

REPORT

SUPPLEMENTARY GEOTECHNICAL INVESTIGATION

LIBERTY BELL COMPLEX
INDEPENDENCE MALL
SIXTH STREET BETWEEN MARKET AND CHESTNUT STREETS
CITY OF PHILADELPHIA, PENNSYLVANIA

20 September 2000

Mc Clymont & Rak Geotechnical Engineers

Project No. 3335-A

1059 BUSCH HIGHWAY
PENNSAUKEN, NJ 08110

NJ PHONE : (856) 488-1700
PA PHONE : (215) 627-6457

FAX : (856) 488-4501

28 September 2000

BOHLIN CYWINSKI JACKSON ARCHITECTS
125 South Ninth Street
Philadelphia PA 19107

ATT : Mr. Ken Mitchell AIA (three copies)

RE : Report of Supplementary Geotechnical Investigation
LIBERTY BELL COMPLEX - INDEPENDENCE MALL
Sixth Street and Market Street
Philadelphia, Pennsylvania
Our Project No. 3335-A

Copy to : Mr. Robert Schaeffer P.E., CVM Structural Engineers (one copy)
Ms. Dawn L. Harrington, National Park Service (one copy)
Mr. Phil Sheridan, National Park Service (one copy)
Mr. Jack Dunleavy P.E., National Park Service (one copy)

Dear Ken :

This report presents the results of our supplementary geotechnical investigation at the site of the proposed Liberty Bell Complex located on Sixth Street between Market and Chestnut Streets in the City of Philadelphia, Pennsylvania, as shown in the Site Plan in Plate 1.

This supplementary work was carried out in accordance with (a) our Letter of Proposal dated 15 June 2000. The scope of this investigation was limited to an evaluation of the load-carrying capabilities and certain characteristics of the soils sampled and tested with this supplementary investigation. Oil, hazardous waste, radioactivity, irritants, pollutants or other dangerous substances and conditions are not the subject of this study; their presence and/or absence is not implied or suggested by the results of our study.

The conclusions and recommendations contained in this report are specific to the design and construction of the proposed structure as stated in this report and are specific to the proposed site and structure. Findings, conclusions and recommendations are not transferable to other development schemes, site arrangements, or structural systems. Please consult with us if significant changes to the design are made, so we can adjust our recommendations.

The purposes of this supplementary investigation were (a) to evaluate the quality of the upper three feet of existing fill at the site; and (b) to make a determination regarding its use as compacted fill outside the proposed building.

PROPOSED CONSTRUCTION

The two components of the proposed Liberty Bell Complex will be (a) the Liberty Bell Chamber; and (b) the Exhibit Hall. The Bell Chamber will be a rectangular structure 36 feet high enclosed by a glass curtain wall, measuring 35 by 44 feet in plan; the roof will be a concrete deck supported on eight steel columns, each supporting a load on the order of 115 kips. Cantilevered concrete piers located adjacent to the columns will provide lateral stability.

The Exhibit Hall will be a rectangular structure 21 feet high, also enclosed by a glass curtain wall, measuring 48 by 174 feet in plan; the roof will be a metal deck supported on steel trusses offset from the columns, which will be positioned on a 19.3 by 48 foot grid. Each column will support a load on the order of 60 kips. Cantilevered concrete piers located adjacent to the columns will provide lateral stability. The preceding loading data was received from Mr. Robert Schaeffer P.E. of CVM Structural Engineers

FIELD WORK

The field work, carried out on 12 September 2000, consisted of (a) sampling the soils in a stockpile at nine random locations; and (b) sampling the soils in the upper two feet at the 30 locations shown in the Site Plan, Plate 1. The samples were obtained with hand-operated augers and split barrel samplers and were transported to our Soils Laboratory where they were examined and classified by a Soils Engineer. The nomenclature used in describing the subsoils is presented on Plate 2.

A laboratory testing program was completed consisting of thirty nine Sieve Analyses, thirty seven Organic Content Determinations and thirty nine Moisture Content Determinations. The tests results are presented in Plates 3 through 21 and are summarized in page 3.

DESCRIPTION OF SOILS SAMPLED

The stockpiled soils, and the soils sampled in the upper two feet, consist of Light Gray, Brownish Gray, Yellowish Brown, Light Brown, Reddish Brown and Light Grayish Brown Fine to Coarse Sand with 12 to 49 percent of Silt and Clay; mixed with various amounts of bricks, concrete and brick fragments, asphaltic concrete fragments, crushed rock and gravel.

The grain-size characteristics of the soil portion (gravel, sand, silt and clay) of the Fill materials sampled and tested are illustrated by the gradation curves presented in Plates 3 through 15; the fines (silt and clay) content ranges from 12 to 49 percent. The moisture contents vary between 3 and 15 percent.

The soils tested contain between 0 and 1.4 percent organics; these amounts are trivial and do not impair these materials for use as fill. The results of the Organic Content Determinations are presented on Plates 16 through 21 and are summarized in page 3.

LOCATION NUMBER	STOCKPILE OR BUILDING SITE	SAMPLE DEPTH (FT)	NATURAL MOISTURE CONTENT (%)	SILT AND CLAY CONTENT (%)	ORGANIC CONTENT (%)
1	STOCKPILE	2.0	9.49	32.5	0.26
2	STOCKPILE	3.0	6.01	24.4	0.85
3	STOCKPILE	2.0	8.46	27.2	0.69
4	STOCKPILE	2.0	6.16	30.3	1.38
5	STOCKPILE	2.5	8.46	32.2	0.87
6	STOCKPILE	2.0	3.31	11.8	0.03
7	STOCKPILE	1.0	3.48	13.8	0.07
8	STOCKPILE	2.0	7.57	22.1	0.32
9	STOCKPILE	1.5	7.03	16.6	0.07
1	BUILDING SITE	2.0	12.53	47.8	1.13
2	BUILDING SITE	2.0	9.85	30.3	0.84
3	BUILDING SITE	2.0	5.34	23.8	0.14
4	BUILDING SITE	2.0	6.57	29.7	0.07
5	BUILDING SITE	2.0	7.60	25.5	0.07
6	BUILDING SITE	2.0	7.72	19.5	0.39
7	BUILDING SITE	2.0	7.57	22.4	0.11
8	BUILDING SITE	2.0	9.09	35.6	0.07
9	BUILDING SITE	2.0	10.46	30.6	0.29
10	BUILDING SITE	2.0	7.95	34.9	0.00
11	BUILDING SITE	2.0	5.26	23.1	0.11
12	BUILDING SITE	2.0	3.23	28.9	0.03
13	BUILDING SITE	2.0	9.09	33.1	0.22
14	BUILDING SITE	2.0	10.21	38.4	0.18
15	BUILDING SITE	2.0	10.99	28.9	0.00
16	BUILDING SITE	2.0	7.99	42.3	0.11
17	BUILDING SITE	2.0	13.51	36.6	0.38
18	BUILDING SITE	2.0	10.86	23.4	0.00
19	BUILDING SITE	2.0	11.44	33.7	0.00
20	BUILDING SITE	2.0	10.54	22.6	0.00
21	BUILDING SITE	2.0	12.91	30.8	0.45
22	BUILDING SITE	2.0	11.15	30.6	0.19
23	BUILDING SITE	2.0	9.57	31.1	0.00
24	BUILDING SITE	2.0	8.15	37.5	0.79
25	BUILDING SITE	2.0	6.46	36.2	0.28
26	BUILDING SITE	2.0	8.11	38.5	0.00
27	BUILDING SITE	2.0	6.69	21.9	0.28
28	BUILDING SITE	2.0	14.94	28.0	1.38
29	BUILDING SITE	2.0	7.82	34.4	NOT MEASURED
30	BUILDING SITE	2.0	9.45	29.1	NOT MEASURED

SUMMARY OF LABORATORY TESTS RESULTS

DISCUSSION AND RECOMMENDATIONS

1. All of the materials tested may be used to fill areas outside the proposed building footprint. The fill should be placed and compacted as recommended in our Report of Geotechnical Investigation dated 17 September 1999.
2. The soils tested are mixed with various amounts of bricks and brick fragments, concrete pieces, crushed rock, asphaltic concrete fragments, and gravel . There is no need to remove these materials from the fill, but it is important that a large (20-ton) vibratory roller be used, so the larger pieces are broken down.
3. Inside the building, because of the air ducts that will be placed beneath the floor slab, it will be best to fill with sands containing less than ten percent fines (silt and clay) and zero percent materials retained in the Number Four Sieve (one-quarter inch openings). Concrete sand will be adequate.
4. The degree of densification of the fill should be tested and approved by the Soils Engineer's representative, who would carry out In-Place Density Tests in all layers of fill placed. No layer of fill should be added until the previous layer is tested and approved by the Soils Engineer's representative.

