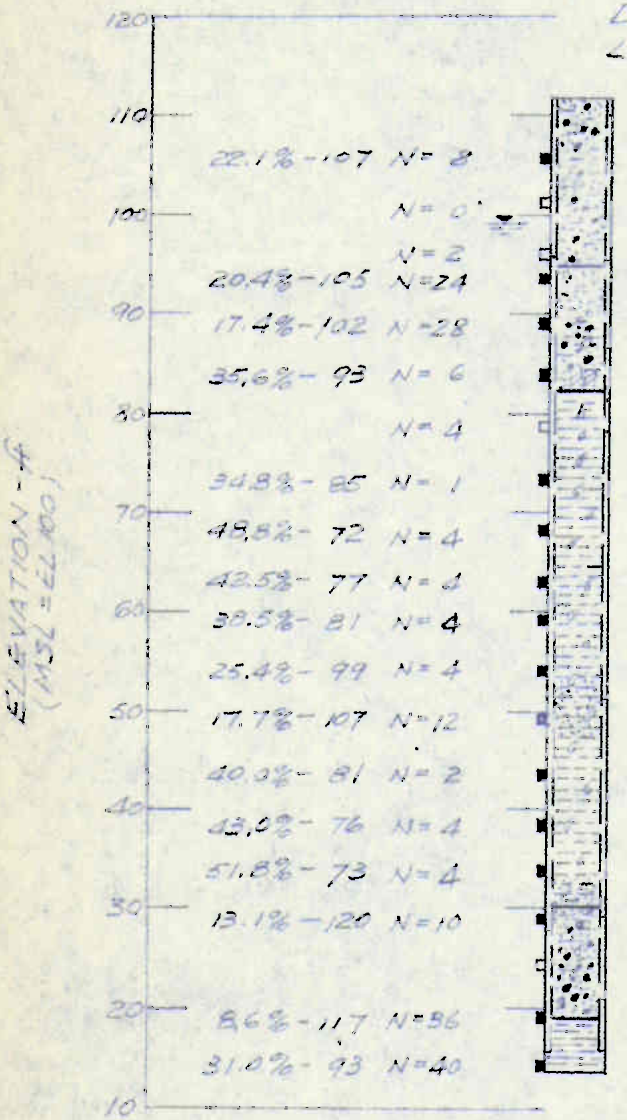
CALCULATION SHEET

METROPOLITAN ENGINEERS
SEATTLE, WASHINGTON

BORING 1

ELEVATION 111.8
DATE DRILLED 10-6, 7, 8 -64
LOCATION N 734,910
E 1,619,388



BROWN SILTY FINE SAND, SILT AND GRAY SILTY FINE-MED. SAND. SOME GRAVEL (FILL)

LAYERED GRAY FINE SAND, SILTY FINE SAND AND FINE-MED. SAND (SEE NOTE 3)

CONTAINS SOME GRAVEL, WOOD AND SHELL FRAGMENTS

GREEN GRAY SILT WITH SHELL FRAGMENTS - SOFT

SANDY

CONTAINS SILTY FINE SAND LAYER OR POCKETS

GRAY SILTY SAND WITH SOME GRAVEL AND SHELL FRAGMENTS, AND GRAY SAND AND GRAVEL
CASING AND BORING @ EL 24, OVERNIGHT W.L @ EL 99

GRAY CLAY - FIRM

NOTES:

(1) TWO PIEZOMETERS, 6" POROUS STONES WITH ½" ID PLASTIC RISERS, WERE INSTALLED IN THE HOLE, ONE @ EL. 22 AND THE OTHER @ EL. 82

(2) CASING WAS REMOVED AND BORING BACKFILLED WITH PEA GRAVEL BETWEEN EL 14 AND 22, EL 37 AND 52, AND EL 97 AND 112, WITH FINE SAND BETWEEN EL 22 AND 37, AND EL 81 AND 97, AND WITH TWO SACKS OF CEMENT @ EL 54.

(3) AFTER TAKING SAMPLE WATER LEVEL @ EL 99, HALF AN HOUR LATER, NO CHANGE IN W.L.

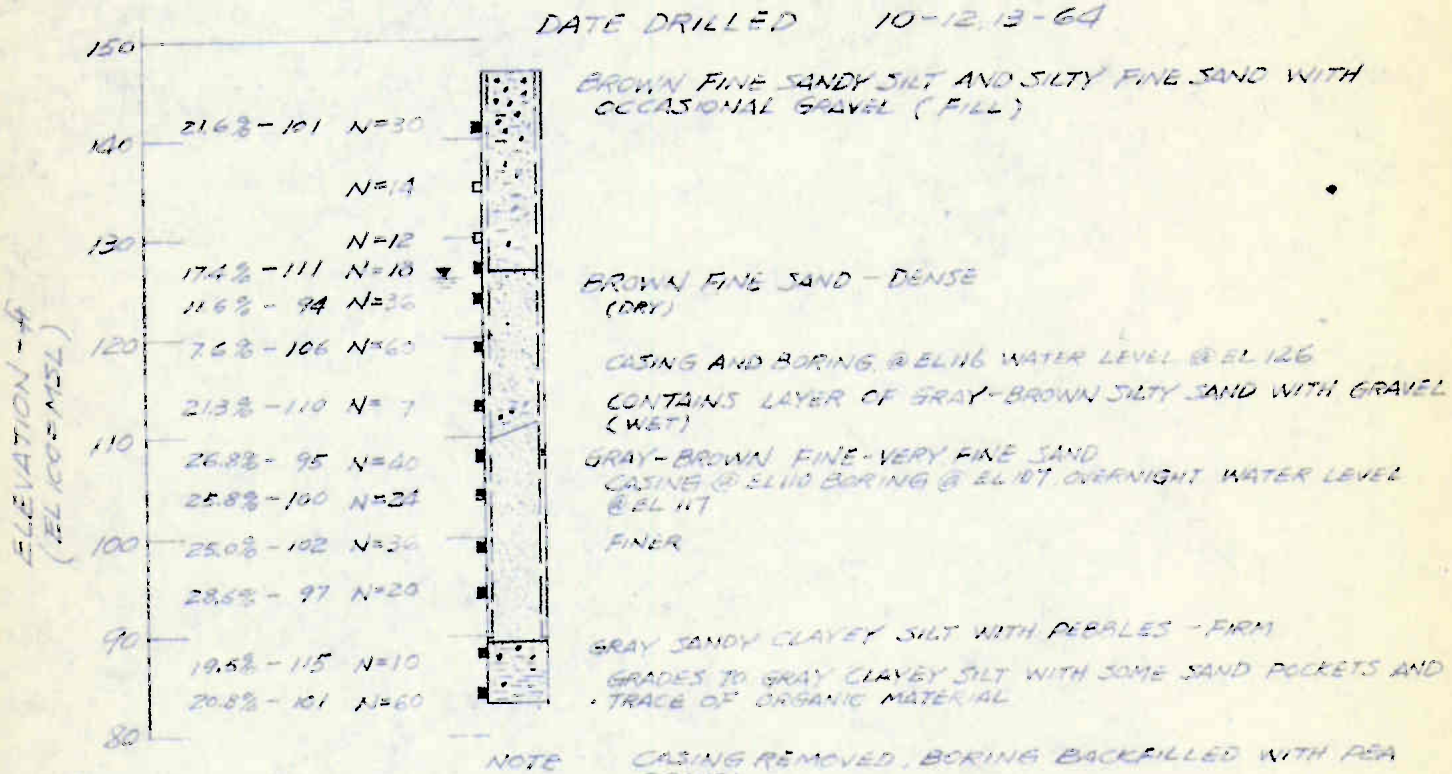
DATE	BY	JOB NO	TITLE	PLATE
	CHW	W210D	LOG OF BORING	A-1

CALCULATION SHEET

METROPOLITAN ENGINEERS
SEATTLE, WASHINGTON

BORING 2

ELEVATION 146.7
STATION 22+93 (2' Lt)
DATE DRILLED 10-12,13-64



NOTE CASING REMOVED, BORING BACKFILLED WITH PEA GRAVEL

LEGEND

▼ MEASURED HIGHEST WATER LEVEL

■ SAMPLE TAKEN WITH 2½" I.D. SPLIT-BARREL DRIVE SAMPLER

□ SAMPLE MISSED

21.6% - 101 21.6% = MOISTURE CONTENT IN % OF DRY WEIGHT, 101 = DRY DENSITY IN pcf

N NUMBER OF BLOWS REQUIRED TO DRIVE SAMPLER ONE FOOT, SAMPLER O.D = 3.25" DRIVING WEIGHT = 500 lbs, FALLING DISTANCE = 20" ±

