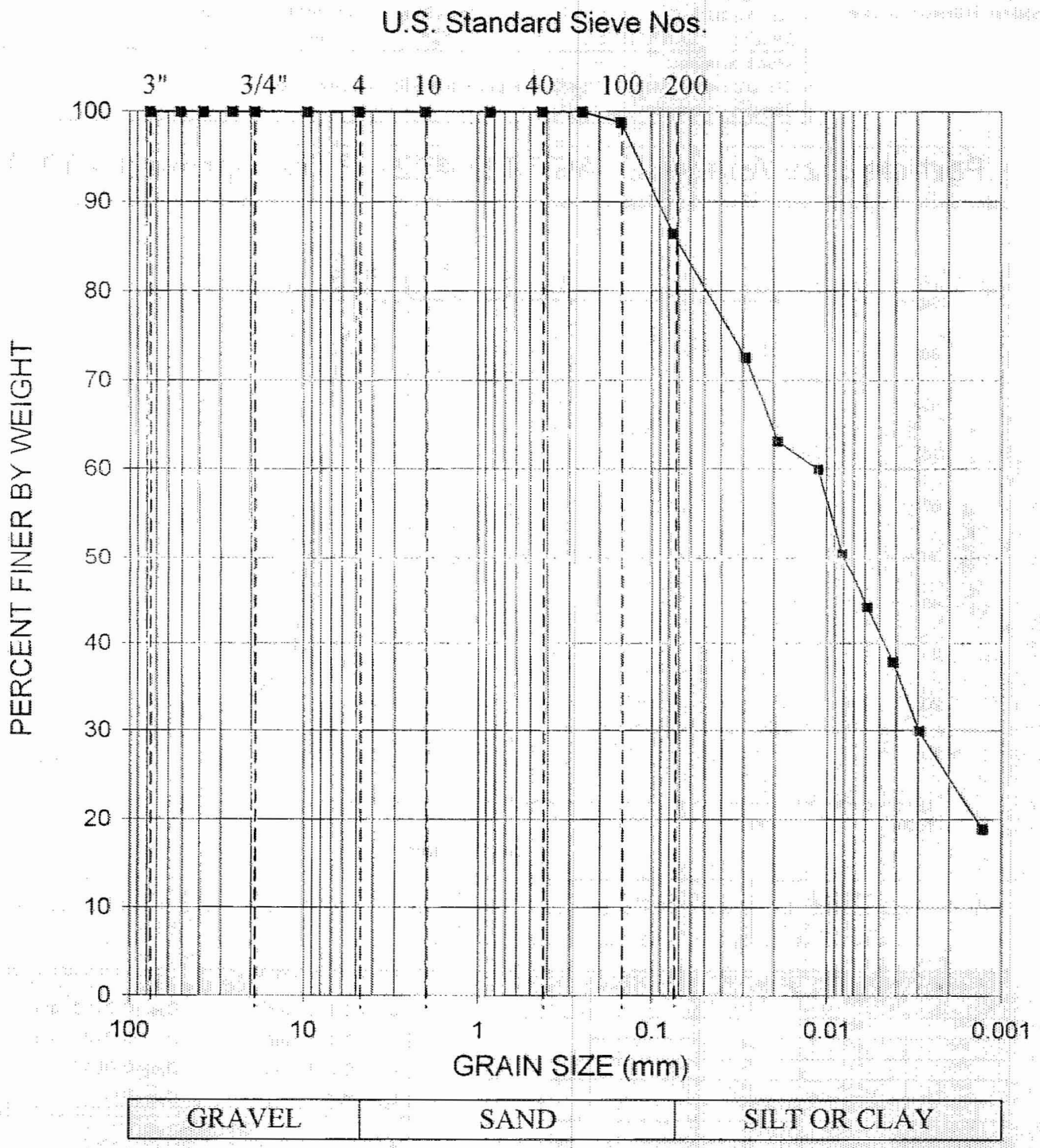
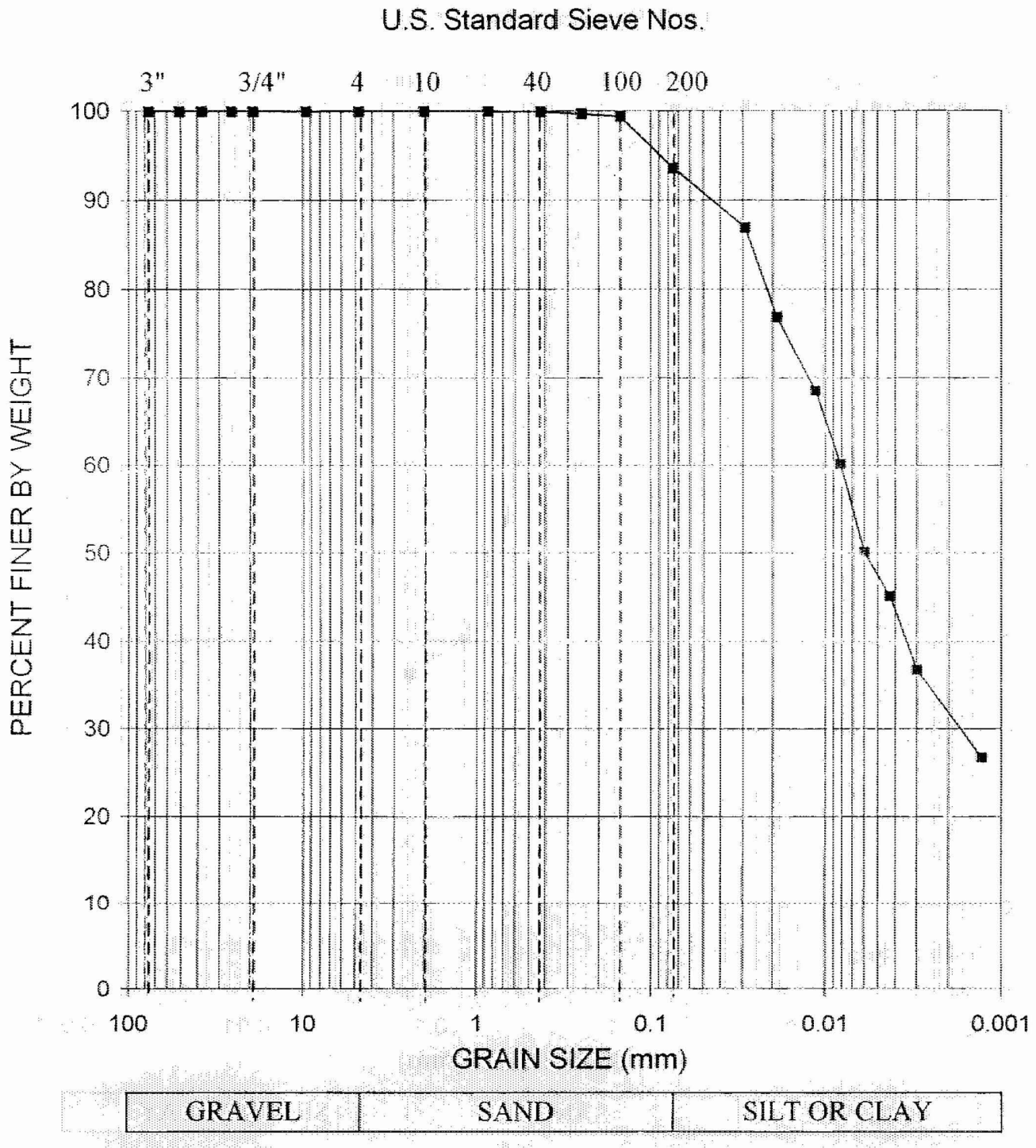


