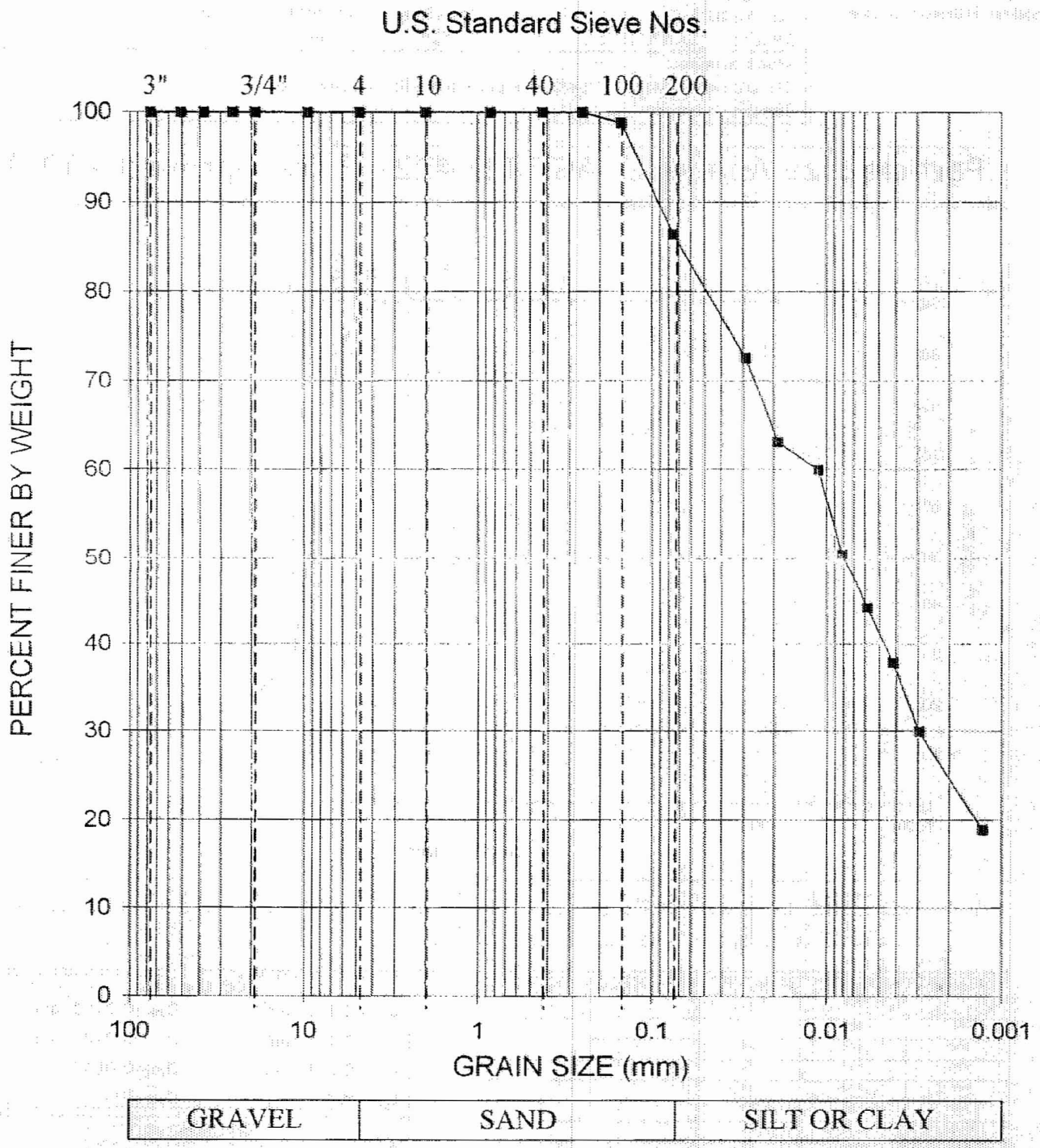

GRADATION CURVE
ASTM D422

Project	Constellation Energy Group [illegible] Project, Calvert Cliffs Nuclear Power Plant (CCNPP), Calvert County, Maryland					
Boring No.	Depth (ft)	Sample Description	Class.	LL	PI	
B-746	23.5	FAT CLAY, trace sand, dark gray	CH	52	35	