DEPTH TO WHICH CASING WAS REQUIRED DURING DRILLING

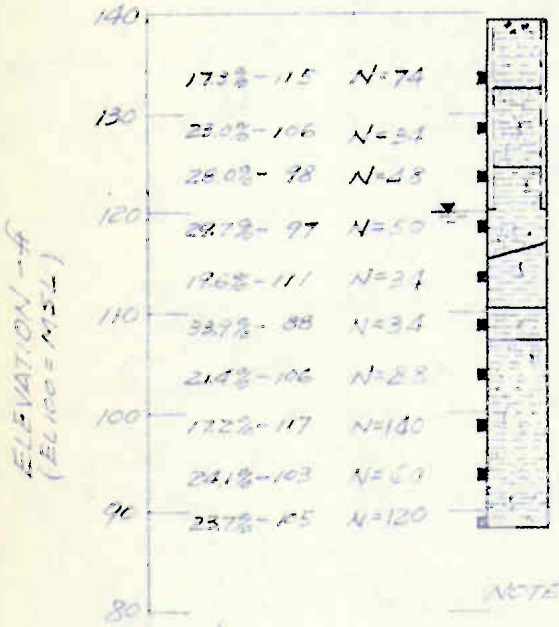
DATE	BY	JOB NO.	TITLE	PLATE
	CHW	W210D	LOG OF BORING	A-2

CALCULATION SHEET

METROPOLITAN ENGINEERS
SEATTLE, WASHINGTON

BORING 3

ELEVATION 139.2
STATION 15+73 (44 Lt)
DATE DRILLED 10-14-64



GRAY VERY FINE SANDY SILT AND SILTY VERY FINE SAND - FIRM AND DENSE, SOME LAMINATIONS

LAYERED GRAY AND BROWN GRAY CLAYEY SILT AND FINE-MED. SAND WITH SOME SILT - FIRM AND DENSE CONTAINS TRACE OF ORGANIC MATERIAL

GRAY LAMINATED SILT AND CLAYEY SILT - FIRM (60° DIP)

CONTAINS SILTY VERY FINE SAND LAMINATIONS

GRAY FINE SANDY CLAYEY SILT - FIRM

GRAY CLAY WITH OCCASIONAL SHELL FRAGMENTS - FIRM

LAYERED GRAY SILT, CLAYEY SILT SANDY SILT AND SILTY FINE-MED. SAND - FIRM AND DENSE CONTAINS TRACE OF ORGANIC MATERIAL

MAKES SOME WATER

NOTES (1) UPON COMPLETION, CASING WAS REMOVED. ½ HR LATER WATER LEVEL @ EL 120 AND HOLE OPEN TO EL 104

(2) BORING BACKFILLED WITH PEA GRAVEL

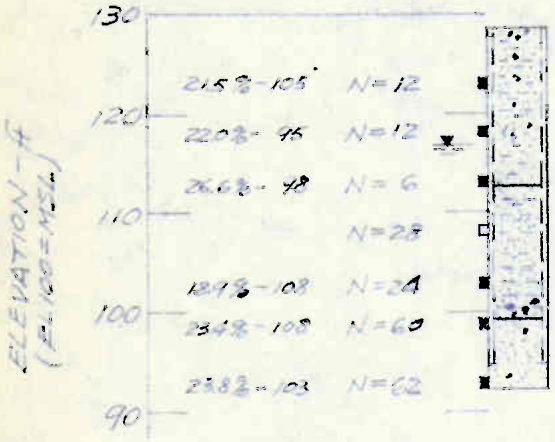
DATE	BY	JOB NO.	TITLE	PLATE
	CHW	W210D	LOG OF BORING	A-3

CALCULATION SHEET

METROPOLITAN ENGINEERS
SEATTLE, WASHINGTON

BORING 4

ELEVATION 128.6
STATION 8+34 (39' Lt)
DATE DRILLED 10-15-64



MOTTLED BROWN AND GRAY SILT AND SILTY FINE SAND (FILL)

CONTAINS SOME PEAT

LAYERED GRAY FINE-MED. SAND WITH SOME SILT, SILTY FINE SAND AND SILTY FINE-VERY FINE SAND - MED. DENSE
CASING @ EL 111, BORING @ EL 103, AFTER TAKING SAMPLE WATER LEVEL @ EL 112, ½ HR. LATER WATER LEVEL @ EL 116

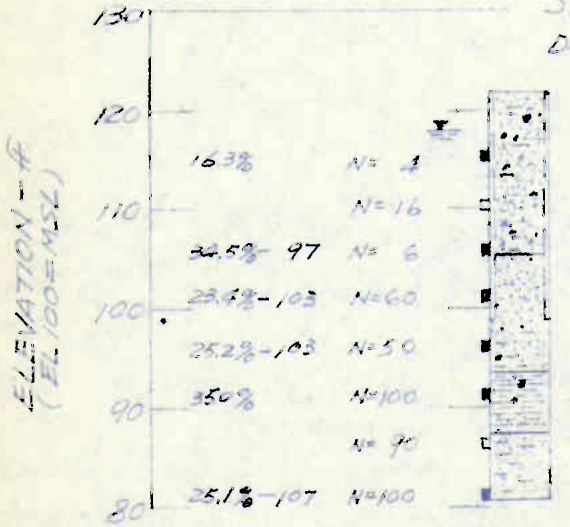
PROBABLY GRAVEL

LAYERED GRAY FINE SAND AND FINE-MED. SAND - DENSE

NOTE CASING REMOVED AND BORING BACKFILLED WITH PEA GRAVEL

BORING 5

ELEVATION 121.9
STATION 2+51 (2' Lt)
DATE DRILLED 10-16-64



BROWN SAND, GRAVEL, SILT AND GARBAGE (FILL)

GRAY SILTY VERY FINE SAND - DENSE
MAKES WATER

GRAY CLAYEY SILT WITH OCCASIONAL GRAVEL AND SOME VERY FINE SAND - FIRM

GRAY SILTY VERY FINE AND FINE SAND - DENSE

NOTES (1) CASING REMOVED. WATER LEVEL @ EL 118
(2) BORING BACKFILLED WITH PEA GRAVEL

DATE	BY	JOB NO	TITLE	PLATE
	CHW	W210D	LOG OF BORINGS	A-4

CALCULATION SHEET

METROPOLITAN ENGINEERS
SEATTLE, WASHINGTON

BORING 6

ELEVATION 108.6
STATION 66+32 (21' Rt)
DATE DRILLED 11-4 to 6-64

ELEVATION - ft (EL 100 = MSL)

110
100
90
80
70
60
50
40
30
20

		GRAY SAND, GRAVEL AND SHELLS (FILL)
20.8% - 104	N=14	
48.5% - 79	N=2	GREEN GRAY AND GRAY SILT WITH SOME SILTY FINE-VERY FINE SAND LENSES, SHELL FRAGMENTS AND ORGANIC MATERIAL - SOFT
37.8% - 83	N=4	
	N=6	GRAY SILTY FINE-VERY FINE SAND WITH SHELL FRAGMENTS
23.4% - 104	N=32	
23.9% - 105	N=18	CASING @ EL 91 BORING @ EL 78 AFTER TAKING SAMPLE WATER LEVEL ROSE FROM EL 96 TO EL 97 IN ½ HR.
27.7% - 98	N=13	
48.4% - 72	N=6	GREEN GRAY SILT WITH SHELL FRAGMENTS AND SOME FINE-VERY FINE SAND - SOFT
45.3% - 79	N=2	
43.6% - 76	N=4	
23.8% - 96	N=2	LAYERED GRAY FINE SAND, SILTY FINE SAND AND GREEN GRAY MODERATELY FIRM SILT WITH SHELL FRAGMENTS
20.9% - 106	N=4	
	N=20	GRAY FINE-MED SAND
		CONTAINS SOME SILT, GRAVEL AND WOOD FRAGMENTS
20.1% - 108	N=42	
		GRADES CLEAN
20.1% - 110	N=60	CASING AND BORING @ EL 33, OVERNIGHT WATER LEVEL @ EL 102 AND 17' OF HEAVED SAND IN CASING
18.9% - 112	N=56	

NOTE: CASING REMOVED AND BORING BACKFILLED WITH NATIVE MATERIAL

DATE	BY	JOB NO	TITLE	PLATE
	CHW	W210D	LOG OF BORING	A-5

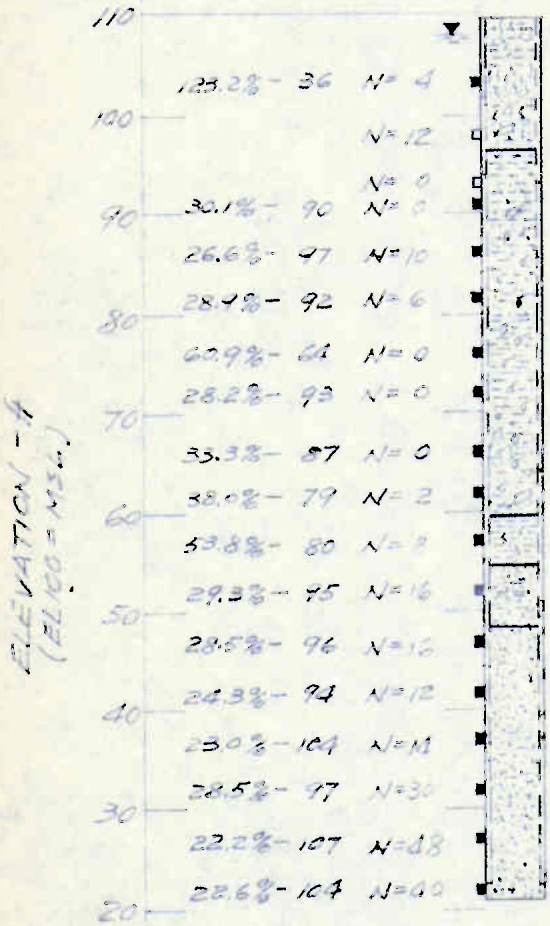
CALCULATION SHEET

METROPOLITAN ENGINEERS

SEATTLE, WASHINGTON

BORING 7

ELEVATION 109.3
STATION 54+58 (38' Rt)
DATE DRILLED 11-9.10-64



SILT, SAND, WOOD, PEAT AND GARBAGE (FILL)