GRADATION CURVE
ASTM D422

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
Schnabel Engineering

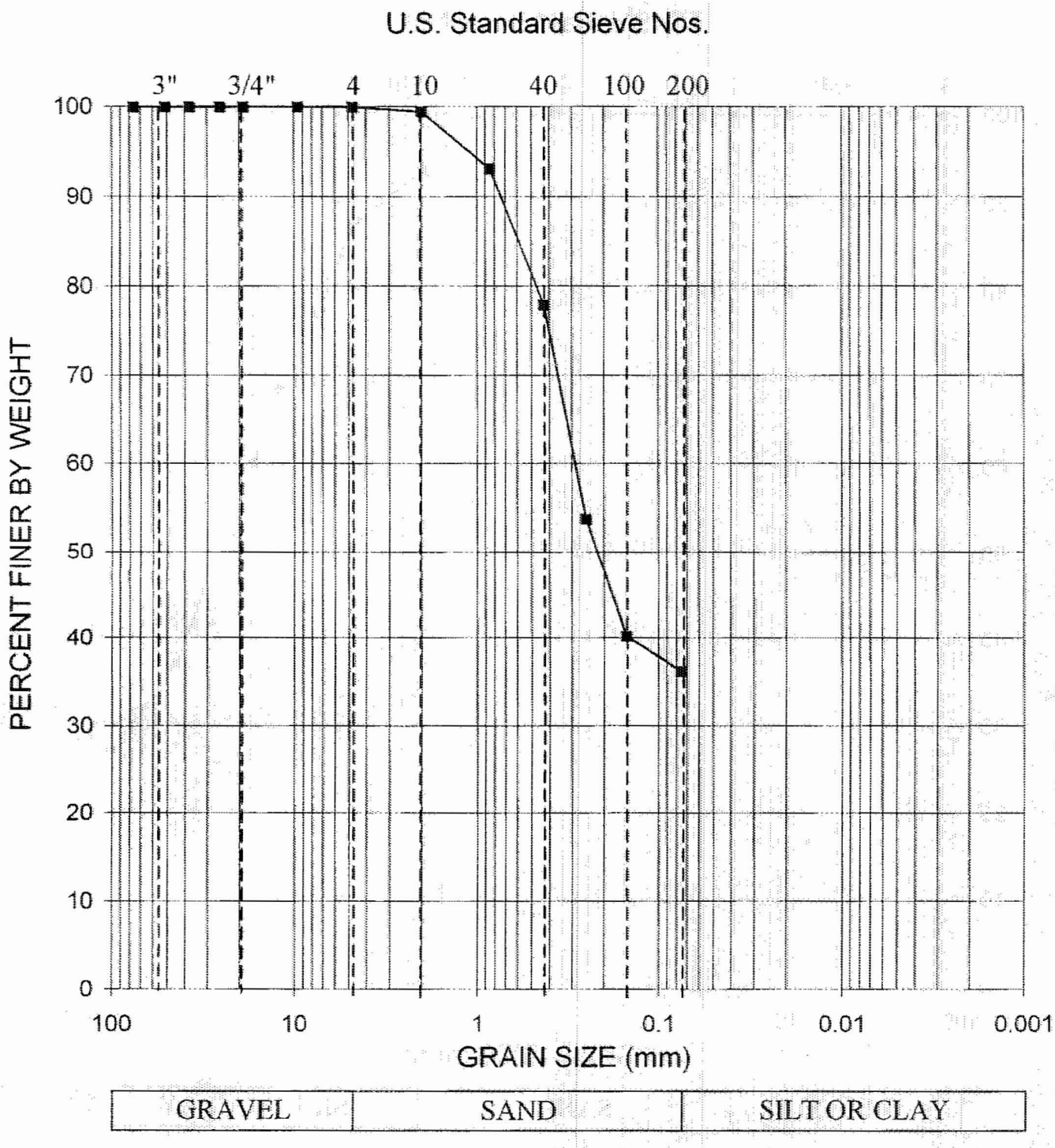


GRADATION CURVE
ASTM D422

Calvert Cliffs Nuclear Power Plant (CCNPP) Calvert County, Maryland	Contract No. 0612004S	Date: 10/18/2006	

Boring No.	Depth (ft)	Sample Description	Class.	LL	PI
B-746	33.5	FAT CLAY, trace sand, dark gray	CH	64	40

