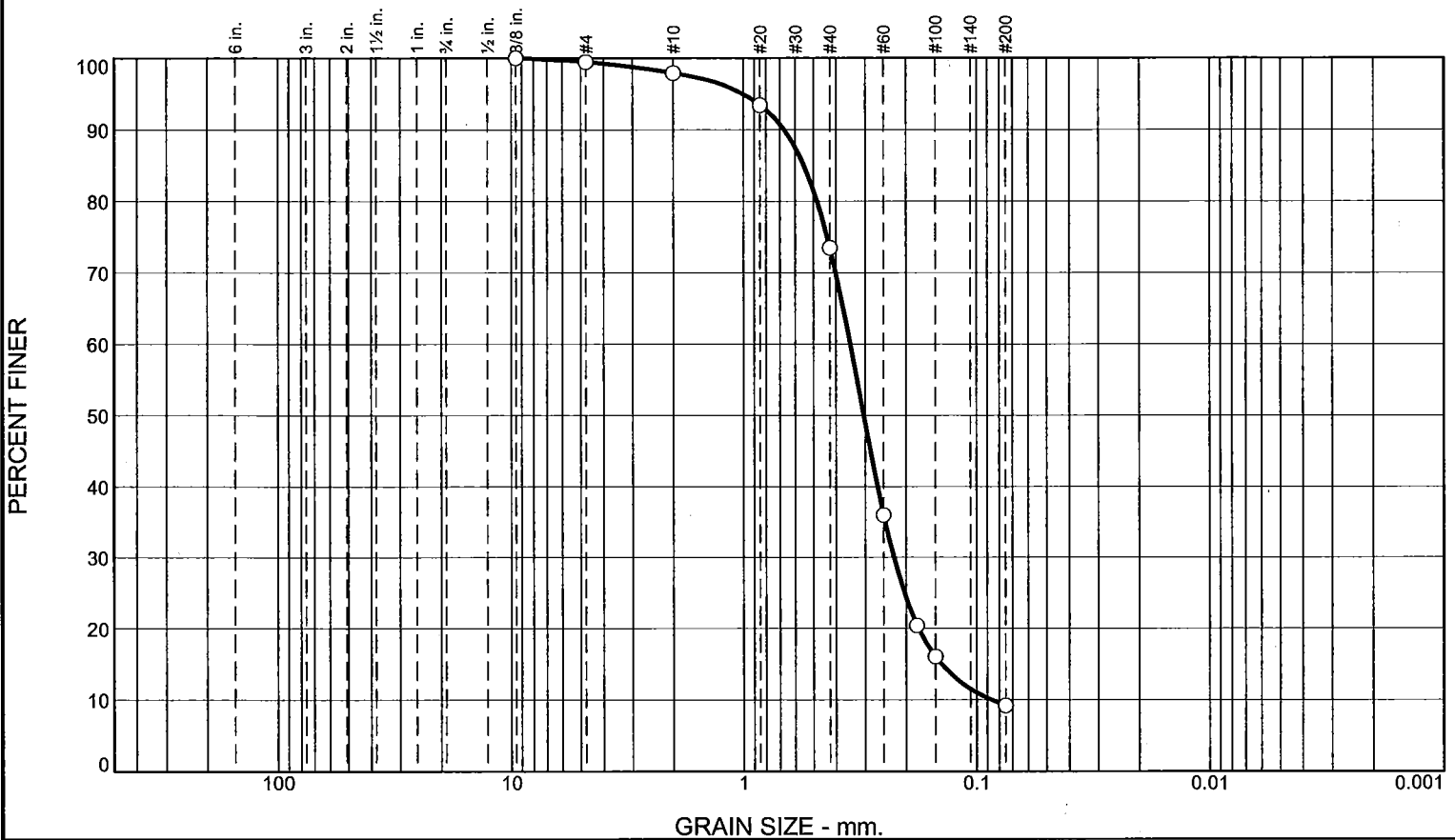
* (no specification provided)

Sample Number: EP-5C ST-1 **Depth:** 6'-7.5' **Date:** 10/26/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>	<p>Figure 1 of 1</p>
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Tested By: DB **Checked By:** TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	1.6	24.4	64.3	9.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.5		
#10	97.9		
#20	93.4		
#40	73.5		
#60	36.0		
#80	20.4		
#100	16.0		
#200	9.2		

Material Description

Brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.6692 D₈₅= 0.5502 D₆₀= 0.3482
D₅₀= 0.3049 D₃₀= 0.2259 D₁₅= 0.1414
D₁₀= 0.0863 C_u= 4.04 C_c= 1.70

Classification

USCS= AASHTO=

Remarks

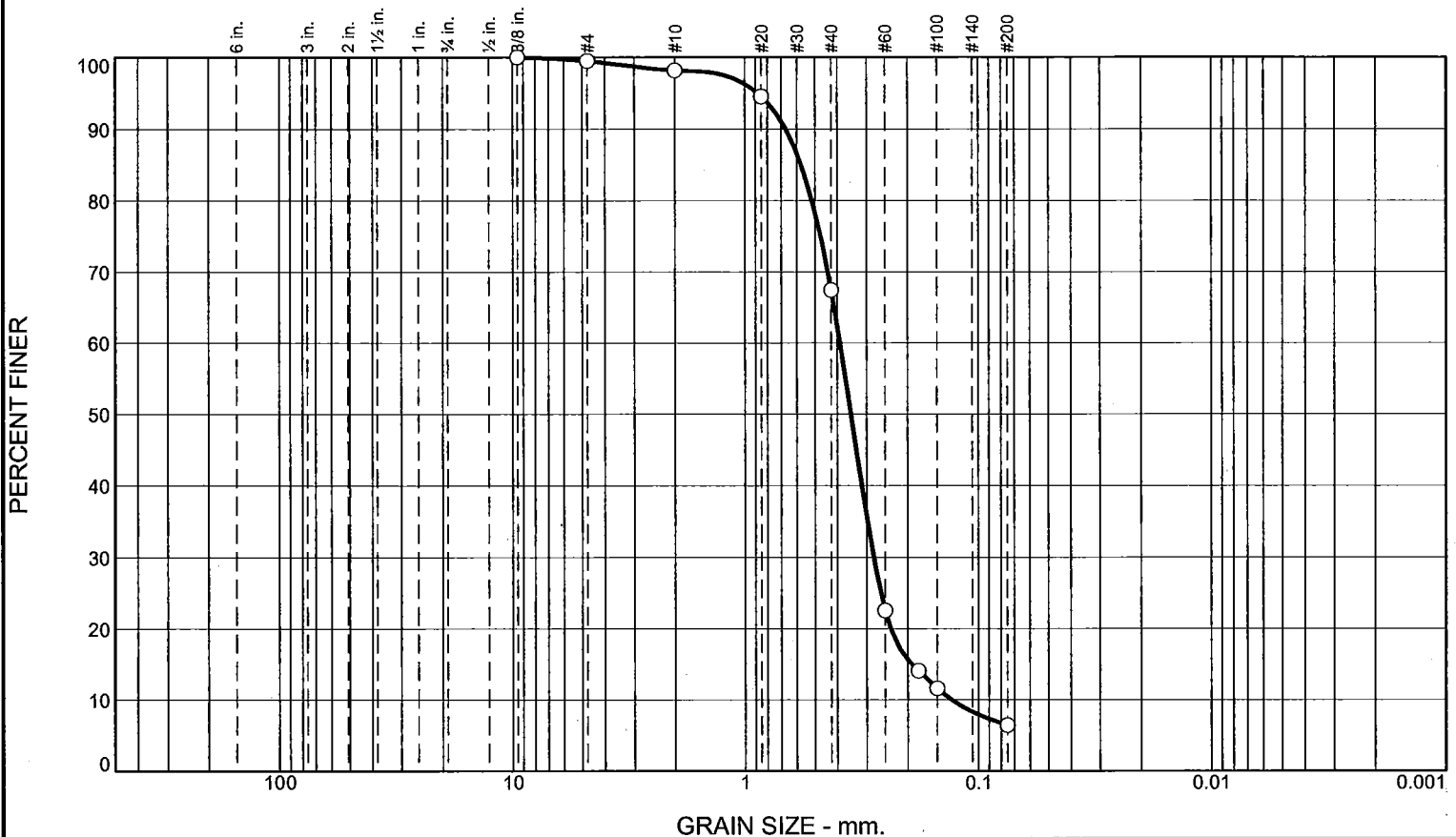
* (no specification provided)

Sample Number: EP-5C SPT-1 **Depth:** 11'-12.5' **Date:** 10/24/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: DB **Checked By:** TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	1.3	30.8	61.0	6.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.5		
#10	98.2		
#20	94.5		
#40	67.4		
#60	22.5		
#80	14.1		
#100	11.6		
#200	6.4		

Material Description

Brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.6685 D₈₅= 0.5742 D₆₀= 0.3896
D₅₀= 0.3501 D₃₀= 0.2800 D₁₅= 0.1928
D₁₀= 0.1306 C_u= 2.98 C_c= 1.54

Classification

USCS= AASHTO=

Remarks

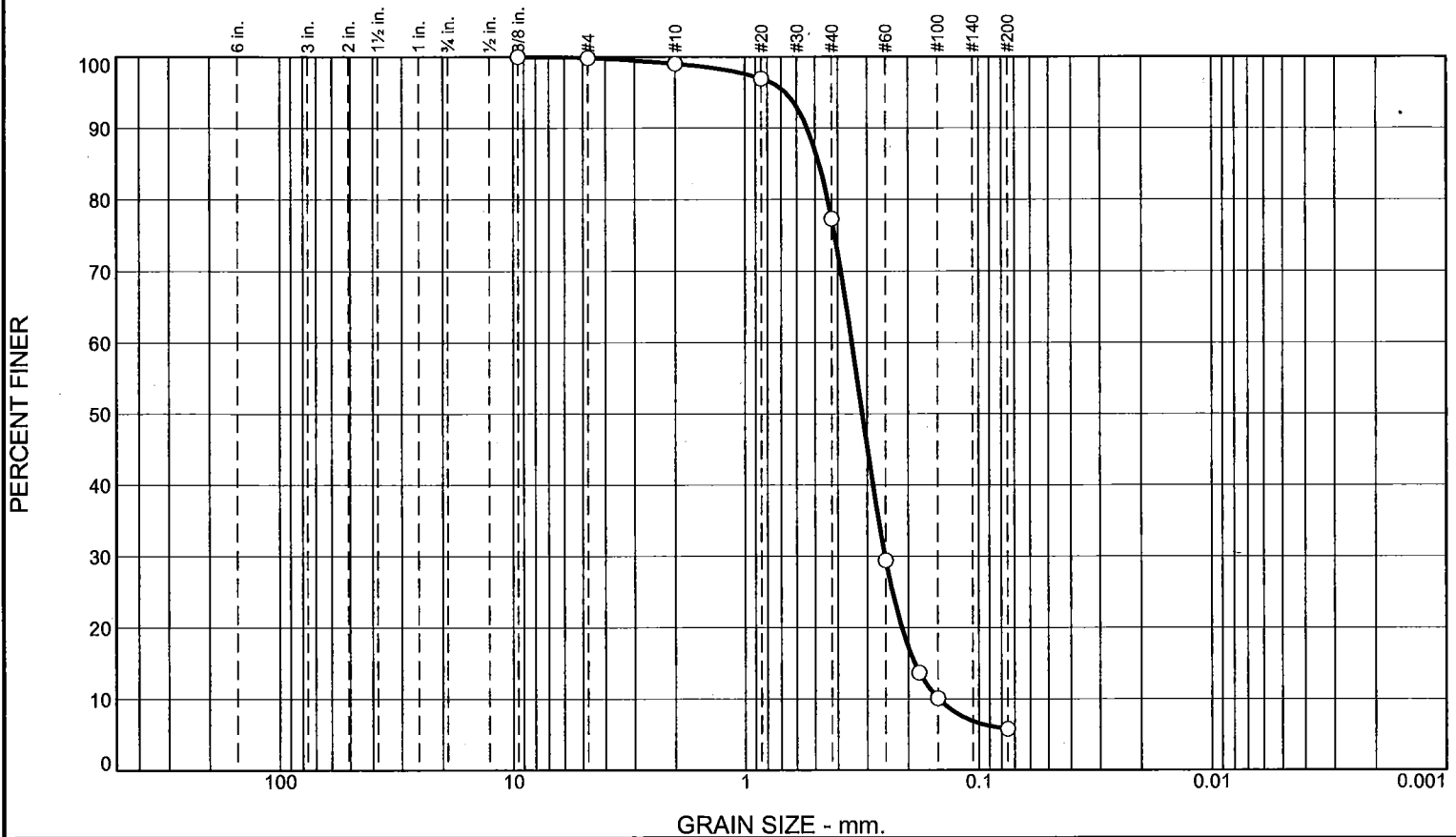
* (no specification provided)

Sample Number: EP-5C ST-2 Depth: 16'-17' Date: 10/25/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: D.B. Checked By: T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.8	21.7	71.5	5.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.8		
#10	99.0		
#20	96.9		
#40	77.3		
#60	29.4		
#80	13.7		
#100	10.1		
#200	5.8		

Material Description
Brown poorly graded sand with silt

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= 0.5404 D₈₅= 0.4811 D₆₀= 0.3486
 D₅₀= 0.3148 D₃₀= 0.2519 D₁₅= 0.1882
 D₁₀= 0.1490 C_u= 2.34 C_c= 1.22

Classification
 USCS= AASHTO=

Remarks

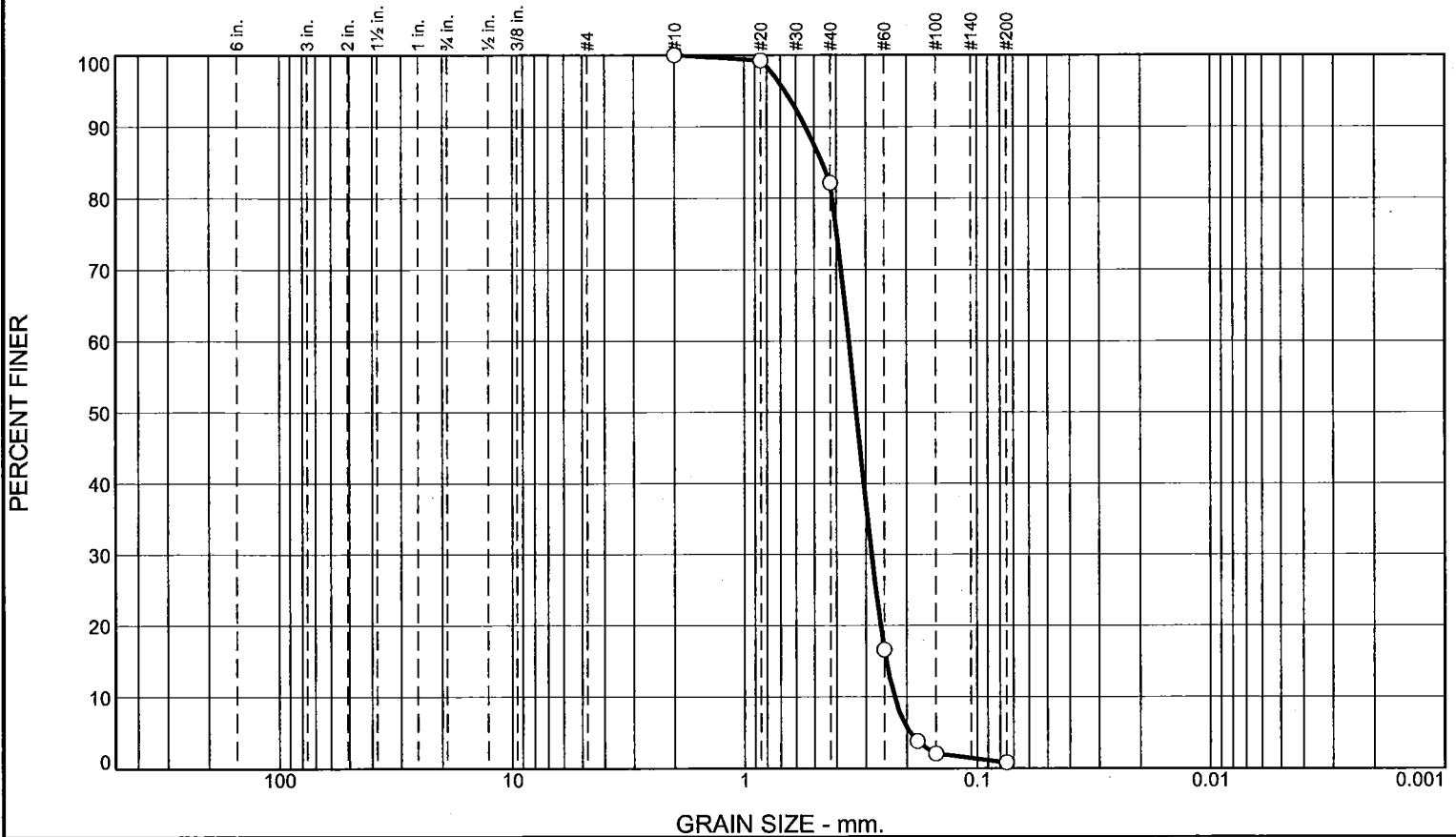
* (no specification provided)

Sample Number: EP-5C ST-3 Depth: 26'-27.5' Date: 10/25/2015

 ALPHA-OMEGA GEOTECH	Client: AECOM Project: Dynegy CCR Ph 3/7 - Havana Project No: 15-391T
Figure 1 of 1	

Tested By: D.B. Checked By: T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	17.9	81.3	0.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.3		
#40	82.1		
#60	16.6		
#80	3.8		
#100	2.0		
#200	0.8		

Material Description

Brown poorly graded sand

PL=	Atterberg Limits LL=	PI=
Coefficients		
D ₉₀ = 0.5453	D ₈₅ = 0.4622	D ₆₀ = 0.3543
D ₅₀ = 0.3297	D ₃₀ = 0.2839	D ₁₅ = 0.2450
D ₁₀ = 0.2263	C _u = 1.57	C _c = 1.01
Classification		
USCS=	AASHTO=	
Remarks		

* (no specification provided)

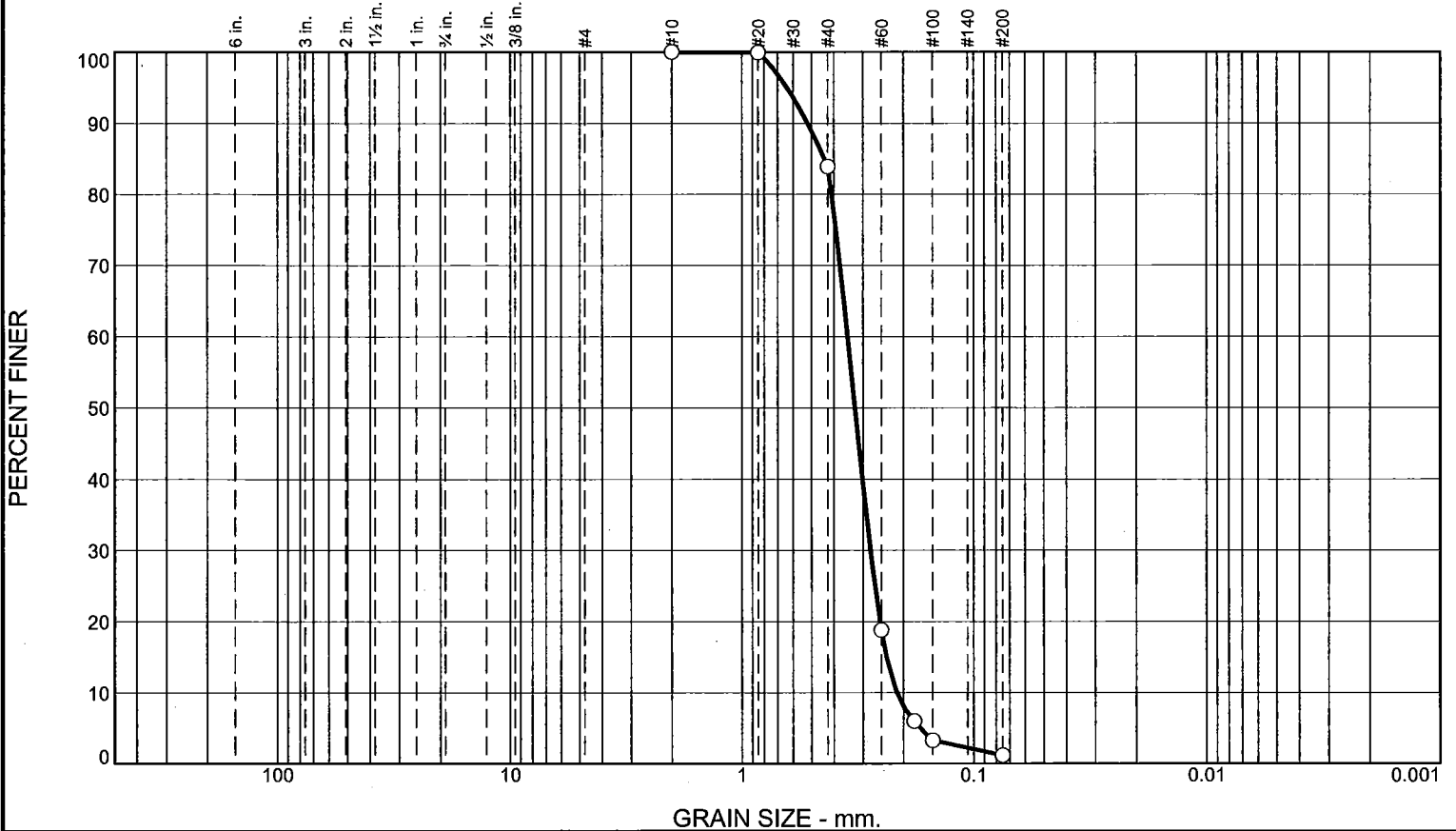
Sample Number: EP-5C ST-4 Depth: 41' - 42.5'

Date: 10/25/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: D.B. Checked By: T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	16.1	82.8	1.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#40	83.9		
#60	18.8		
#80	6.0		
#100	3.2		
#200	1.1		

Material Description		
Brown poorly graded sand		
PL=	Atterberg Limits	
	LL=	PI=
Coefficients		
D ₉₀ = 0.5194	D ₈₅ = 0.4396	D ₆₀ = 0.3494
D ₅₀ = 0.3251	D ₃₀ = 0.2791	D ₁₅ = 0.2373
D ₁₀ = 0.2141	C _u = 1.63	C _c = 1.04
USCS=	Classification	
	AASHTO=	
Remarks		

* (no specification provided)

Sample Number: EP-5C SPT-5

Depth: 46'-47.5'