The following plates are attached and complete this report :

PLATE 1	-	SITE PLAN
PLATE 2	-	UNIFIED SOILS CLASSIFICATION
PLATES 3 THROUGH 15	-	GRADATION TESTS RESULTS
PLATES 16 THROUGH 21	-	ORGANIC CONTENT DETERMINATIONS

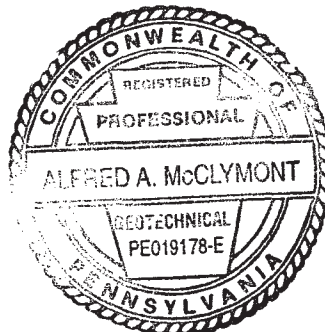
Very truly yours,

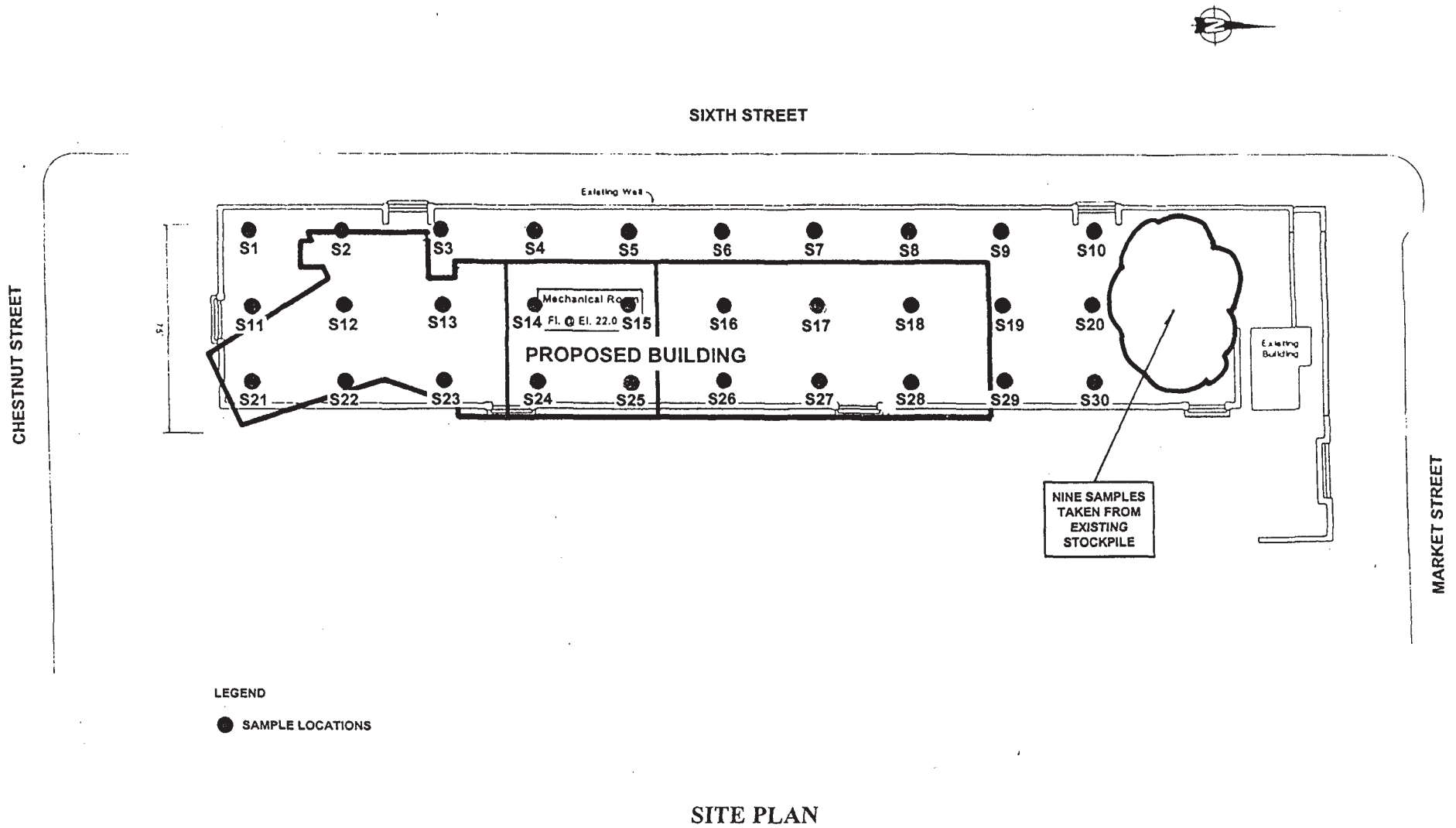
MC CLYMONT & RAK GEOTECHNICAL ENGINEERS



Alfred Andrew Mc Clymont, P.E.

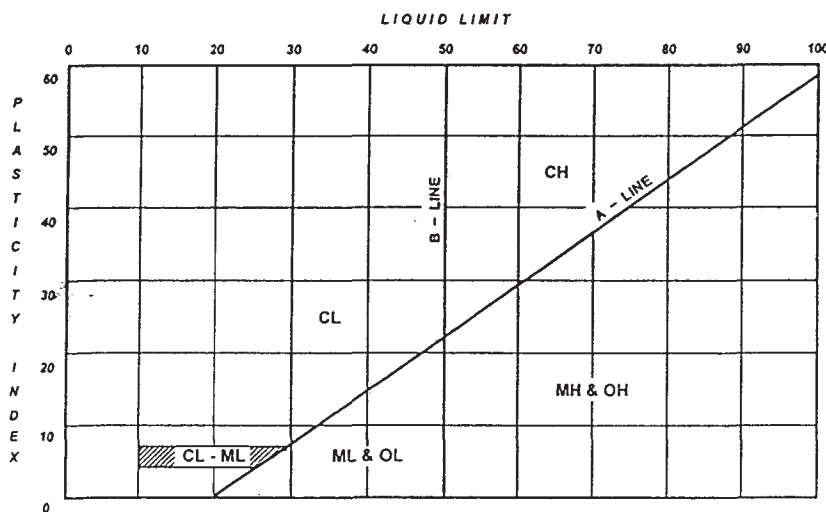
AMC:gat
3335Arepre





MAJOR DIVISIONS			GRAPH SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	CLEAN SAND (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS-OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

SOIL CLASSIFICATION CHART



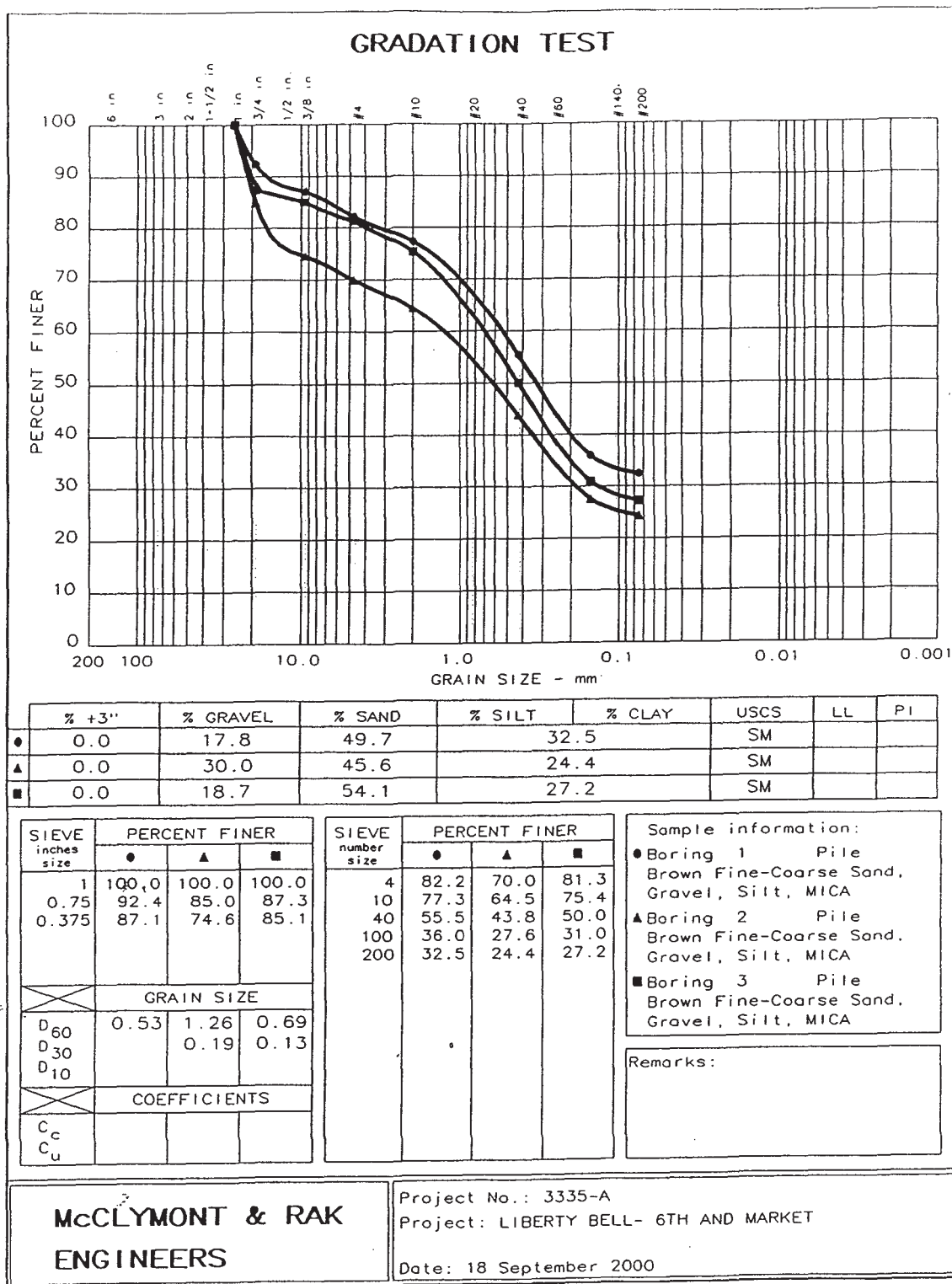
PLASTICITY CHART

CONSISTENCY OF COHESIVE SOILS IN TERMS OF THEIR COHESIVE STRENGTH	
CONSISTENCY	COHESIVE STRENGTH, P.S.F.
VERY SOFT	LESS THAN 250
SOFT	250 TO 500
MEDIUM STIFF	500 TO 1000
STIFF	1000 TO 2000
VERY STIFF	2000 TO 4000
HARD	OVER 4000