(WATER ENTERING)

LAYERED GRAY SILTY FINE - VERY FINE SAND AND GRAY - GREEN GRAY SOFT SILT WITH SHELL AND WOOD FRAGMENTS

CASING @ EL 77 BORING @ EL 66 OVERNIGHT WATER LEVEL @ EL 108

GREEN GRAY SILTY CLAY WITH ORGANIC MATERIAL - MODERATELY FIRM

LAMINATED GRAY VERY FINE SAND WITH SILT AND GREEN GRAY SILT - MEDIUM DENSE AND MODERATELY FIRM

GRAY FINE SAND - MEDIUM DENSE TO DENSE

CONTAINS SILT LENSES

AFTER BORING COMPLETED, OVERNIGHT WATER LEVEL @ EL 87

NOTE: CASING REMOVED, BORING BACKFILLED WITH PEA GRAVEL

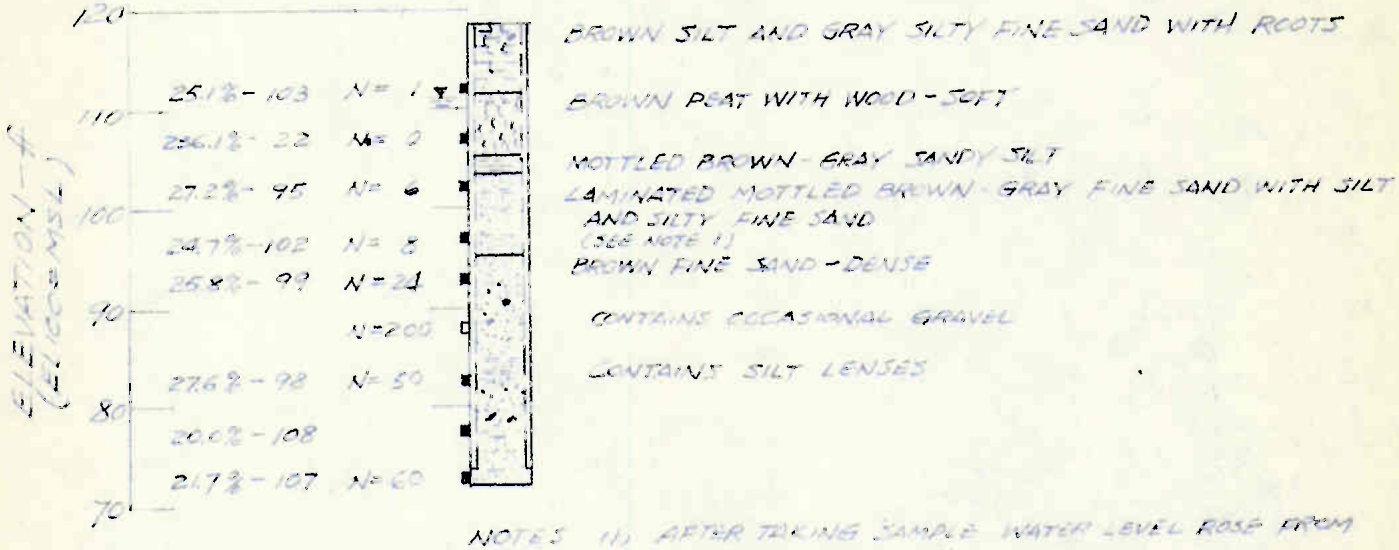
DATE	BY	JOB NO	TITLE	PLATE
	CHW	W210D	LOG OF BORING	A-6

CALCULATION SHEET

METROPOLITAN ENGINEERS
SEATTLE, WASHINGTON

BORING 8

ELEVATION 118.4
STATION 31+45 (10' RT)
DATE DRILLED 11-11, 12-64



NOTES (1) AFTER TAKING SAMPLE WATER LEVEL ROSE FROM EL. 104 TO EL. 111 IN ½ HR

(2) CASING REMOVED AND BORING BACKFILLED WITH NATIVE MATERIAL

DATE	BY	JOB NO	TITLE	PLATE
	CHW	W210D	LOG OF BORING	A-7

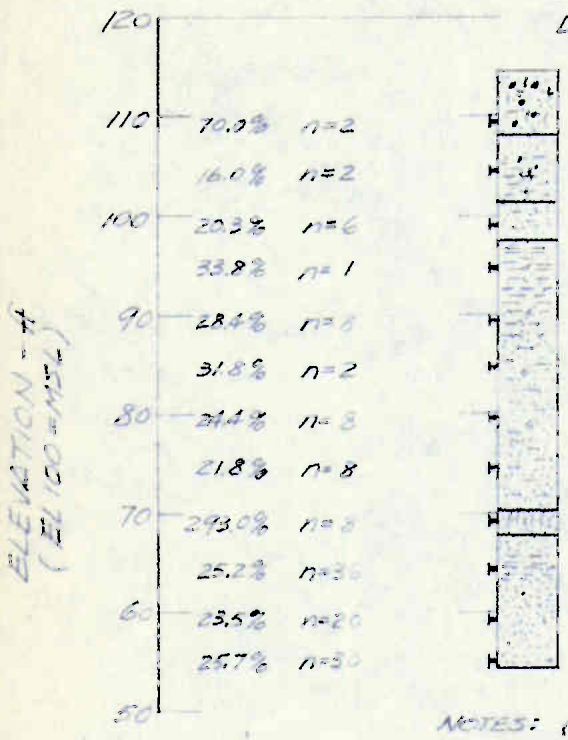
CALCULATION SHEET

METROPOLITAN ENGINEERS

SEATTLE, WASHINGTON

BORING 9

ELEVATION 114.2
STATION 41+68 (24' Rt)
DATE DRILLED 12-23-64



BLACK SAND, GRAVEL, COAL AND PEAT (FILL) - LOOSE AND SOFT

GRAY SILTY FINE - VERY FINE SAND WITH SOME PEAT LAYERS AND GRAY SAND AND GRAVEL WITH SILT - LOOSE

DARK GRAY FINE - MED. SAND WITH TRACE SILT AND ORGANIC MATERIAL

GRAY SILT AND VERY FINE SANDY SILT WITH SOME WOOD AND SHELL FRAGMENTS - MODERATELY SOFT

GRADES TO SILTY VERY FINE - FINE SAND WITH OCCASIONAL WOOD AND SHELL FRAGMENTS - MED. LOOSE

GRADES COARSER AND LESS SILTY

DARK BROWN PEAT AND SAND - MODERATELY FIRM

GRAY FINE SAND - MED DENSE

CONTAINS BROWN GRAY SILT AND SILTY VERY FINE SAND LAMINATIONS

NOTES: (1) BORING DRILLED WITH 7" HOLLOW CORE AUGER
(2) BORING BACKFILLED WITH NATIVE MATERIAL
(3) WATER LEVEL NOT RECORDED