Schnabel
Schnabel Engineering



GRADATION CURVE

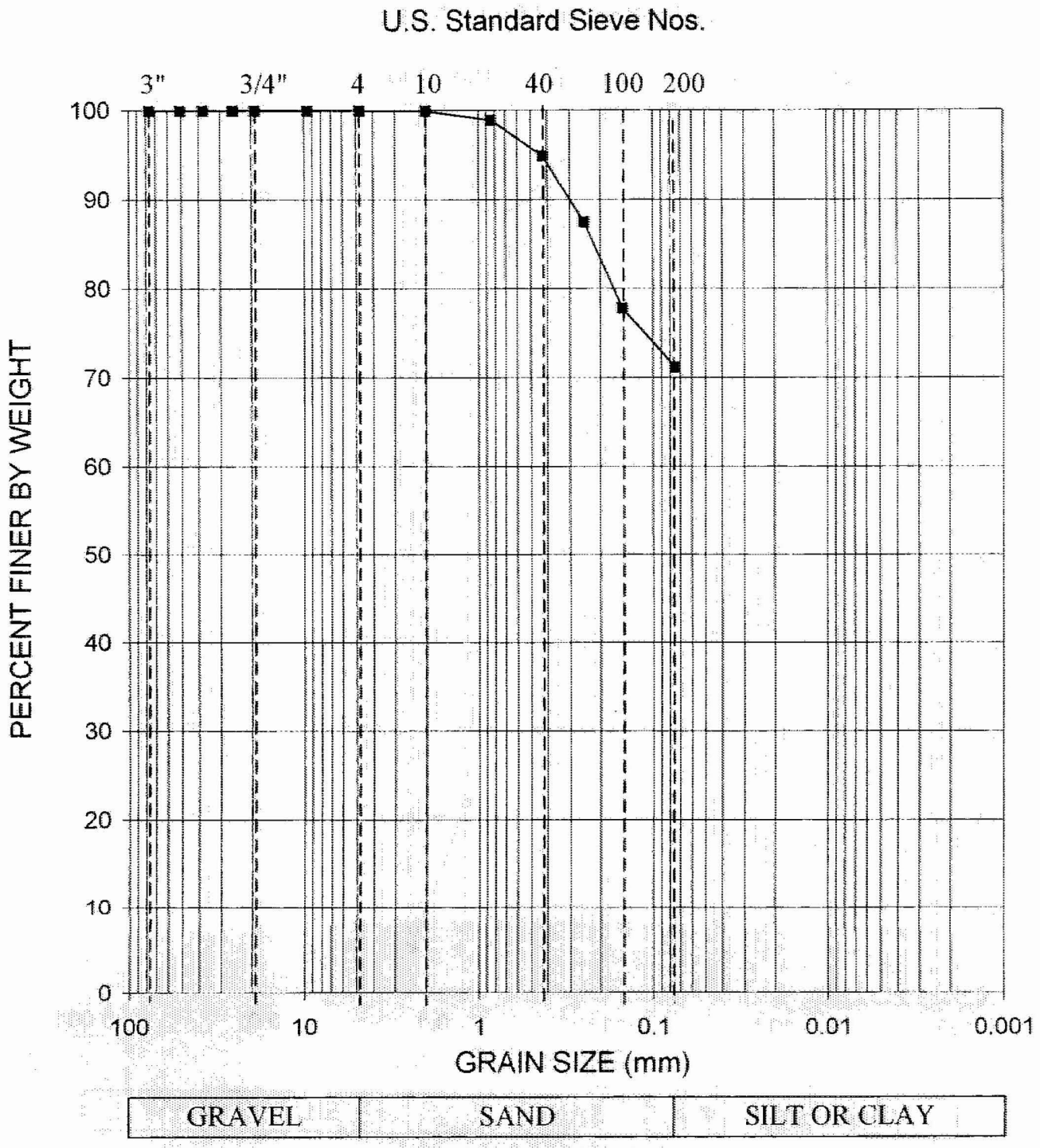
ASTM D422

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

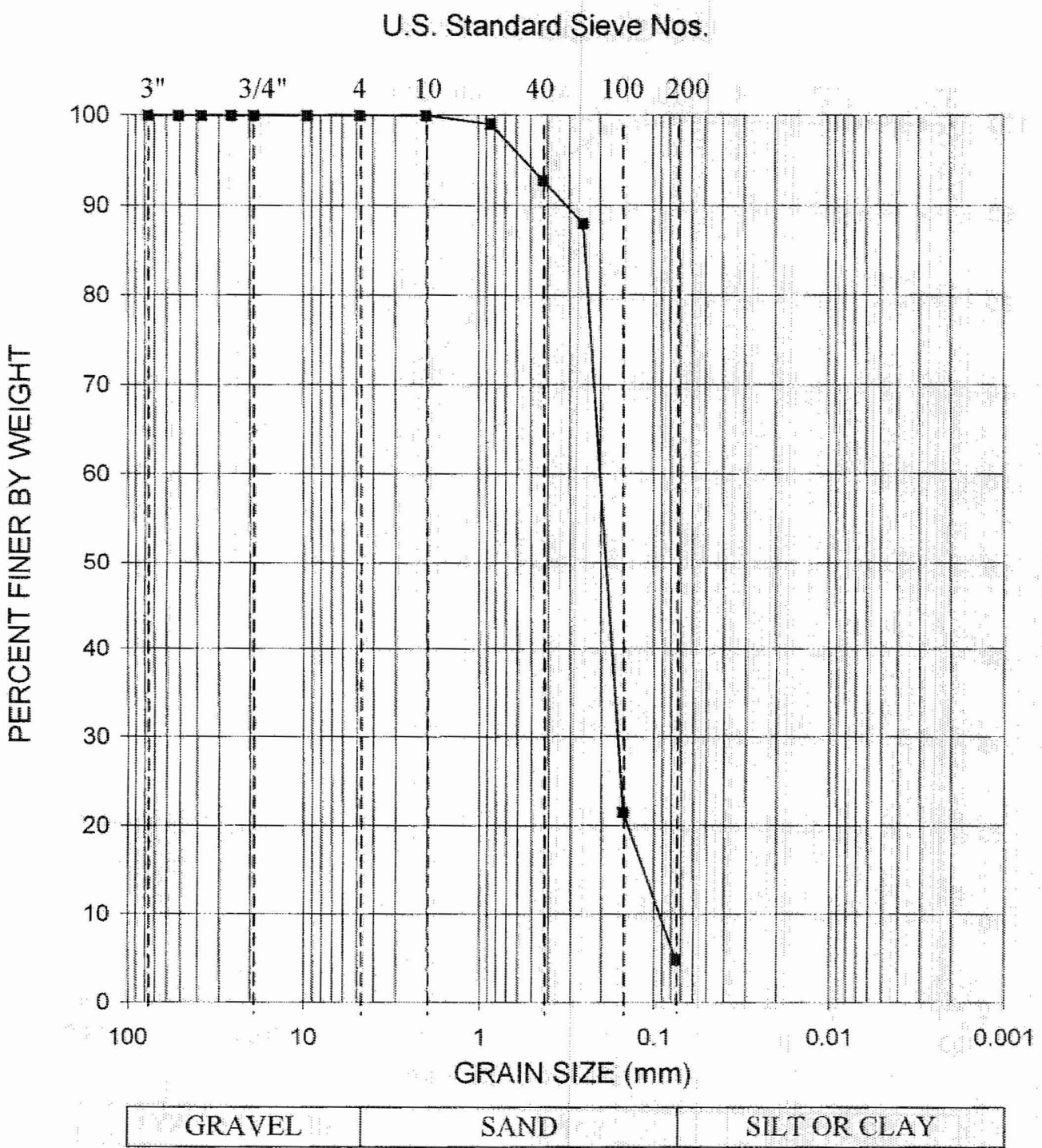
ASTM D422

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

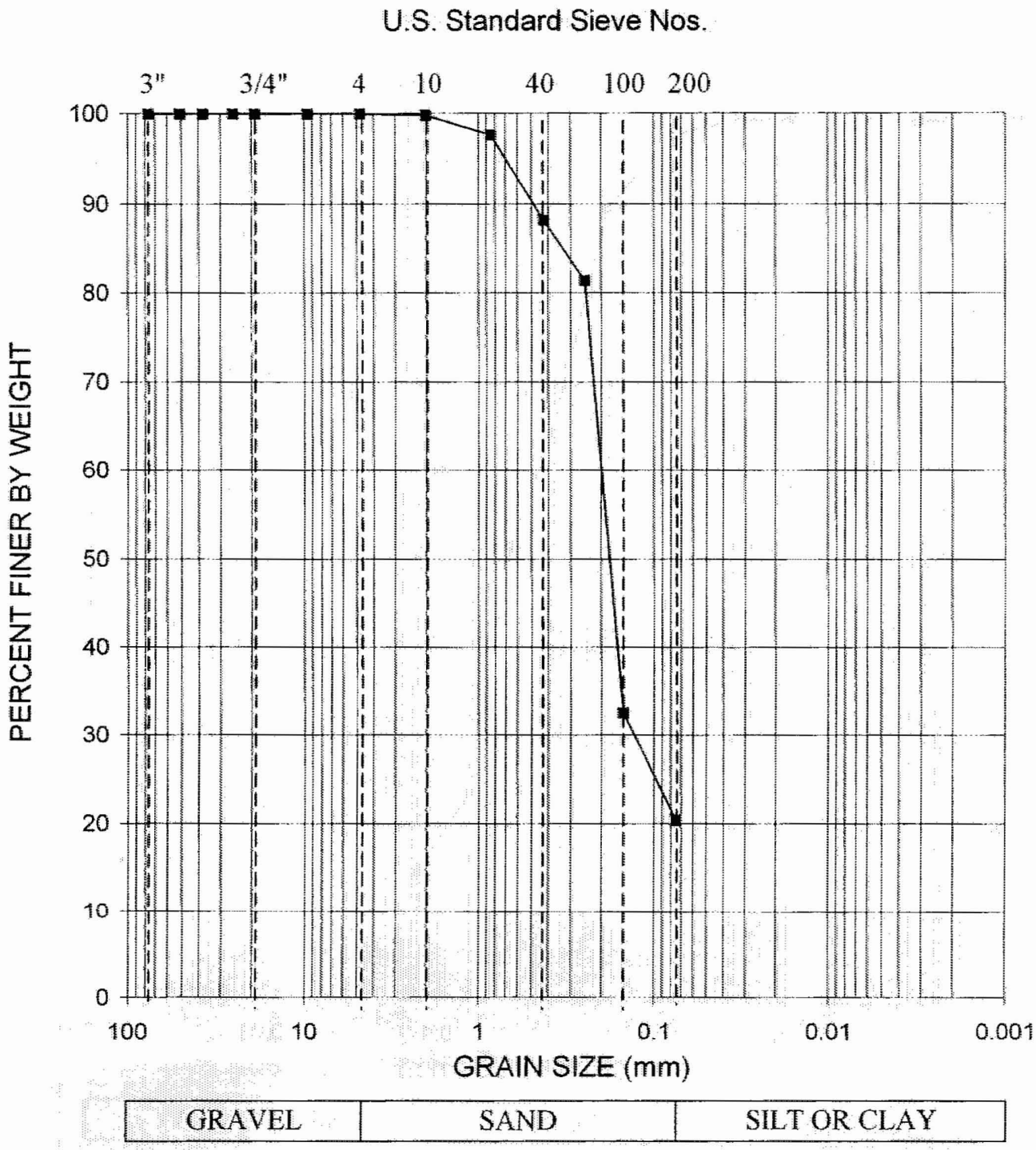
Schnabel Engineering



GRADATION CURVE