Date: 10/24/2015



ALPHA-OMEGA GEOTECH

Client: AECOM

Project: Dynege CCR Ph 3/7 - Havana

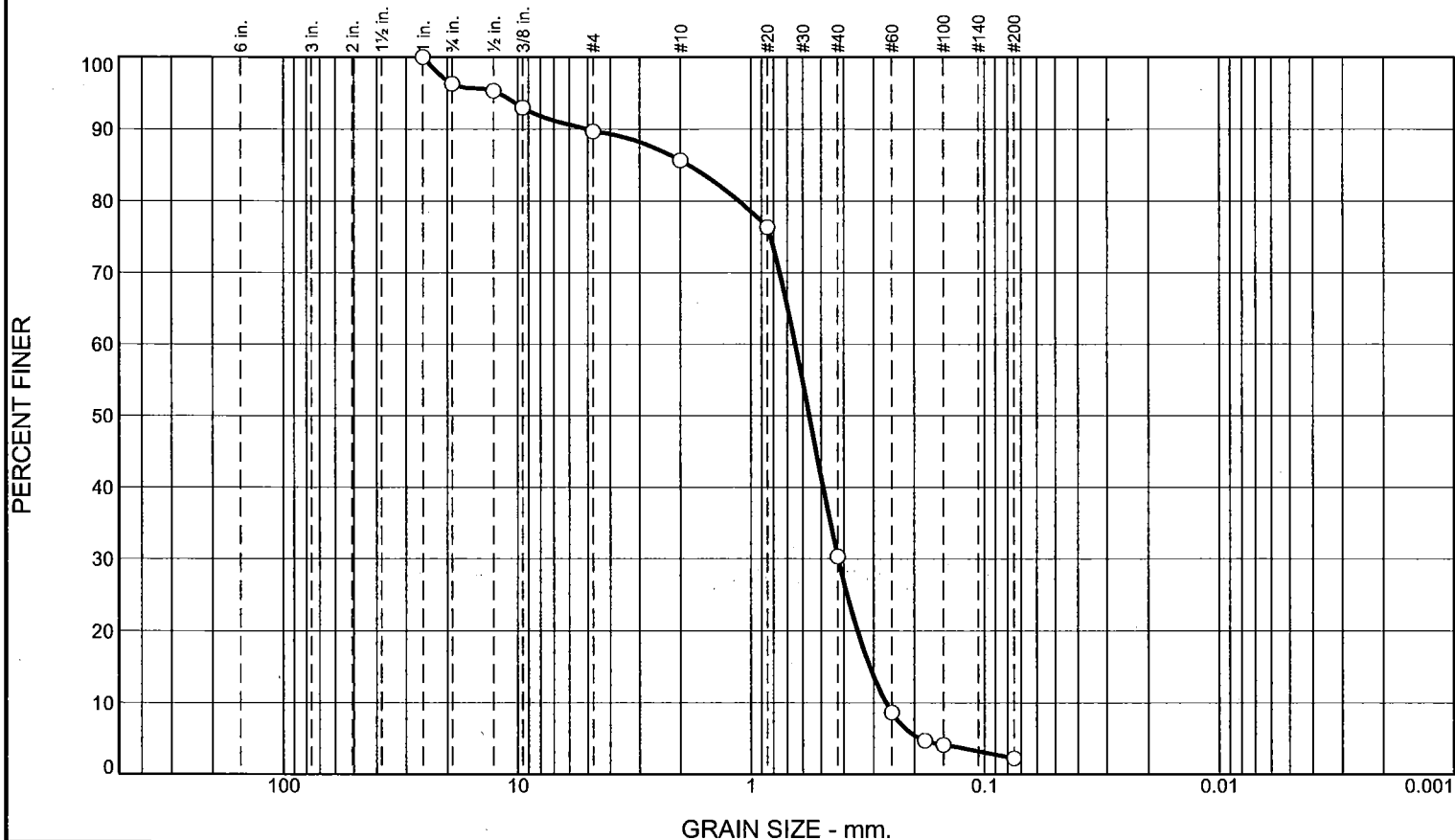
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	3.7	6.6	4.1	55.3	28.1	2.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.0	100.0		
.75	96.3		
.5	95.3		
.375	92.9		
#4	89.7		
#10	85.6		
#20	76.4		
#40	30.3		
#60	8.6		
#80	4.7		
#100	4.1		
#200	2.2		

Material Description

Brown poorly graded sand

Atterberg Limits	PL=	LL=	PI=
Coefficients	D ₉₀ = 5.0849	D ₈₅ = 1.8477	D ₆₀ = 0.6465
	D ₅₀ = 0.5631	D ₃₀ = 0.4228	D ₁₅ = 0.3115
	D ₁₀ = 0.2652	C _u = 2.44	C _c = 1.04

Classification	USCS=	AASHTO=
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Remarks

* (no specification provided)

Sample Number: EP-5C SPT-7 Depth: 56'-57.5'

Date: 11/3/2015



ALPHA-OMEGA GEOTECH

Client: AECOM
Project: Dynege CCR Ph 3/7 - Havana

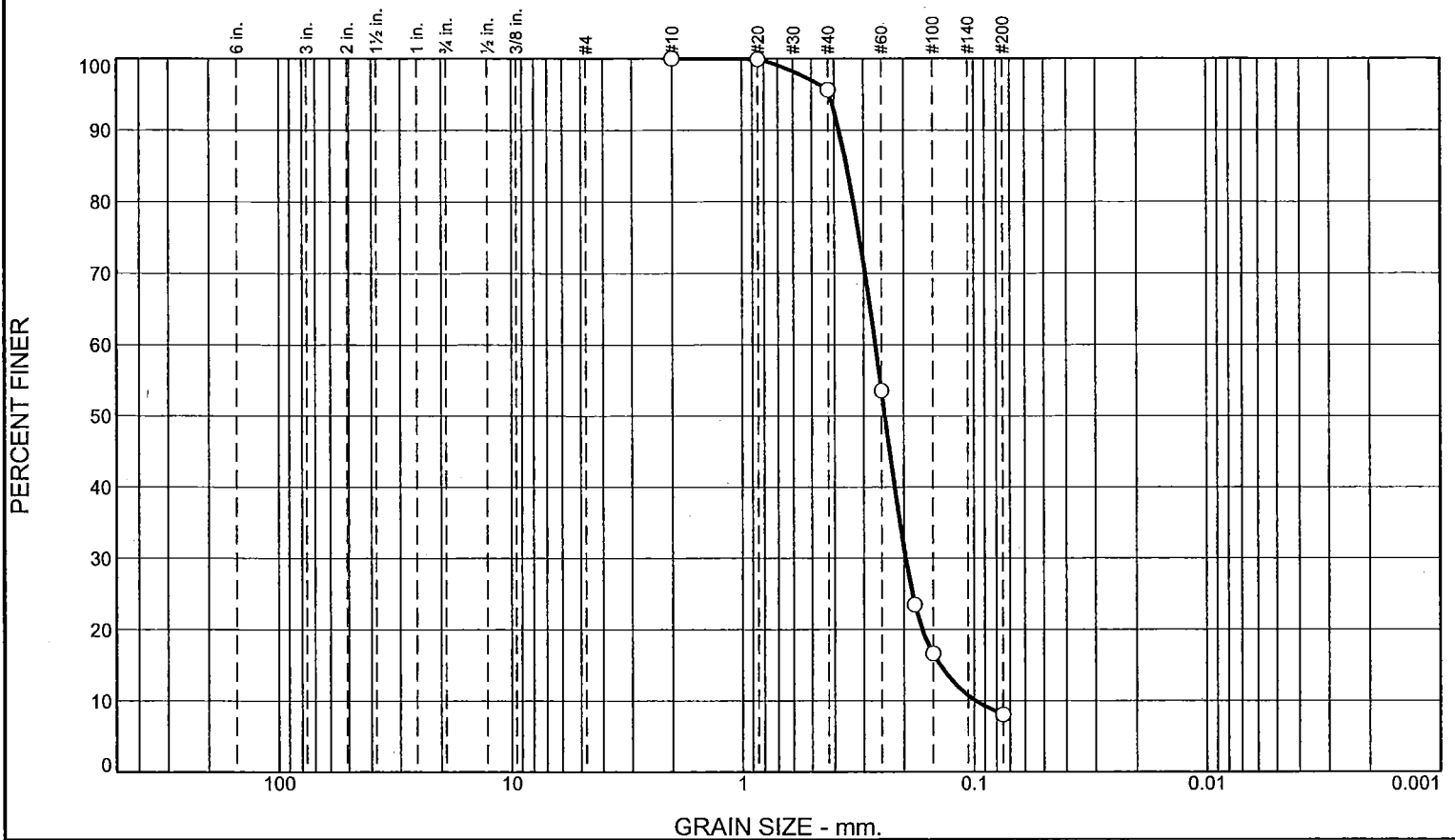
Project No: 15-391T

Figure 1 of 1

Tested By: D.B.

Checked By: T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	4.3	87.7	8.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#40	95.7		
#60	53.5		
#80	23.5		
#100	16.6		
#200	8.0		

Material Description

Brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3818 D₈₅= 0.3542 D₆₀= 0.2663

D₅₀= 0.2416 D₃₀= 0.1970 D₁₅= 0.1398

D₁₀= 0.0986 C_u= 2.70 C_c= 1.48

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-5T SPT-1

Depth: 3.5'-5'

Date: 10/24/2015



Client: AECOM
Project: Dynege CCR Ph 3/7 - Havana

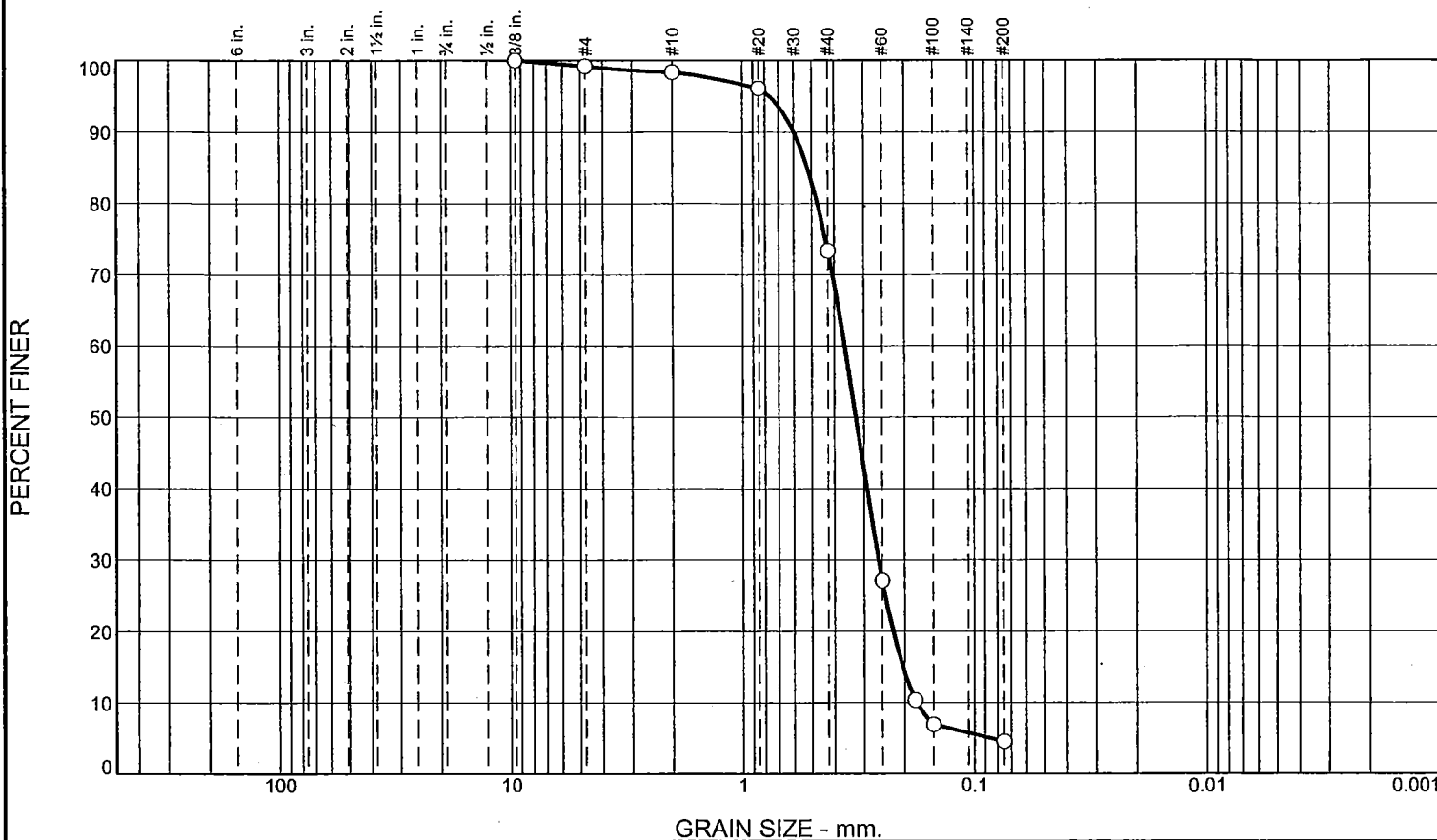
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.8	0.8	25.1	68.7	4.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.2		
#10	98.4		
#20	96.1		
#40	73.3		
#60	27.1		
#80	10.4		
#100	6.9		
#200	4.6		

Material Description

Brown poorly graded sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.5964 D₈₅= 0.5203 D₆₀= 0.3616
D₅₀= 0.3247 D₃₀= 0.2596 D₁₅= 0.2043
D₁₀= 0.1776 C_u= 2.04 C_c= 1.05

Classification

USCS= AASHTO=

Remarks

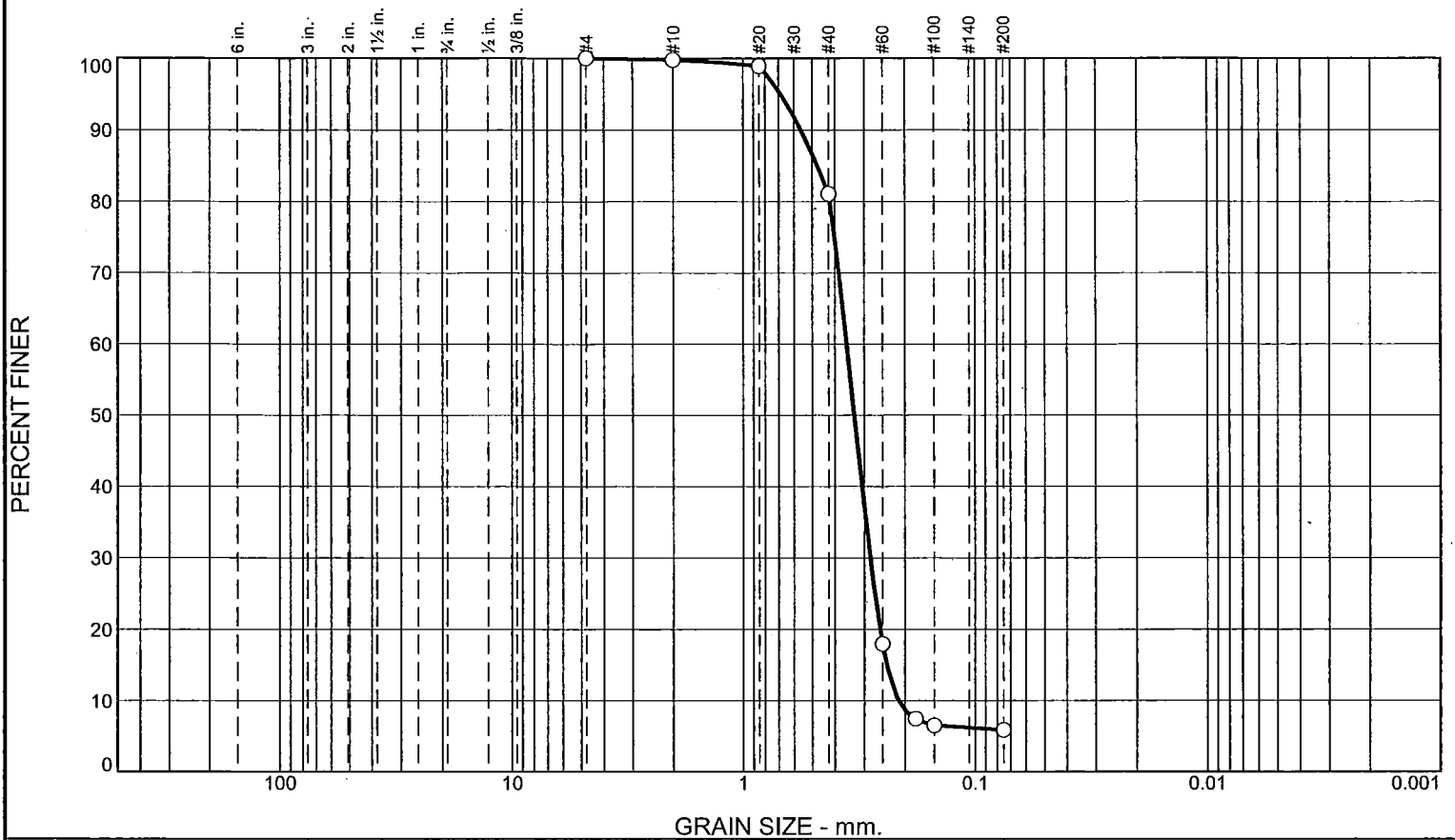
* (no specification provided)

Sample Number: EP-5T SPT-2 Depth: 8.5'-10' Date: 10/24/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>	<p>Figure 1 of 1</p>
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Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	18.7	75.3	5.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.8		
#20	98.9		
#40	81.1		
#60	18.0		
#80	7.5		
#100	6.5		
#200	5.8		

Material Description

Brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.5595 D₈₅= 0.4752 D₆₀= 0.3558
D₅₀= 0.3304 D₃₀= 0.2827 D₁₅= 0.2395
D₁₀= 0.2134 C_u= 1.67 C_c= 1.05

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-5T SPT-3 **Depth:** 13.5'-15'

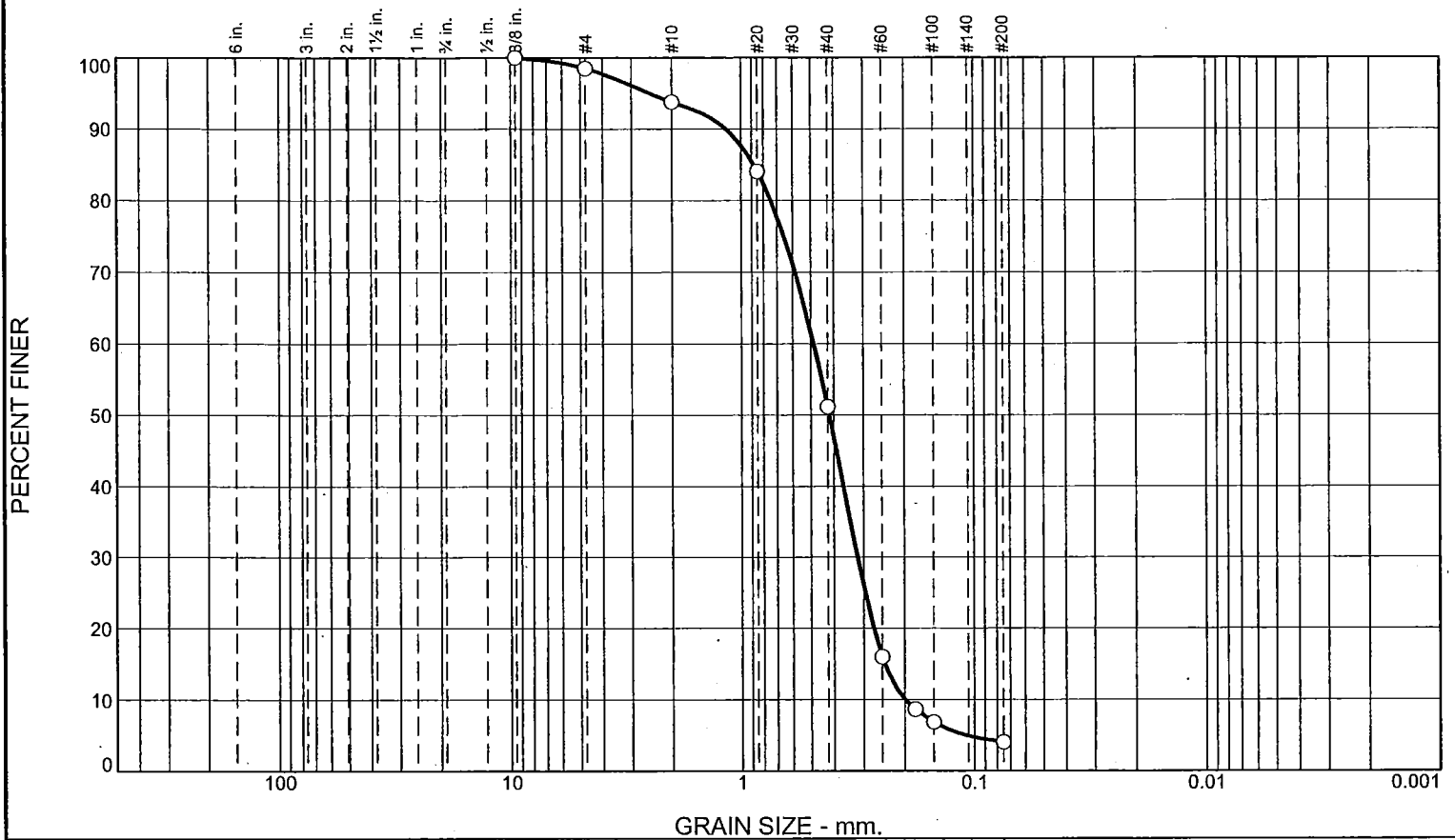
Date: 10/24/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynege CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>
<p>Figure 1 of 1</p>	

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.5	4.7	42.7	47.1	4.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	98.5		
#10	93.8		
#20	84.1		
#40	51.1		
#60	16.0		
#80	8.7		
#100	6.9		
#200	4.0		

Material Description

Brown poorly graded sand

PL=	Atterberg Limits	PI=
	LL=	
	Coefficients	
D ₉₀ = 1.1624	D ₈₅ = 0.8819	D ₆₀ = 0.4871
D ₅₀ = 0.4181	D ₃₀ = 0.3181	D ₁₅ = 0.2438
D ₁₀ = 0.1997	C _u = 2.44	C _c = 1.04
	Classification	
USCS=	AASHTO=	
	Remarks	