LEGEND

⊢ SAMPLE TAKEN WITH 2" OD (1⅜" ID) SPLIT-SPOON SAMPLER

n STANDARD PENETRATION, BLOWS PER FOOT, DRIVING WEIGHT = 140 lbs
FALLING DISTANCE = 30 INCHES

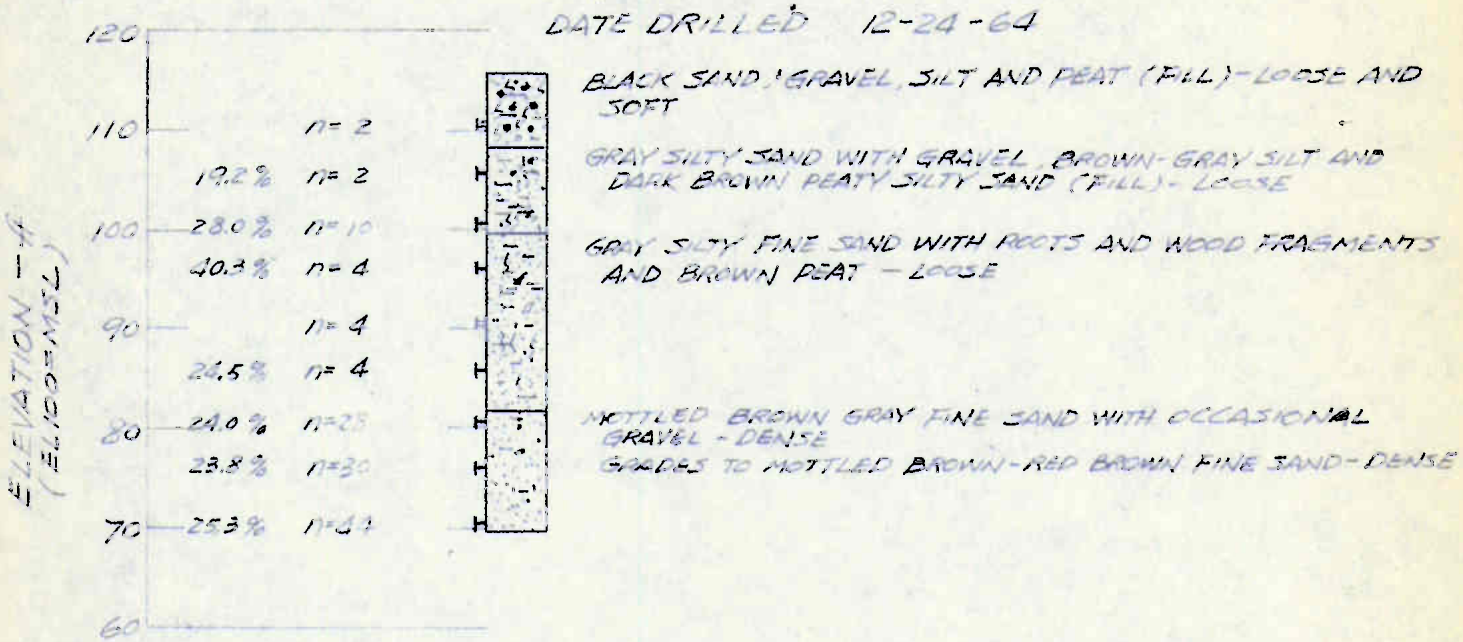
DATE	BY	JOB NO.	TITLE	PLATE
	CHW	W210D	LOG OF BORING	A-8

CALCULATION SHEET

METROPOLITAN ENGINEERS
SEATTLE, WASHINGTON

BORING 10

ELEVATION 115.6
STATION 36+77 (25' Rt)
DATE DRILLED 12-24-64



NOTES

(1) BORING DRILLED WITH 7" HOLLOW CORE AUGER
(2) WATER LEVEL NOT RECORDED
(3) BORING BACKFILLED WITH NATIVE MATERIAL
(4) ⊥ SAMPLE MISSED

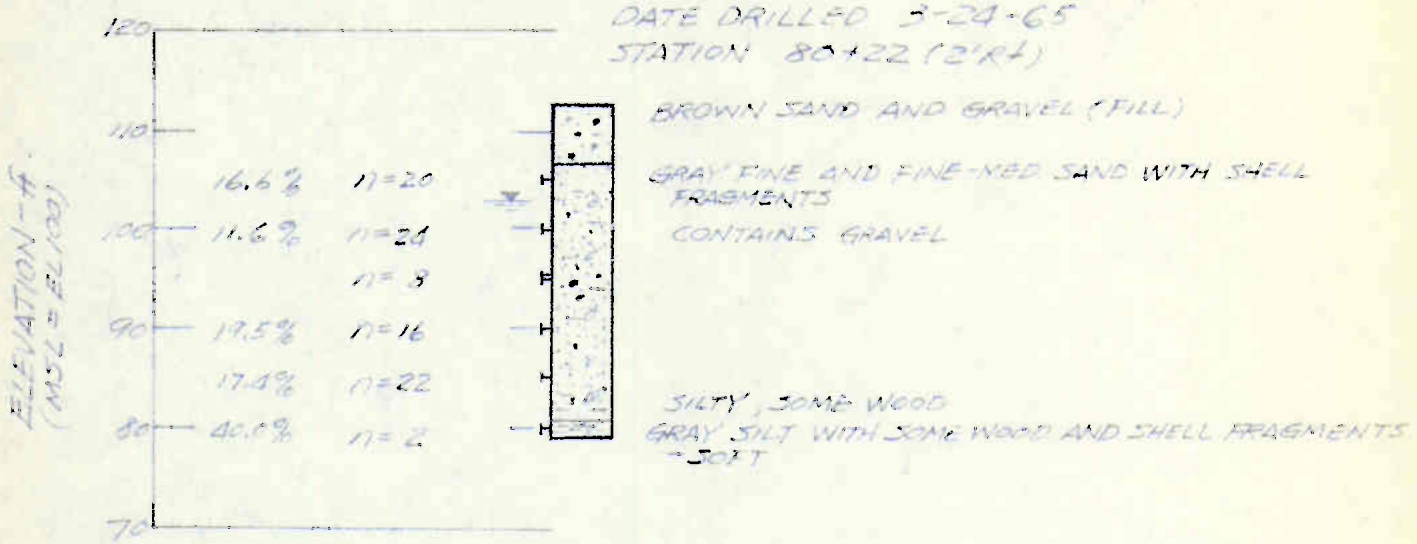
DATE	BY	JOB NO.	TITLE	PLATE
	CHW	W210D	LOG OF BORING	A-9

CALCULATION SHEET

METROPOLITAN ENGINEERS
SEATTLE, WASHINGTON

BORING 11

ELEVATION 112.5
DATE DRILLED 3-24-65
STATION 80+22 (2' Rt)



NOTES:

(1) ⊢ SAMPLES TAKEN WITH 2" OD SPLIT SPOON SAMPLER

(2) ⊢ SAMPLE MISSED

(3) AFTER COMPLETION BORING BACKFILLED WITH NATIVE MATERIAL

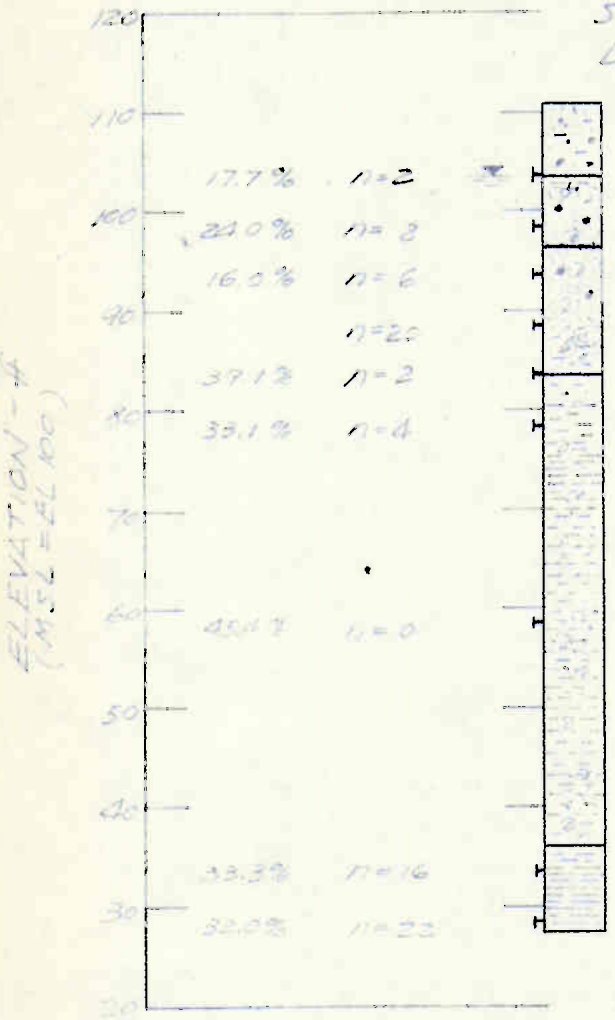
DATE	BY	JOB NO	TITLE	PLATE
	CHW	N210E	LOG OF BORING	A-10

CALCULATION SHEET

METROPOLITAN ENGINEERS
SEATTLE, WASHINGTON

BORING 12

ELEVATION 111.0
STATION 79+04 (8' Lt)
DATE DRILLED 3-25-65



BROWN SAND WITH SILT AND GRAVEL (FILL)

GRAY FINE-MED SAND WITH SHELL FRAGMENTS AND SOME GRAVEL (FILL)