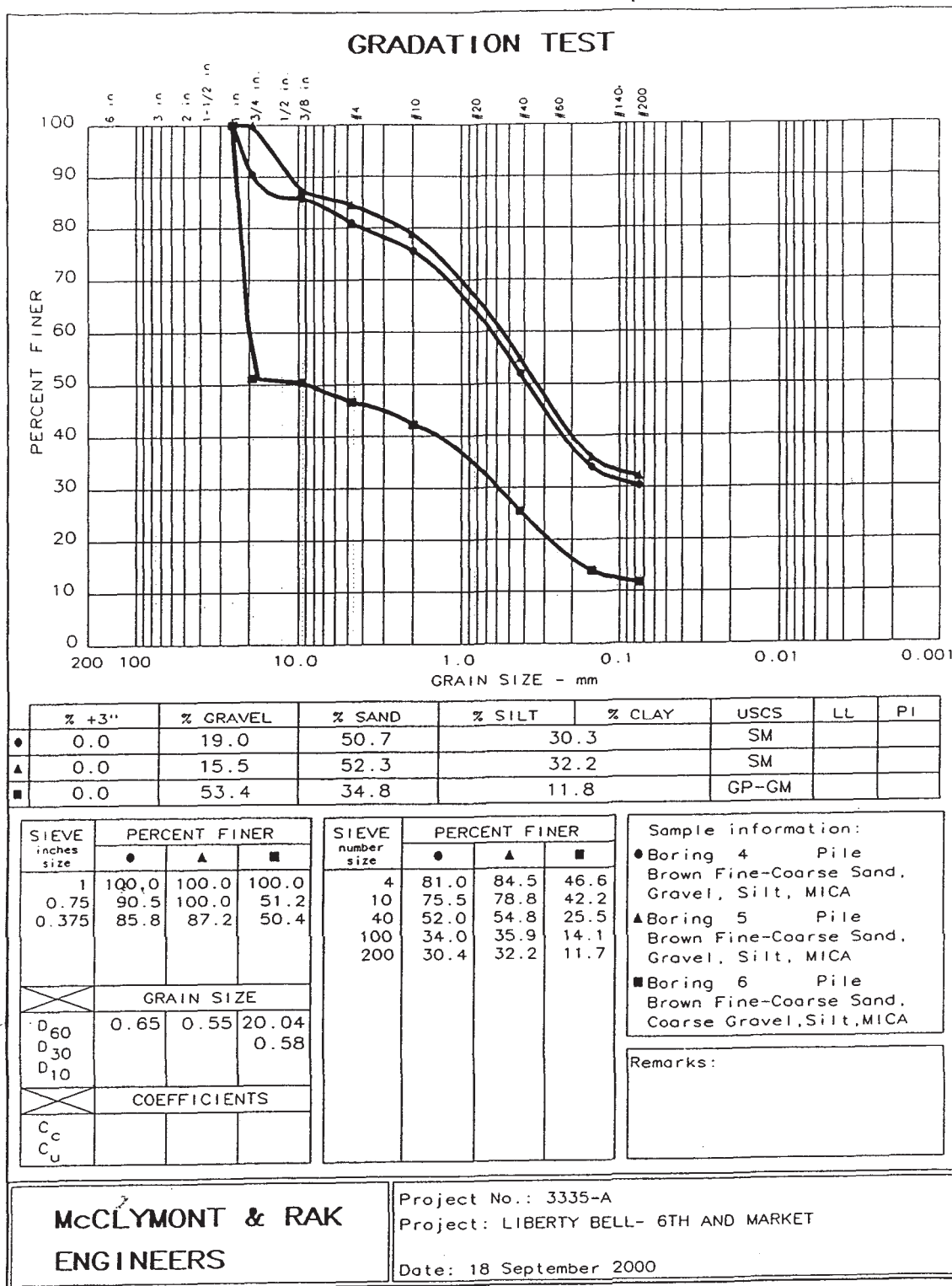
RELATIVE DENSITY OF COHESIONLESS SOILS	
TERM	BLOWS PER FOOT *
VERY LOOSE	0 TO 4
LOOSE	5 TO 10
MEDIUM DENSE	11 TO 30
DENSE	30 TO 50
VERY DENSE	OVER 50