ASTM D422

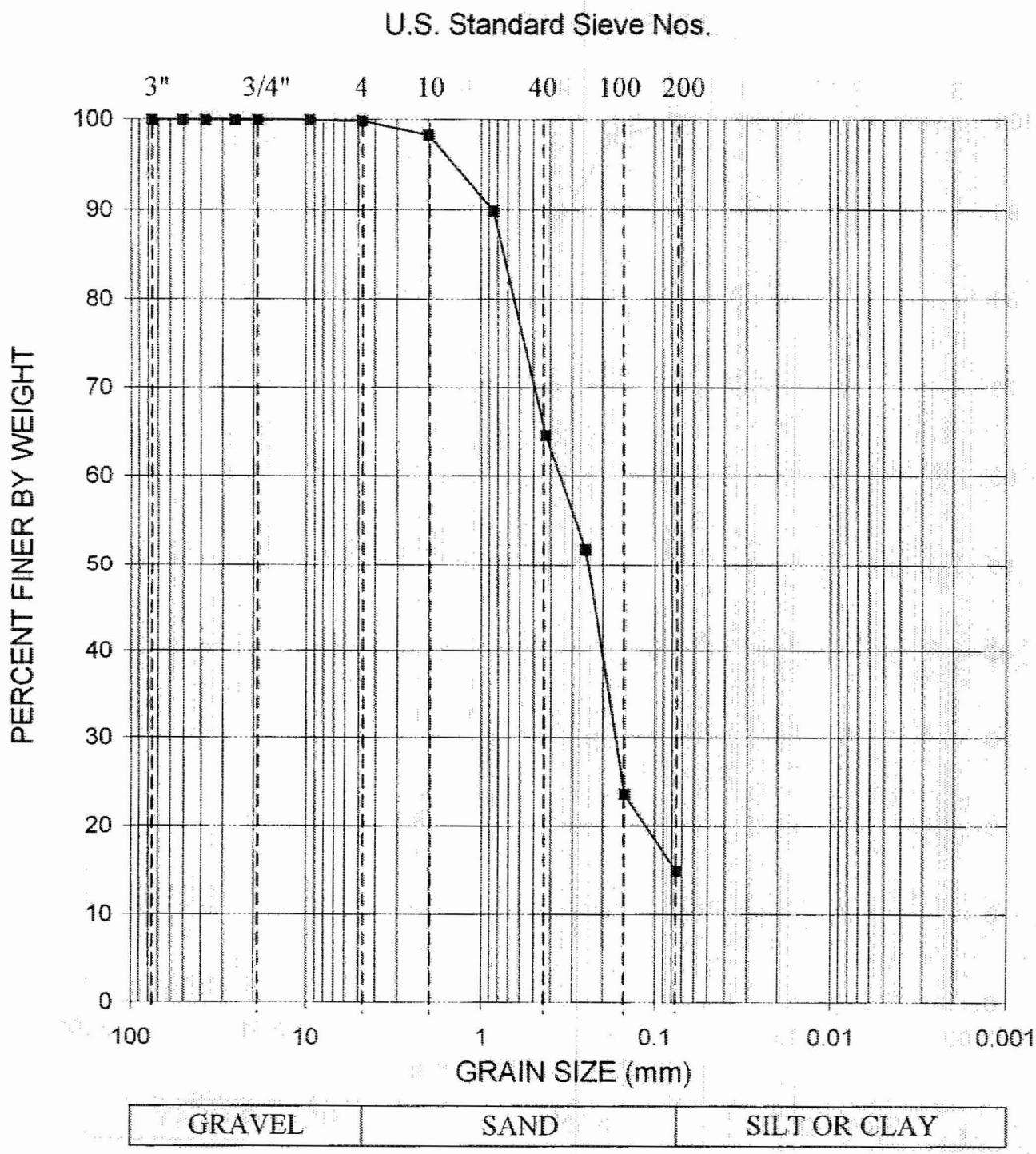
Project:	Constellation Energy Group COLA Project, Calvert Cliffs NuclearPower Plant (CCNPP), Calvert County, Maryland		Contract No.: 06120048.00		Date: 9/22/2006	
Boring No.	Depth (ft)	Sample Description	Class.	LL	PI	
B-747	10.5	Poorly Graded SAND, with silt, light brown	SP-SM			Schnabel Engineering