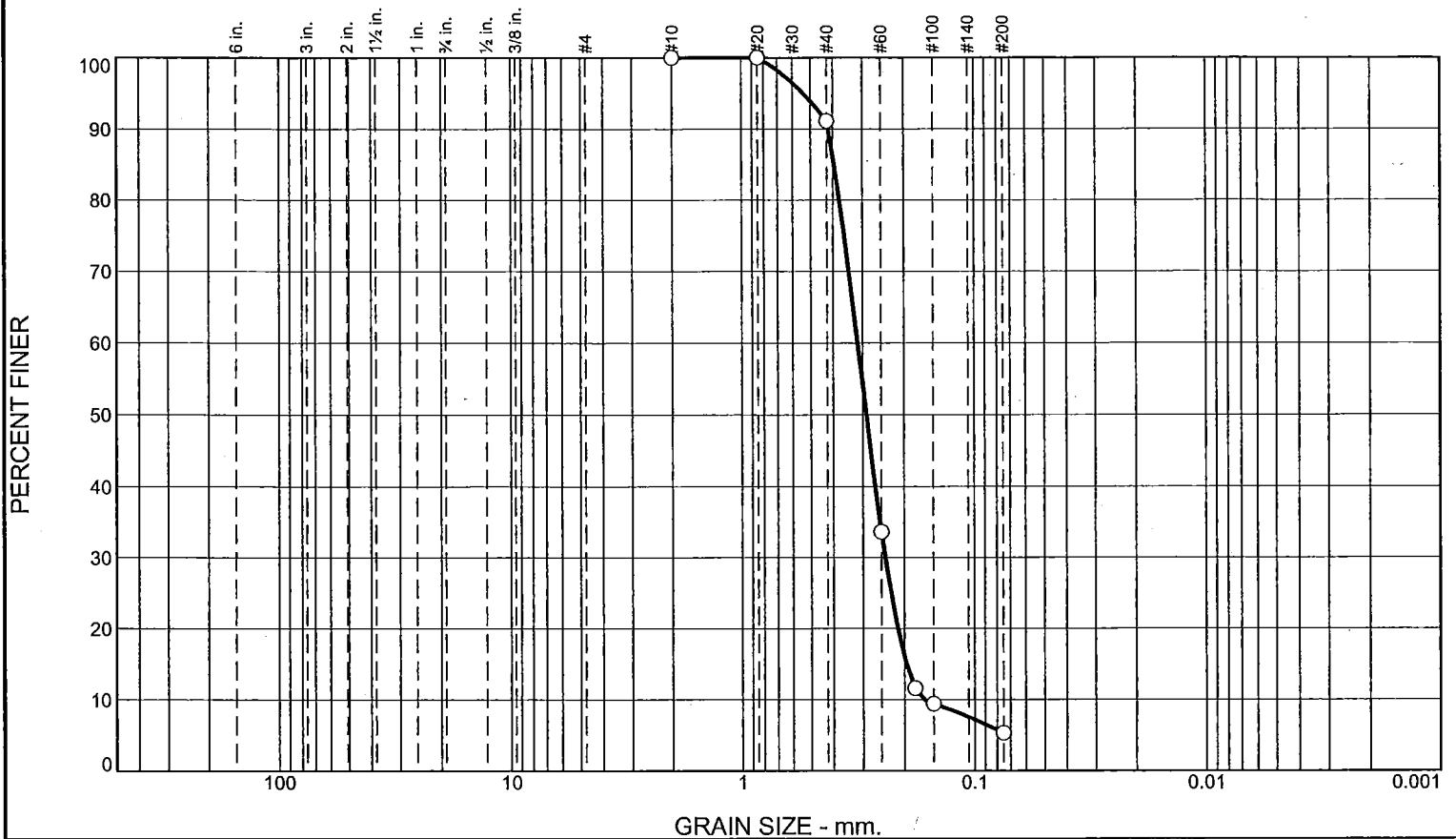
* (no specification provided)

Sample Number: EP-5T SPT-4 Depth: 18.5'-20' Date: 10/24/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynege CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	8.9	85.8	5.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	100.0		
#40	91.1		
#60	33.6		
#80	11.6		
#100	9.4		
#200	5.3		

Material Description

Brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.4187 D₈₅= 0.3950 D₆₀= 0.3147
D₅₀= 0.2895 D₃₀= 0.2410 D₁₅= 0.1964
D₁₀= 0.1652 C_u= 1.91 C_c= 1.12

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-5T SPT-6 **Depth:** 28.5'-30'

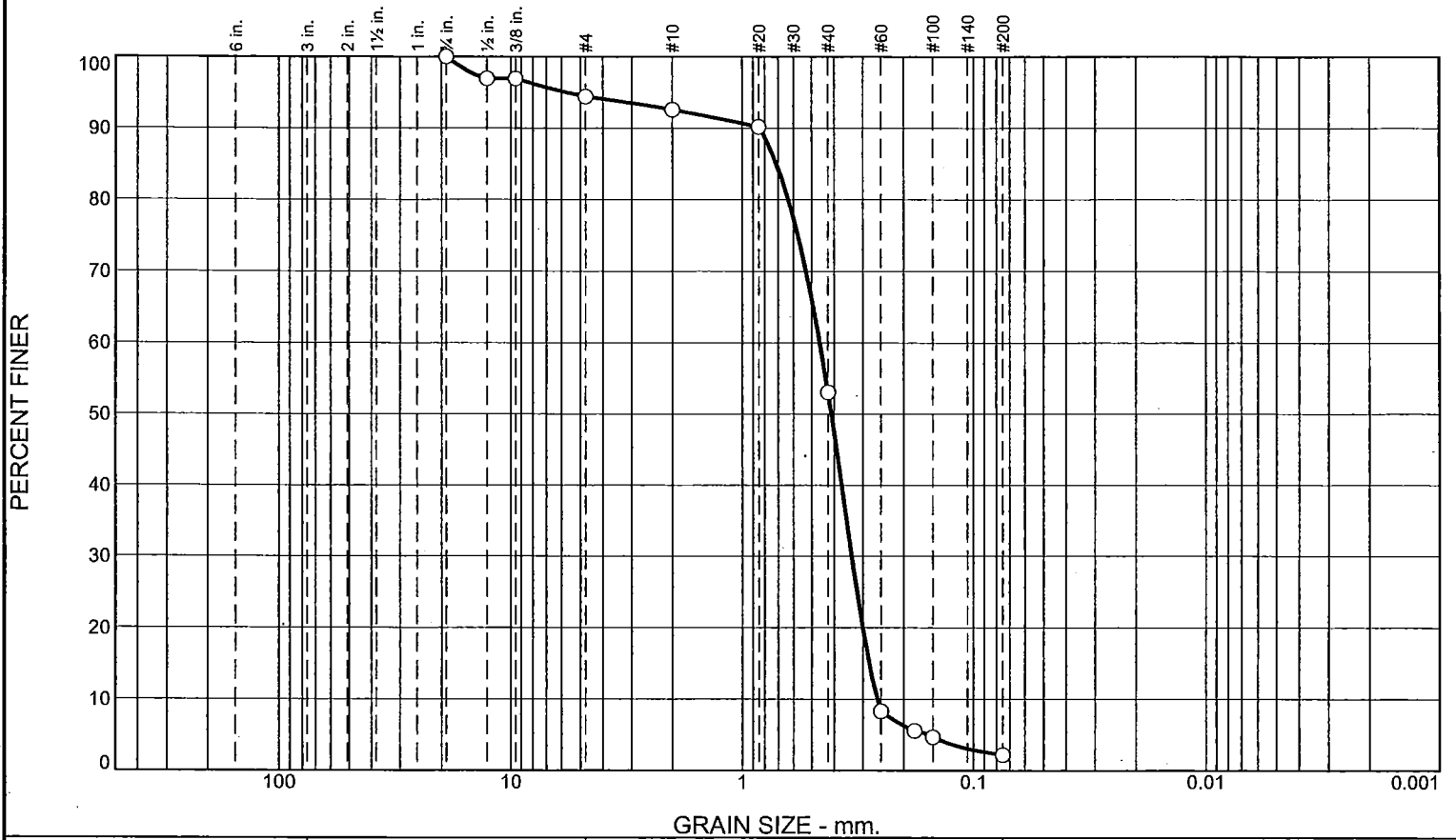
Date: 10/24/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynege CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>
<p>Figure 1 of 1</p>	

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	5.6	1.8	39.6	50.8	2.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.5	96.9		
.375	96.9		
#4	94.4		
#10	92.6		
#20	90.2		
#40	53.0		
#60	8.3		
#80	5.5		
#100	4.7		
#200	2.2		

Material Description

Brown poorly graded sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.8432 D₈₅= 0.7112 D₆₀= 0.4611

D₅₀= 0.4114 D₃₀= 0.3356 D₁₅= 0.2818

D₁₀= 0.2597 C_u= 1.78 C_c= 0.94

Classification

USCS= AASHTO=

Remarks

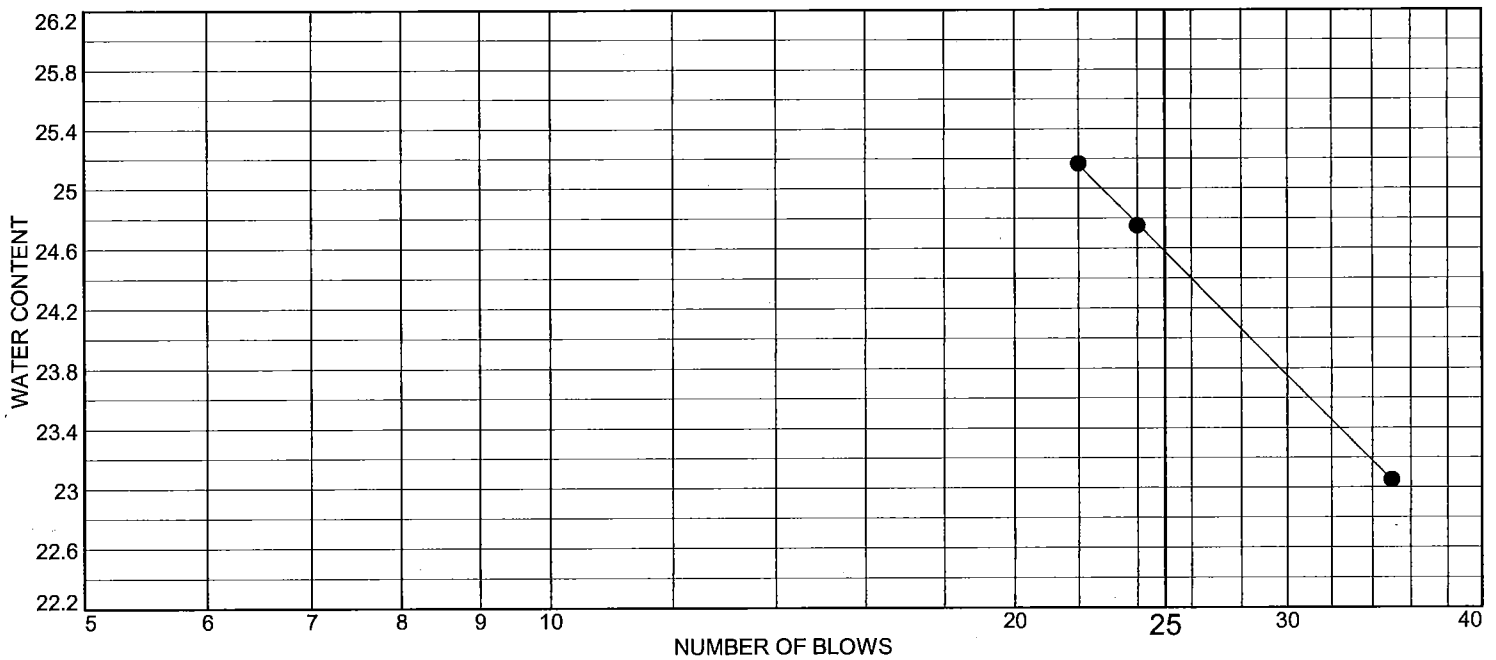
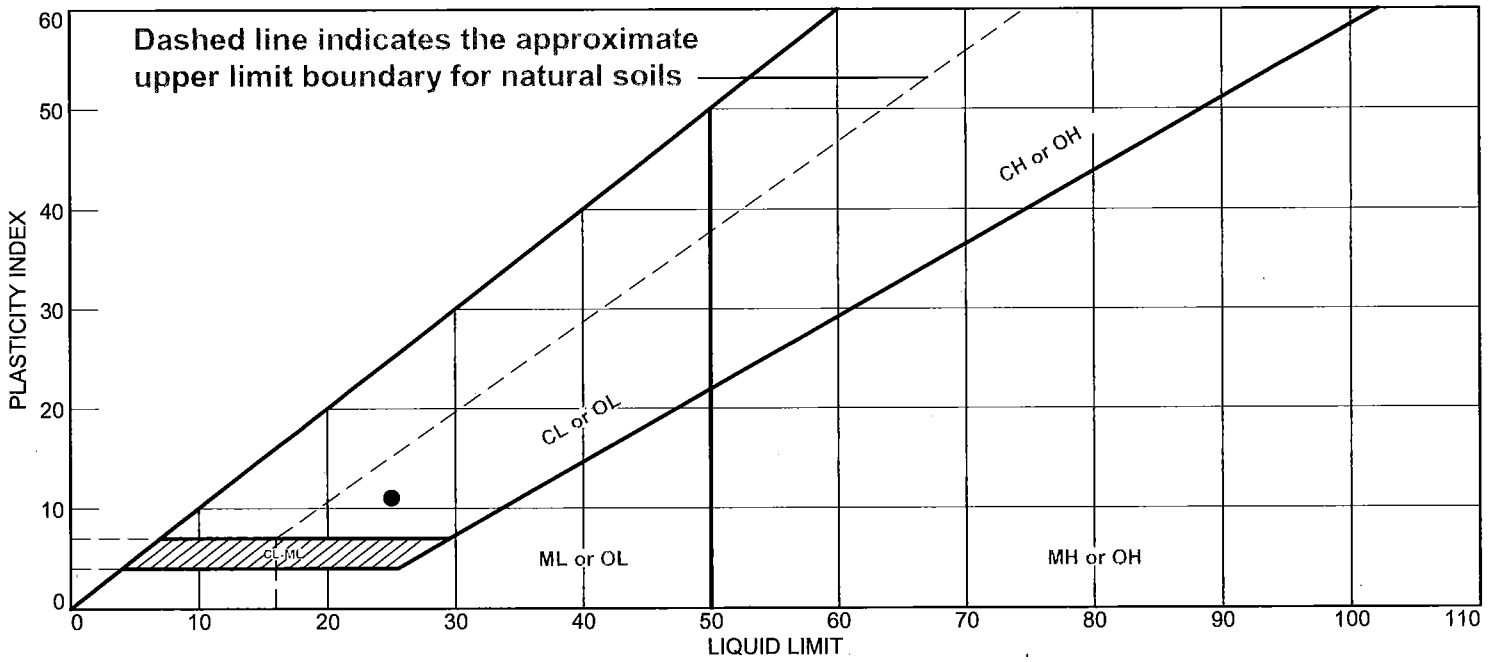
* (no specification provided)

Sample Number: EP-5T SPT-8 Depth: 38.5'-40' Date: 10/24/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynege CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: DB Checked By: TB

LIQUID AND PLASTIC LIMITS TEST REPORT



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
• Dark brown, mottled gray clayey sand	25	14	11	88.8	43.1	SC

Project No. 15-391T **Client:** AECOM
Project: Dynege CCR Ph 3/7 - Havana
Sample Number: EP-6C ST-1 **Depth:** 3.5'-5'

Remarks:

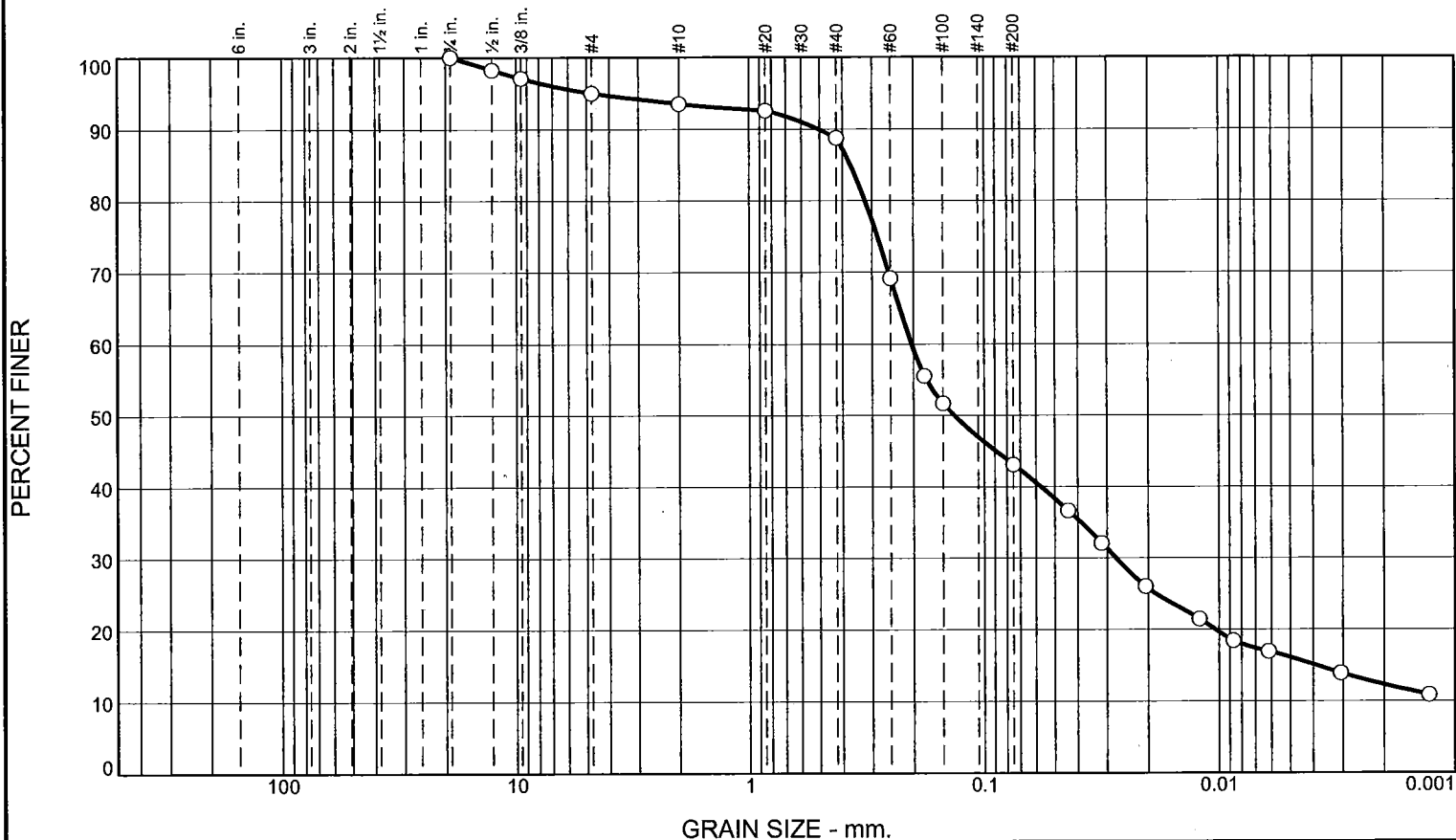
Figure 1 of 1



Tested By: D.B.

Checked By: T.B. 114

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	5.0	1.5	4.7	45.7	27.0	16.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.5	98.3		
.375	97.1		
#4	95.0		
#10	93.5		
#20	92.6		
#40	88.8		
#60	69.1		
#80	55.5		
#100	51.7		
#200	43.1		

Material Description

Dark brown, mottled gray clayey sand

Atterberg Limits

PL= 14 LL= 25 PI= 11

Coefficients

D₉₀= 0.5076 D₈₅= 0.3699 D₆₀= 0.2043
 D₅₀= 0.1346 D₃₀= 0.0275 D₁₅= 0.0039
 D₁₀= C_u= C_c=

Classification

USCS= SC AASHTO= A-6(1)

Remarks

* (no specification provided)

Sample Number: EP-6C ST-1

Depth: 3.5'-5'

Date: 10/15/2015



ALPHA-OMEGA GEOTECH

Client: AECOM

Project: Dynegy CCR Ph 3/7 - Havana

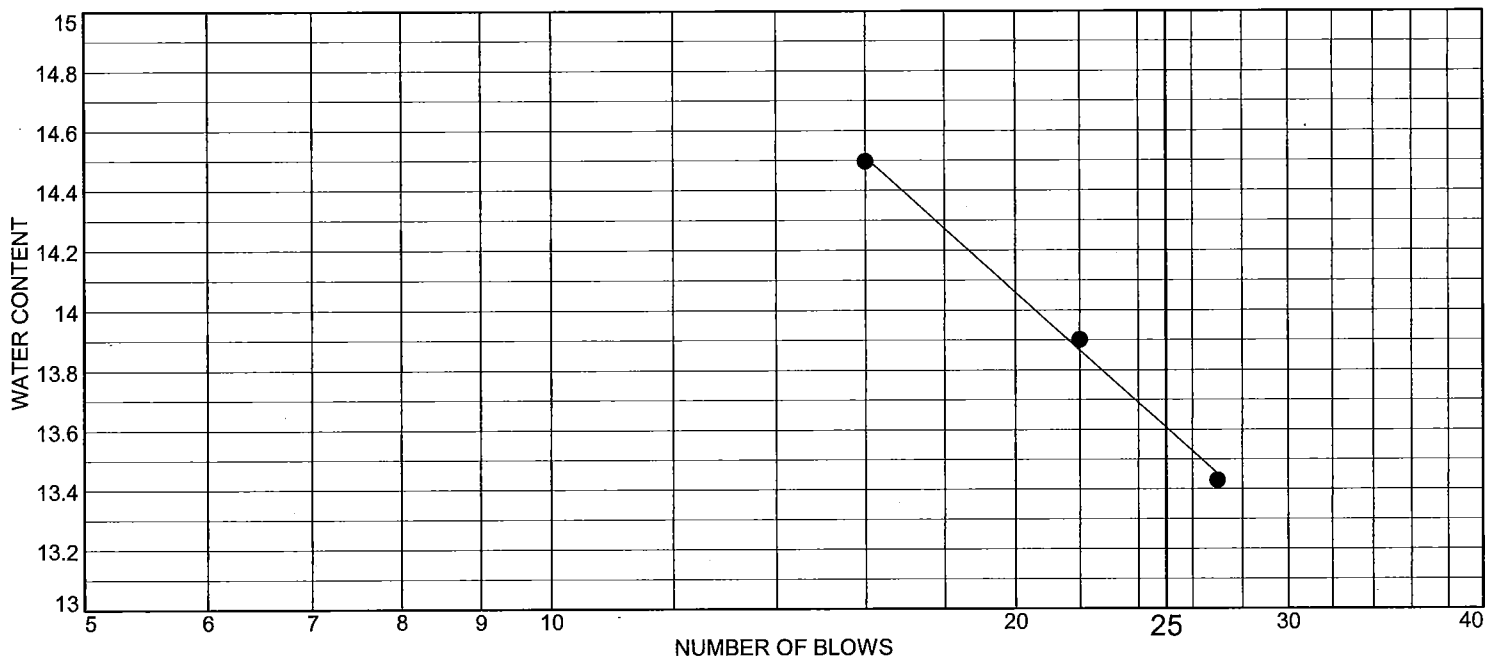
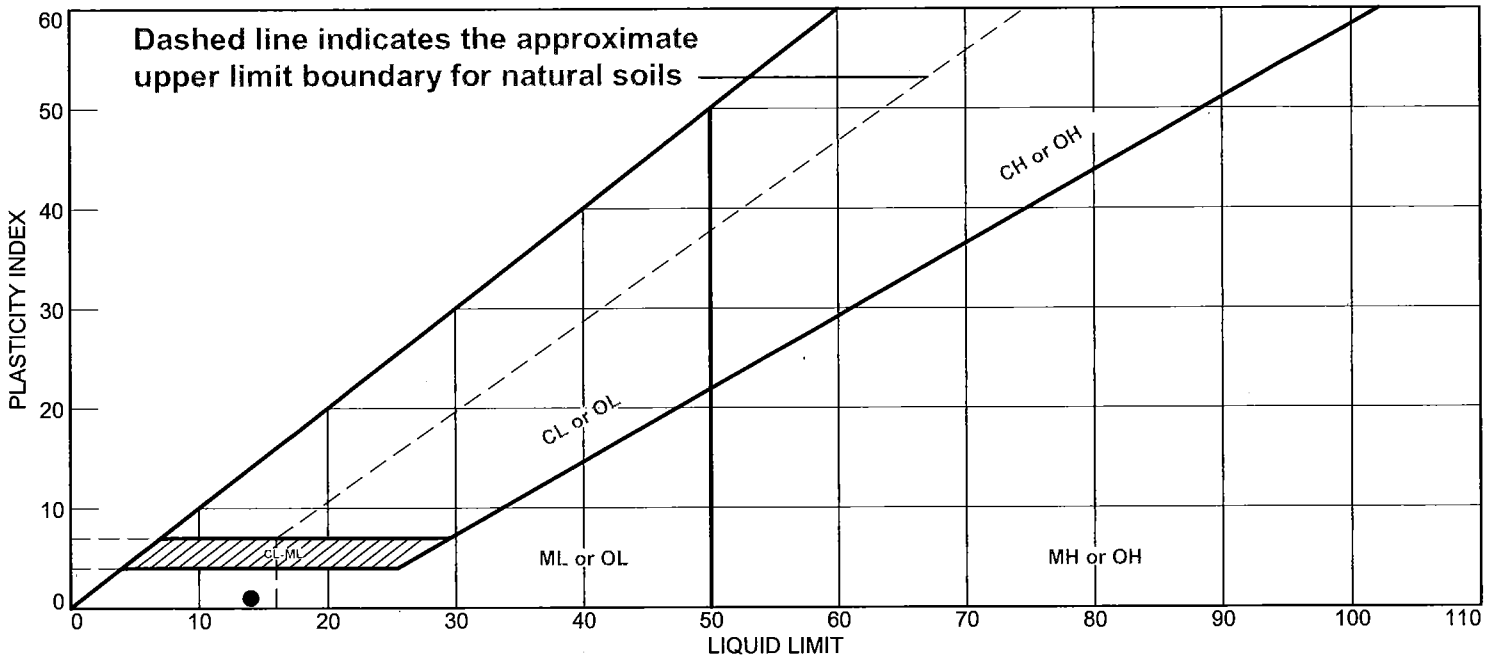
Project No: 15-391T

Figure 1 of 1

Tested By: D.B.