Schnabel
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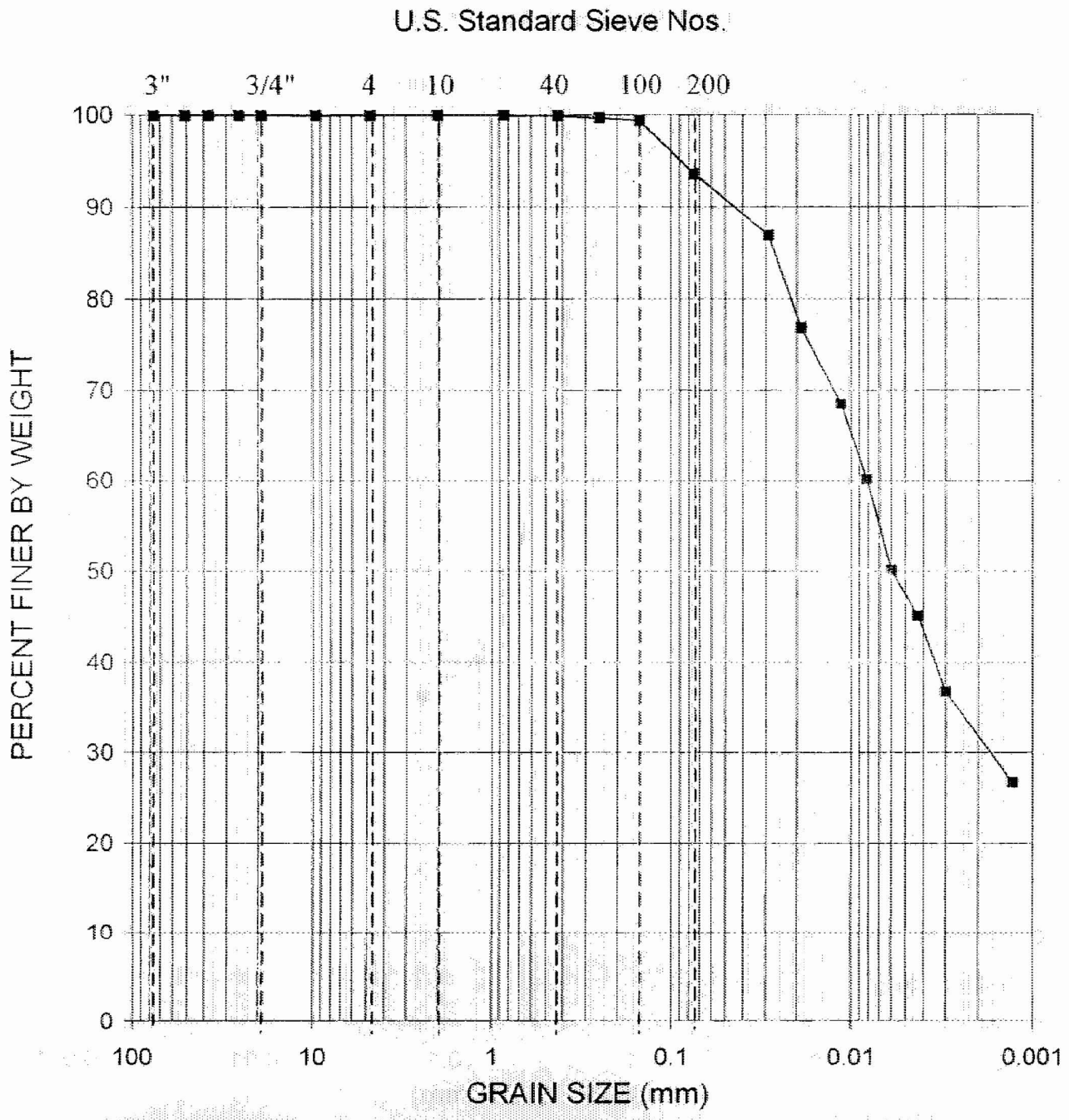
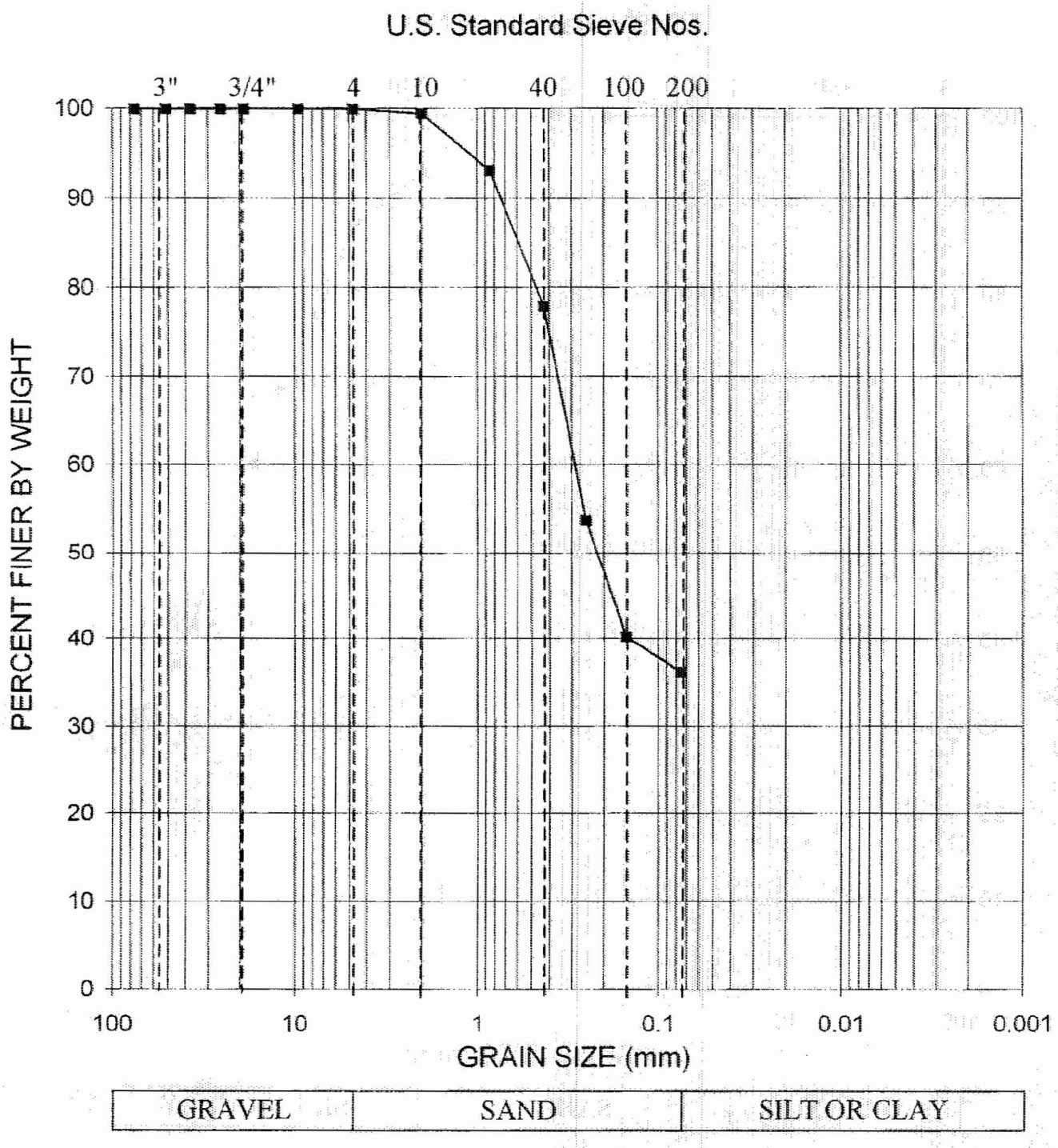


GRADATION CURVE
ASTM D422

[illegible] Calvert Cliffs Nuclear Power Plant (CCNPP) Calvert County, Maryland			Contract No.: 06120048		Date: 10/18/2006
Boring No.	Depth (ft)	Sample Description	Class.	LL	
B-746	33.5	FAT CLAY, trace sand, dark gray	CH	64	40