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 Engineering



GRADATION CURVE

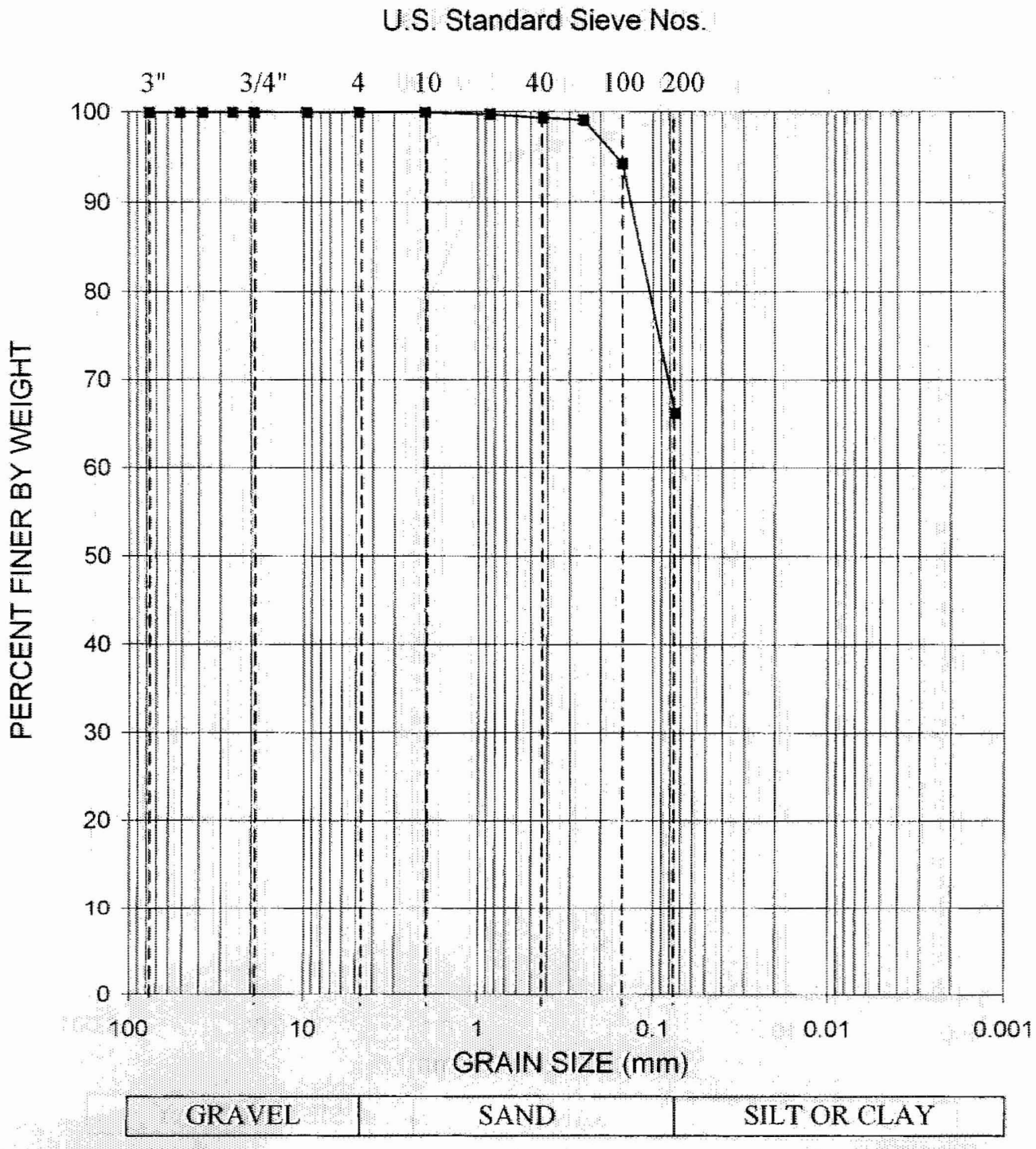
ASTM D422

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		

Schnabel

Schnabel Engineering



GRADATION CURVE

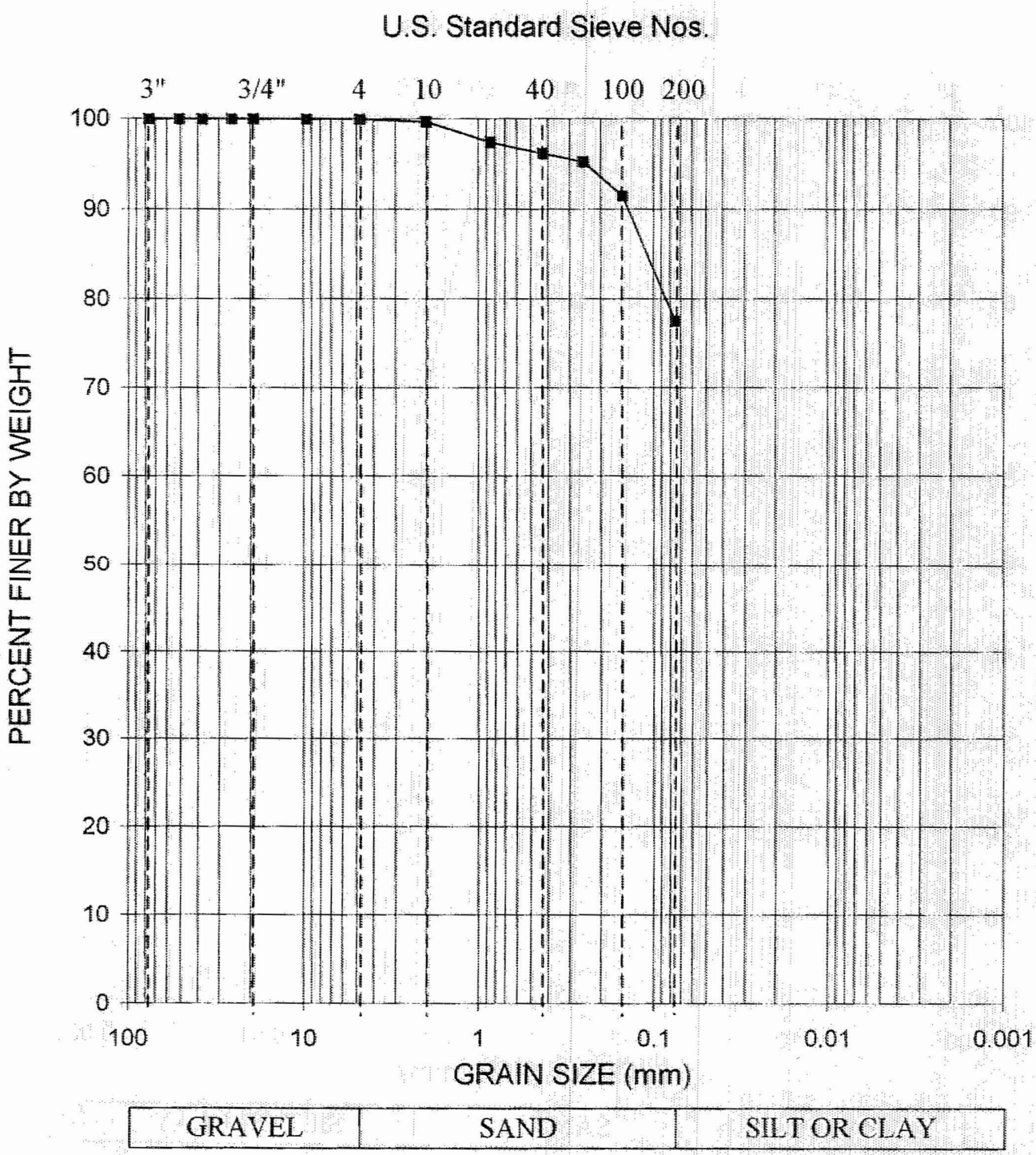
ASTM D422