GRAY FINE-MED SAND WITH SHELL FRAGMENTS AND SOME GRAVEL

SILTY SOME WOOD

GRAY SILT AND VERY FINE SANDY SILT WITH SHELL FRAGMENTS - SOFT

GRAY SILTY CLAY - FIRM

NOTE: BORING BACKFILLED WITH NATIVE MATERIAL

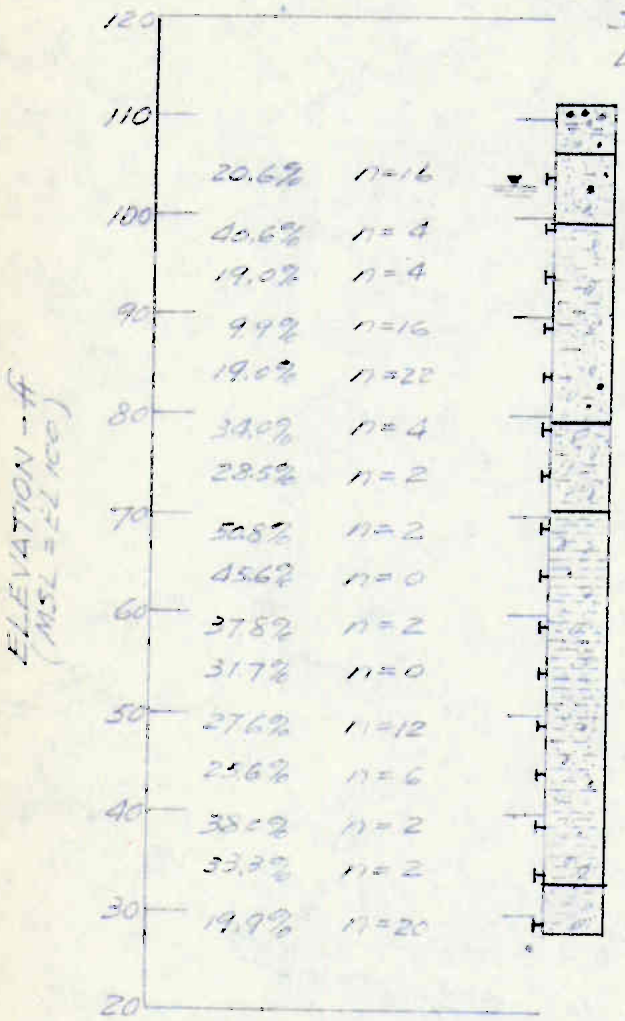
DATE	BY	JOB NO.	TITLE	PLATE
	CHW	W2100	LOG OF BORING	A-11

CALCULATION SHEET

METROPOLITAN ENGINEERS
SEATTLE, WASHINGTON

BORING 13

ELEVATION 111.5
STATION 72+35 (24' Lt)
DATE DRILLED 3-25-65



BROWN SAND AND GRAVEL WITH SILT (FILL)

GRAY FINE-MED. SAND WITH SHELL FRAGMENTS AND OCCASIONAL GRAVEL (FILL)

GRAY SILTY FINE SAND WITH SHELL FRAGMENTS, SOME ORGANIC MATERIAL AND OCCASIONAL GRAVEL

SOME GRAVEL

GRAY SILTY FINE SAND WITH SHELL FRAGMENTS & SOME WOOD - LOOSE

GRAY SILT AND VERY FINE SANDY SILT WITH SHELL FRAGMENTS - SOFT

SOME THIN FINE SAND LENSES

VERY FINE SANDY AND SOME WOOD

GRAY FINE-MED. SAND WITH SOME SHELL FRAGMENTS, SILT AND WOOD - DENSE

NOTE BORING BACKFILLED WITH NATIVE MATERIAL AND PEA GRAVEL

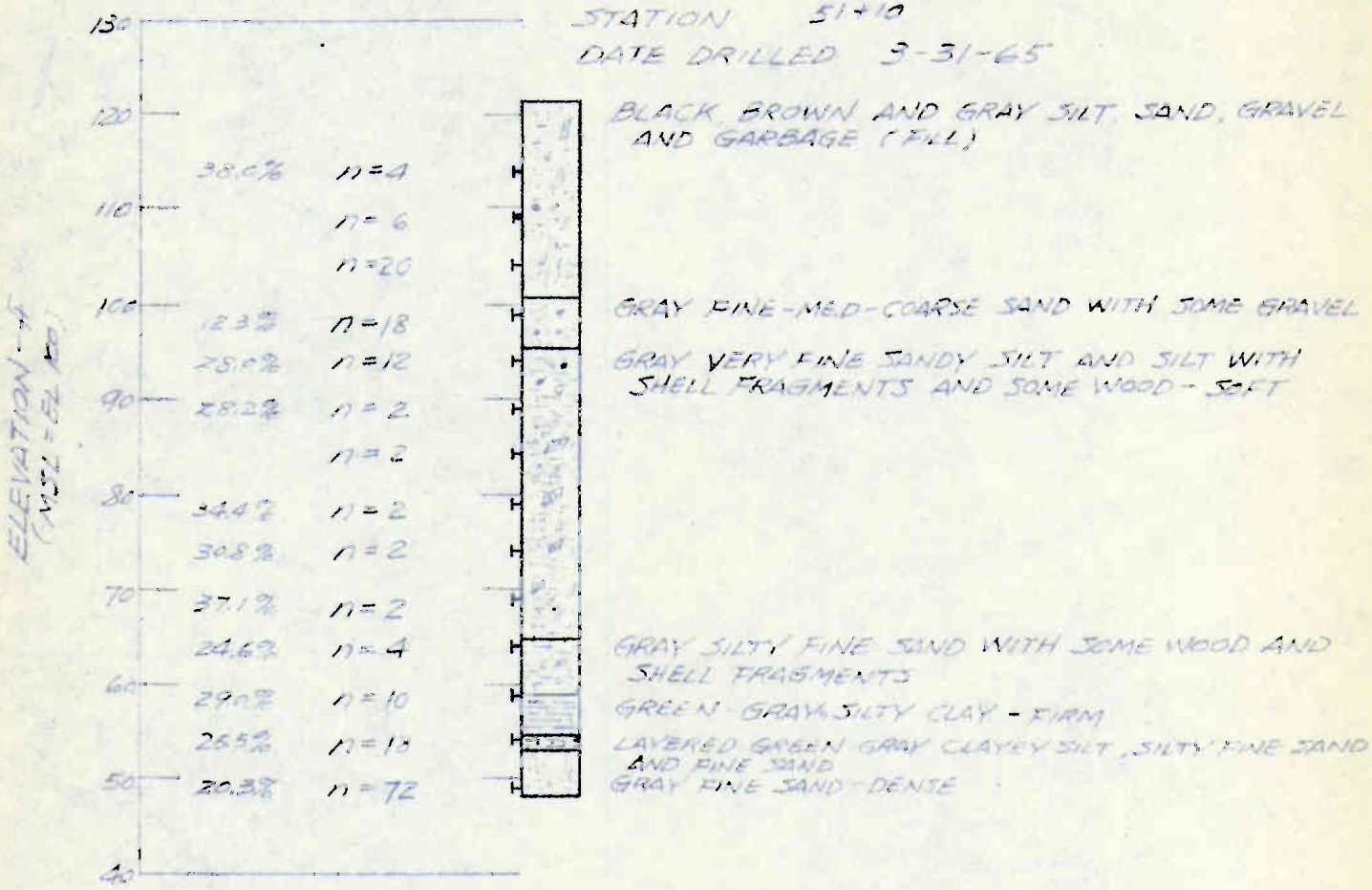
DATE	BY	JOB NO.	TITLE	PLATE
	CHW	W210D	LOG OF BORING	A-12

CALCULATION SHEET

METROPOLITAN ENGINEERS
SEATTLE, WASHINGTON

BORING 14

ELEVATION 121.3
STATION 51+10
DATE DRILLED 3-31-65



NOTE: (1) BORING BACKFILLED WITH NATIVE MATERIAL
(2) WATER LEVEL NOT RECORDED

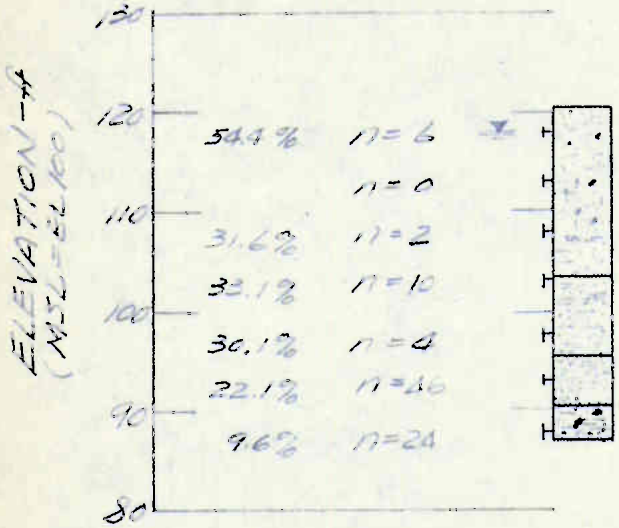
DATE	BY	JOB NO.	TITLE	PLATE
	CHW	W210D	LOG OF BORING	A-13