Schnabel
Schnabel Engineering



GRADATION CURVE

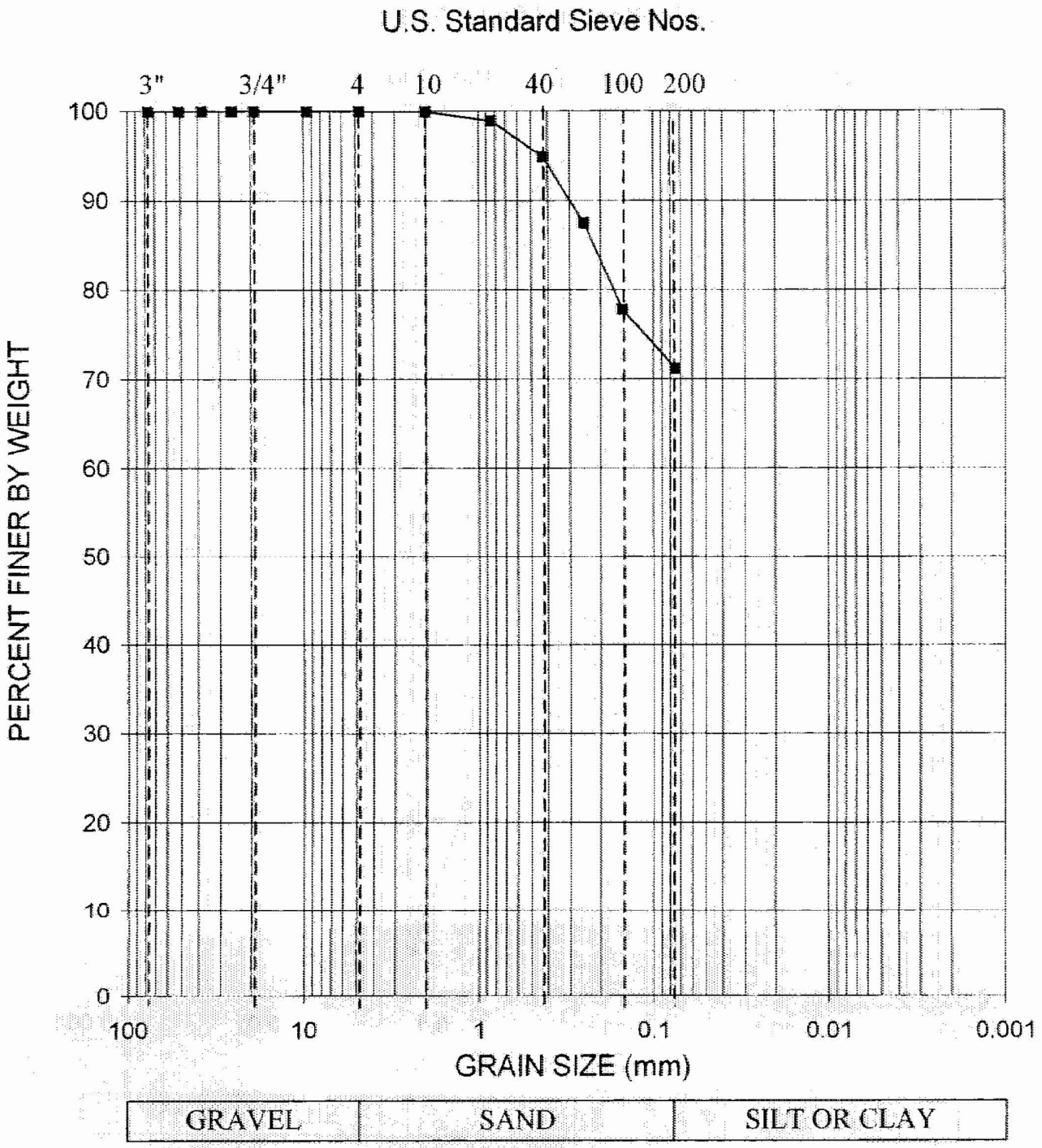
ASTM D422

Project:	Constellation Energy Group COLA Project, Calvert Cliffs NuclearPower Plant (CCNPP), Calvert County, Maryland	Contract No.:	06120048.00	Date:	9/22/2006

Boring No.	Depth (ft)	Sample Description	Class.	LL	PI
B-747	2.5	Silty SAND, brown	SM		

Schnabel

Schnabel Engineering



GRADATION CURVE

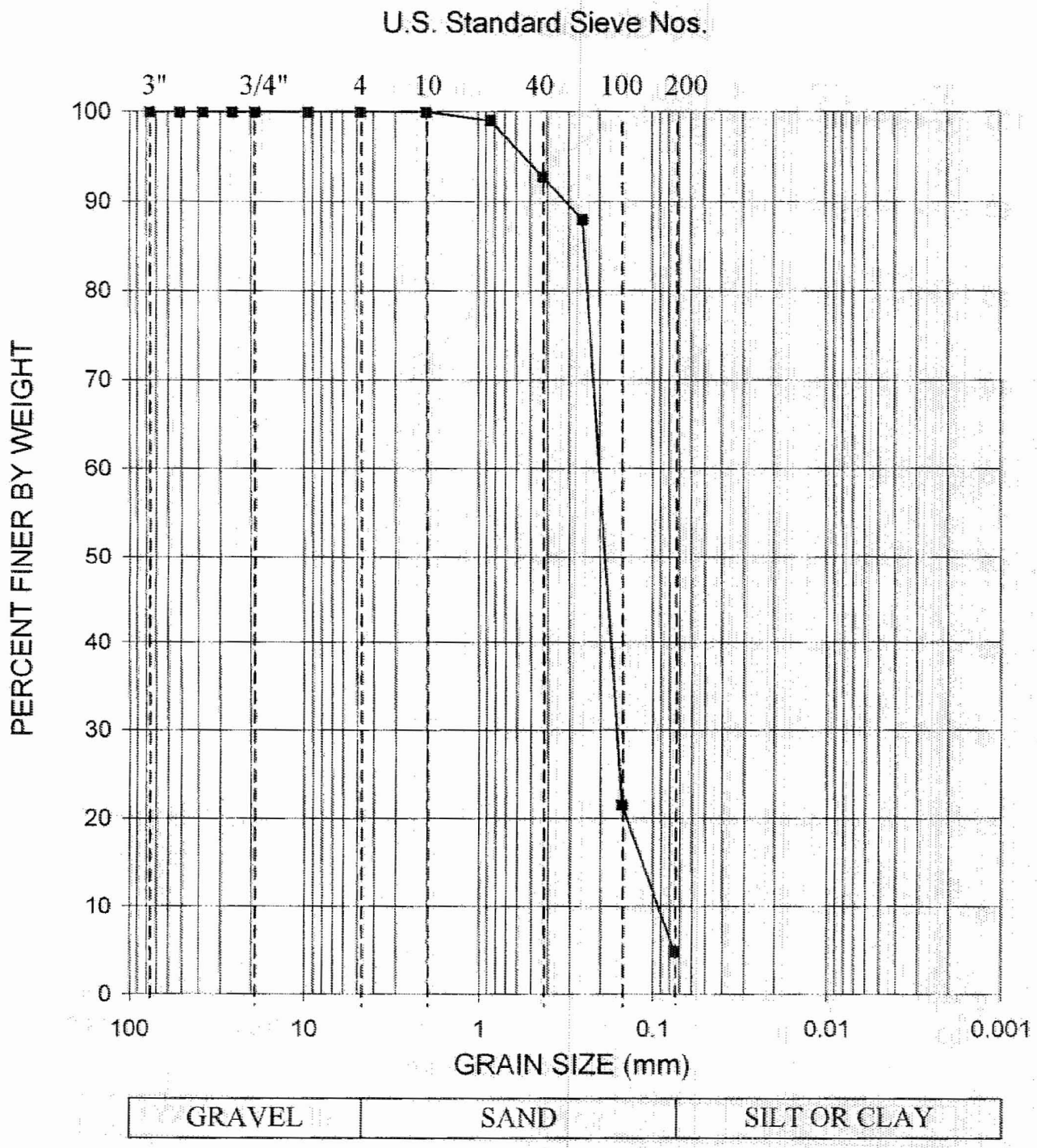
ASTM D422

Project:	Constellation Energy Group COLA Project, Calvert Cliffs NuclearPower Plant (CCNPP), Calvert County, Maryland	Contract No.:	06120048.00	Date:	9/22/2006

Boring No.	Depth (ft)	Sample Description	Class.	LL	PI
B-747	5.0	SILT, with sand, brown	ML		