* PER ASTM D-1586

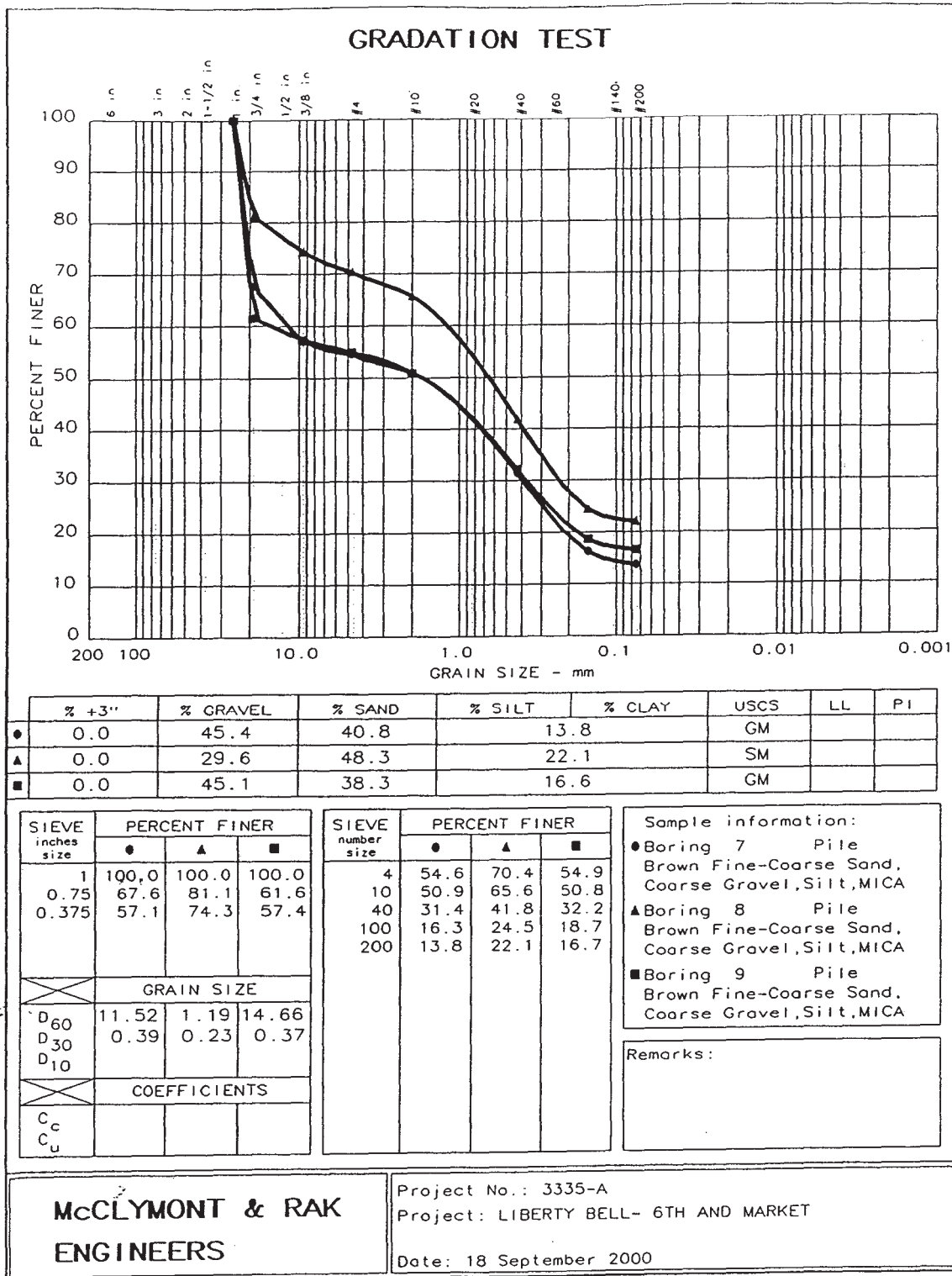
UNIFIED SOILS CLASSIFICATION SYSTEM



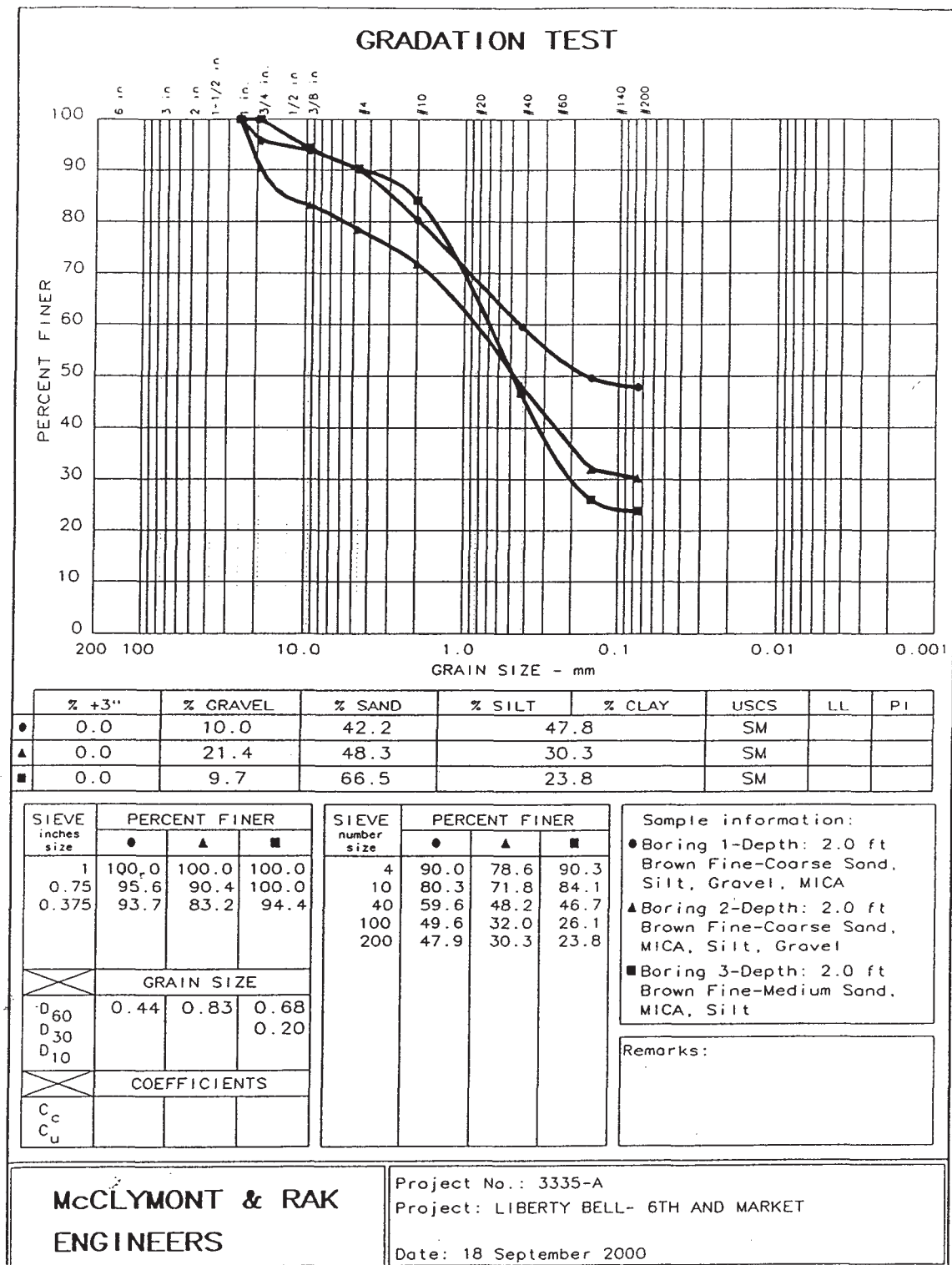
GRADATION TESTS



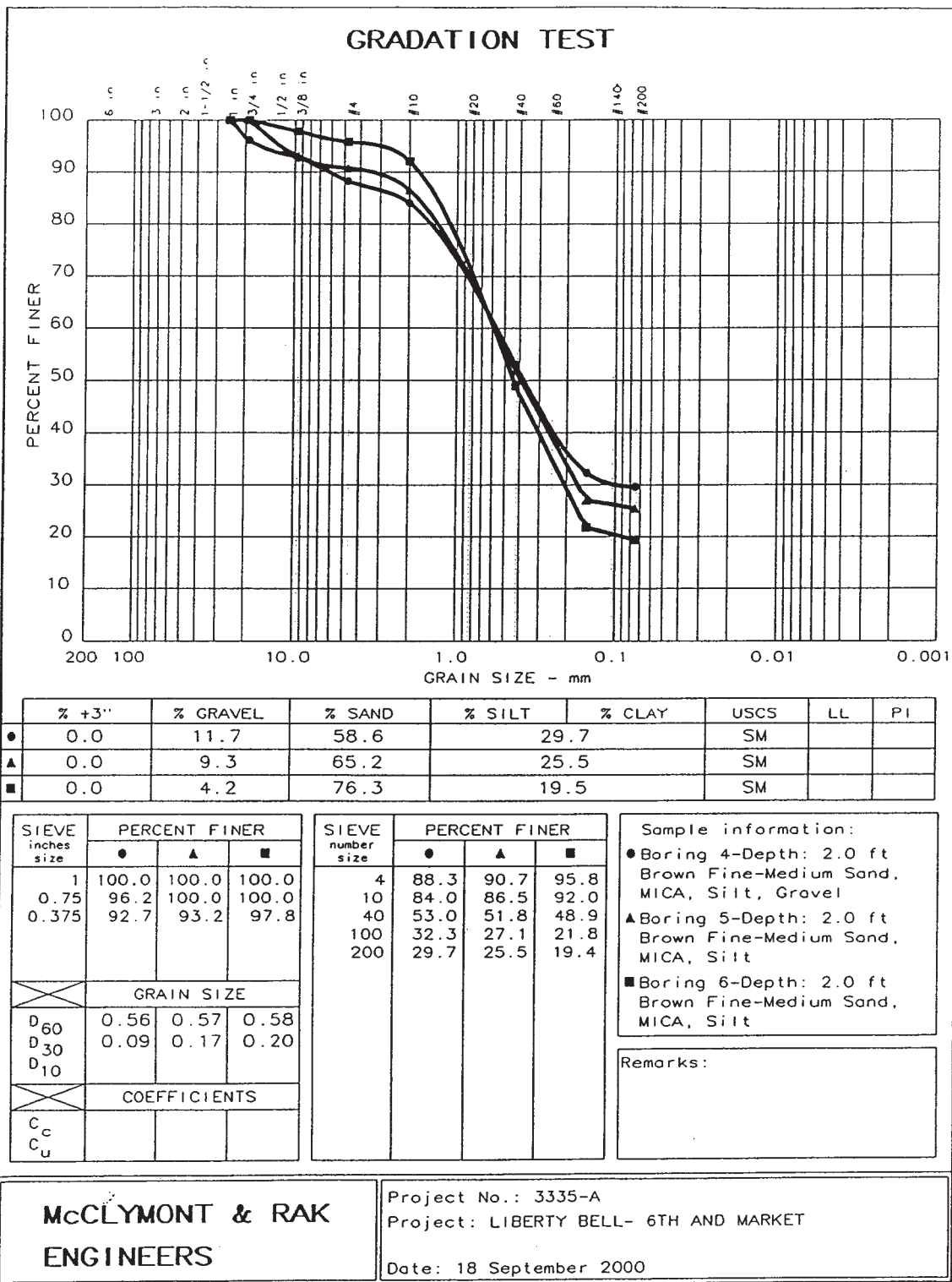
GRADATION TESTS



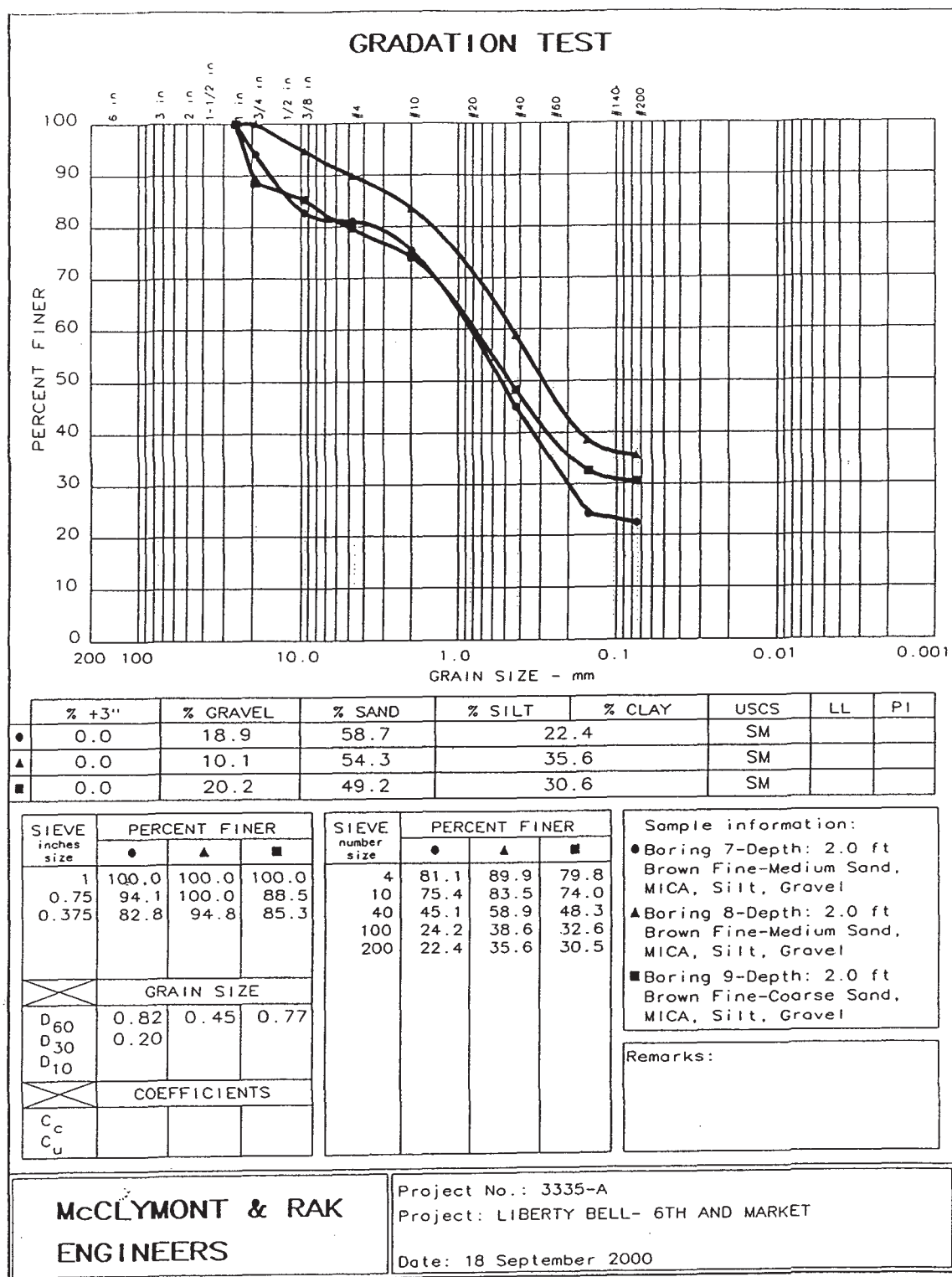
GRADATION TESTS



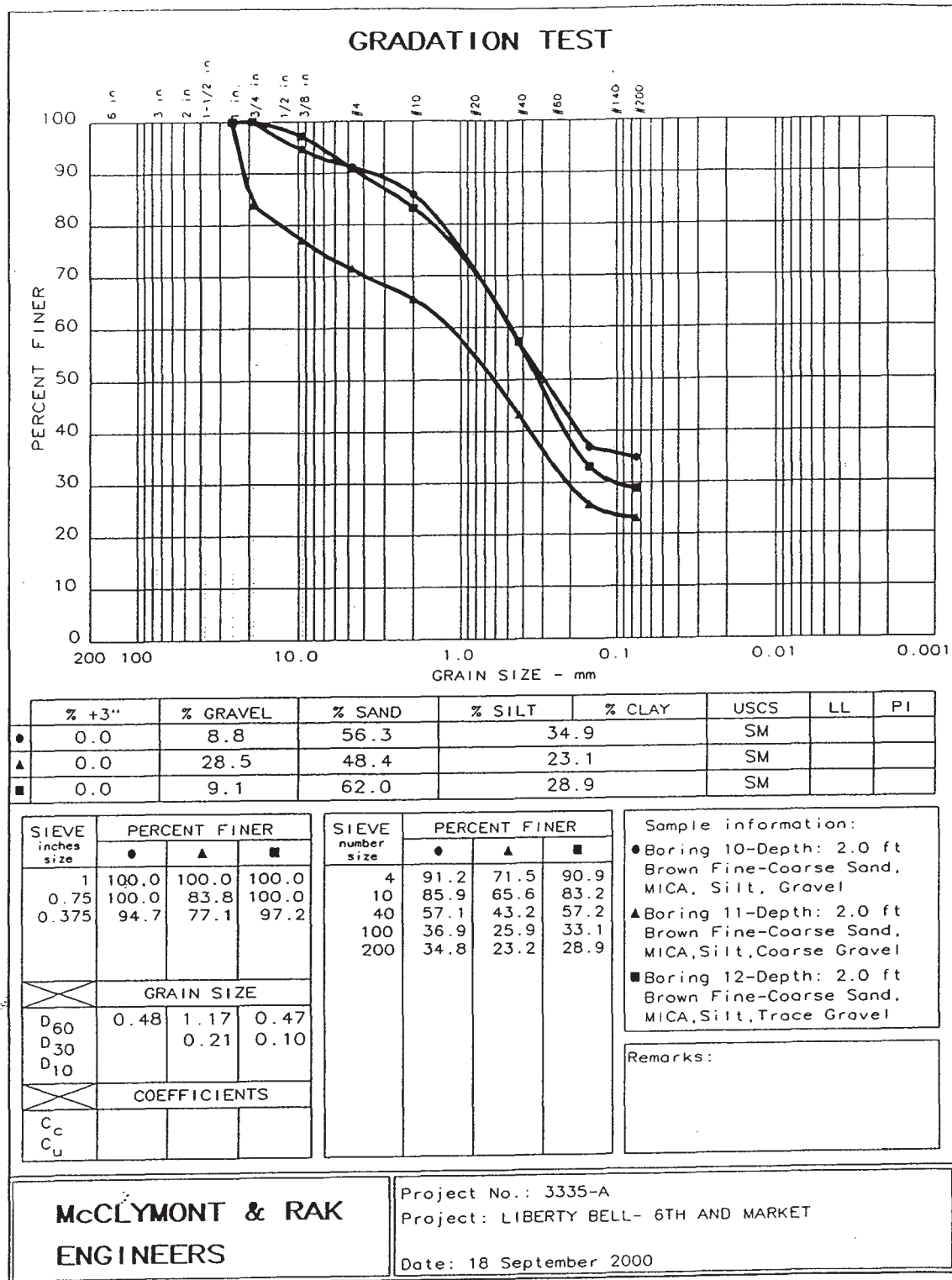
GRADATION TESTS



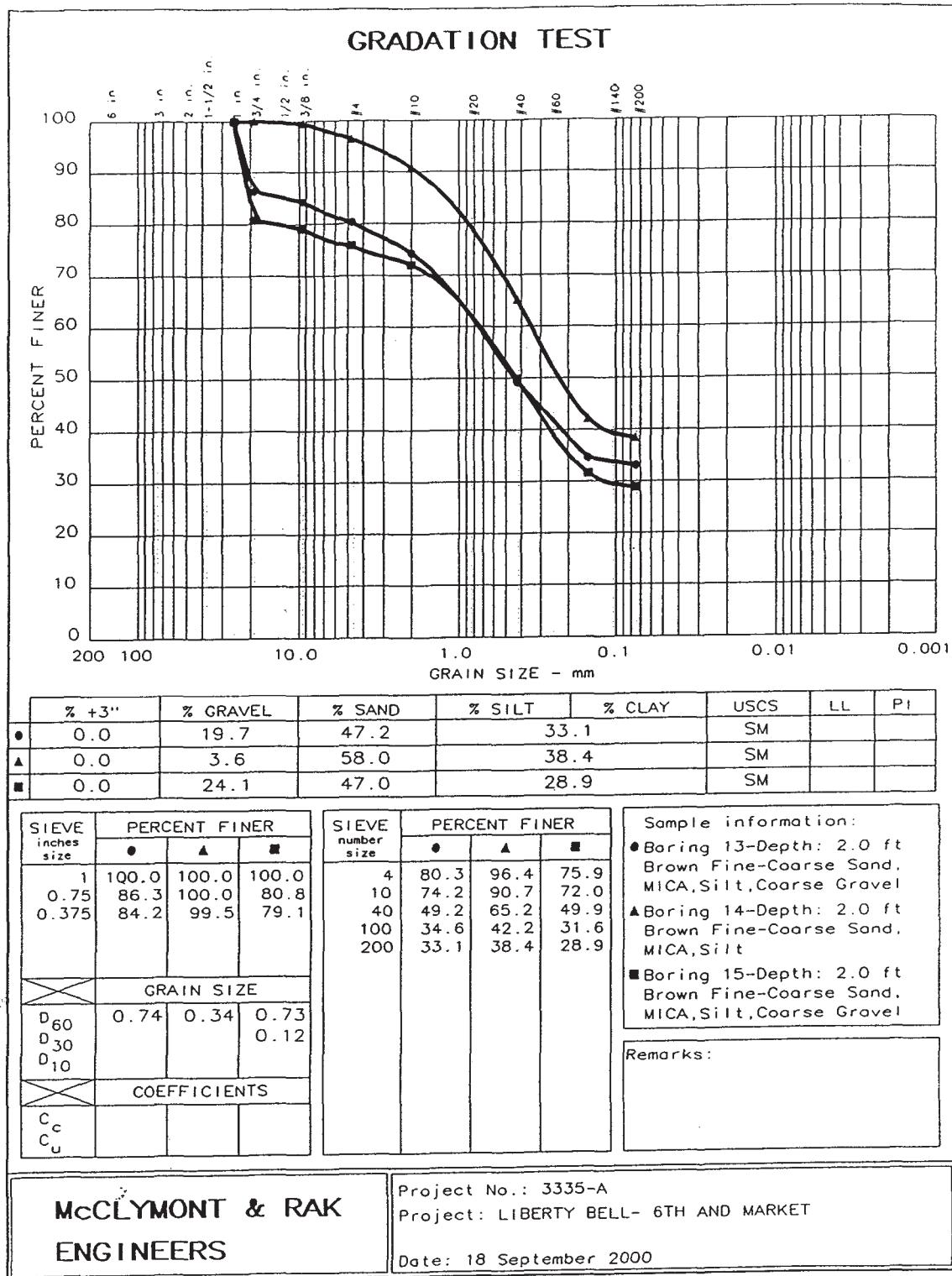