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	23.5	Sandy SILT, gray	ML		

Schnabel

Schnabel Engineering



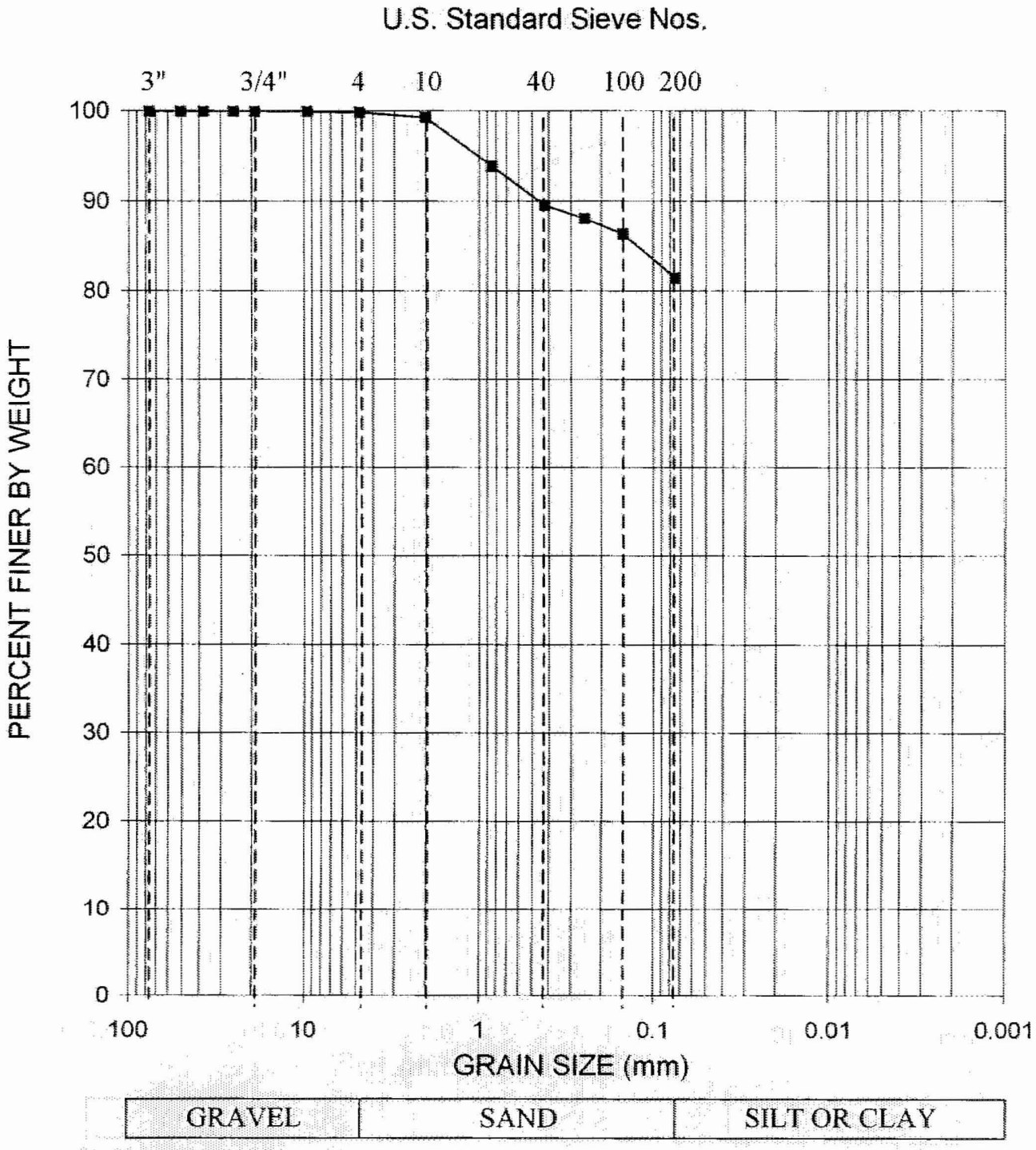
GRADATION CURVE

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			

Schnabel

Schnabel Engineering



GRADATION CURVE

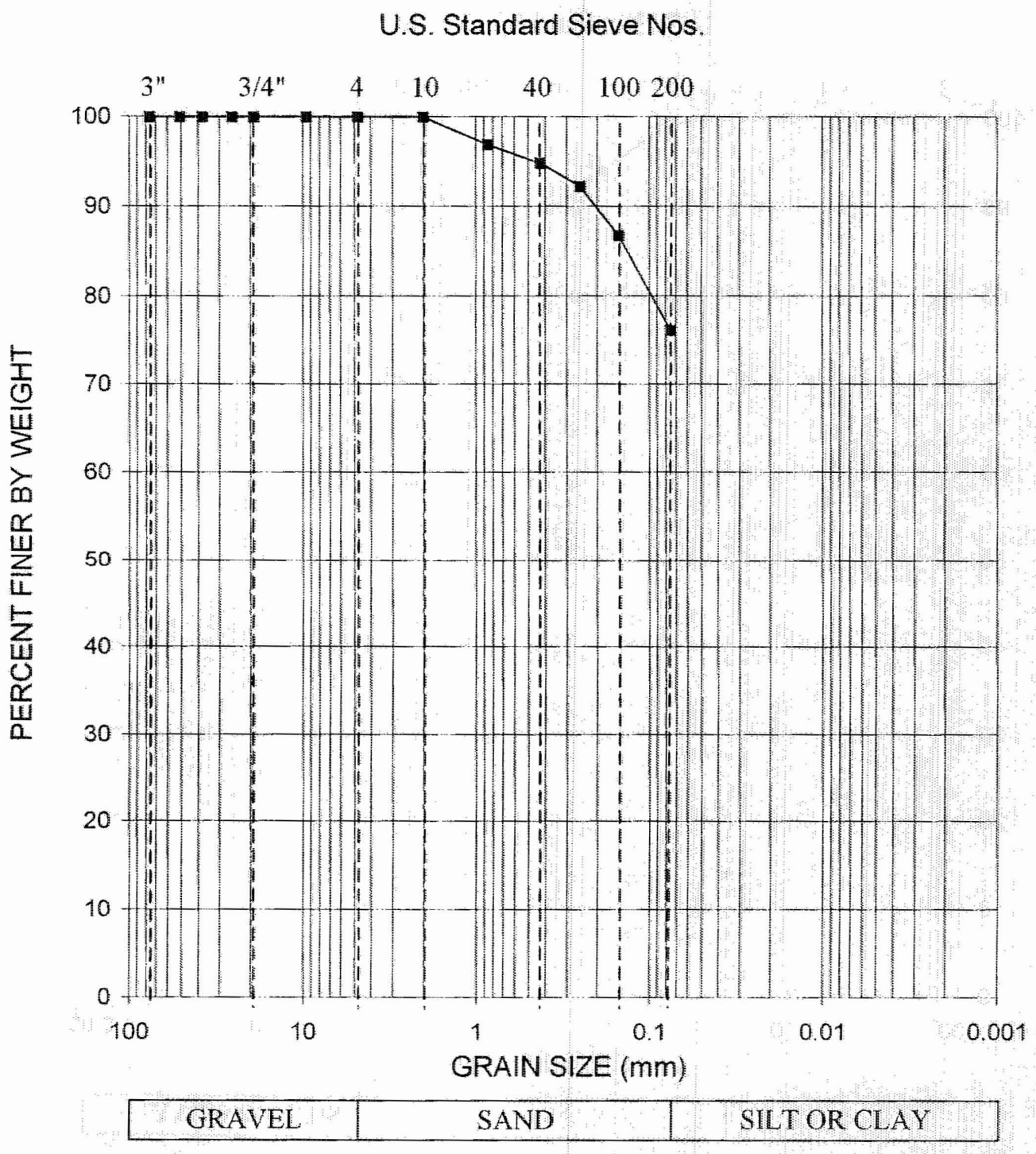
ASTM D422