Schnabel

Schnabel Engineering



GRADATION CURVE

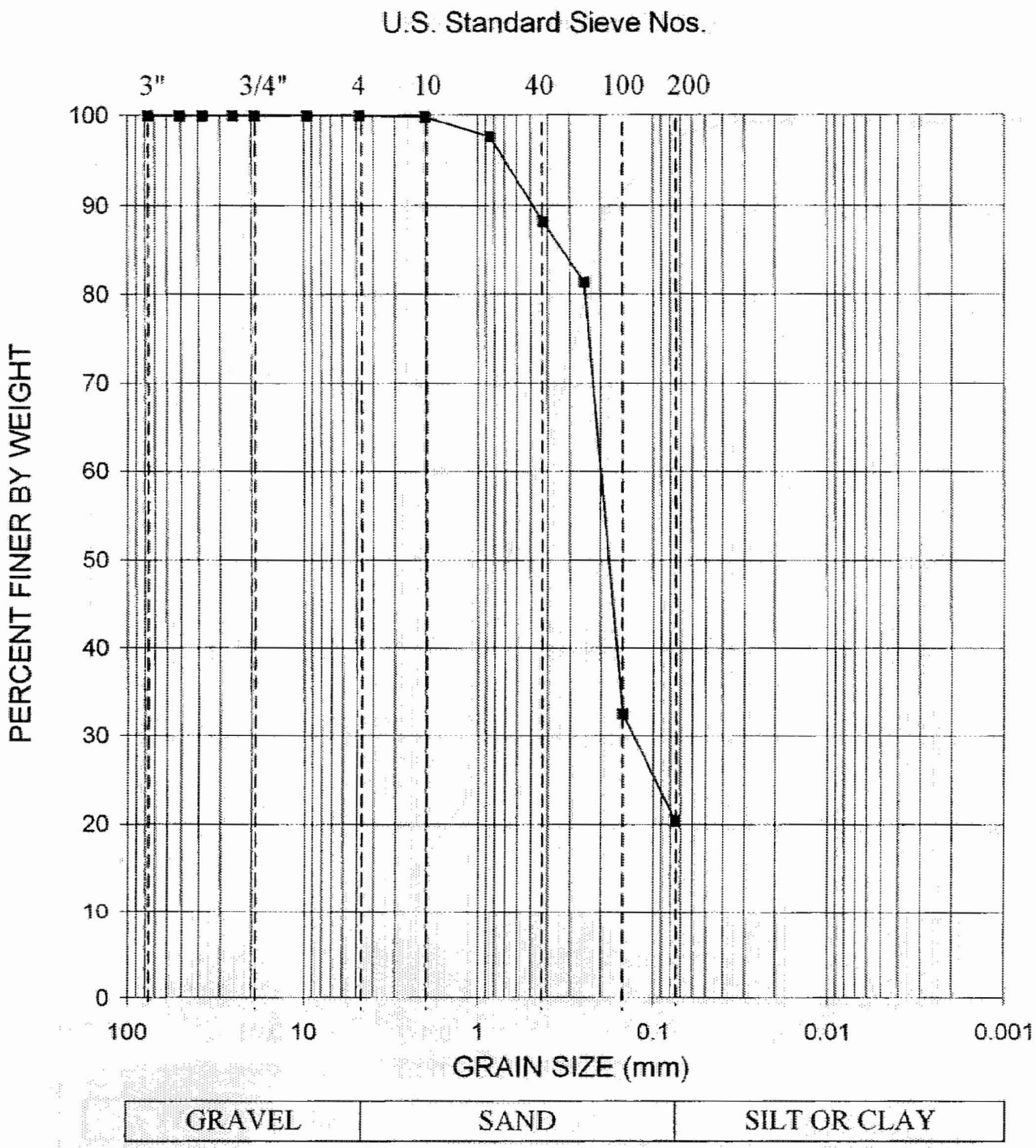
ASTM D422

Project:	Constellation Energy Group COLA Project, Calvert Cliffs NuclearPower Plant (CCNPP), Calvert County, Maryland	Contract No.:	06120048.00	Date:	9/22/2006

Boring No.	Depth (ft)	Sample Description	Class.	LL	PI
B-747	10.5	Poorly Graded SAND, with silt, light brown	SP-SM		

Schnabel

Schnabel Engineering



GRADATION CURVE

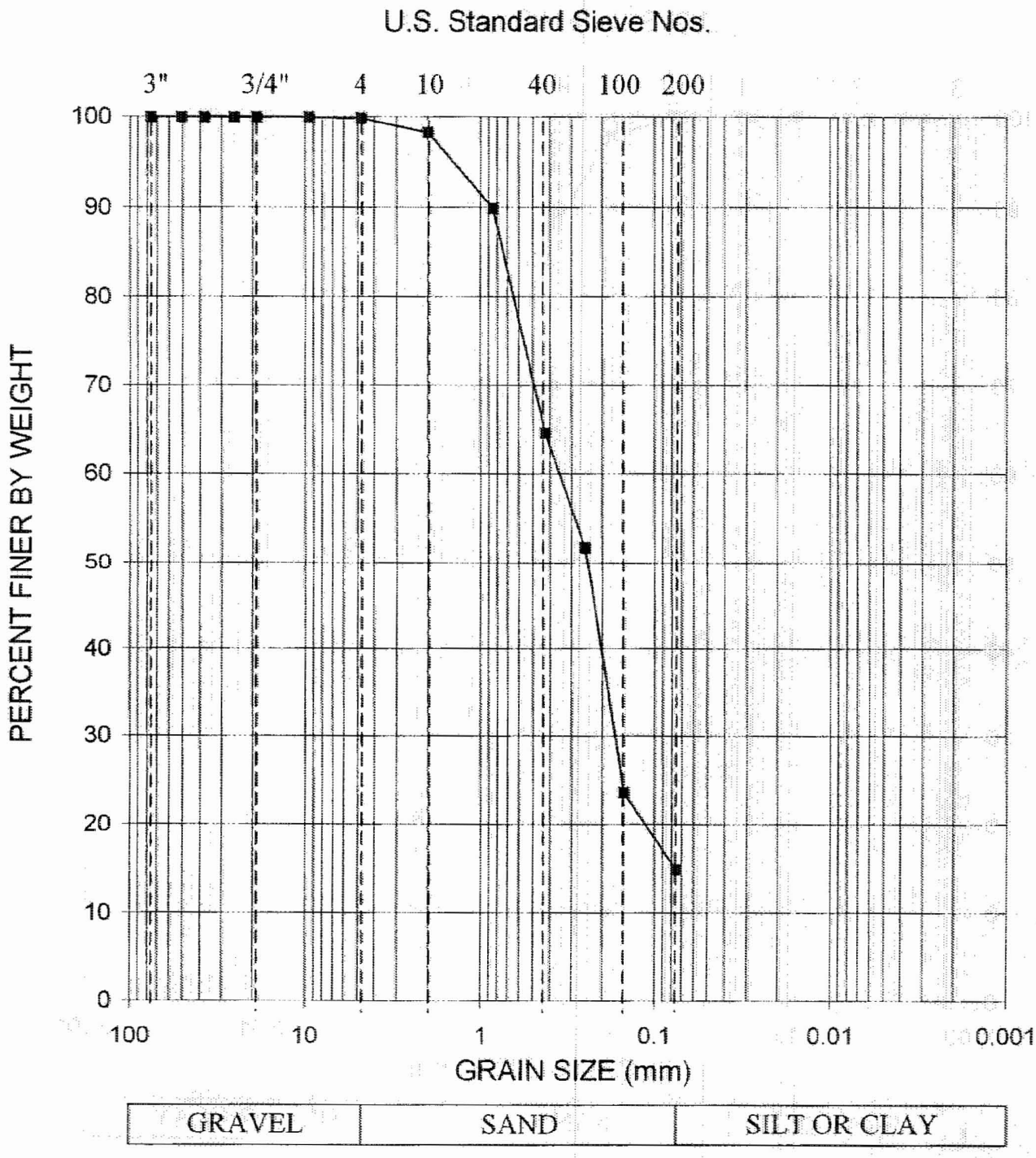
ASTM D422

Project:	Constellation Energy Group COLA Project, Calvert Cliffs NuclearPower Plant (CCNPP), Calvert County, Maryland	Contract No.:	06120048.00	Date:	9/27/2006

Boring No.	Depth (ft)	Sample Description	Class.	LL	PI
B-747	13.5	Silty SAND, orange-brown	SM		

Schnabel

Schnabel Engineering



GRADATION CURVE

ASTM D422

Project:	Constellation Energy Group COLA Project, Calvert Cliffs NuclearPower Plant (CCNPP), Calvert County, Maryland		Contract No.:	06120048.00	Date:	9/27/2006
Boring No.	Depth (ft)	Sample Description	Class.	LL	PI	
B-747	18.5	Silty SAND, brown-gray	SM			