GRADATION TESTS



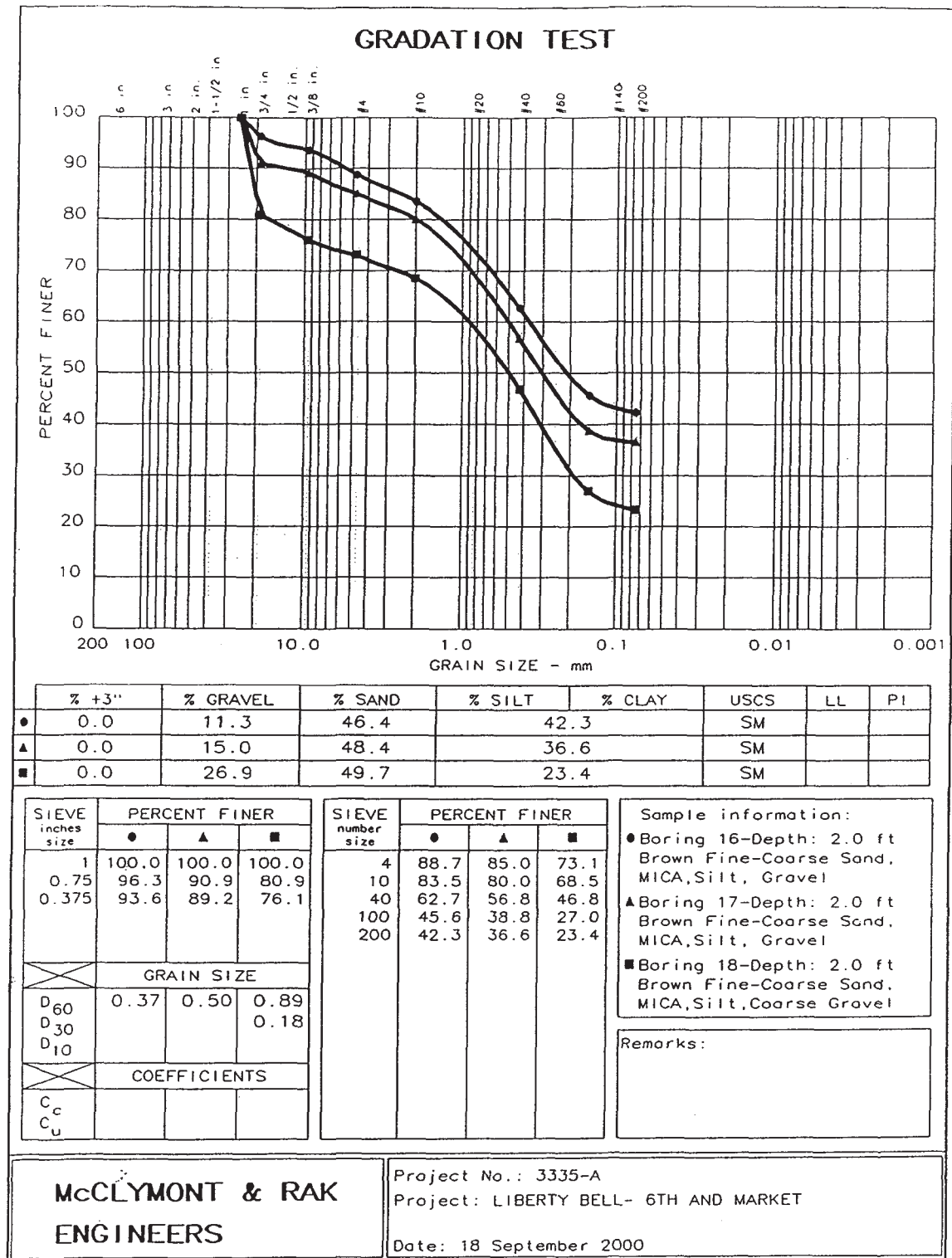
GRADATION TESTS



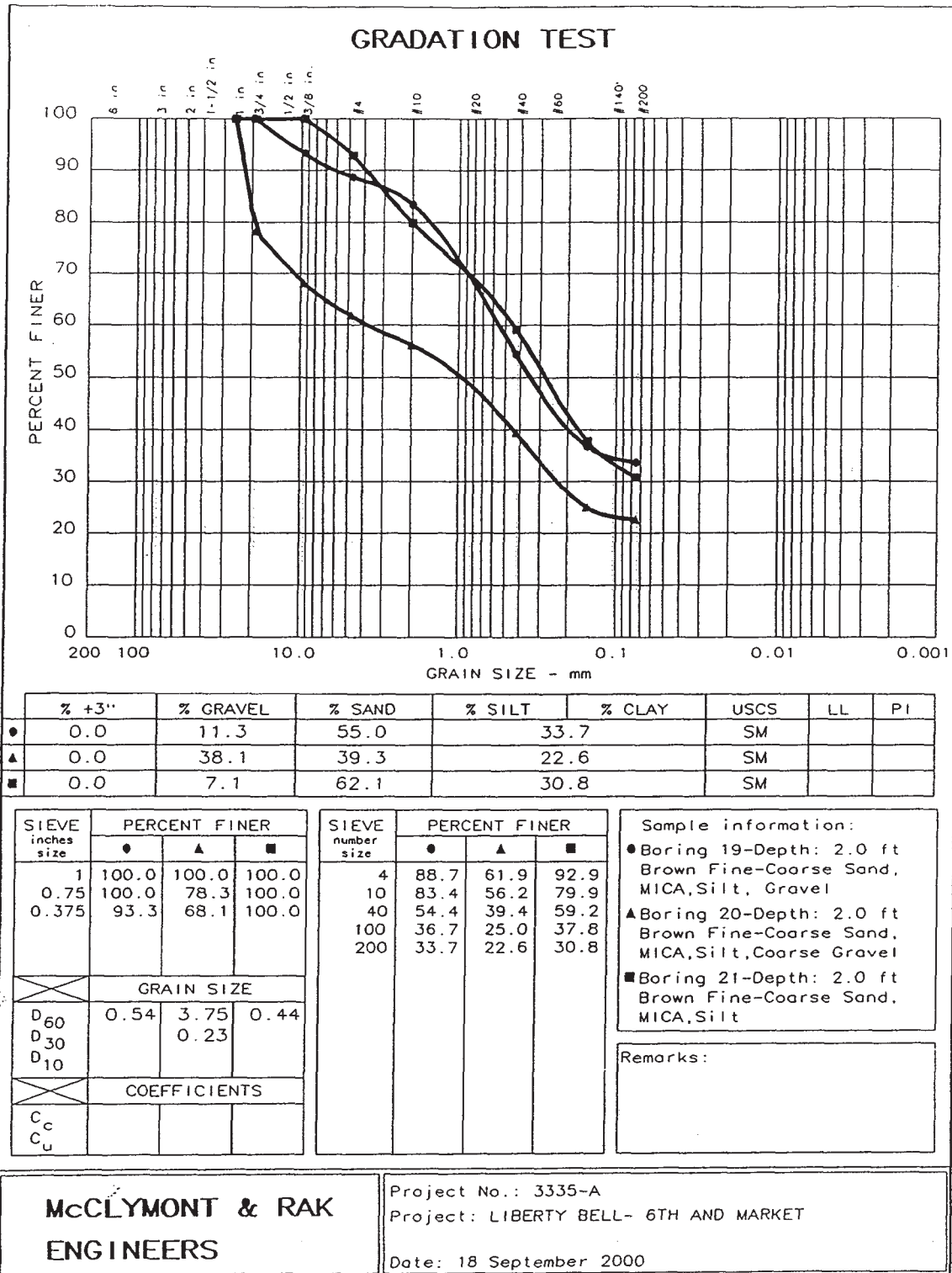
GRADATION TESTS



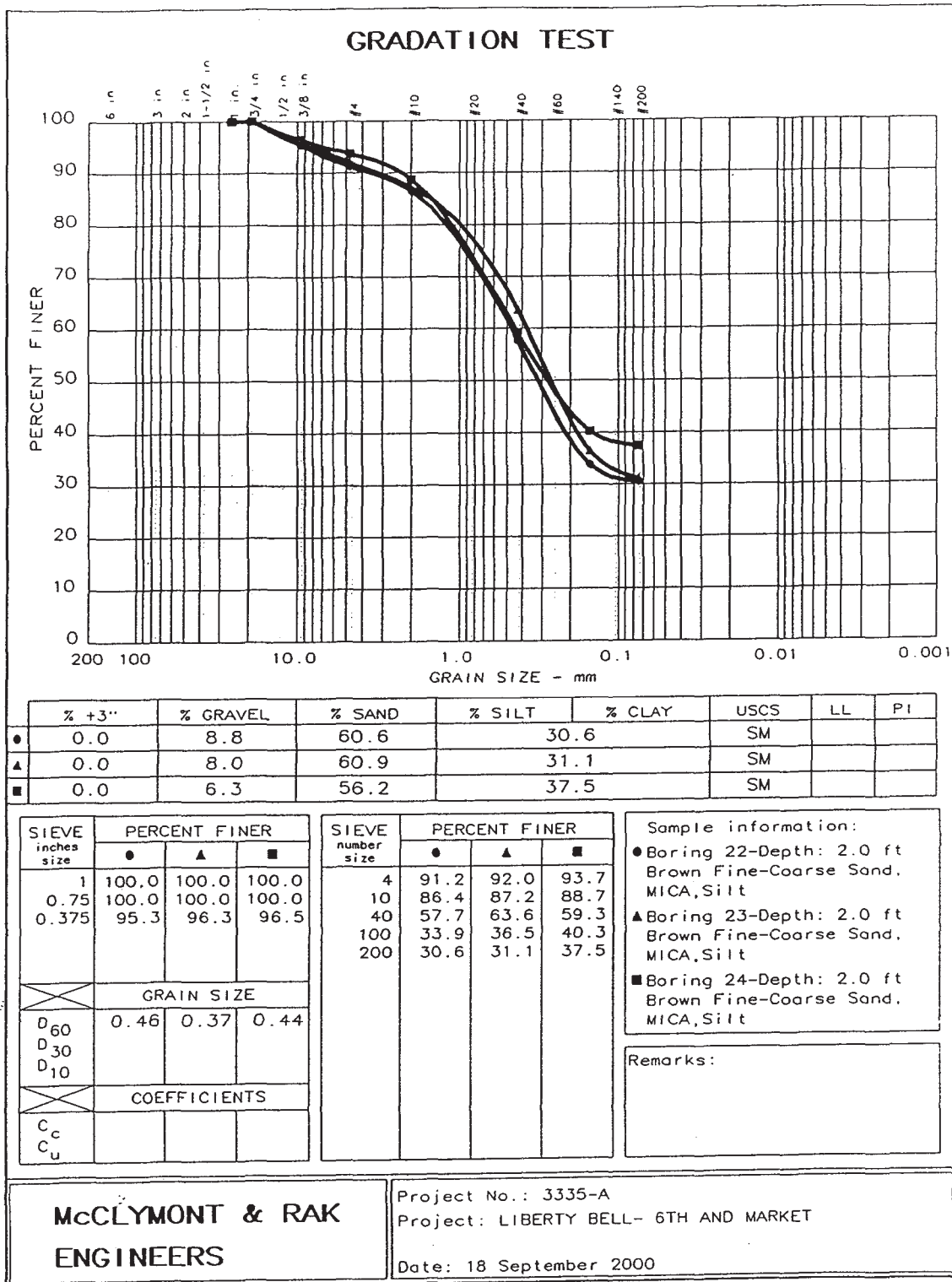
GRADATION TESTS



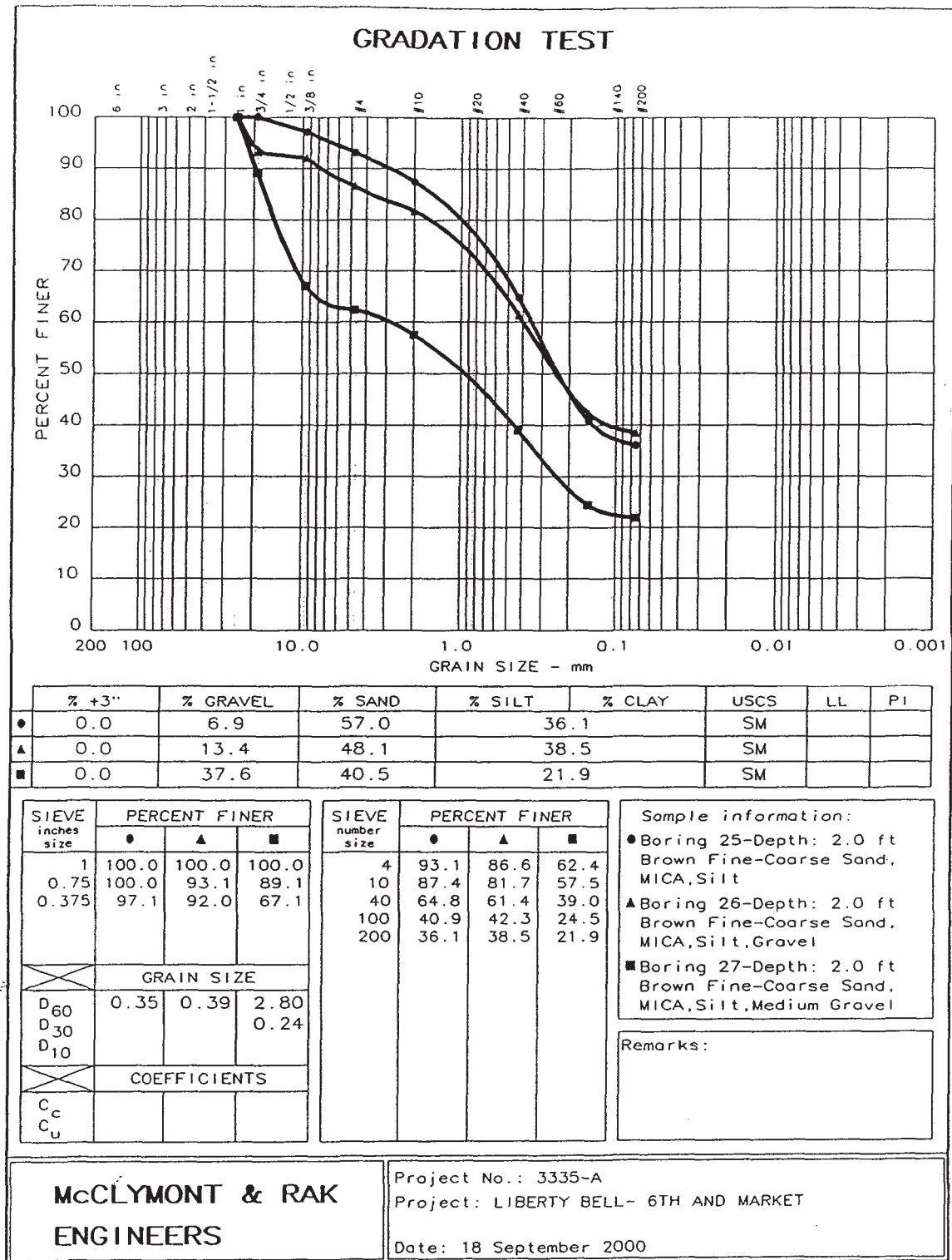
GRADATION TESTS



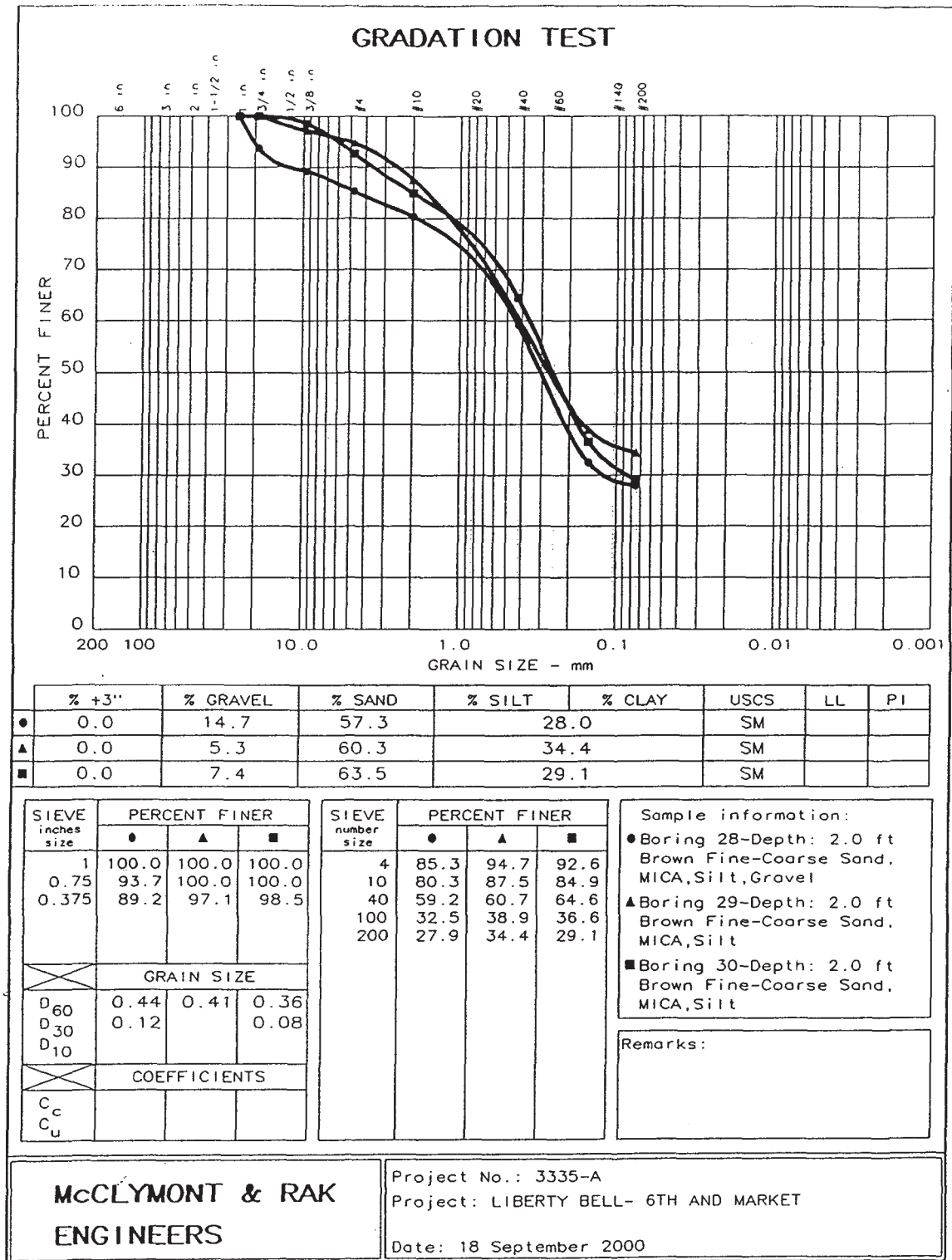
GRADATION TESTS



GRADATION TESTS



GRADATION TESTS



GRADATION TESTS

LOCATION NUMBER : 1 (STOCKPILE)	
WEIGHT OF WET SOIL + PAN (GRAMS) :	457.60
WEIGHT OF PAN (GRAMS) :	157.60
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	431.60
WEIGHT OF DRY SOIL (GRAMS) :	274.00
MOISTURE CONTENT (%) :	9.49
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	430.90
WEIGHT LOSS (GRAMS) :	0.70
ORGANIC CONTENT (%) :	0.26

LOCATION NUMBER : 4 (STOCKPILE)	
WEIGHT OF WET SOIL + PAN (GRAMS) :	455.90
WEIGHT OF PAN (GRAMS) :	155.90
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	438.50
WEIGHT OF DRY SOIL (GRAMS) :	282.60
MOISTURE CONTENT (%) :	6.16
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	434.60
WEIGHT LOSS (GRAMS) :	3.90
ORGANIC CONTENT (%) :	1.38