Checked By: T.B.

LIQUID AND PLASTIC LIMITS TEST REPORT



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● Brown silty sand	14	13	1	90.5	36.3	SM

Project No. 15-391T **Client:** AECOM
Project: Dynegy CCR Ph 3/7 - Havana
Sample Number: EP-6C SPT-1 **Depth:** 8.5'-10'

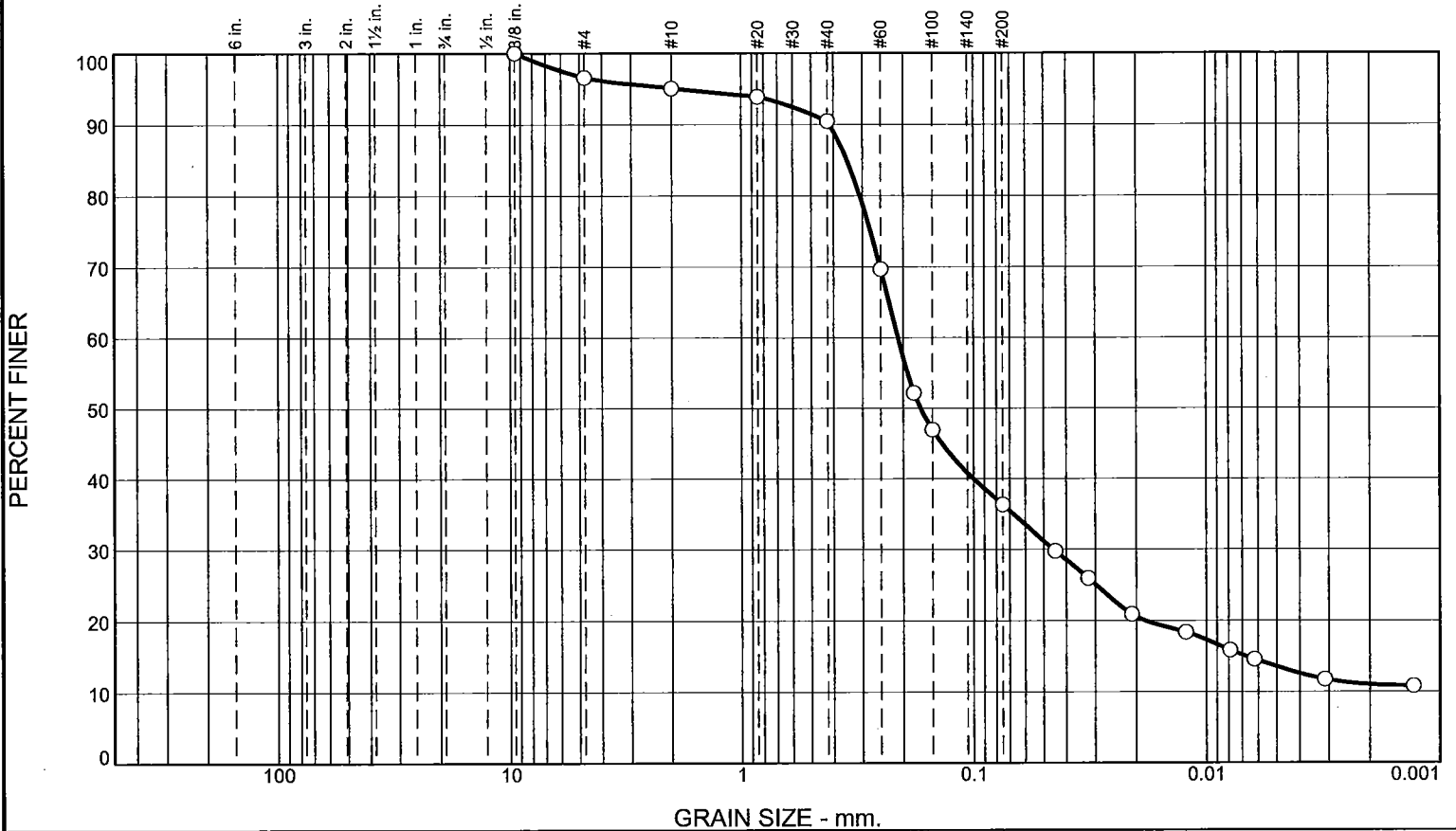
Remarks:



Figure 1 of 1

Tested By: D.B. **Checked By:** T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.4	1.5	4.6	54.2	22.8	13.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	96.6		
#10	95.1		
#20	93.9		
#40	90.5		
#60	69.6		
#80	52.1		
#100	46.9		
#200	36.3		

Material Description

Brown silty sand

Atterberg Limits

PL= 13 LL= 14 PI= 1

Coefficients

D₉₀= 0.4159 D₈₅= 0.3498 D₆₀= 0.2113
 D₅₀= 0.1693 D₃₀= 0.0455 D₁₅= 0.0067
 D₁₀= C_u= C_c=

Classification

USCS= SM AASHTO= A-4(0)

Remarks

* (no specification provided)

Sample Number: EP-6C SPT-1

Depth: 8.5'-10'

Date: 10/25/2015



ALPHA-OMEGA GEOTECH

Client: AECOM
 Project: Dynegy CCR Ph 3/7 - Havana

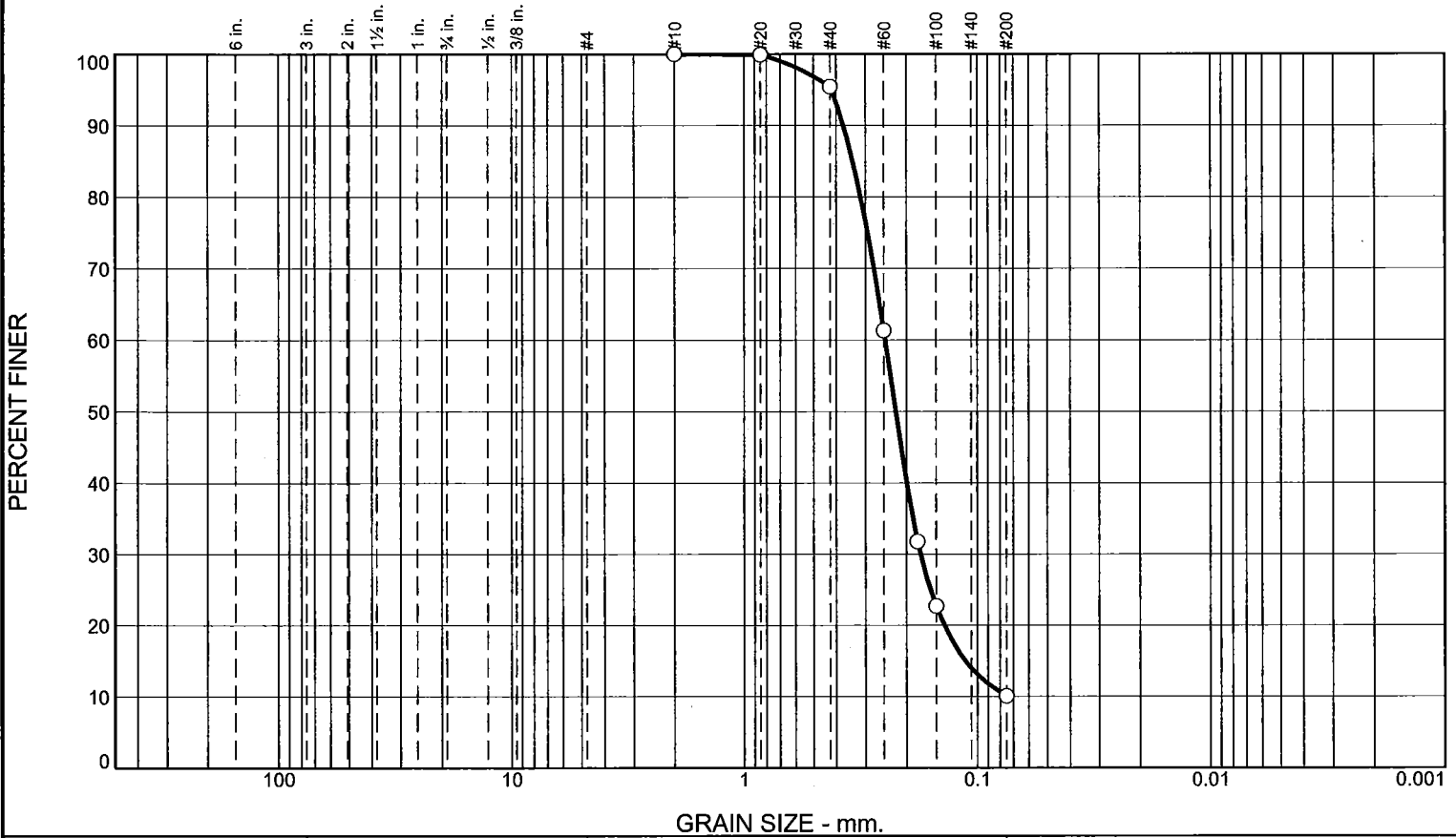
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB 117

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	4.5	85.5	10.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#40	95.5		
#60	61.3		
#80	31.8		
#100	22.7		
#200	10.0		

Material Description

Brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.3401 D₆₀= 0.2465
D₅₀= 0.2223 D₃₀= 0.1751 D₁₅= 0.1127
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

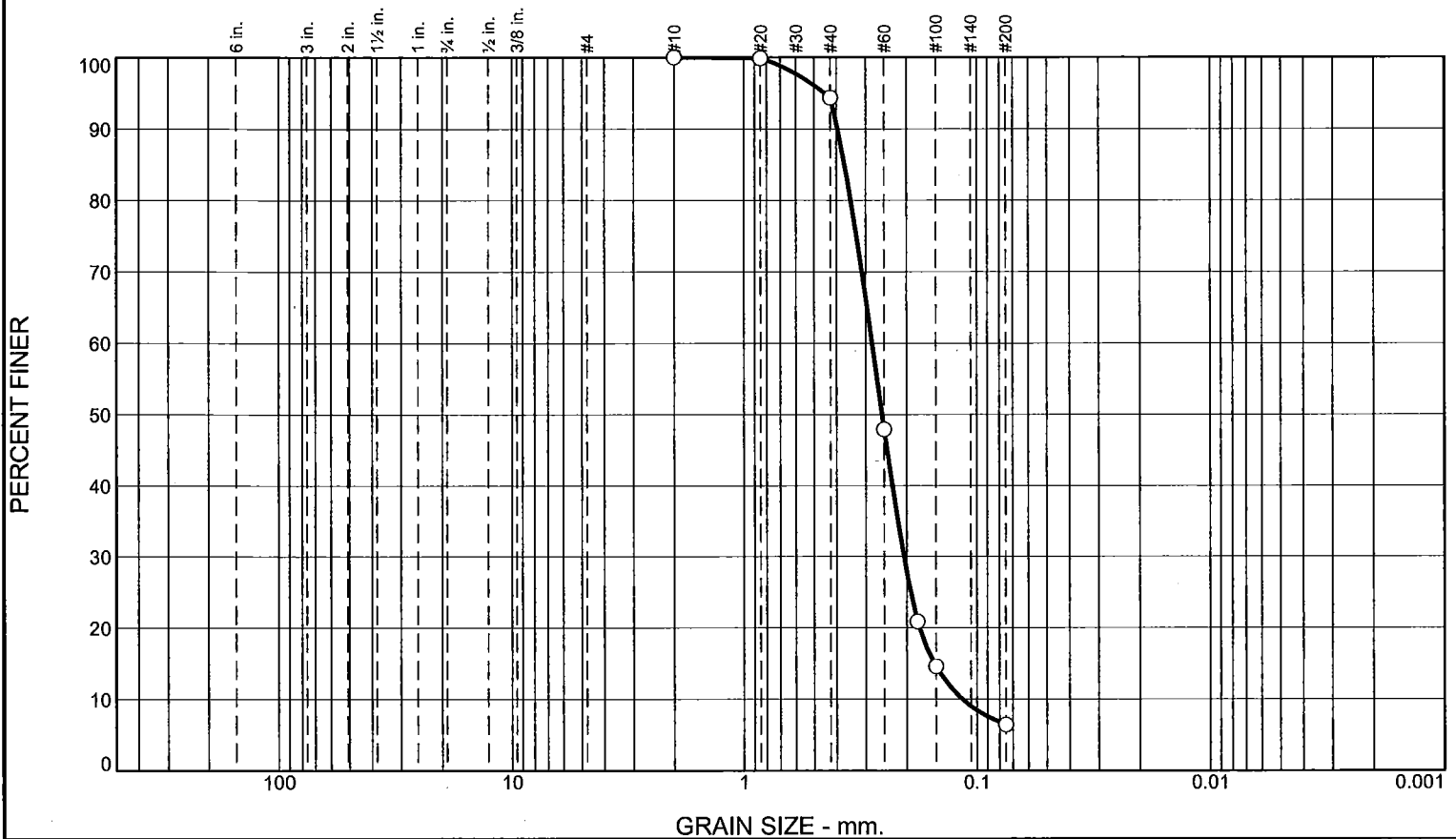
* (no specification provided)

Sample Number: EP-6C ST-2 **Depth:** 13.5'-15' **Date:** 10/18/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM Project: Dynegy CCR Ph 3/7 - Havana</p>	<p>Project No: 15-391T Figure 1 of 1</p>
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Tested By: D.B. **Checked By:** T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	5.6	88.0	6.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#40	94.4		
#60	47.9		
#80	20.9		
#100	14.6		
#200	6.4		

Material Description

Brown and dark brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3954 D₈₅= 0.3692 D₆₀= 0.2818
D₅₀= 0.2553 D₃₀= 0.2061 D₁₅= 0.1526
D₁₀= 0.1160 C_u= 2.43 C_c= 1.30

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

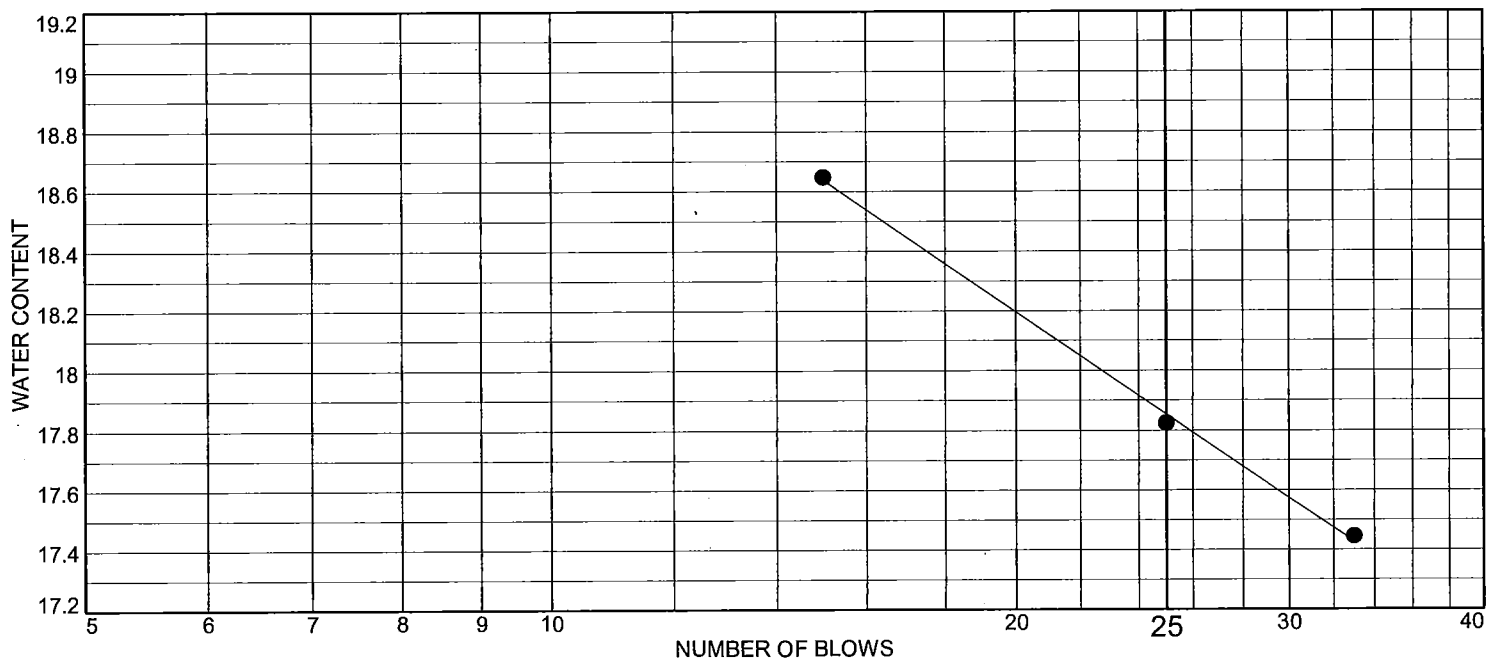
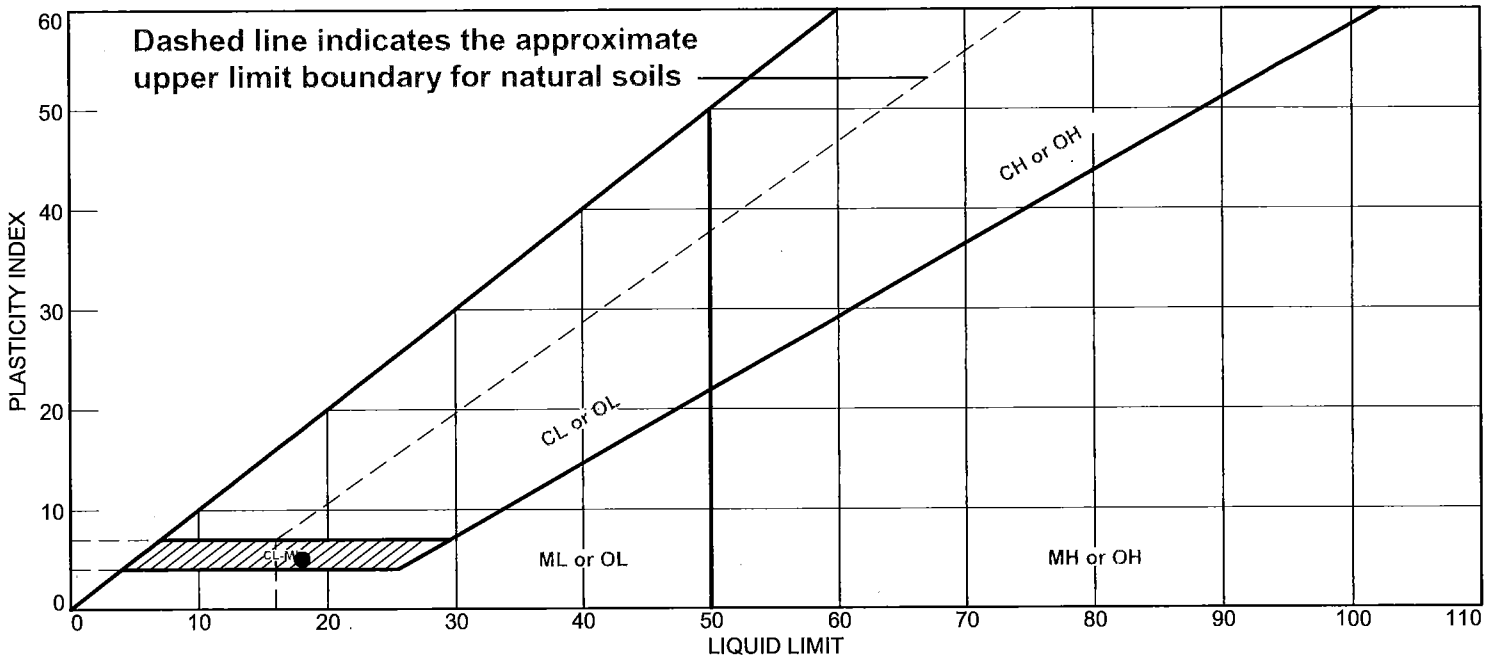
Sample Number: EP-6C ST-3 **Depth:** 23.5'-24.25'

Date: 10/22/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>	<p>Figure 1 of 1</p>
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Tested By: D.B. **Checked By:** T.B.