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	38.5	FAT CLAY, with sand, dark gray	CH		

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	53.5	ELASTIC SILT, with sand, dark green-gray	MH	78	31	

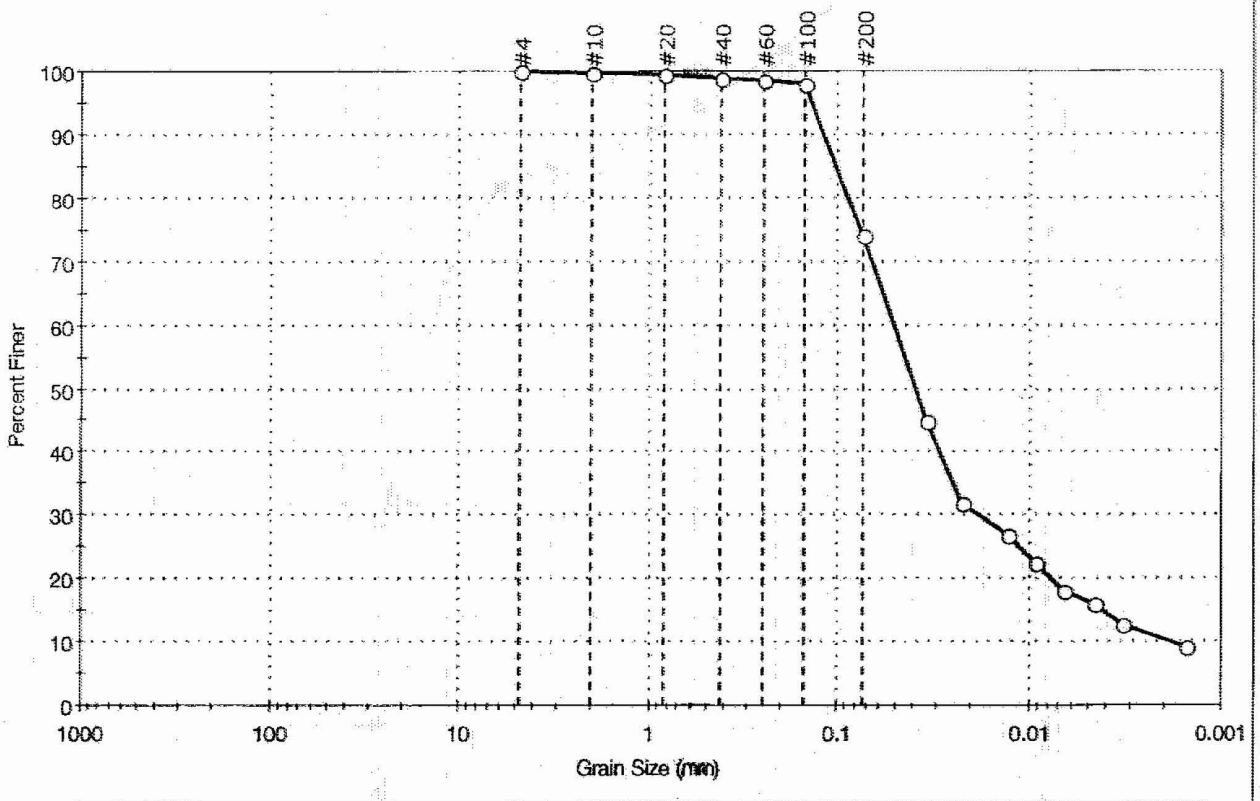
Schnabel

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)