CALCULATION SHEET

METROPOLITAN ENGINEERS
SEATTLE, WASHINGTON

BORING 15

ELEVATION 120.5
STATION 17+02 (9'Rt)
DATE DRILLED 4-12-65



BLACK AND BROWN SAND, SOME SILT AND DEBRIS (FILL)
ENCOUNTERED WATER AT EL 115 AND ROSE TO EL 118

LAYERED AND LAMINATED GRAY SILTY FINE SAND AND SILT - SOFT TO MODERATELY FIRM

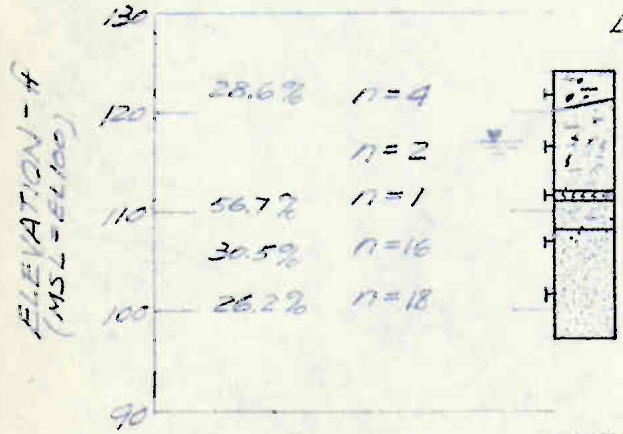
GRAY FINE - VERY FINE SAND - DENSE

GRAY SILTY SAND WITH SOME GRAVEL AND WITH FIRM SILT POCKETS

NOTE: BORING BACKFILLED WITH NATIVE MATERIAL

BORING 16

ELEVATION 124
STATION 28+83 (℄)
DATE DRILLED 4-12-65



BROWN AND GRAY SILTY SAND WITH SOME GRAVEL (FILL)
BLACK SILT AND SAND, BROWN PEAT AND DEBRIS (FILL)
BROWN PEAT - SOFT
GRAY FINE SAND WITH SOME SILT
BROWN FINE SAND - CLEAN

NOTE: BORING BACKFILLED WITH NATIVE MATERIAL

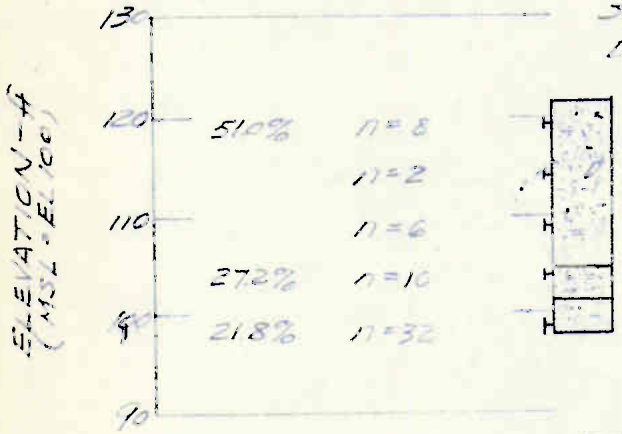
DATE	BY	JOB NO.	TITLE	PLATE
	CHW	W210D	LOG OF BORINGS	A-14

CALCULATION SHEET

METROPOLITAN ENGINEERS
SEATTLE, WASHINGTON

BORING 17

ELEVATION 121.5
STATION 1+97 (10'R-)
DATE DRILLED 4-12-65



BLACK AND BROWN SAND, SOME SILT AND DEBRIS (FILL)

LAYERED AND LAMINATED GRAY SILTY FINE SAND AND SILT - MODERATELY FIRM

GRAY FINE - VERY FINE SAND - DENSE

NOTE - BORING BACKFILLED WITH NATIVE MATERIAL

(*) WATER LEVEL NOT RECORDED

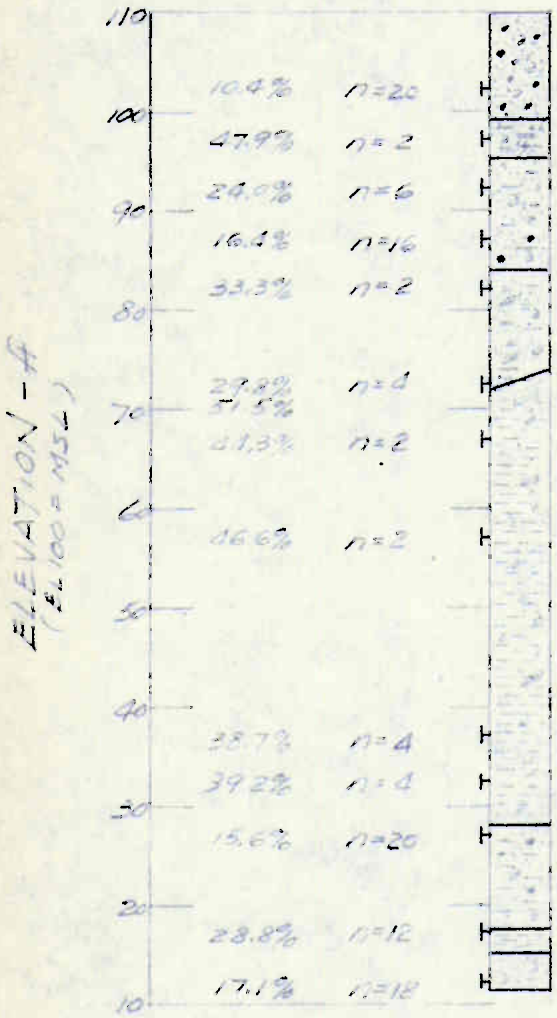
DATE	BY	JOB NO	TITLE	PLATE
	CHW	W210D	LOG OF BORING	A-15

CALCULATION SHEET

METROPOLITAN ENGINEERS
SEATTLE, WASHINGTON

BORING 18

ELEVATION 110
STATION 76+58 (9' Rt)
DATE DRILLED 5-5-65



GRAY SAND AND GRAVEL WITH SOME SHELL FRAGMENTS

LAYERED GRAY SILTY FINE SAND, SILT AND BLACK ORGANIC SANDY SILT WITH SOME WOOD, PEAT AND SHELL FRAGMENTS - SOFT

GRAY FINE SAND WITH SOME SILT, OCCASIONAL ORGANIC MATERIAL AND SHELL FRAGMENTS
SOME GRAVEL

GRAY SILTY FINE SAND AND SILT WITH WOOD AND SHELL FRAGMENTS - SOFT

GRAY SILT WITH SOME WOOD AND SHELL FRAGMENTS - SOFT
SOME SILTY FINE SAND LENSES

CONTAINS GRAY FINE SANDY SILT LAYERS

GRAY SILTY FINE-MED SAND WITH OCCASIONAL GRAVEL AND SHELL FRAGMENTS
HEAVED (CLEAN SAND?)

GRAY SILTY CLAY - FIRM

GRAY FINE SAND WITH SOME SHELL FRAGMENTS AND OCCASIONAL ORGANIC MATERIAL

NOTES

(1) BORING BACKFILLED WITH NATIVE MATERIAL

(2) WATER LEVEL NOT RECORDED

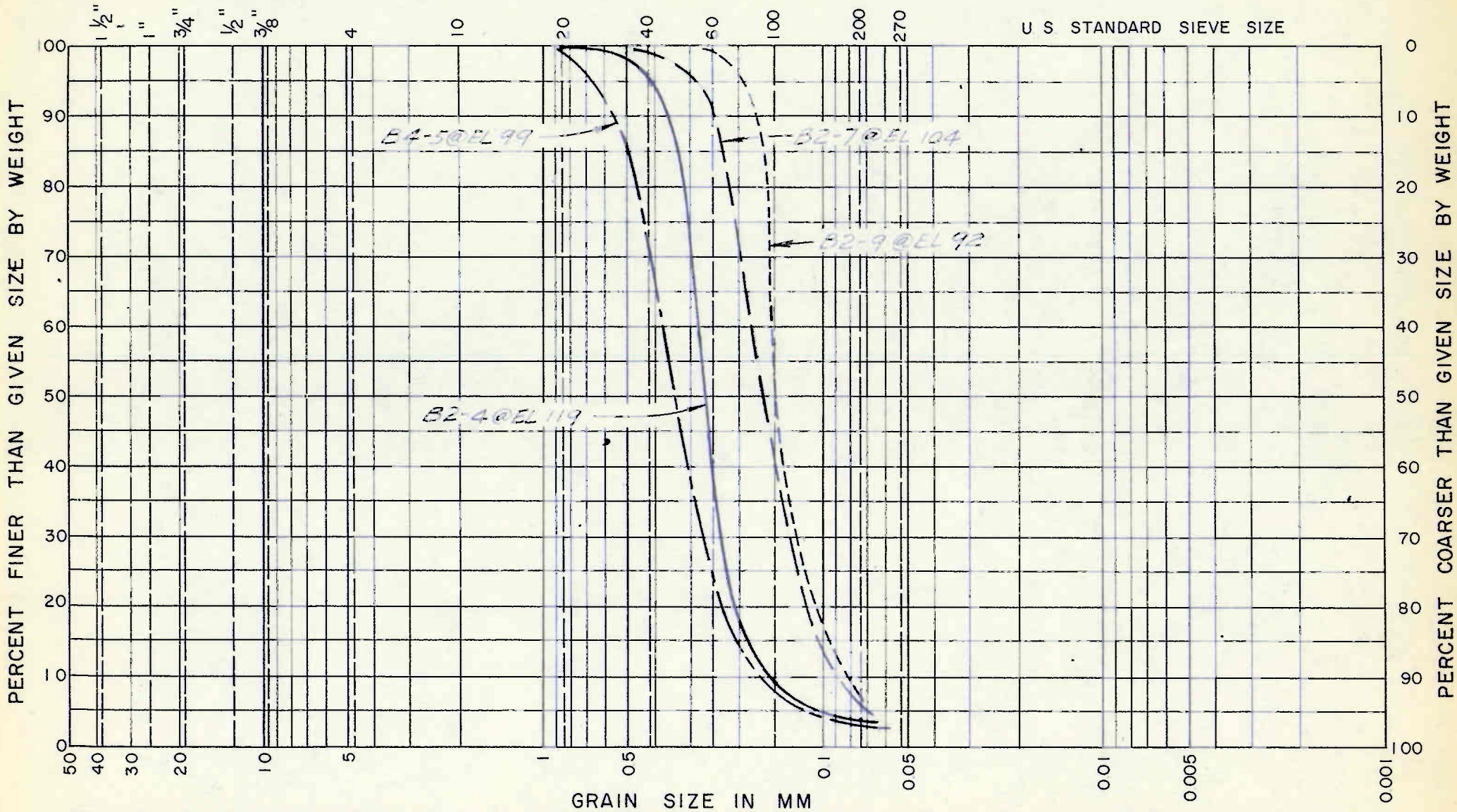
DATE	BY	JOB NO.	TITLE	PLATE
	CHW	W210D	LOG OF BORING	A-16