LIQUID AND PLASTIC LIMITS TEST REPORT



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
• Dark brown silty, clayey sand	18	13	5	97.6	37.7	SC-SM

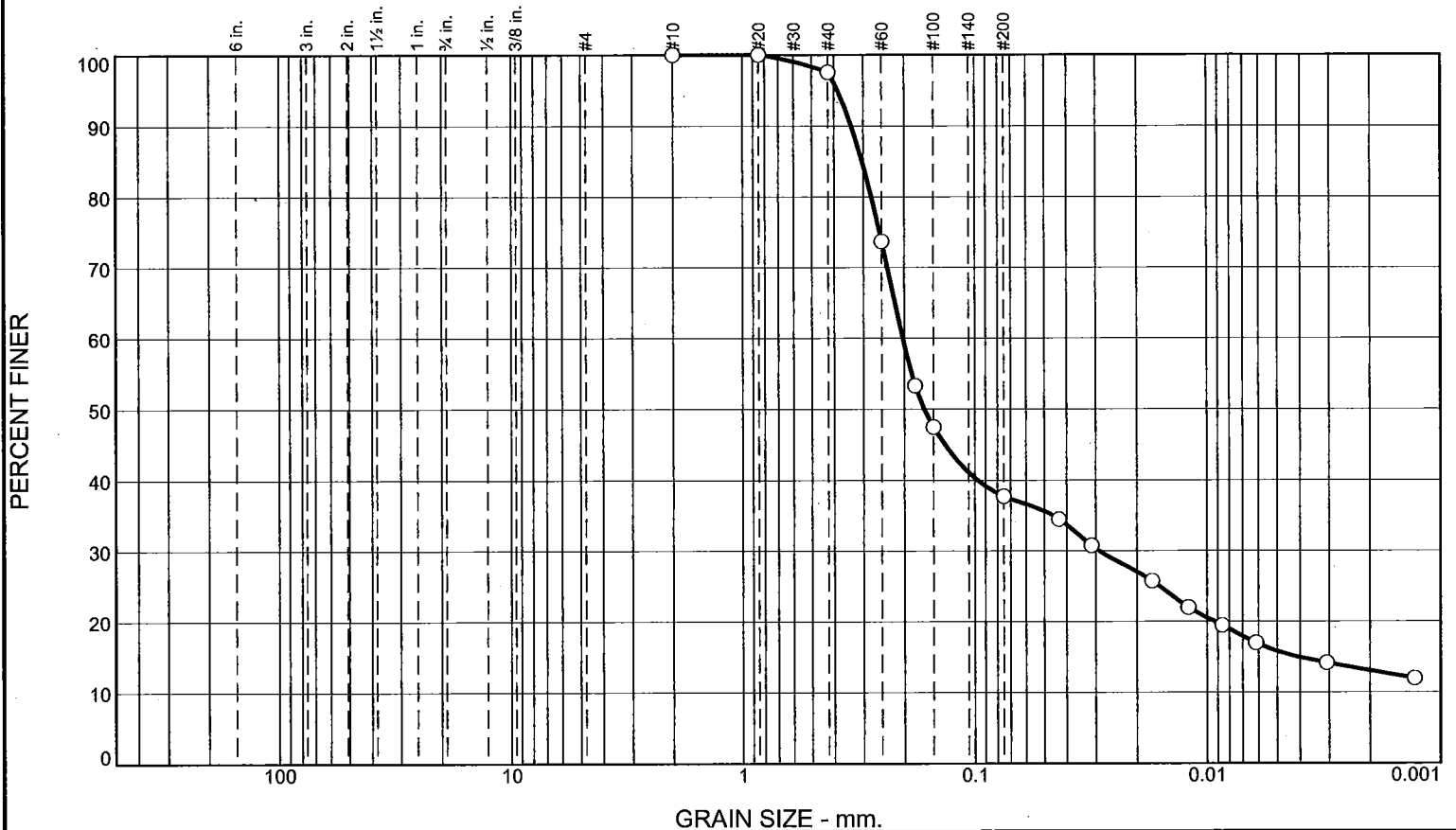
Project No. 15-391T **Client:** AECOM
Project: Dynege CCR Ph 3/7 - Havana
Sample Number: EP-6C SPT-3 **Depth:** 28.5'-30'


 ALPHA-OMEGA GEOTECH

Remarks:

Figure 1 of 1

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	2.4	59.9	21.9	15.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	100.0		
#40	97.6		
#60	73.7		
#80	53.3		
#100	47.5		
#200	37.7		

Material Description

Dark brown silty, clayey sand

Atterberg Limits

PL= 13 LL= 18 PI= 5

Coefficients

D₉₀= 0.3377 D₈₅= 0.3036 D₆₀= 0.2036
 D₅₀= 0.1648 D₃₀= 0.0291 D₁₅= 0.0041
 D₁₀= C_u= C_c=

Classification

USCS= SC-SM AASHTO= A-4(0)

Remarks

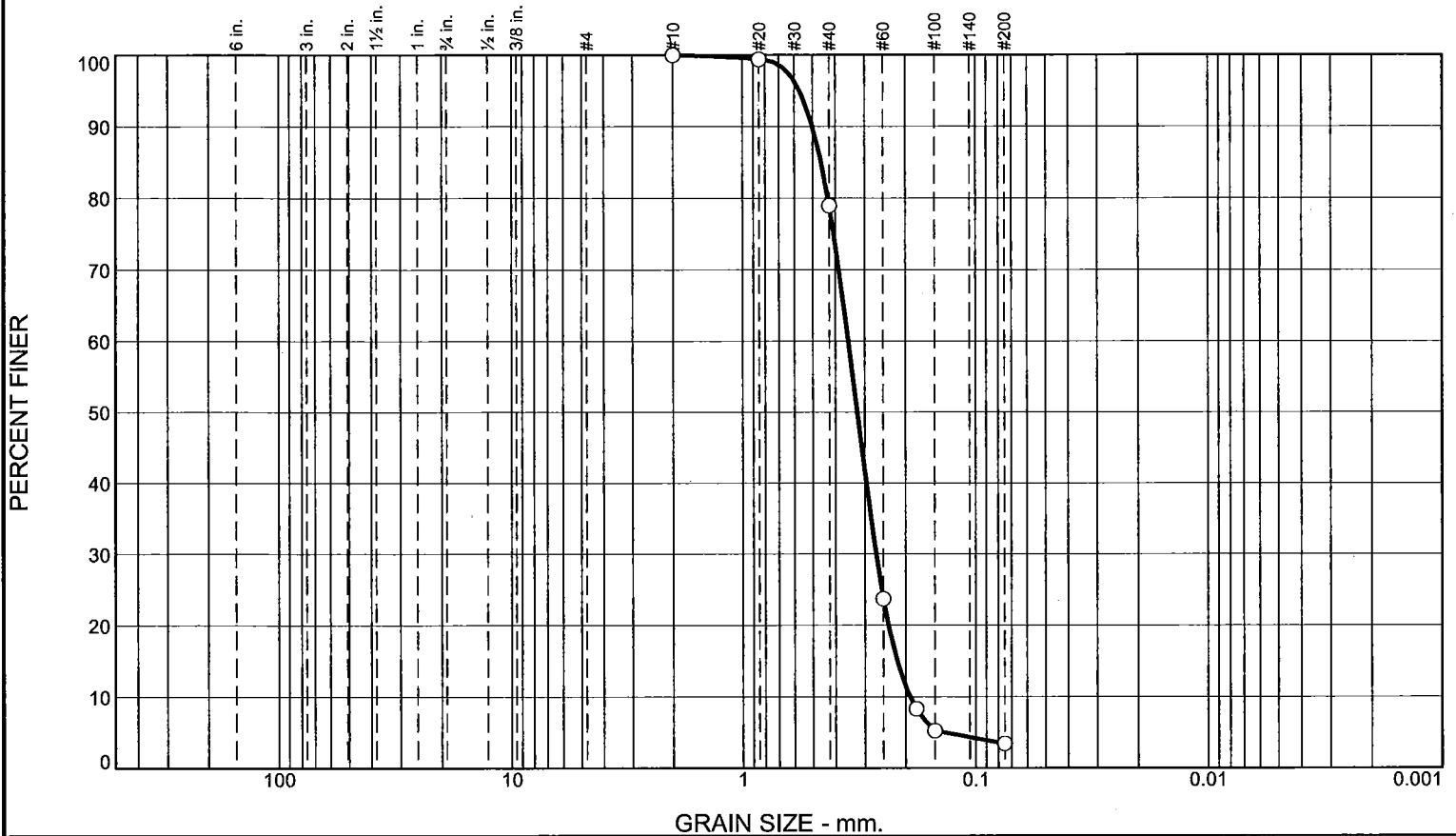
* (no specification provided)

Sample Number: EP-6C SPT-3 Depth: 28.5'-30' Date: 10/25/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>
<p>Figure 1 of 1</p>	

Tested By: DB. Checked By: TB 121

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
				21.1	75.5		3.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.4		
#40	78.9		
#60	23.7		
#80	8.3		
#100	5.2		
#200	3.4		

Material Description

Brown poorly graded sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.5019 D₈₅= 0.4605 D₆₀= 0.3527
 D₅₀= 0.3232 D₃₀= 0.2686 D₁₅= 0.2182
 D₁₀= 0.1921 C_u= 1.84 C_c= 1.07

Classification

USCS= AASHTO=

Remarks

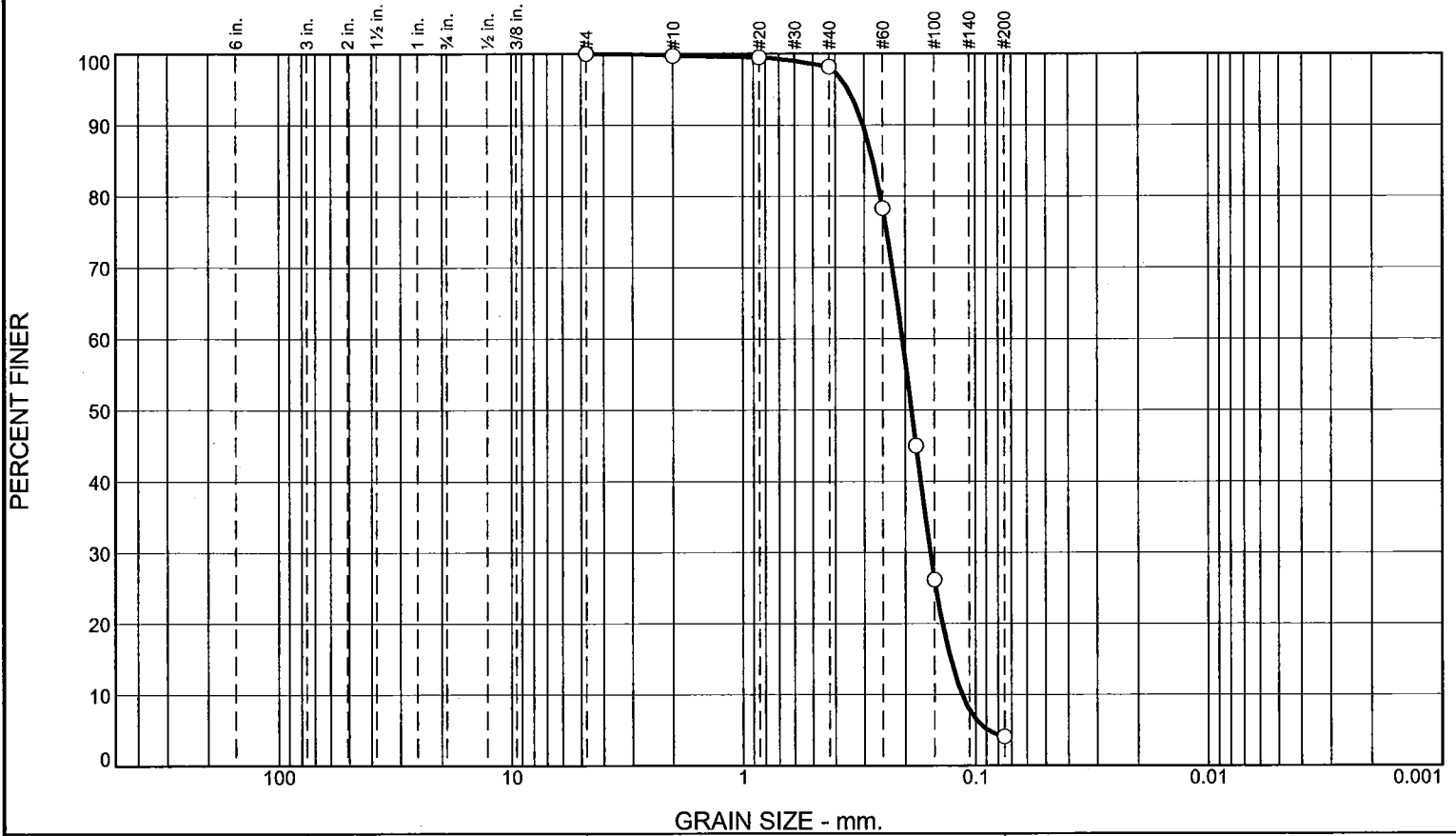
* (no specification provided)

Sample Number: EP-6C ST-4 Depth: 33.5'-35' Date: 10/21/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM Project: Dynegy CCR Ph 3/7 - Havana Project No: 15-391T</p>	<p>Figure 1 of 1</p>
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Tested By: D.B. Checked By: T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.3	1.5	94.1	4.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.7		
#20	99.5		
#40	98.2		
#60	78.3		
#80	45.0		
#100	26.2		
#200	4.1		

Material Description

Brown poorly graded sand

Atterberg Limits

PL= LL= PI=

Coefficients

D ₉₀ = 0.3036	D ₈₅ = 0.2754	D ₆₀ = 0.2062
D ₅₀ = 0.1882	D ₃₀ = 0.1563	D ₁₅ = 0.1279
D ₁₀ = 0.1142	C _u = 1.81	C _c = 1.04

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-6C SPT-4

Depth: 38.5'-40'

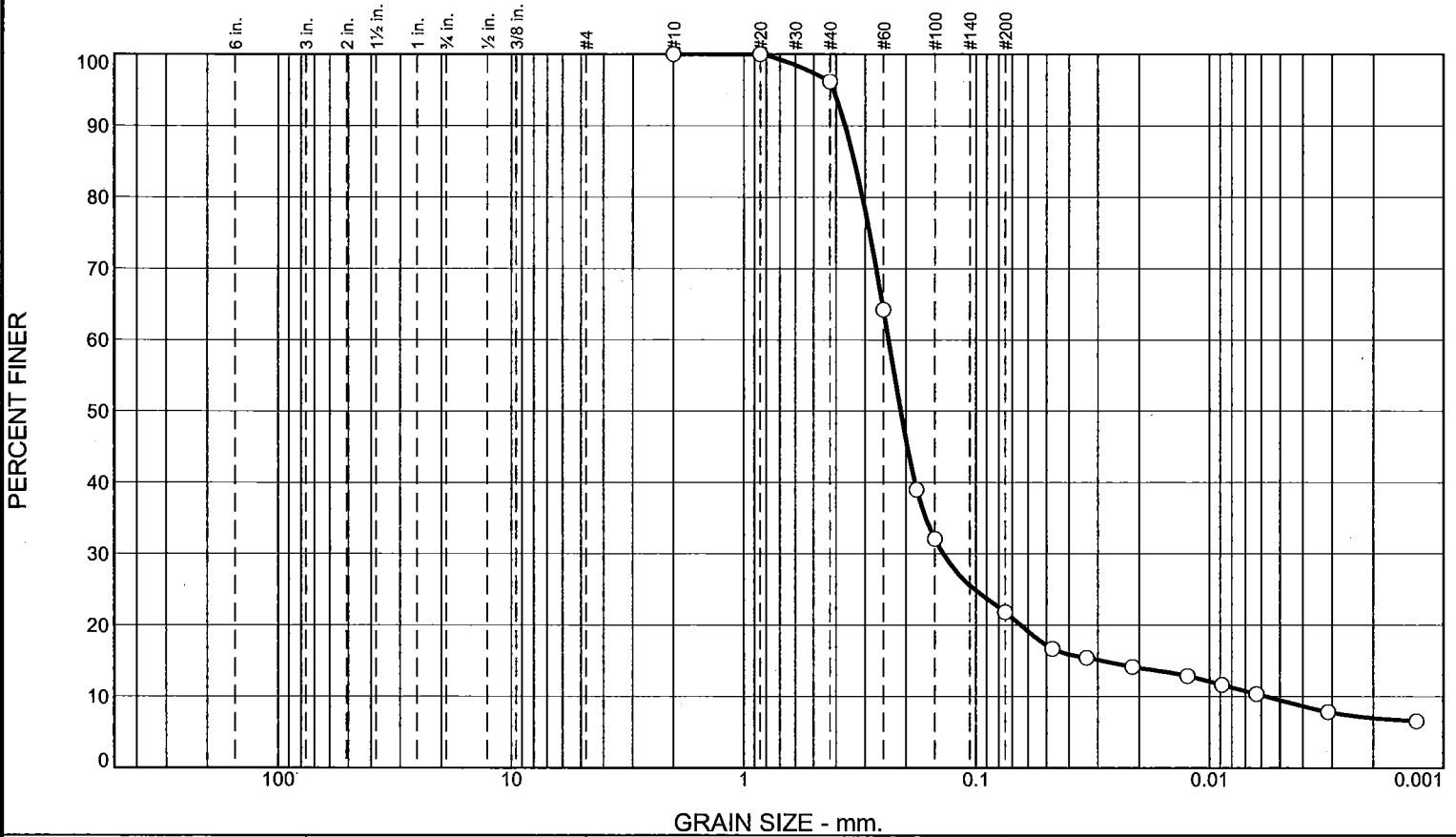
Date: 10/24/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynege CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>
<p>Figure 1 of 1</p>	

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	3.8	74.4	12.3	9.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	100.0		
#40	96.2		
#60	64.2		
#80	39.0		
#100	32.1		
#200	21.8		

Material Description

Brown, mottled dark brown and gray silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3661 D₈₅= 0.3340 D₆₀= 0.2377
D₅₀= 0.2110 D₃₀= 0.1380 D₁₅= 0.0287
D₁₀= 0.0057 C_u= 41.52 C_c= 14.00

Classification

USCS= AASHTO=

Remarks

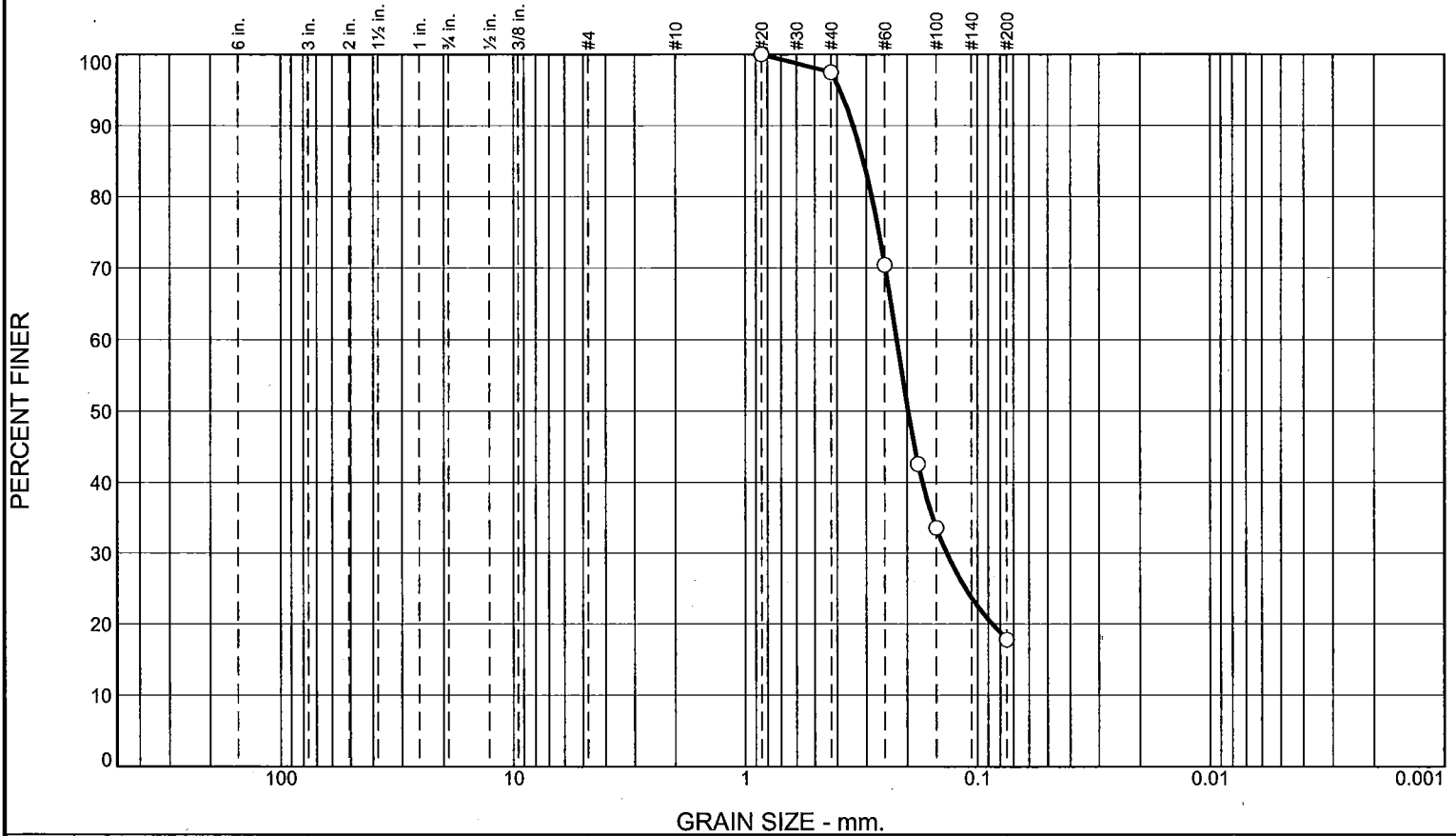
* (no specification provided)

Sample Number: EP-7C ST-1 Depth: 6'-7.5' Date: 10/28/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynege CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: D.B. Checked By: T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	2.5	79.7	17.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#20	100.0		
#40	97.5		
#60	70.4		
#80	42.6		
#100	33.6		
#200	17.8		

Material Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3407 D₈₅= 0.3086 D₆₀= 0.2222
D₅₀= 0.1985 D₃₀= 0.1354 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