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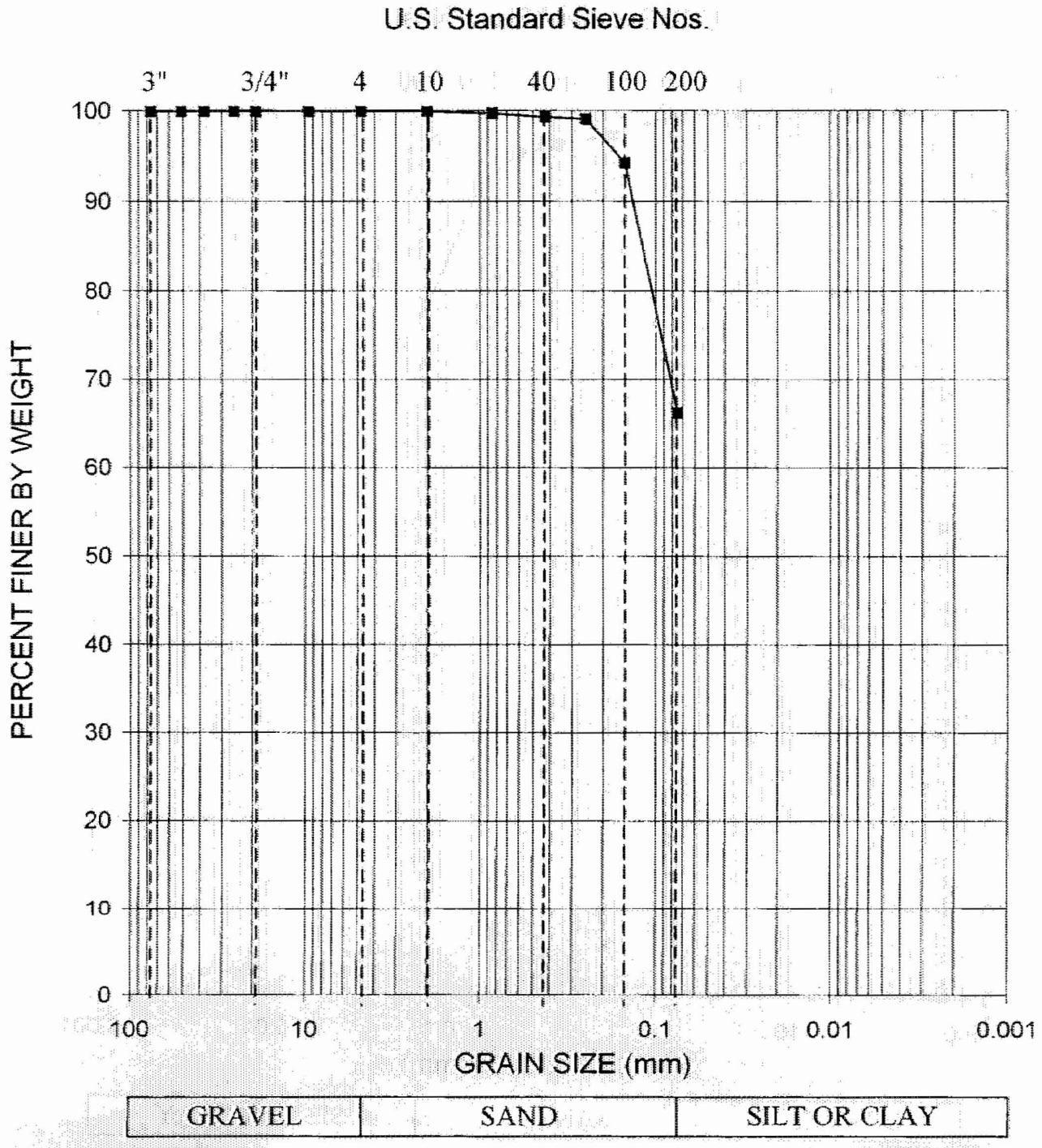


GRADATION CURVE

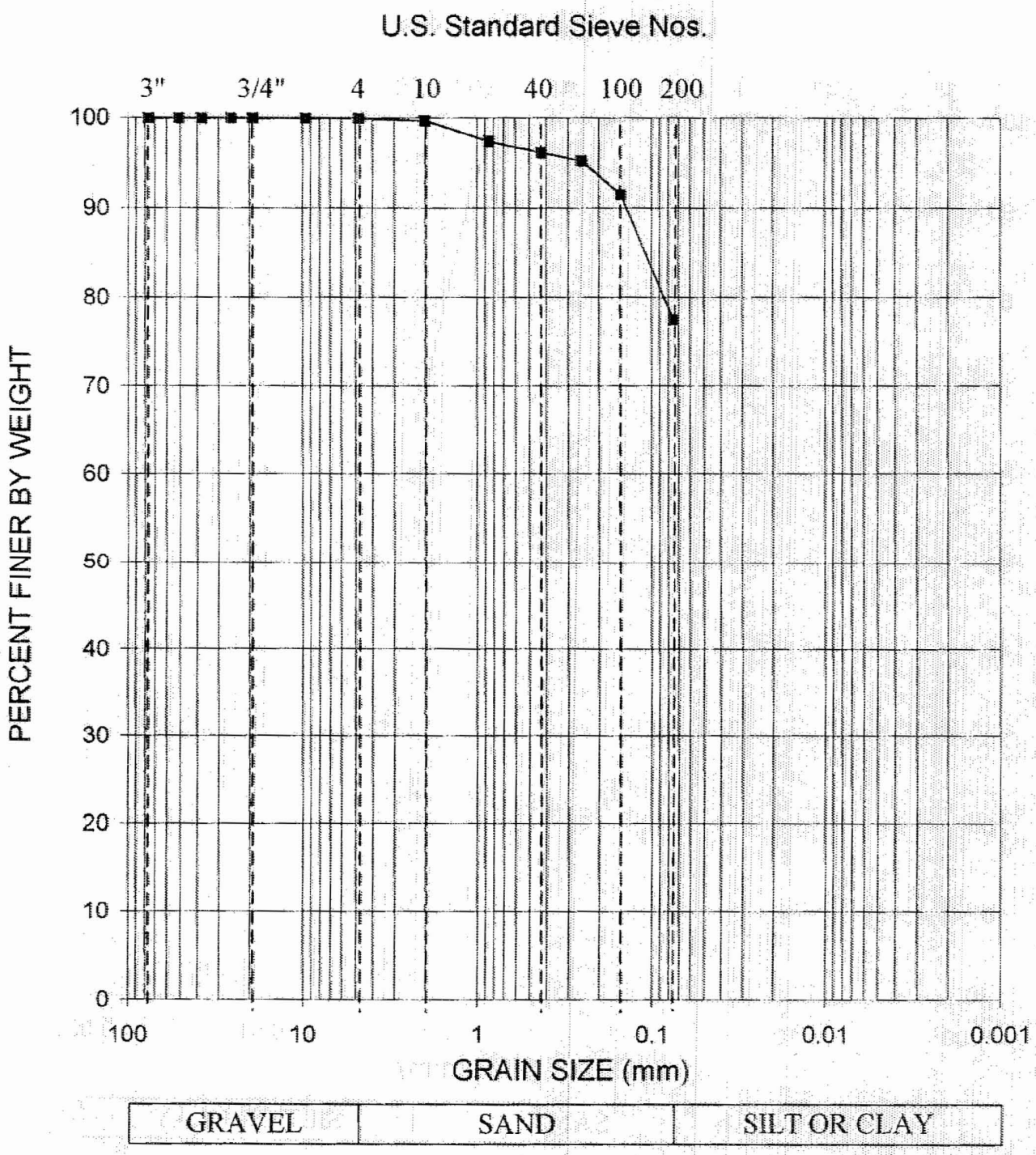
ASTM D422

Project:	Constellation Energy Group COLA Project, Calvert Cliffs NuclearPower Plant (CCNPP), Calvert County, Maryland	Contract No.:	06120048.00	Date:	9/28/2006