METROPOLITAN ENGINEERS

JOB NO. W2100 LOCATION _____ DATE SAMPLED _____ BY _____

BORING _____ DEPTH _____ ELEVATION _____ DATE TESTED 2-11-65 BY CHH

SOIL CLASSIFICATION _____



GRAVEL		SAND			FINES
COARSE	FINE	COARSE	MEDIUM	FINE	SILT AND CLAY

GRAIN-SIZE DISTRIBUTION

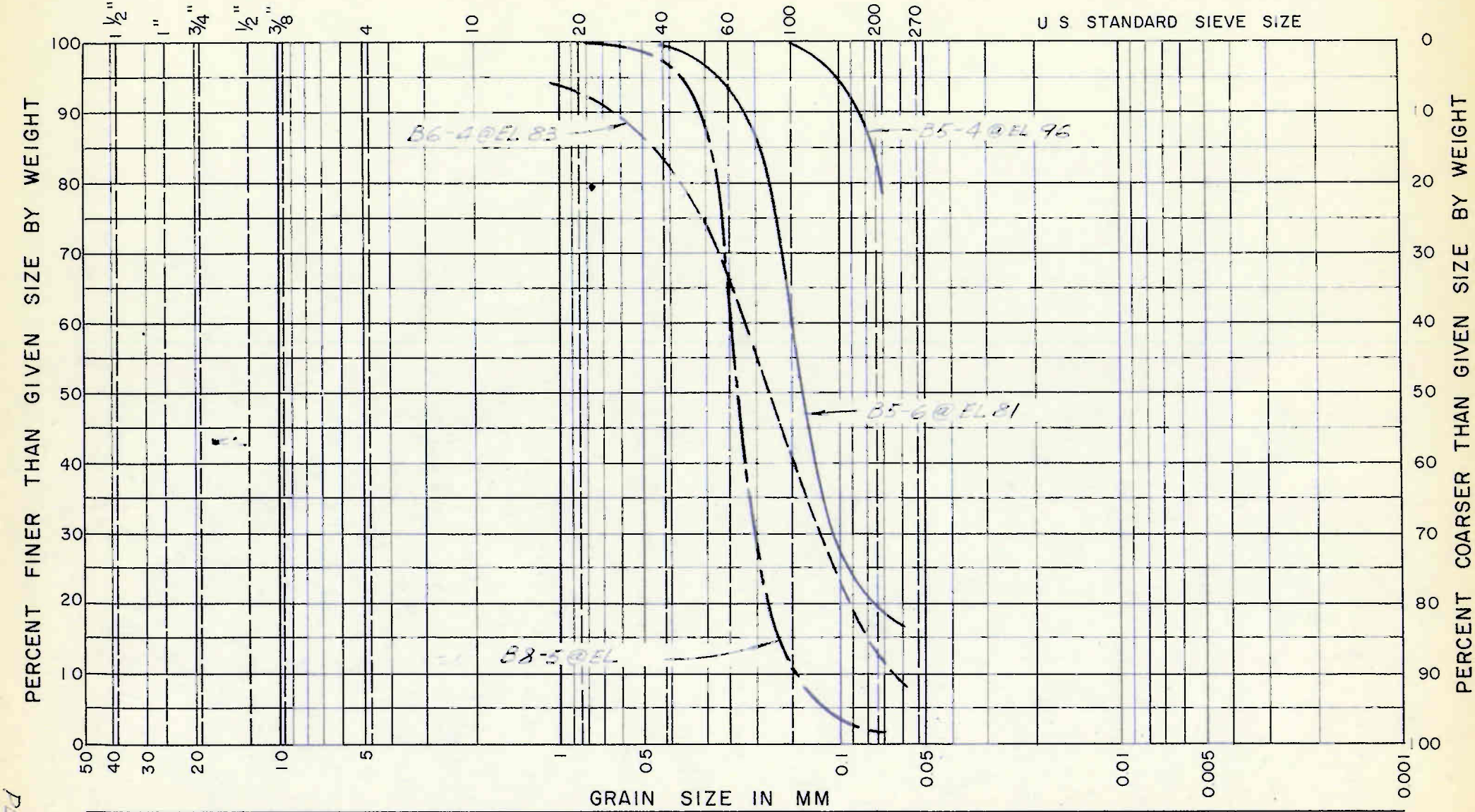
PLATE A-17

METROPOLITAN ENGINEERS

JOB NO. [illegible] LOCATION _____ DATE SAMPLED _____ BY _____

BORING _____ DEPTH _____ ELEVATION _____ DATE TESTED 2-11-65 BY CHN

SOIL CLASSIFICATION _____



GRAVEL		SAND			FINES
COARSE	FINE	COARSE	MEDIUM	FINE	SILT AND CLAY

GRAIN-SIZE DISTRIBUTION

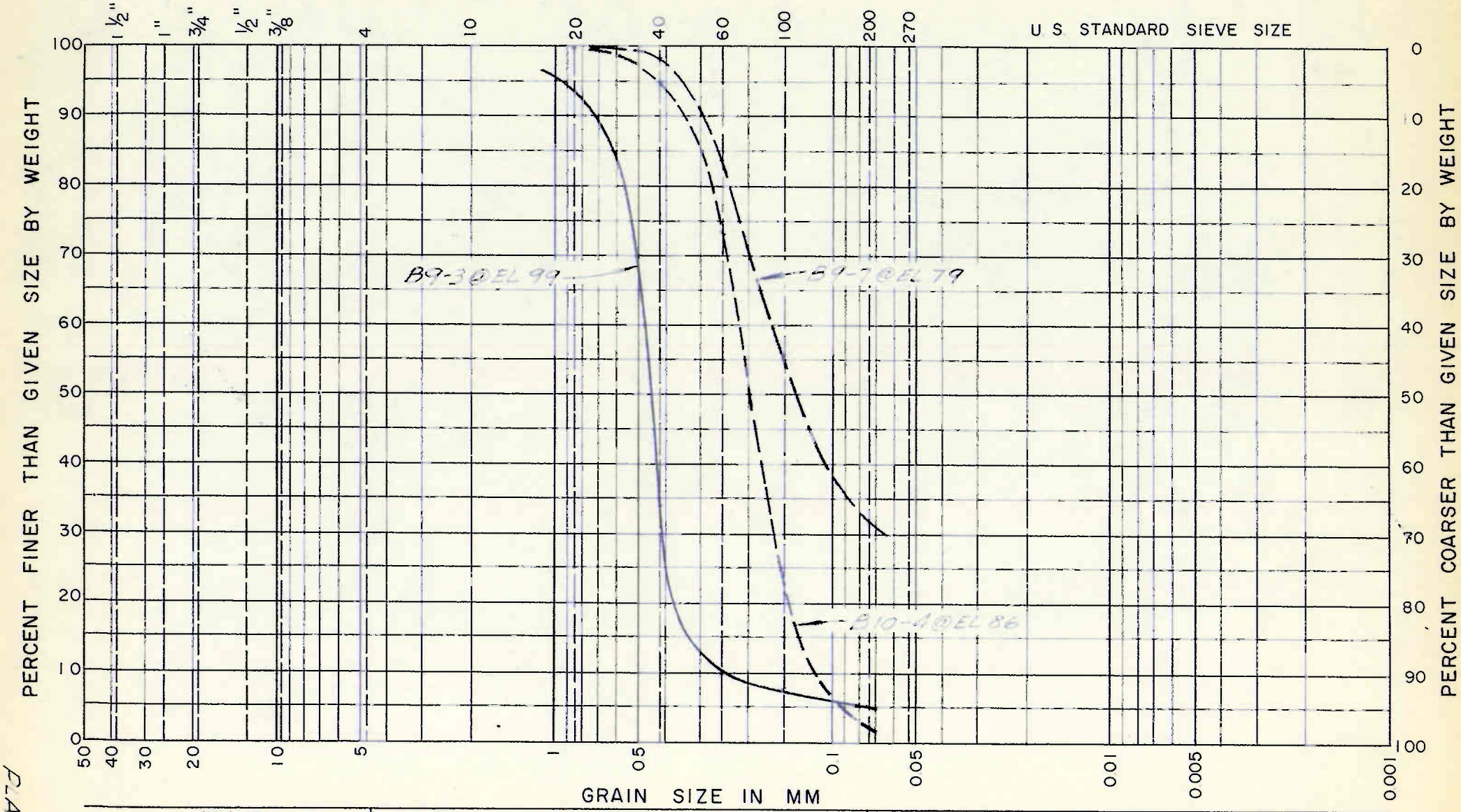
PLATE A-18

METROPOLITAN ENGINEERS