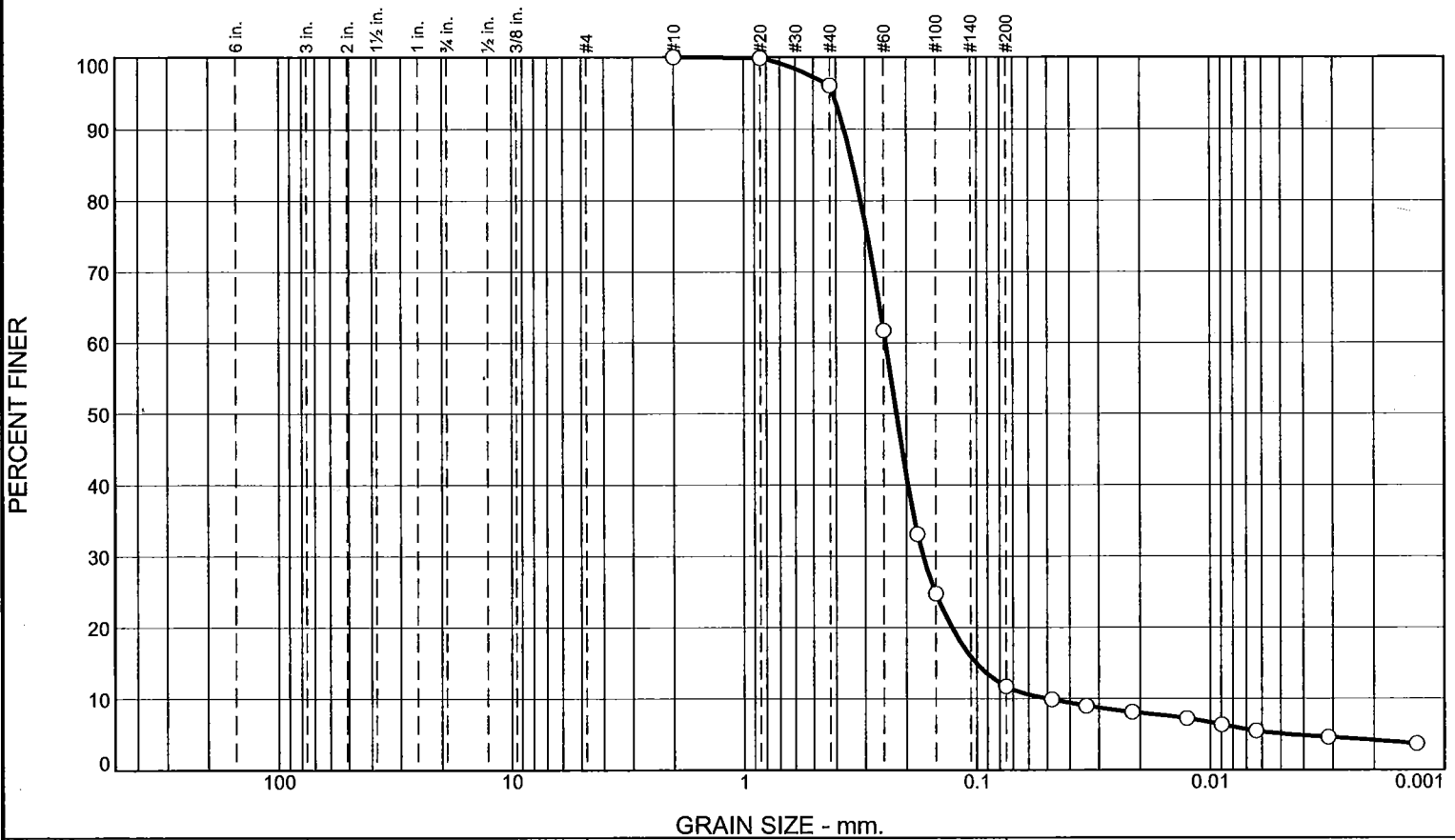
Sample Number: EP-7C SPT-1 Depth: 11'-12.5'

Date: 10/24/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynege CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>
<p>Figure 1 of 1</p>	

Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	3.9	84.4	6.7	5.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#40	96.1		
#60	61.7		
#80	33.1		
#100	24.8		
#200	11.7		

Material Description

Brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3688 D₈₅= 0.3377 D₆₀= 0.2454
D₅₀= 0.2209 D₃₀= 0.1704 D₁₅= 0.1005
D₁₀= 0.0501 C_u= 4.90 C_c= 2.36

Classification

USCS= AASHTO=

Remarks

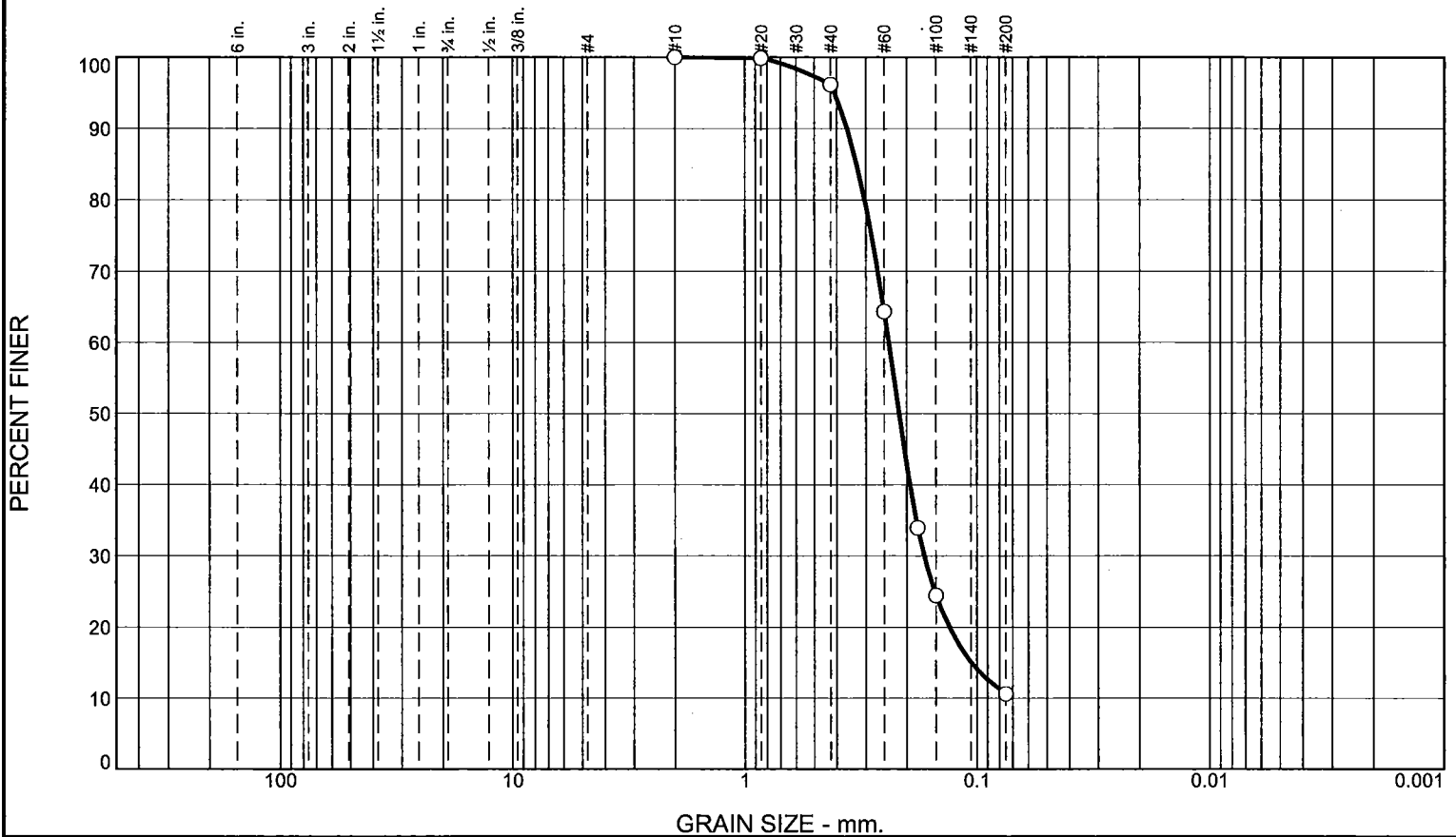
* (no specification provided)

Sample Number: EP-7C ST-2 **Depth:** 16'-17.5' **Date:** 10/21/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: D.B. **Checked By:** T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	3.8	85.6	10.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#40	96.2		
#60	64.3		
#80	33.9		
#100	24.5		
#200	10.6		

Material Description

Brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3615 D₈₅= 0.3289 D₆₀= 0.2390

D₅₀= 0.2161 D₃₀= 0.1692 D₁₅= 0.1054

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

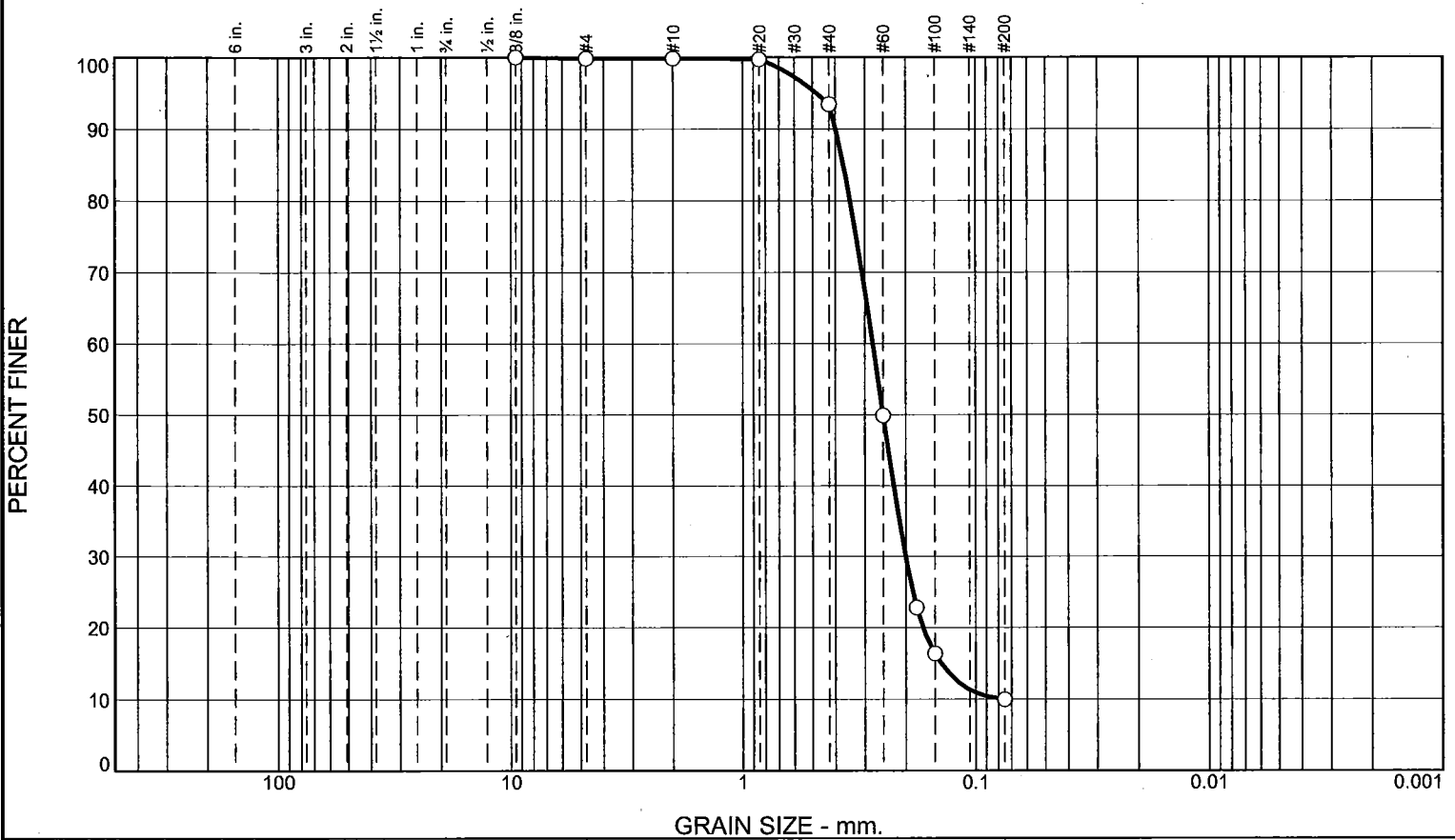
Sample Number: EP-7C SPT-2 **Depth:** 21'-22.5'

Date: 10/24/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>	<p>Figure 1 of 1</p>
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Tested By: DB **Checked By:** TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.0	6.4	83.5	10.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.9		
#10	99.9		
#20	99.7		
#40	93.5		
#60	49.9		
#80	22.8		
#100	16.4		
#200	10.0		

Material Description	
Brown poorly graded sand with silt	
<p>PL=</p> <p>D₉₀= 0.3992</p> <p>D₅₀= 0.2504</p> <p>D₁₀= 0.0764</p> <p>USCS=</p>	<p style="text-align: center;">Atterberg Limits</p> <p>LL= PI=</p> <p style="text-align: center;">Coefficients</p> <p>D₈₅= 0.3702 D₆₀= 0.2774</p> <p>D₃₀= 0.2008 D₁₅= 0.1408</p> <p>C_u= 3.63 C_c= 1.90</p> <p style="text-align: center;">Classification</p> <p>AASHTO=</p> <p style="text-align: center;">Remarks</p>

* (no specification provided)

Sample Number: EP-7C SPT-4 **Depth:** 31'-32.5'

Date: 10/24/2015

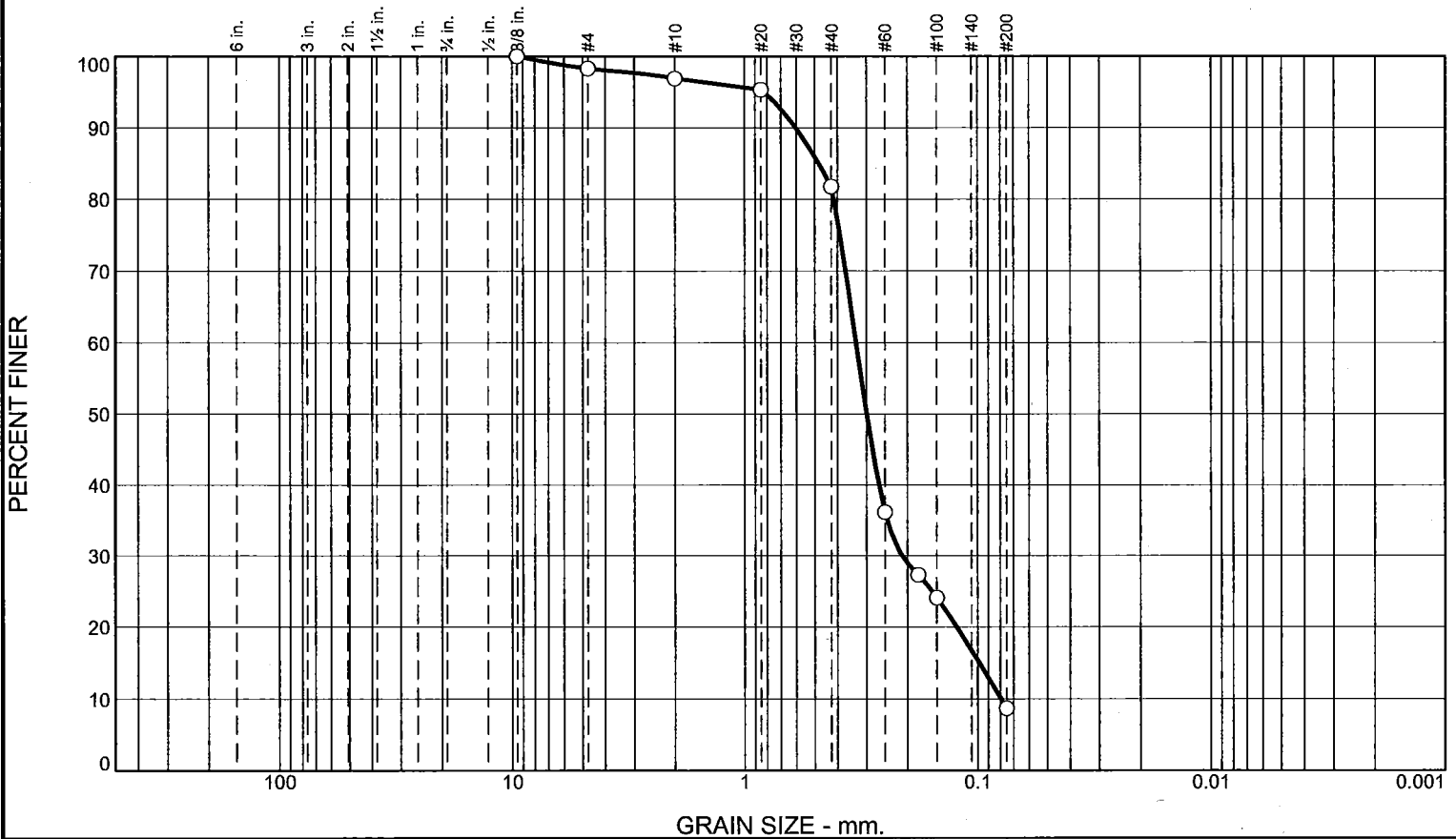


Client: AECOM
Project: Dynegy CCR Ph 3/7 - Havana
Project No: 15-391T

Figure 1 of 1

Tested By: DB **Checked By:** TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.7	1.4	15.1	73.1	8.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	98.3		
#10	96.9		
#20	95.3		
#40	81.8		
#60	36.1		
#80	27.3		
#100	24.1		
#200	8.7		

Material Description

Brown poorly graded sand with silt

PL=	Atterberg Limits	PI=
	LL=	

D ₉₀ = 0.6036	Coefficients	D ₆₀ = 0.3327
D ₅₀ = 0.2997	D ₈₅ = 0.4812	D ₁₅ = 0.0983
D ₁₀ = 0.0793	D ₃₀ = 0.2118	C _c = 1.70
	C _u = 4.19	

USCS=	Classification	AASHTO=
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Remarks

* (no specification provided)

Sample Number: EP-7C SPT-6

Depth: 41'-42.5'

Date: 10/24/2015



Client: AECOM
Project: Dynegy CCR Ph 3/7 - Havana

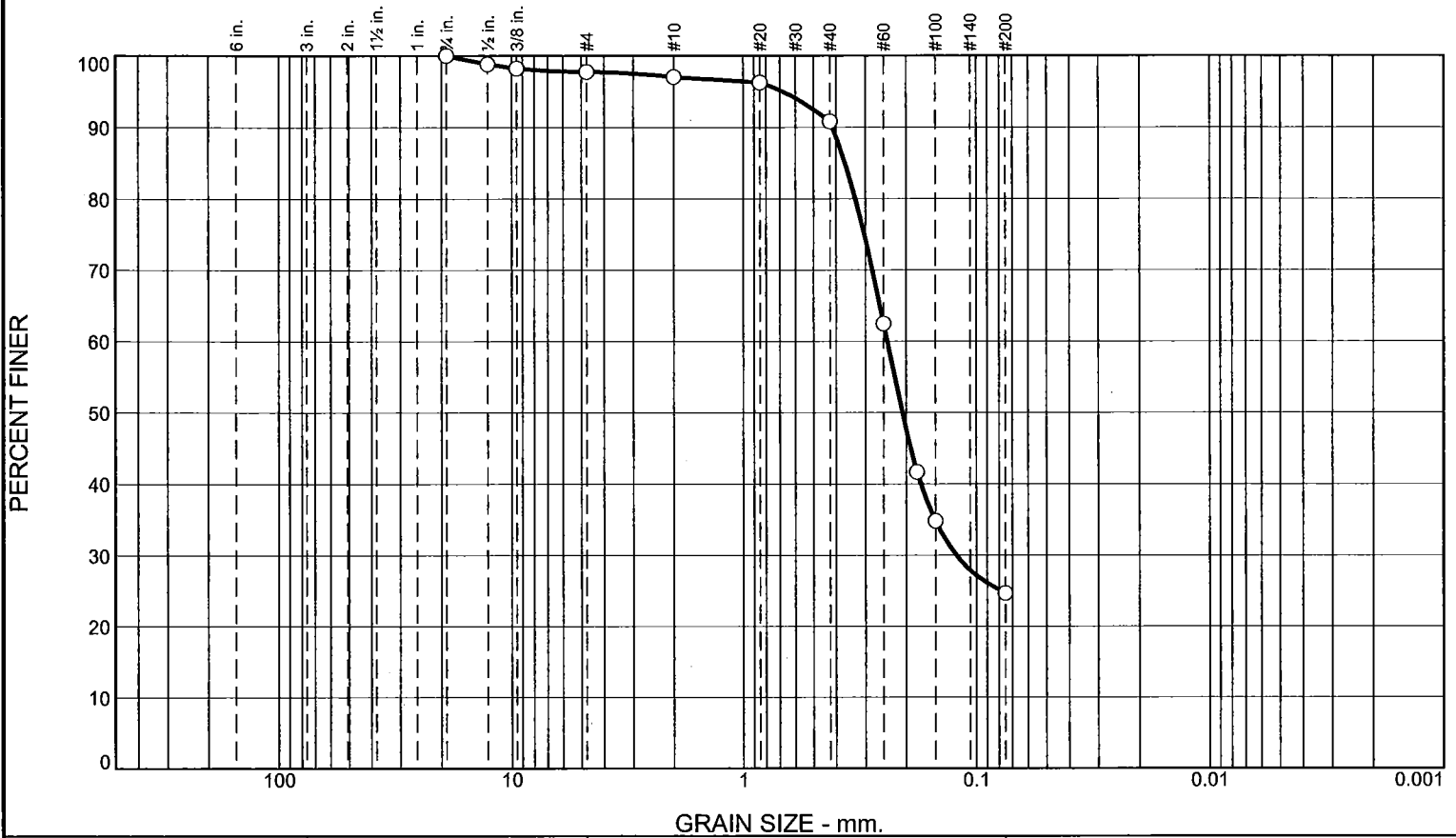
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.3	0.7	6.2	66.1	24.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.5	98.8		
.375	98.2		
#4	97.7		
#10	97.0		
#20	96.3		
#40	90.8		
#60	62.5		
#80	41.6		
#100	34.8		
#200	24.7		

Material Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.4146 D₈₅= 0.3662 D₆₀= 0.2412