Boring No.	Depth (ft)	Sample Description	Class.	LL	PI
B-747	23.5	Sandy SILT, gray	ML		

Schnabel

Schnabel Engineering



GRADATION CURVE

ASTM D422

Project:	Constellation Energy Group COLA Project, Calvert Cliffs NuclearPower Plant (CCNPP), Calvert County, Maryland		Contract No.:	06120048.00	Date:	9/28/2006
Boring No.	Depth (ft)	Sample Description	Class.	LL	PI	
B-747	33.5	FAT CLAY, with sand, dark gray	CH			

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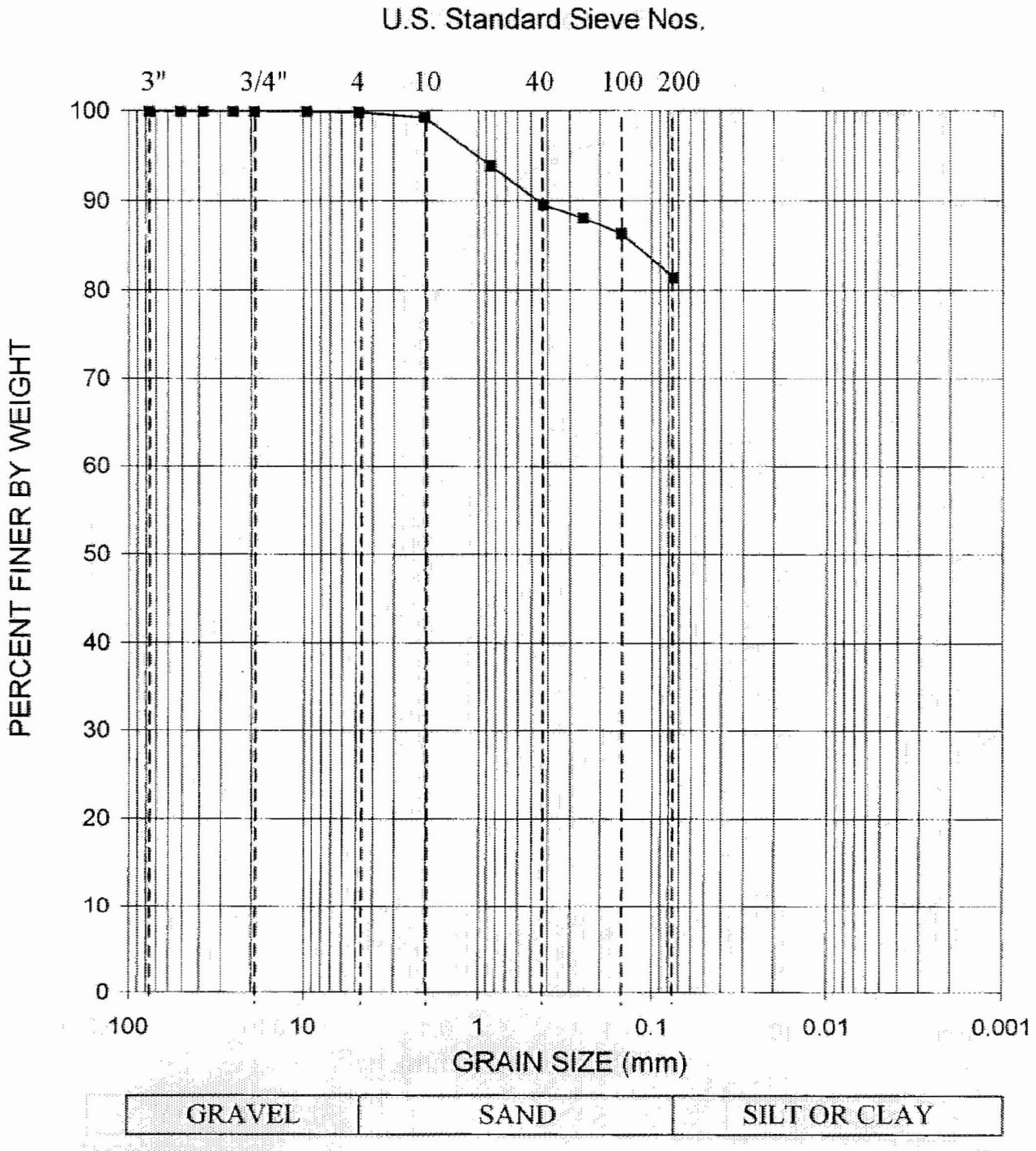

GRADATION CURVE

ASTM D422

Project:	Constellation Energy Group COLA Project, Calvert Cliffs NuclearPower Plant (CCNPP), Calvert County, Maryland	Contract No.:	06120048.00	Date:	9/28/2006

Boring No.	Depth (ft)	Sample Description	Class.	LL	PI
B-747	38.5	FAT CLAY, with sand, dark gray	CH		

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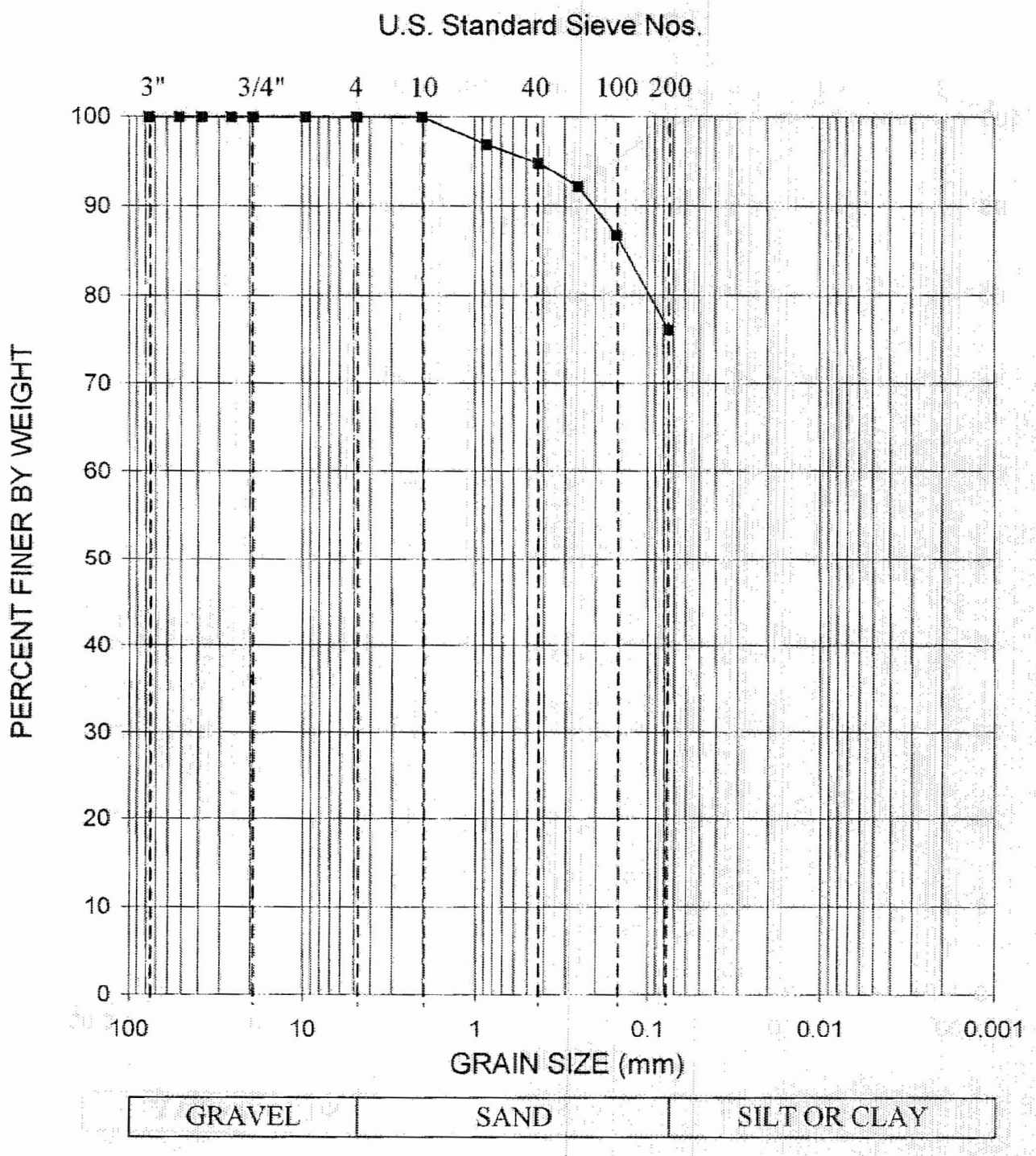