JOB NO. W210D LOCATION _____ DATE SAMPLED _____ BY _____

BORING _____ DEPTH _____ ELEVATION _____ DATE TESTED 2-11-65 BY CHW

SOIL CLASSIFICATION _____



GRAIN - SIZE DISTRIBUTION

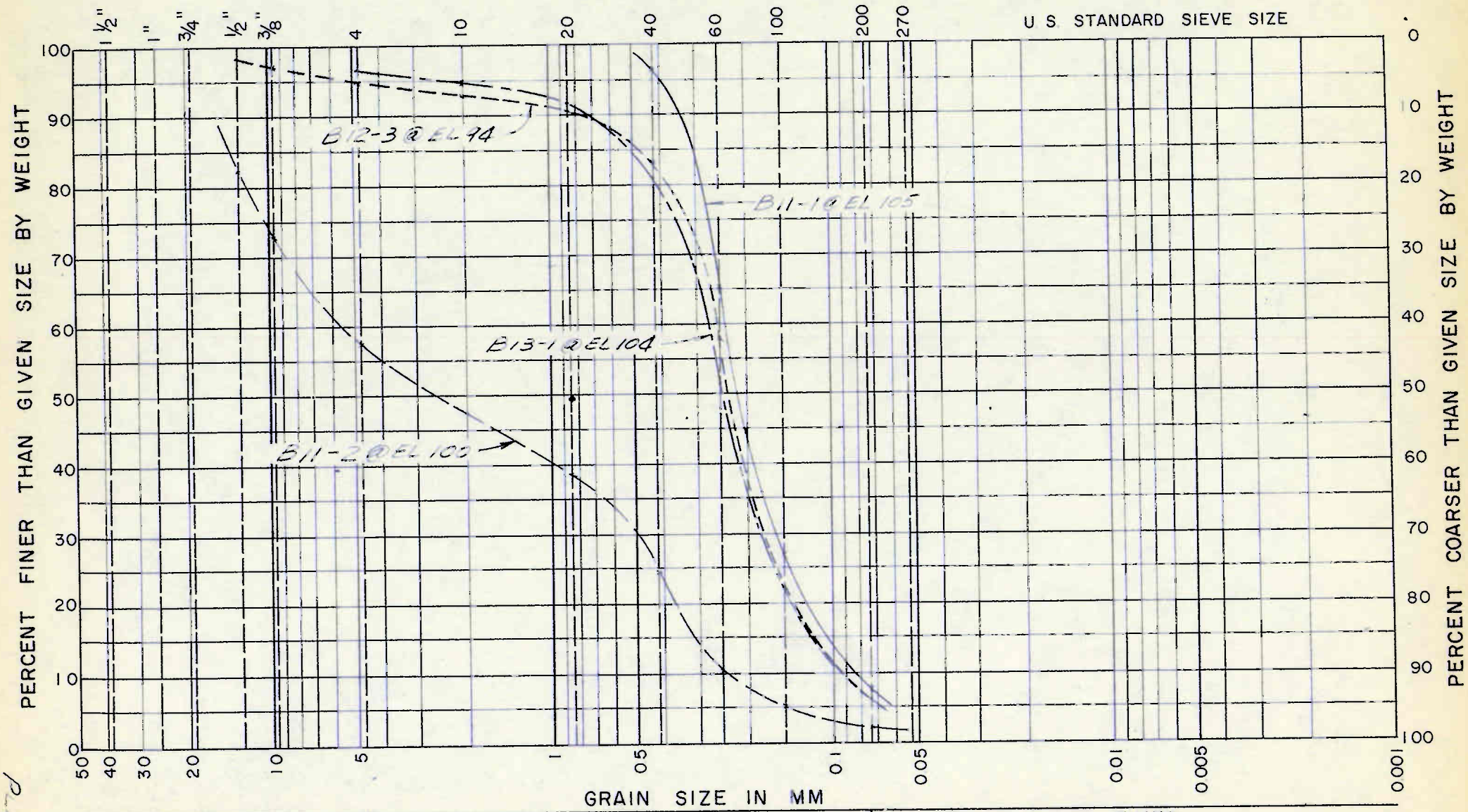
PLATE A-19

METROPOLITAN ENGINEERS

JOB NO. W2102 LOCATION _____ DATE SAMPLED _____ BY _____

BORING 11, 12 & 13 DEPTH _____ ELEVATION _____ DATE TESTED _____ BY _____

SOIL CLASSIFICATION _____



GRAIN-SIZE DISTRIBUTION

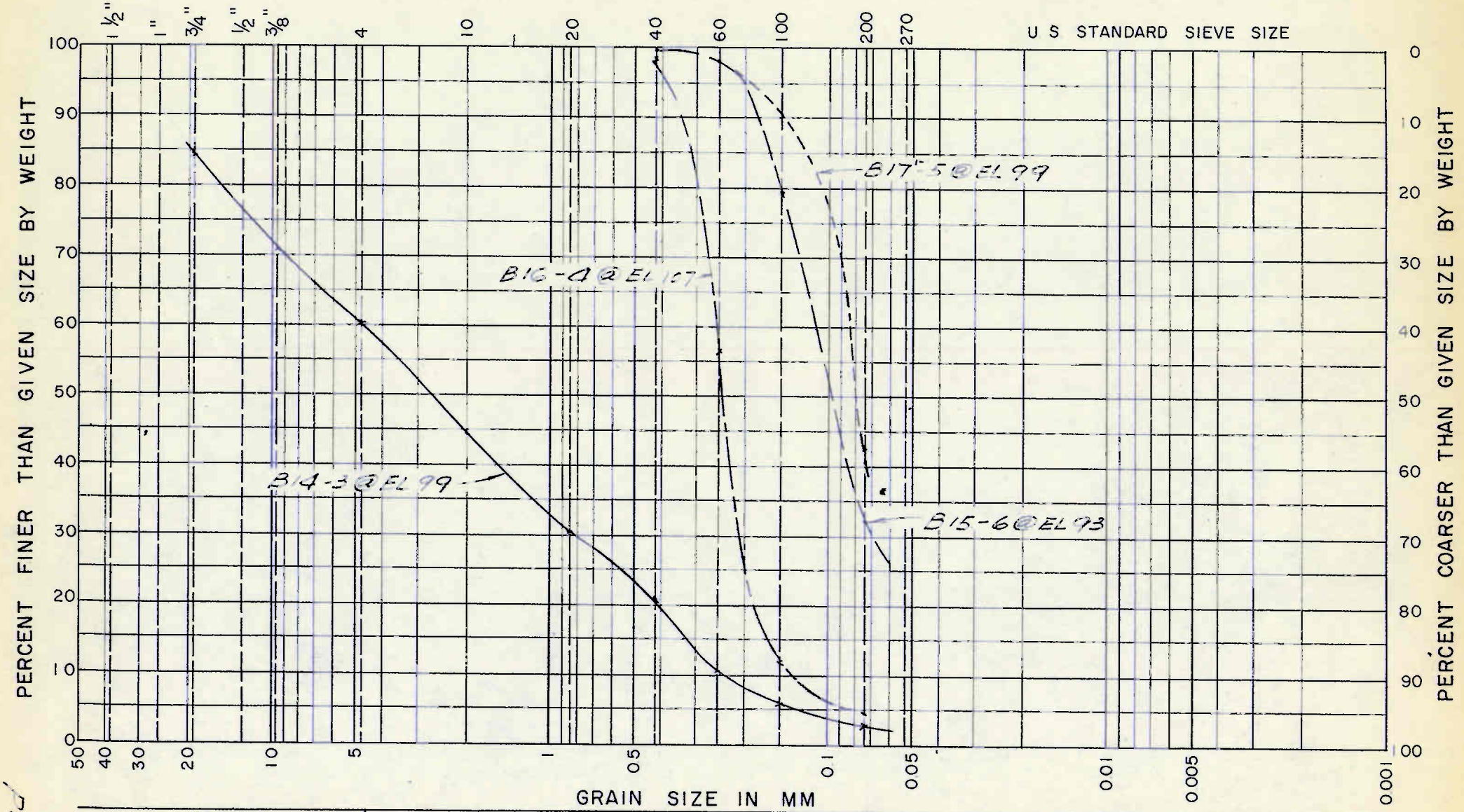
PLATE A-20

METROPOLITAN ENGINEERS

JOB NO. W210D LOCATION _____ DATE SAMPLED _____ BY _____

BORING 14, 15, 16 & 17 DEPTH _____ ELEVATION _____ DATE TESTED _____ BY _____

SOIL CLASSIFICATION _____



GRAIN-SIZE DISTRIBUTION

PLATE A-21