D₅₀= 0.2081 D₃₀= 0.1219 D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

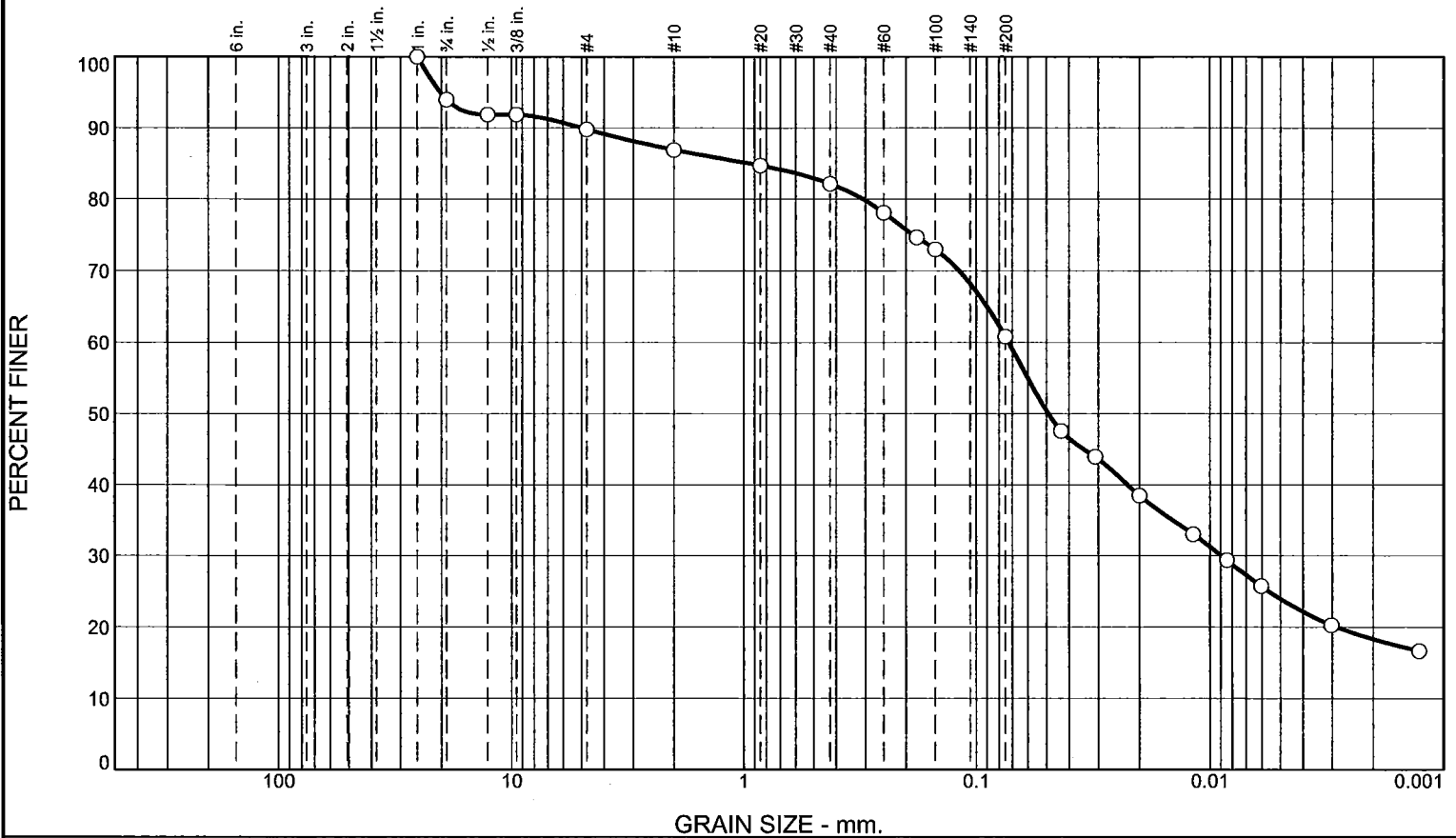
Location: Upper Portion Depth: 3.5'-5' Date: 10/24/2015

Sample Number: EP-8C ST-1

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>
<p>Figure 1 of 1</p>	

Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	6.0	4.2	2.9	4.8	21.3	36.9	23.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.0	100.0		
.75	94.0		
.5	91.9		
.375	91.9		
#4	89.8		
#10	86.9		
#20	84.7		
#40	82.1		
#60	78.1		
#80	74.6		
#100	72.9		
#200	60.8		

Material Description

Dark gray sandy LEAN CLAY

Atterberg Limits

PL= 15 LL= 30 PI= 15

Coefficients

D₉₀= 4.9822 D₈₅= 0.9507 D₆₀= 0.0726
D₅₀= 0.0491 D₃₀= 0.0089 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(6)

Remarks

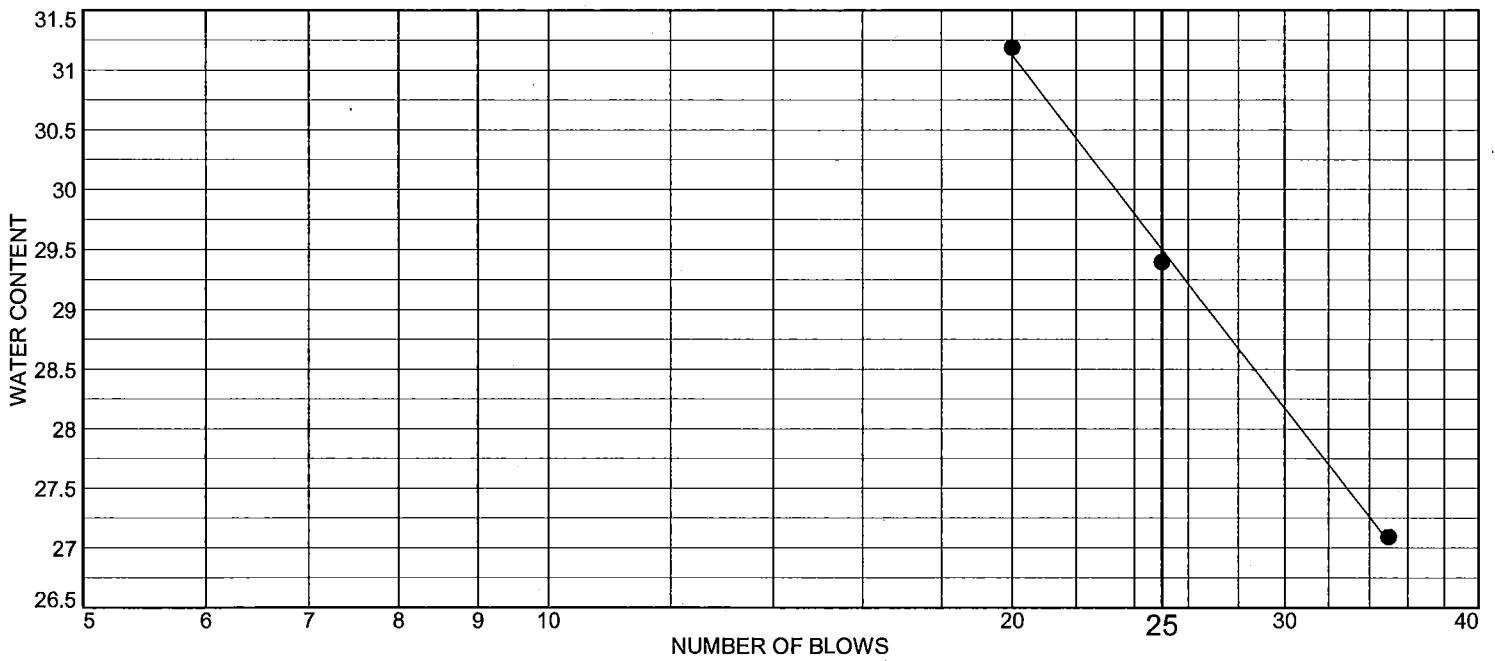
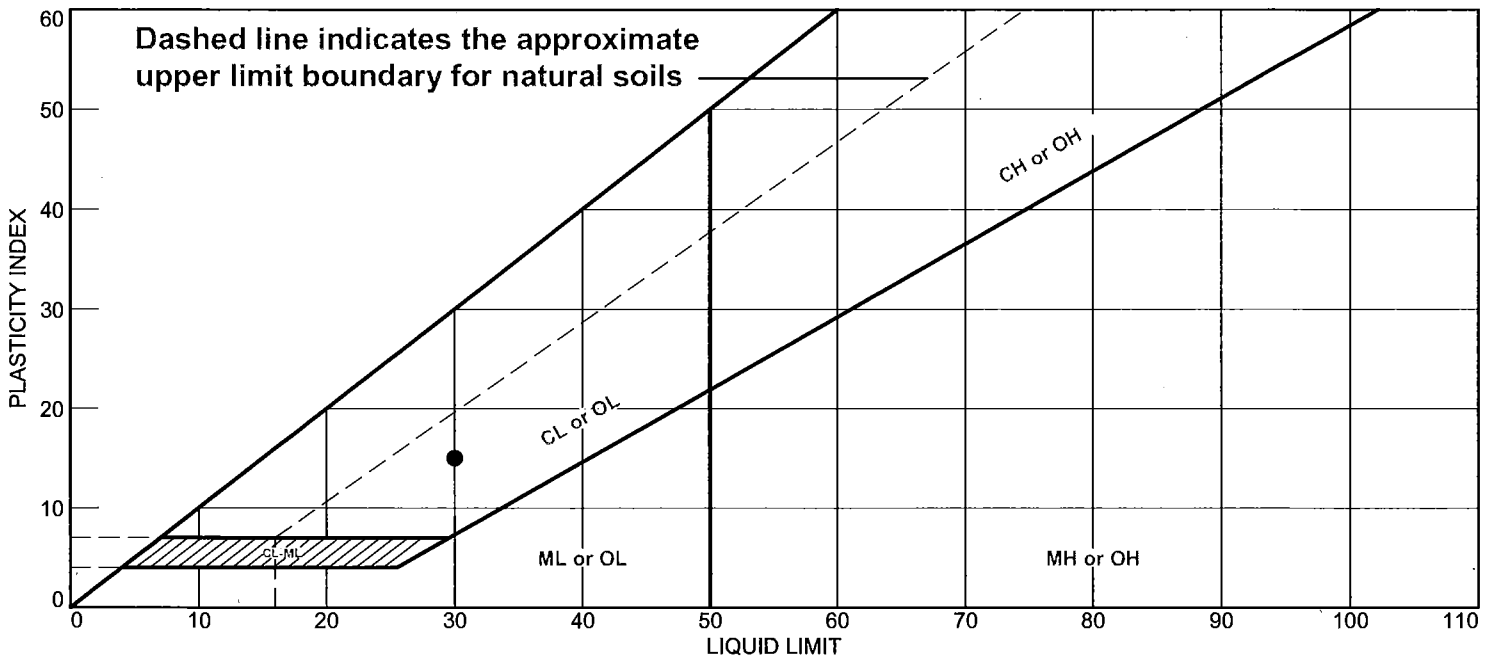
* (no specification provided)

Location: Middle Portion Sample Number: EP-8C ST-1 Depth: 3.5'- 5' Date: 10/29/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>
<p>Figure 1 of 1</p>	

Tested By: D.B. Checked By: T.B.

LIQUID AND PLASTIC LIMITS TEST REPORT



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
Dark gray sandy LEAN CLAY	30	15	15	82.1	60.8	CL

Project No. 15-391T **Client:** AECOM

Project: Dynege CCR Ph 3/7 - Havana

Location: Middle Portion

Sample Number: EP-8C ST-1

Depth: 3.5' - 5'

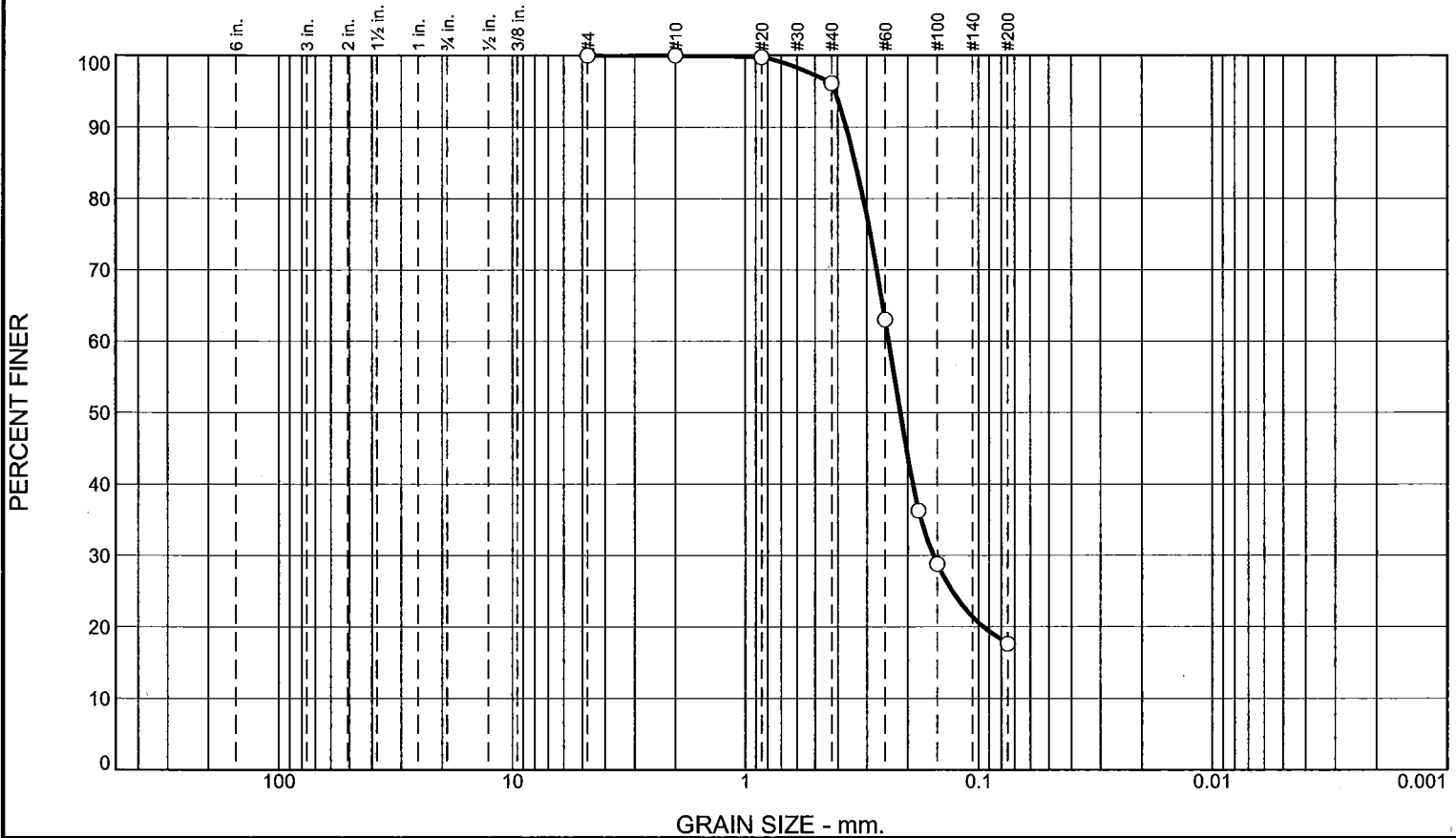
Remarks:



Figure 1 of 1

Tested By: D.B. **Checked By:** T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	3.9	78.5	17.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.8		
#40	96.1		
#60	63.0		
#80	36.3		
#100	28.8		
#200	17.6		

Material Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3674 D₈₅= 0.3358 D₆₀= 0.2416
 D₅₀= 0.2159 D₃₀= 0.1560 D₁₅=
 D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Location: Lower Portion Depth: 3.5'-5' Date: 10/21/2015
 Sample Number: EP-8C ST-1

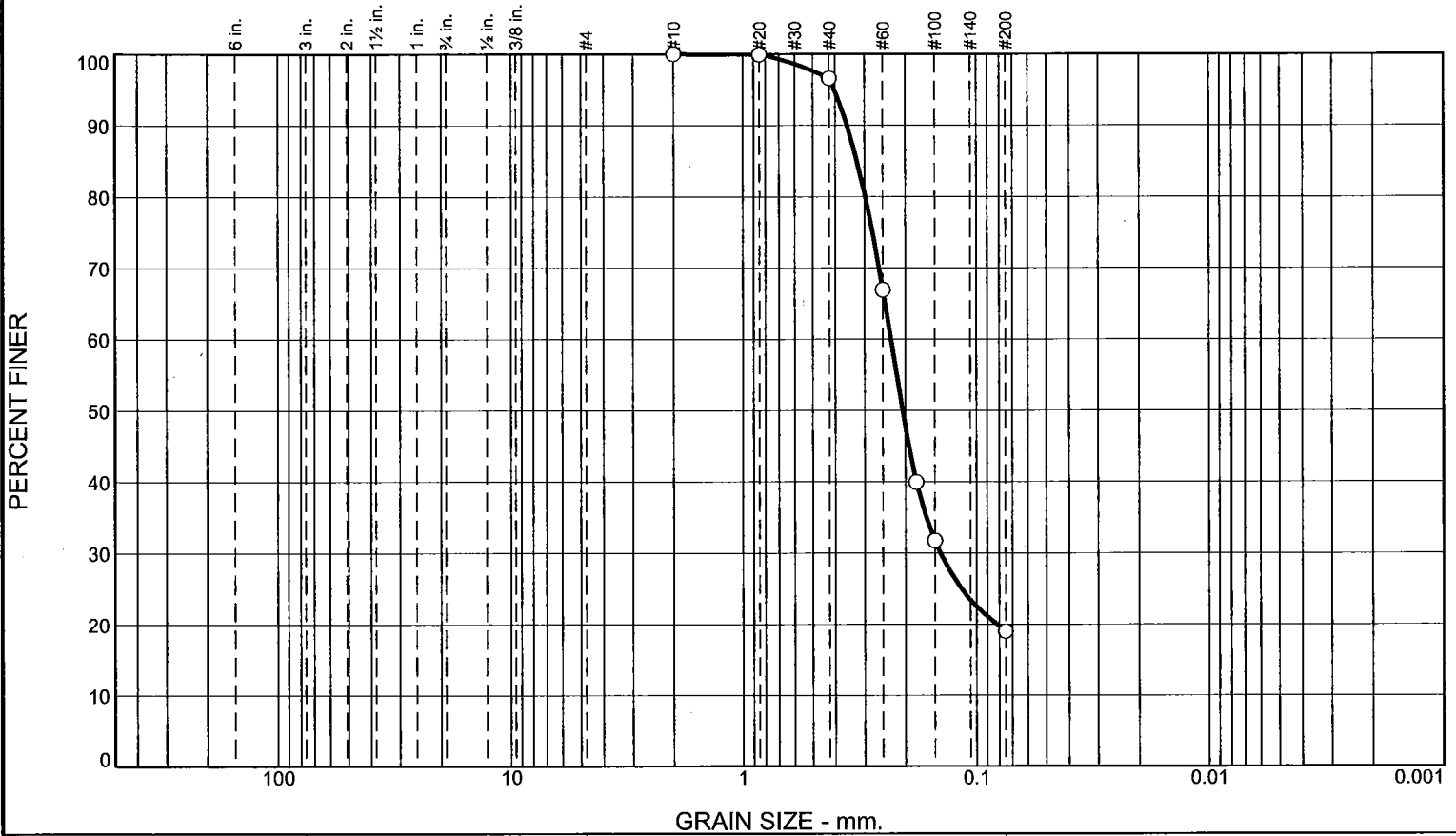


Client: AECOM
 Project: Dynegy CCR Ph 3/7 - Havana
 Project No: 15-391T

Figure 1 of 1

Tested By: D.B. Checked By: T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	3.4	77.6	19.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#40	96.6		
#60	66.9		
#80	39.9		
#100	31.7		
#200	19.0		

Material Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3559 D₈₅= 0.3231 D₆₀= 0.2309
D₅₀= 0.2061 D₃₀= 0.1420 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-8C SPT-1 Depth: 8.5'-10'

Date: 10/24/2015



ALPHA-OMEGA GEOTECH

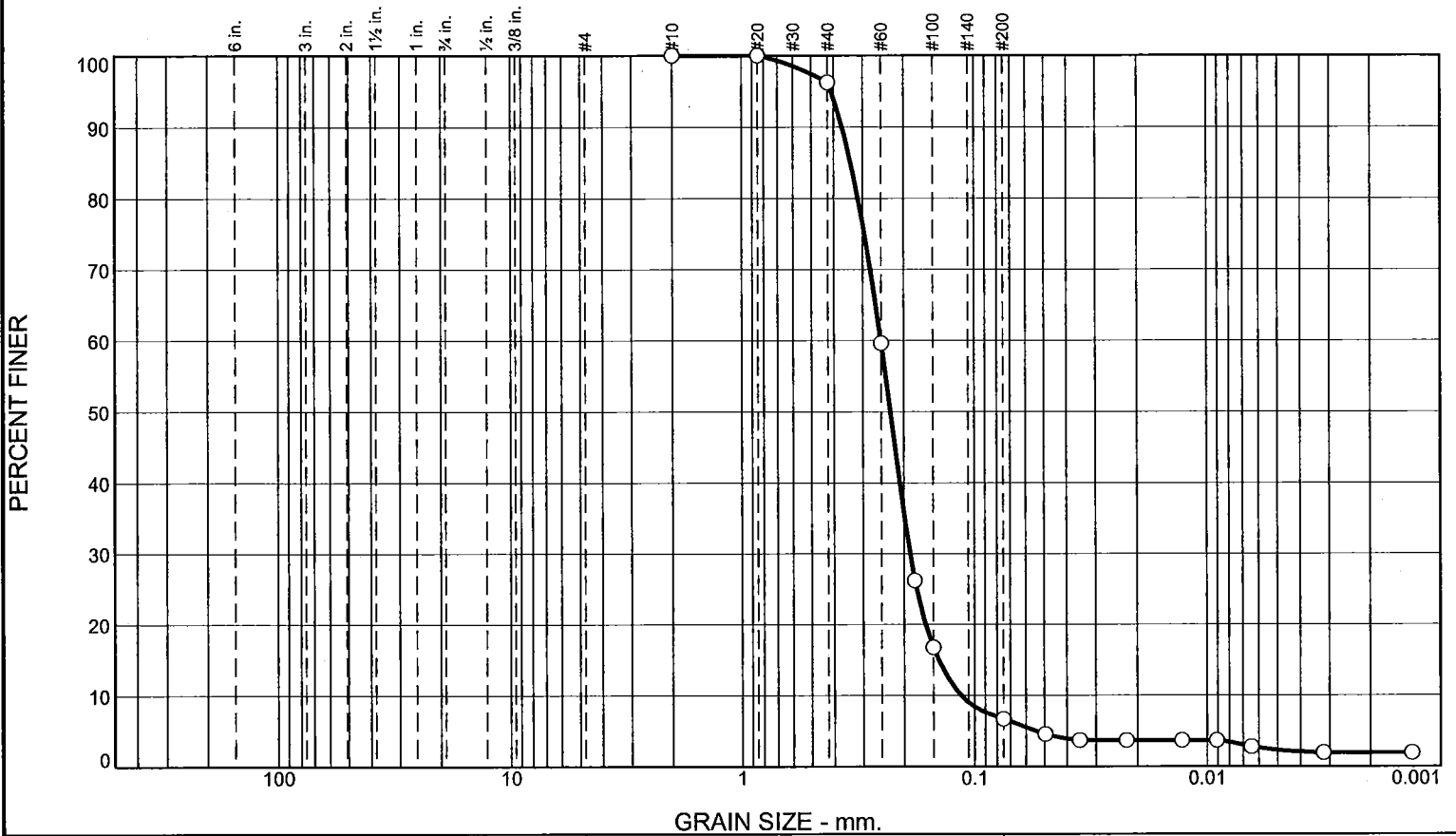
Client: AECOM
Project: Dynegy CCR Ph 3/7 - Havana

Project No: 15-391T

Figure 1 of 1

Tested By: DB Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	3.7	89.6	4.4	2.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	100.0		
#40	96.3		
#60	59.6		
#80	26.2		
#100	16.8		
#200	6.7		

Material Description

Brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3678 D₈₅= 0.3377 D₆₀= 0.2509
D₅₀= 0.2288 D₃₀= 0.1886 D₁₅= 0.1424
D₁₀= 0.1143 C_u= 2.20 C_c= 1.24