GRADATION CURVE

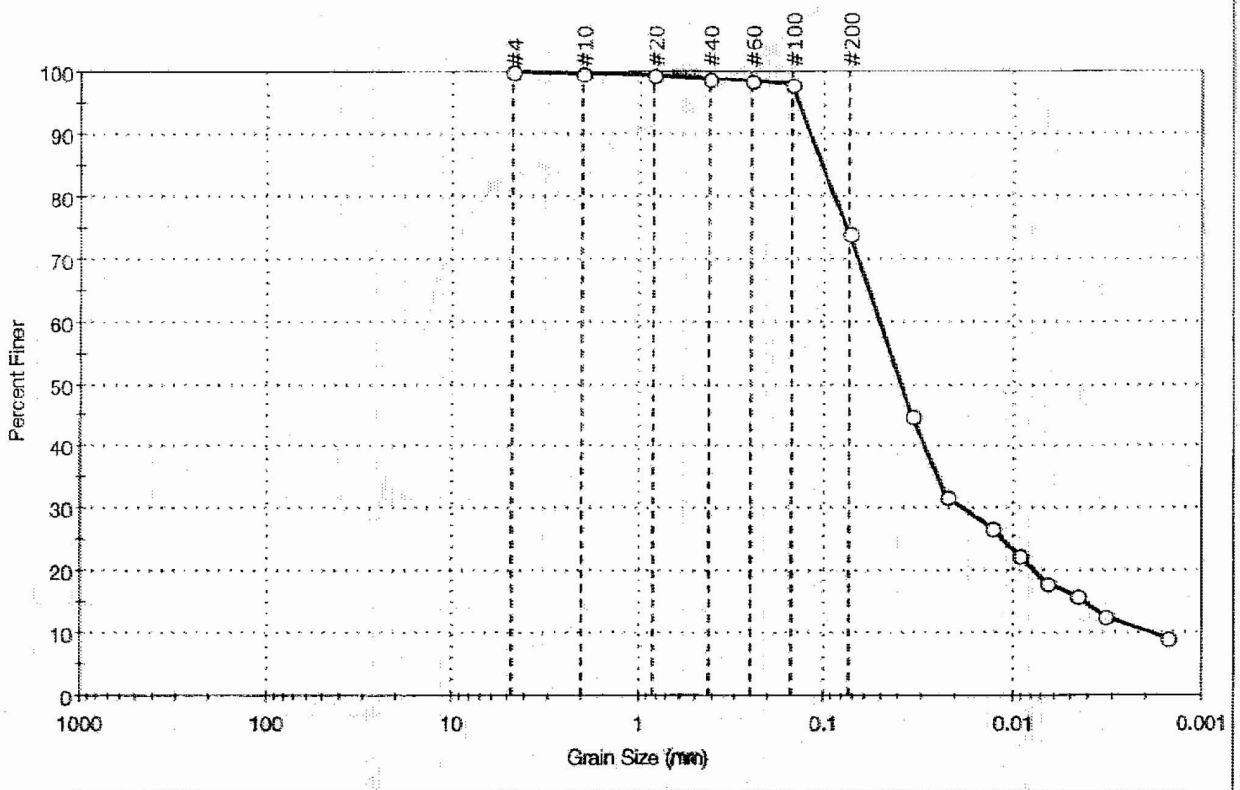
ASTM D422

Project:	Constellation Energy Group COLA Project, Calvert Cliffs NuclearPower Plant (CCNPP), Calvert County, Maryland		Contract No.: 06120048.00		Date: 9/28/2006	
Boring No.	Depth (ft)	Sample Description	Class.	LL	PI	
B-747	53.5	ELASTIC SILT, with sand, dark green-gray	MH	78	31	Schnabel Engineering

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	Schnabel Engineering, Inc.		
Project:	Subsurface Investigation Calvert Cliffs Nuclear PP		
Location:	Calvert County, MD	Project No:	GTX-6880
Boring ID: B-747	Sample Type: tube	Tested By:	sam
Sample ID: S-15	Test Date: 09/29/06	Checked By:	mcm
Depth : 58.5-60 ft	Test Id: 99170		
Test Comment: ---			
Sample Description:	Moist, dark olive gray clay with sand		
Sample Comment: ---			

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	25.8	74.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.84	99		
#40	0.42	99		
#60	0.25	99		
#100	0.15	98		
#200	0.074	74		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
—	0.0345	45		
—	0.0221	32		
—	0.0128	27		
—	0.0091	22		
—	0.0065	18		
—	0.0046	16		
—	0.0033	13		
—	0.0016	9		

Coefficients

D_{85} = 0.1017 mm	D_{30} = 0.0178 mm
D_{60} = 0.0512 mm	D_{15} = 0.0042 mm
D_{50} = 0.0395 mm	D_{10} = 0.0018 mm
C_u = N/A	C_c = N/A

Classification

ASTM fat clay with sand (CH)