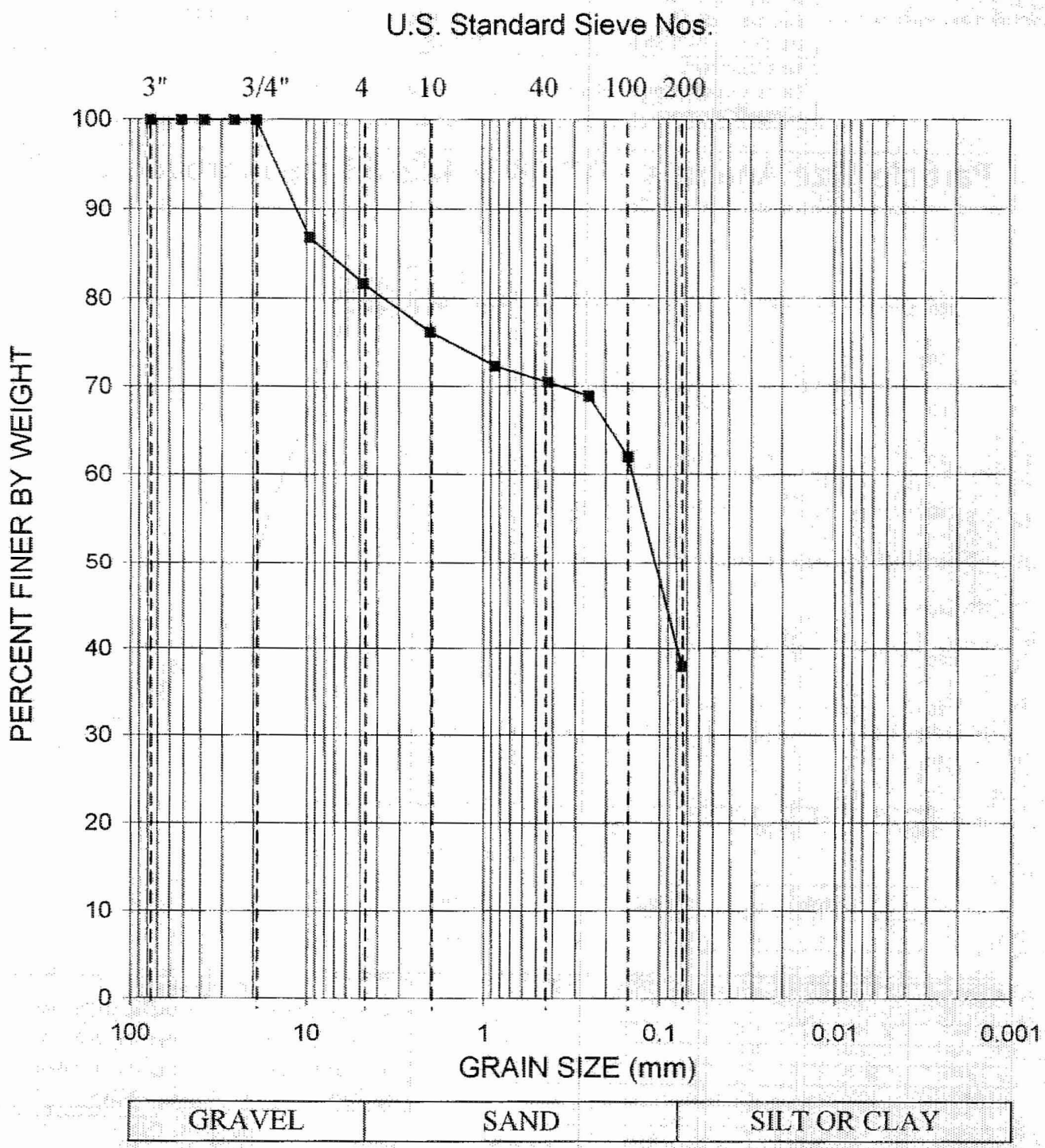
AASHTO Clayey Soils (A-7-6 (31))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 11/14/2006 1:06:00 PM



GRADATION CURVE

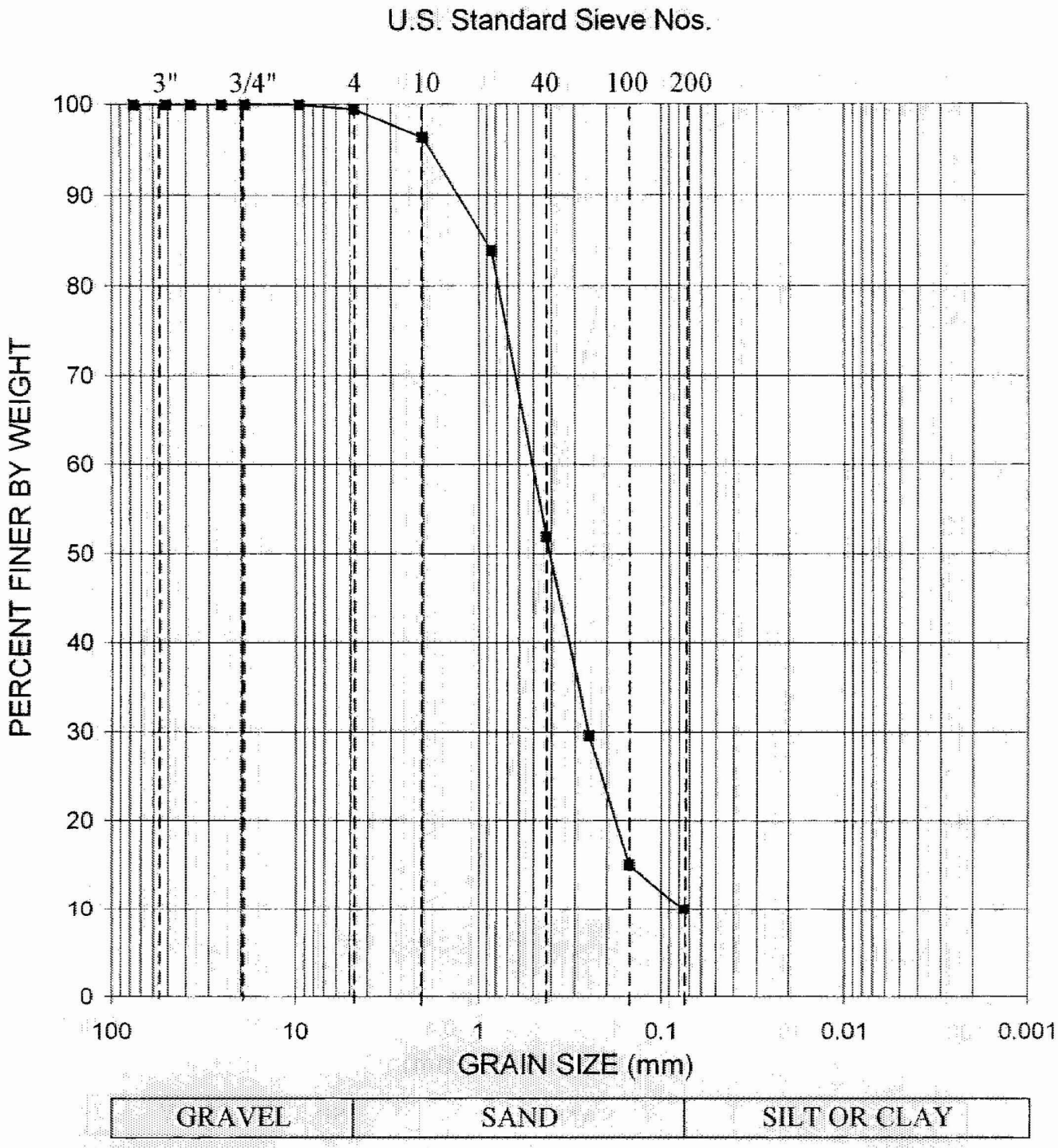
ASTM D422

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

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-752	2.5	Poorly Graded SAND, with silt, orange	SP-SM			

Schnabel

Schnabel Engineering