Classification

USCS= AASHTO=

Remarks

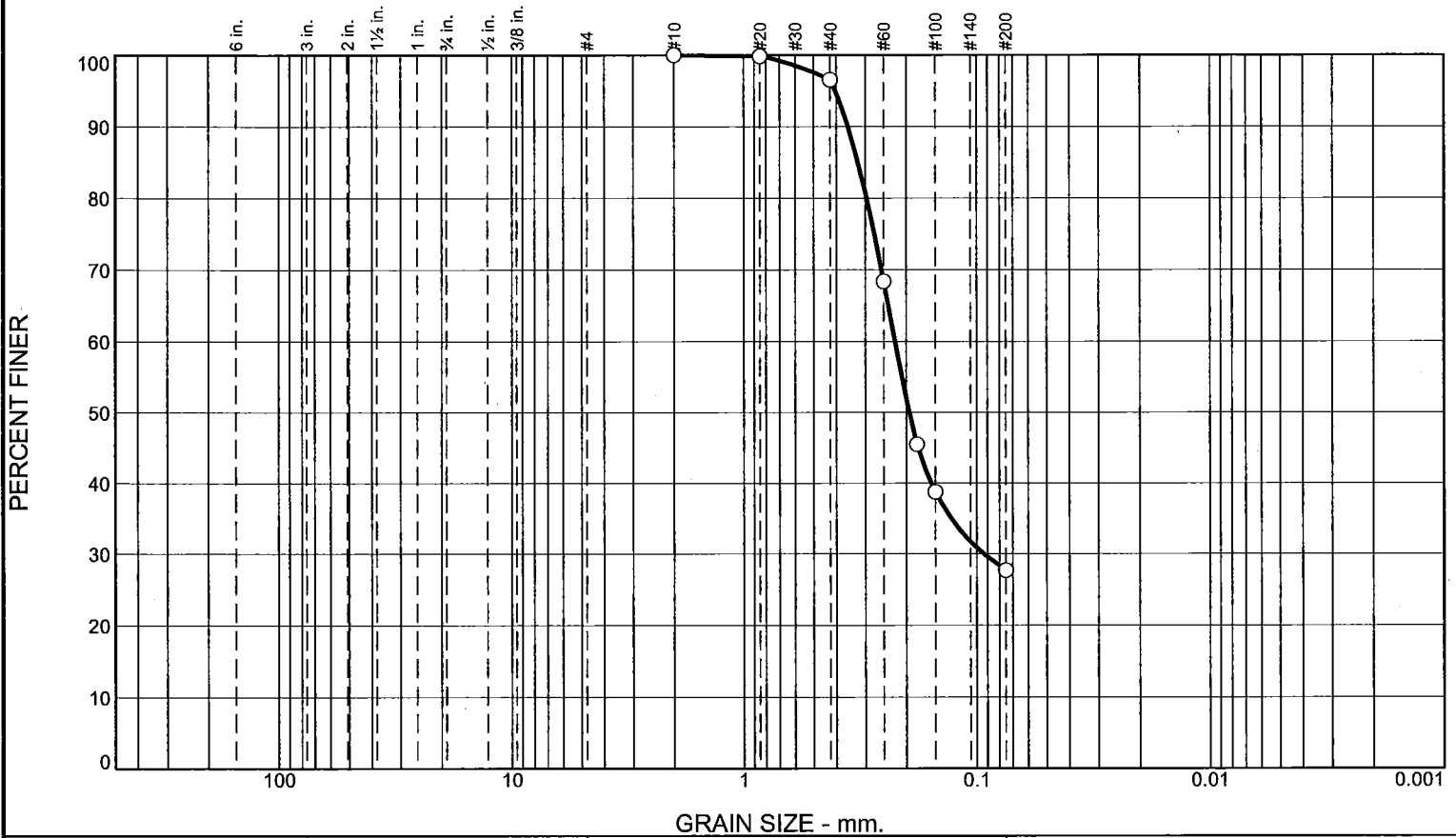
* (no specification provided)

Sample Number: EP-8C ST-2 Depth: 13.5'-15' Date: 10/28/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM Project: Dynegy CCR Ph 3/7 - Havana</p>	<p>Project No: 15-391T Figure 1 of 1</p>
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Tested By: D.B. Checked By: T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	3.5	68.8	27.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#40	96.5		
#60	68.4		
#80	45.5		
#100	38.8		
#200	27.7		

Material Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3566 D₈₅= 0.3230 D₆₀= 0.2238

D₅₀= 0.1946 D₃₀= 0.0932 D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-8C SPT-2

Depth: 18.5'-20'

Date: 10/24/2015



ALPHA-OMEGA GEOTECH

Client: AECOM

Project: Dynegy CCR Ph 3/7 - Havana

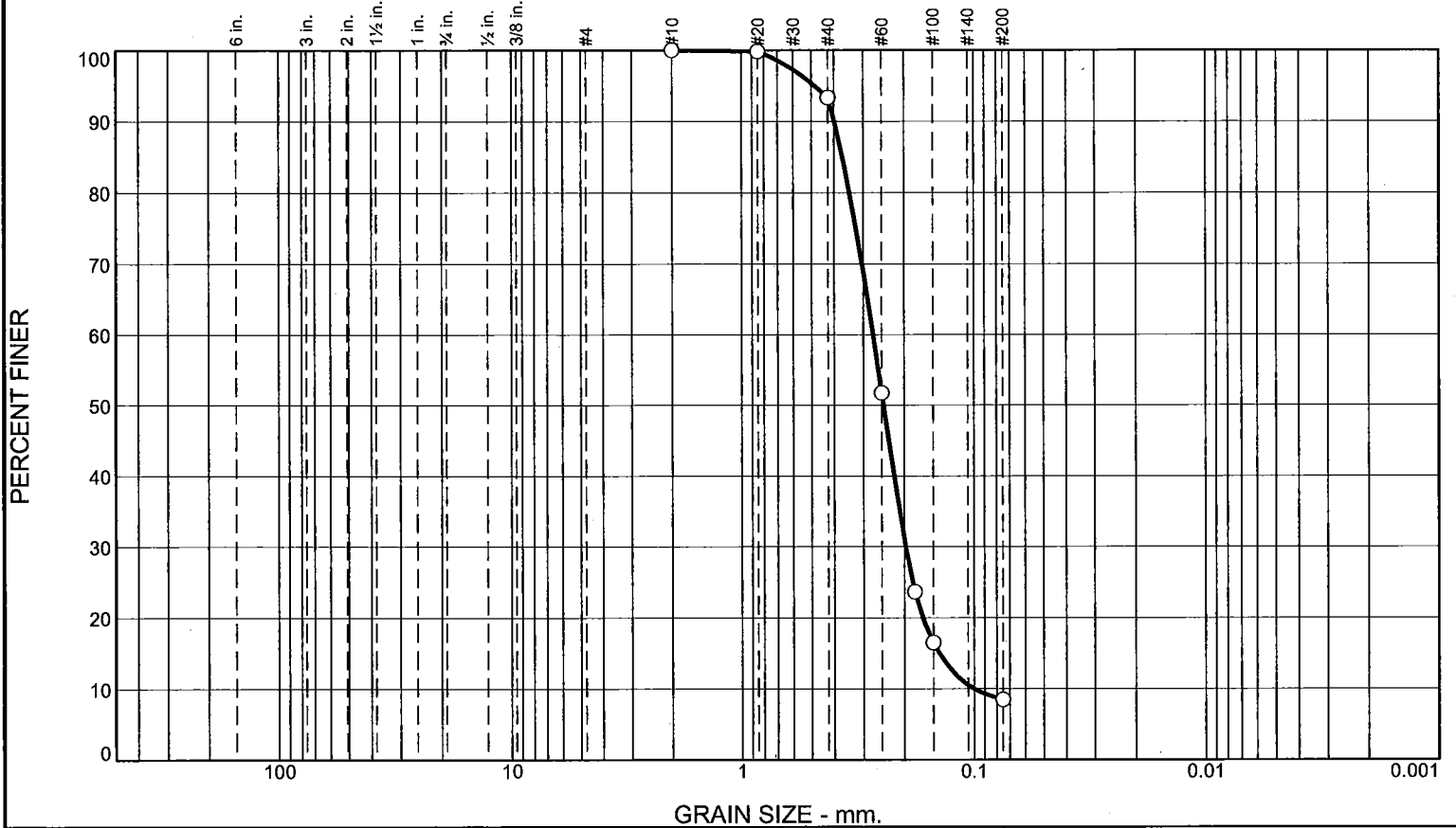
Project No: 15-391T

Figure 1 of 1

Tested By: DB

Checked By: TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	6.7	84.8	8.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#40	93.3		
#60	51.7		
#80	23.6		
#100	16.5		
#200	8.5		

Material Description

Brown poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3984 D₈₅= 0.3678 D₆₀= 0.2725
D₅₀= 0.2457 D₃₀= 0.1975 D₁₅= 0.1411
D₁₀= 0.1001 C_u= 2.72 C_c= 1.43

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Location: Upper Portion
Sample Number: EP-8C ST-3

Depth: 23.5-25'

Date: 10/28/2015



ALPHA-OMEGA GEOTECH

Client: AECOM
Project: Dynege CCR Ph 3/7 - Havana

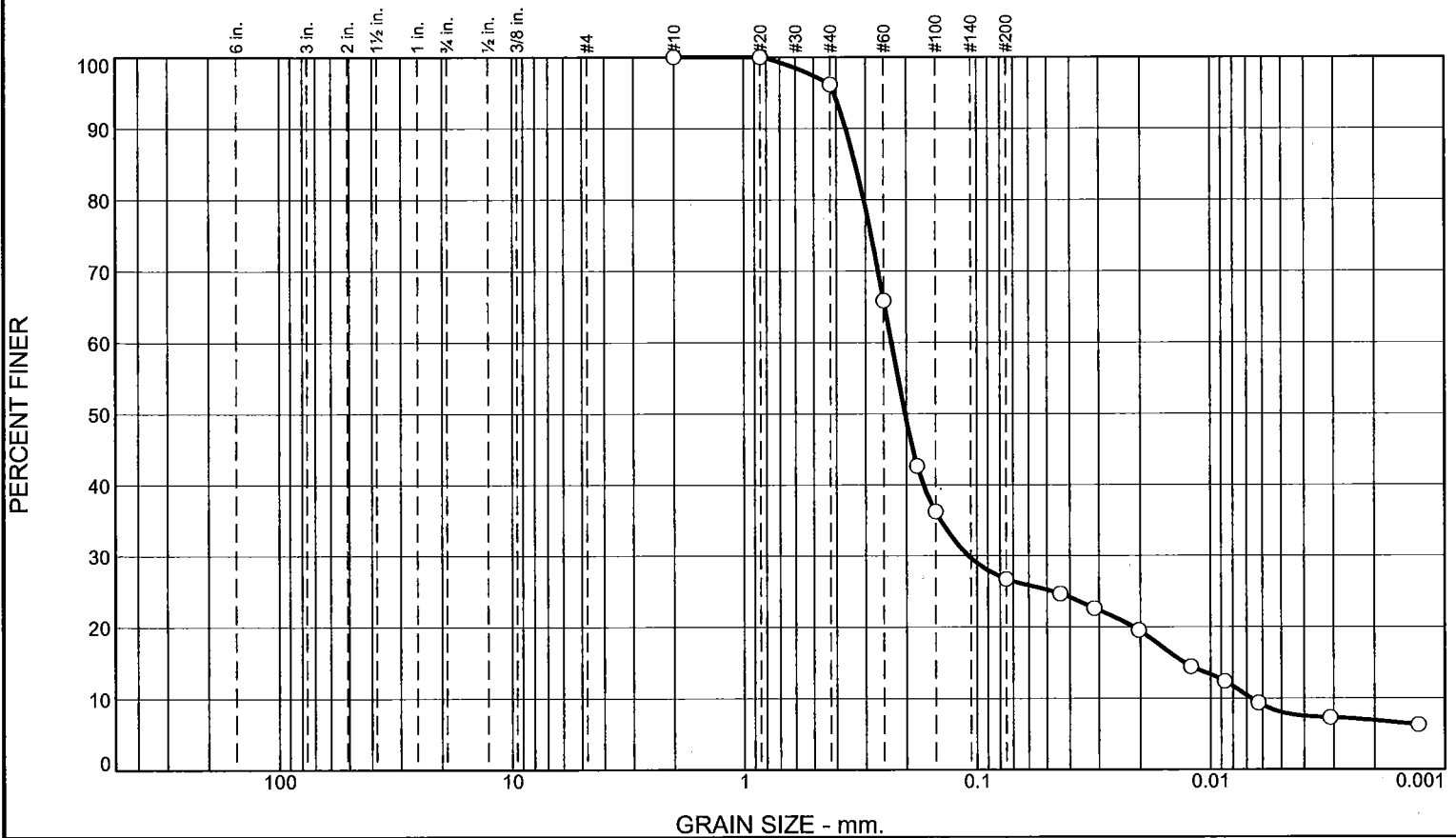
Project No: 15-391T

Figure 1 of 1

Tested By: D.B.

Checked By: T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	3.8	69.5	18.6	8.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	100.0		
#40	96.2		
#60	65.8		
#80	42.6		
#100	36.2		
#200	26.7		

Material Description

Dark brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3643 D₈₅= 0.3314 D₆₀= 0.2320
 D₅₀= 0.2032 D₃₀= 0.1085 D₁₅= 0.0130
 D₁₀= 0.0067 C_u= 34.57 C_c= 7.57

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

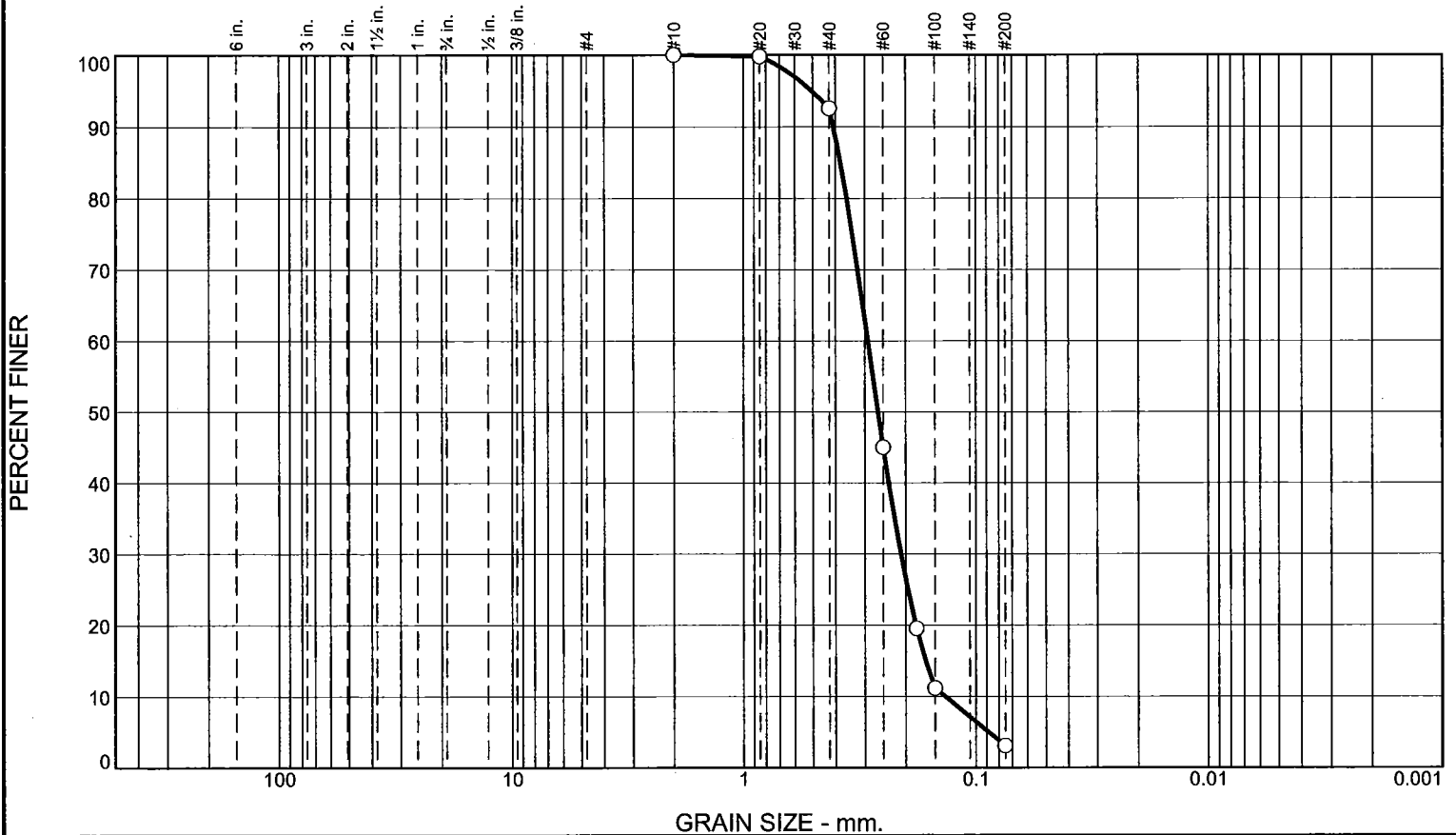
Location: Lower Portion Depth: 23.5'-25' Date: 10/27/2015

Sample Number: EP-8C ST-3

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynegy CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p>	<p>Figure 1 of 1</p>
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Tested By: D.B. Checked By: T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	7.4	89.5	3.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.8		
#40	92.6		
#60	45.0		
#80	19.6		
#100	11.2		
#200	3.1		

Material Description

Brown poorly graded sand

PL=	Atterberg Limits	PI=
	LL=	
	Coefficients	
D ₉₀ = 0.4077	D ₈₅ = 0.3808	D ₆₀ = 0.2912
D ₅₀ = 0.2634	D ₃₀ = 0.2101	D ₁₅ = 0.1648
D ₁₀ = 0.1356	C _u = 2.15	C _c = 1.12
USCS=	Classification	AASHTO=
	Remarks	

* (no specification provided)

Sample Number: EP-8C ST-4

Depth: 33.5'-35'

Date: 10/24/2015



ALPHA-OMEGA GEOTECH

Client: AECOM

Project: Dynege CCR Ph 3/7 - Havana

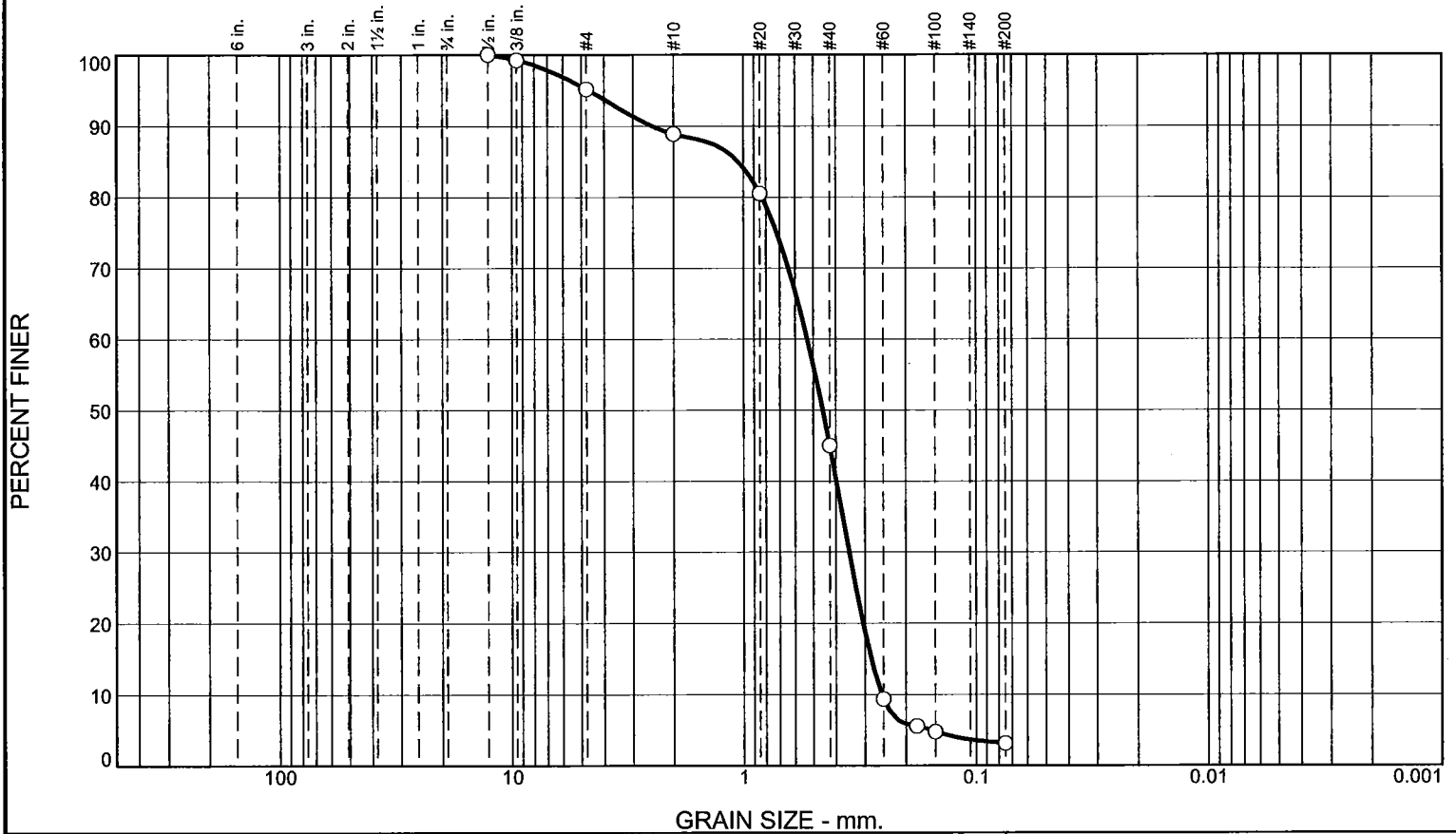
Project No: 15-391T

Figure 1 of 1

Tested By: D.B.

Checked By: T.B.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	4.8	6.3	43.9	41.9	3.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.5	100.0		
.375	99.3		
#4	95.2		
#10	88.9		
#20	80.5		
#40	45.0		
#60	9.4		
#80	5.6		
#100	4.8		
#200	3.1		

Material Description

Brown poorly graded sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 2.4729 D₈₅= 1.0532 D₆₀= 0.5314
D₅₀= 0.4555 D₃₀= 0.3506 D₁₅= 0.2825
D₁₀= 0.2545 C_u= 2.09 C_c= 0.91

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: EP-8C SPT-4 **Depth:** 38.5'-40' **Date:** 10/24/2015

<p>ALPHA-OMEGA GEOTECH</p>	<p>Client: AECOM</p> <p>Project: Dynege CCR Ph 3/7 - Havana</p> <p>Project No: 15-391T</p> <p style="text-align: right;">Figure 1 of 1</p>
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Tested By: DB **Checked By:** TB