AASHTO Clayey Soils (A-7-6 (31))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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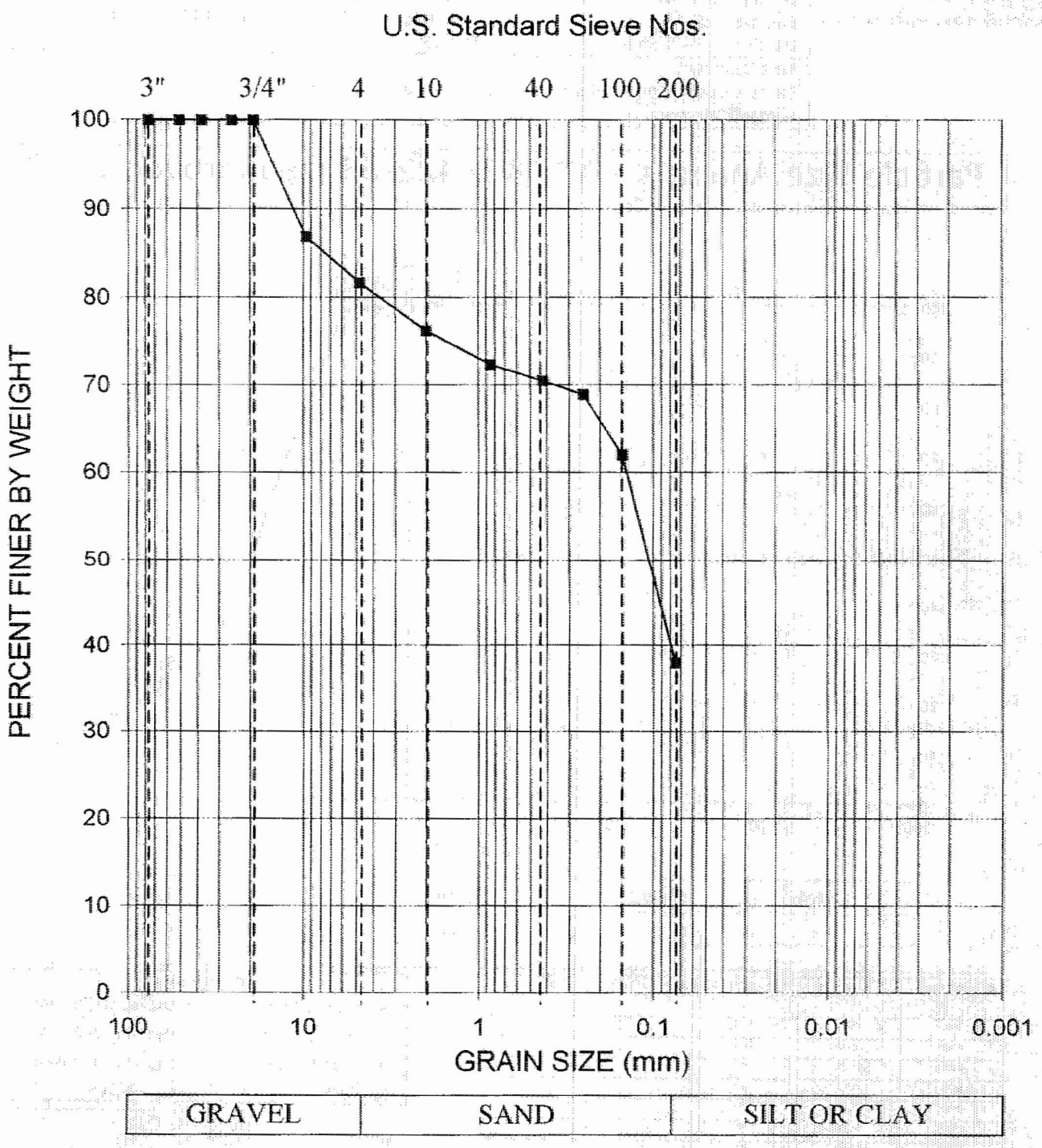

GRADATION CURVE

ASTM D422

Project:	Constellation Energy Group COLA Project, Calvert Cliffs NuclearPower Plant (CCNPP), Calvert County, Maryland	Contract No.:	06120048.00	Date:	9/28/2006

Boring No.	Depth (ft)	Sample Description	Class.	LL	PI
B-747	63.5	Clayey SAND, with shells, dark green	SC	43	23

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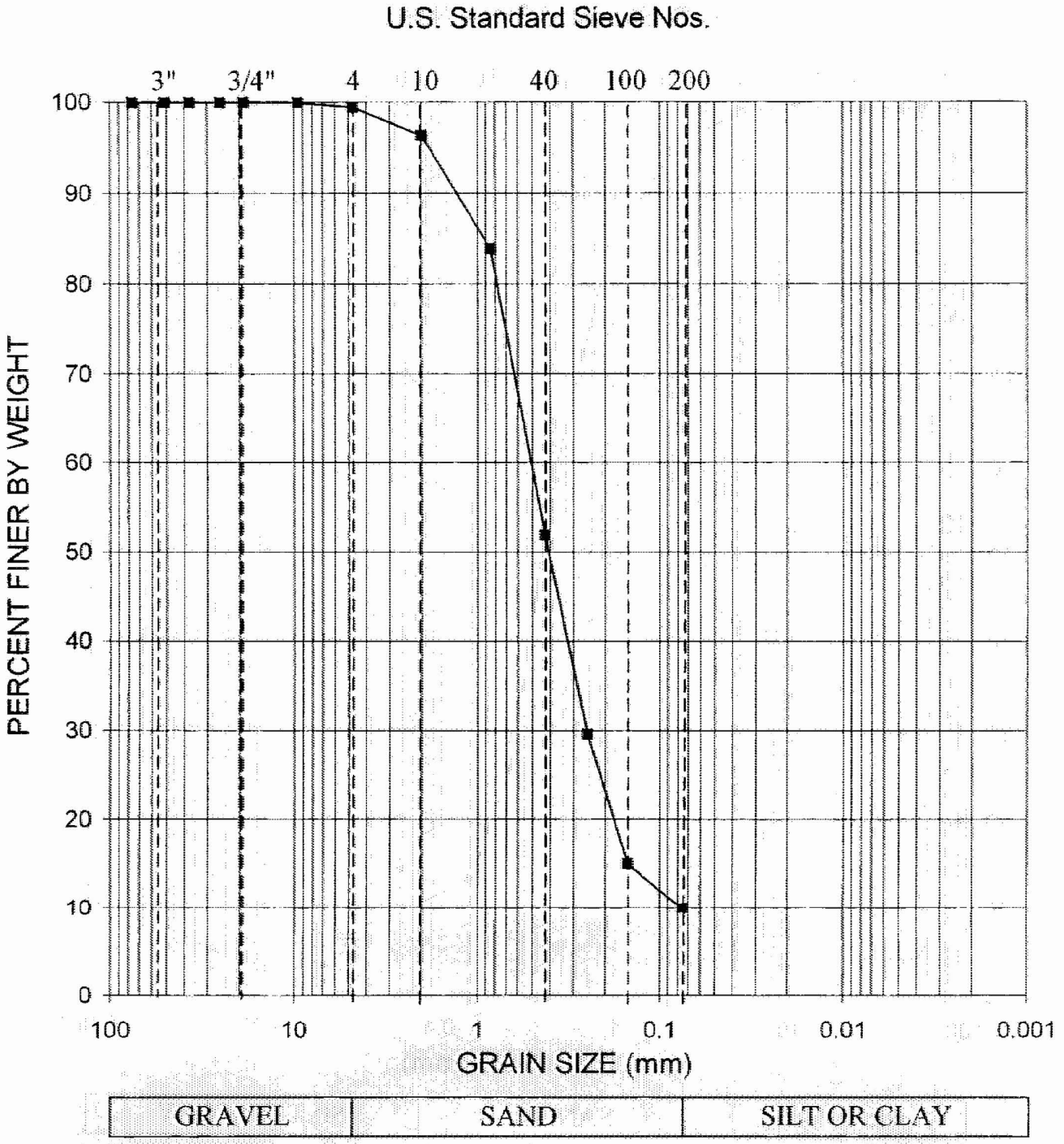
Schnabel Engineering



GRADATION CURVE

ASTM D422

Project:	Constellation Energy Group COLA Project, Calvert Cliffs NuclearPower Plant (CCNPP), Calvert County, Maryland	Contract No.: 06120048.00	Date: 9/27/2006

Boring No.	Depth (ft)	Sample Description	Class.	LL	PI
B-752	2.5	Poorly Graded SAND, with silt, orange	SP-SM		

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Schnabel Engineering