LOCATION NUMBER : 2 (STOCKPILE)	
WEIGHT OF WET SOIL + PAN (GRAMS) :	458.50
WEIGHT OF PAN (GRAMS) :	158.50
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	441.50
WEIGHT OF DRY SOIL (GRAMS) :	283.00
MOISTURE CONTENT (%) :	6.01
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	439.10
WEIGHT LOSS (GRAMS) :	2.40
ORGANIC CONTENT (%) :	0.85

LOCATION NUMBER : 5 (STOCKPILE)	
WEIGHT OF WET SOIL + PAN (GRAMS) :	456.20
WEIGHT OF PAN (GRAMS) :	156.20
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	432.80
WEIGHT OF DRY SOIL (GRAMS) :	276.60
MOISTURE CONTENT (%) :	8.46
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	430.40
WEIGHT LOSS (GRAMS) :	2.40
ORGANIC CONTENT (%) :	0.87

LOCATION NUMBER : 3 (STOCKPILE)	
WEIGHT OF WET SOIL + PAN (GRAMS) :	453.70
WEIGHT OF PAN (GRAMS) :	153.70
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	430.30
WEIGHT OF DRY SOIL (GRAMS) :	276.60
MOISTURE CONTENT (%) :	8.46
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	428.40
WEIGHT LOSS (GRAMS) :	1.90
ORGANIC CONTENT (%) :	0.69

LOCATION NUMBER : 6 (STOCKPILE)	
WEIGHT OF WET SOIL + PAN (GRAMS) :	453.30
WEIGHT OF PAN (GRAMS) :	153.30
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	443.70
WEIGHT OF DRY SOIL (GRAMS) :	290.40
MOISTURE CONTENT (%) :	3.31
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	443.60
WEIGHT LOSS (GRAMS) :	0.10
ORGANIC CONTENT (%) :	0.03

ORGANIC CONTENT DETERMINATIONS

LOCATION NUMBER : 7 (STOCKPILE)	
WEIGHT OF WET SOIL + PAN (GRAMS) :	453.10
WEIGHT OF PAN (GRAMS) :	153.10
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	443.00
WEIGHT OF DRY SOIL (GRAMS) :	289.90
MOISTURE CONTENT (%) :	3.48
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	442.80
WEIGHT LOSS (GRAMS) :	0.20
ORGANIC CONTENT (%) :	0.07

LOCATION NUMBER : 1	
WEIGHT OF WET SOIL + PAN (GRAMS) :	516.20
WEIGHT OF PAN (GRAMS) :	216.20
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	482.80
WEIGHT OF DRY SOIL (GRAMS) :	266.60
MOISTURE CONTENT (%) :	12.53
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	479.80
WEIGHT LOSS (GRAMS) :	3.00
ORGANIC CONTENT (%) :	1.13

LOCATION NUMBER : 8 (STOCKPILE)	
WEIGHT OF WET SOIL + PAN (GRAMS) :	455.40
WEIGHT OF PAN (GRAMS) :	155.40
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	434.30
WEIGHT OF DRY SOIL (GRAMS) :	278.90
MOISTURE CONTENT (%) :	7.57
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	433.40
WEIGHT LOSS (GRAMS) :	0.90
ORGANIC CONTENT (%) :	0.32

LOCATION NUMBER : 2	
WEIGHT OF WET SOIL + PAN (GRAMS) :	514.90
WEIGHT OF PAN (GRAMS) :	214.90
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	488.00
WEIGHT OF DRY SOIL (GRAMS) :	273.10
MOISTURE CONTENT (%) :	9.85
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	485.70
WEIGHT LOSS (GRAMS) :	2.30
ORGANIC CONTENT (%) :	0.84

LOCATION NUMBER : 9 (STOCKPILE)	
WEIGHT OF WET SOIL + PAN (GRAMS) :	456.30
WEIGHT OF PAN (GRAMS) :	156.30
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	436.60
WEIGHT OF DRY SOIL (GRAMS) :	280.30
MOISTURE CONTENT (%) :	7.03
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	436.40
WEIGHT LOSS (GRAMS) :	0.20
ORGANIC CONTENT (%) :	0.07

LOCATION NUMBER : 3	
WEIGHT OF WET SOIL + PAN (GRAMS) :	515.30
WEIGHT OF PAN (GRAMS) :	215.30
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	500.10
WEIGHT OF DRY SOIL (GRAMS) :	284.80
MOISTURE CONTENT (%) :	5.34
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	499.70
WEIGHT LOSS (GRAMS) :	0.40
ORGANIC CONTENT (%) :	0.14

ORGANIC CONTENT DETERMINATIONS

LOCATION NUMBER : 4	
WEIGHT OF WET SOIL + PAN (GRAMS) :	519.40
WEIGHT OF PAN (GRAMS) :	219.40
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	500.90
WEIGHT OF DRY SOIL (GRAMS) :	281.50
MOISTURE CONTENT (%) :	6.57
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	500.70
WEIGHT LOSS (GRAMS) :	0.20
ORGANIC CONTENT (%) :	0.07

LOCATION NUMBER : 7	
WEIGHT OF WET SOIL + PAN (GRAMS) :	525.70
WEIGHT OF PAN (GRAMS) :	225.70
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	504.60
WEIGHT OF DRY SOIL (GRAMS) :	278.90
MOISTURE CONTENT (%) :	7.57
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	504.30
WEIGHT LOSS (GRAMS) :	0.30
ORGANIC CONTENT (%) :	0.11

LOCATION NUMBER : 5	
WEIGHT OF WET SOIL + PAN (GRAMS) :	523.60
WEIGHT OF PAN (GRAMS) :	223.60
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	502.40
WEIGHT OF DRY SOIL (GRAMS) :	278.80
MOISTURE CONTENT (%) :	7.60
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	502.20
WEIGHT LOSS (GRAMS) :	0.20
ORGANIC CONTENT (%) :	0.07

LOCATION NUMBER : 8	
WEIGHT OF WET SOIL + PAN (GRAMS) :	515.70
WEIGHT OF PAN (GRAMS) :	215.70
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	490.70
WEIGHT OF DRY SOIL (GRAMS) :	275.00
MOISTURE CONTENT (%) :	9.09
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	490.50
WEIGHT LOSS (GRAMS) :	0.20
ORGANIC CONTENT (%) :	0.07

LOCATION NUMBER : 6	
WEIGHT OF WET SOIL + PAN (GRAMS) :	526.50
WEIGHT OF PAN (GRAMS) :	226.50
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	505.00
WEIGHT OF DRY SOIL (GRAMS) :	278.50
MOISTURE CONTENT (%) :	7.72
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	503.90
WEIGHT LOSS (GRAMS) :	1.10
ORGANIC CONTENT (%) :	0.39

LOCATION NUMBER : 9	
WEIGHT OF WET SOIL + PAN (GRAMS) :	518.60
WEIGHT OF PAN (GRAMS) :	218.60
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	490.20
WEIGHT OF DRY SOIL (GRAMS) :	271.60
MOISTURE CONTENT (%) :	10.46
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	489.40
WEIGHT LOSS (GRAMS) :	0.80
ORGANIC CONTENT (%) :	0.29

ORGANIC CONTENT DETERMINATIONS

LOCATION NUMBER : 10	
WEIGHT OF WET SOIL + PAN (GRAMS) :	524.90
WEIGHT OF PAN (GRAMS) :	224.90
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	502.80
WEIGHT OF DRY SOIL (GRAMS) :	277.90
MOISTURE CONTENT (%) :	7.95
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	502.80
WEIGHT LOSS (GRAMS) :	0.00
ORGANIC CONTENT (%) :	0.00

LOCATION NUMBER : 13	
WEIGHT OF WET SOIL + PAN (GRAMS) :	516.60
WEIGHT OF PAN (GRAMS) :	216.60
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	491.60
WEIGHT OF DRY SOIL (GRAMS) :	275.00
MOISTURE CONTENT (%) :	9.09
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	491.00
WEIGHT LOSS (GRAMS) :	0.60
ORGANIC CONTENT (%) :	0.22

LOCATION NUMBER : 11	
WEIGHT OF WET SOIL + PAN (GRAMS) :	523.80
WEIGHT OF PAN (GRAMS) :	223.80
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	508.80
WEIGHT OF DRY SOIL (GRAMS) :	285.00
MOISTURE CONTENT (%) :	5.26
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	508.50
WEIGHT LOSS (GRAMS) :	0.30
ORGANIC CONTENT (%) :	0.11

LOCATION NUMBER : 14	
WEIGHT OF WET SOIL + PAN (GRAMS) :	526.40
WEIGHT OF PAN (GRAMS) :	226.40
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	498.60
WEIGHT OF DRY SOIL (GRAMS) :	272.20
MOISTURE CONTENT (%) :	10.21
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	498.10
WEIGHT LOSS (GRAMS) :	0.50
ORGANIC CONTENT (%) :	0.18

LOCATION NUMBER : 12	
WEIGHT OF WET SOIL + PAN (GRAMS) :	527.60
WEIGHT OF PAN (GRAMS) :	227.60
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	518.20
WEIGHT OF DRY SOIL (GRAMS) :	290.60
MOISTURE CONTENT (%) :	3.23
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	518.10
WEIGHT LOSS (GRAMS) :	0.10
ORGANIC CONTENT (%) :	0.03

LOCATION NUMBER : 15	
WEIGHT OF WET SOIL + PAN (GRAMS) :	523.40
WEIGHT OF PAN (GRAMS) :	223.40
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	493.70
WEIGHT OF DRY SOIL (GRAMS) :	270.30
MOISTURE CONTENT (%) :	10.99
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	493.70
WEIGHT LOSS (GRAMS) :	0.00
ORGANIC CONTENT (%) :	0.00

ORGANIC CONTENT DETERMINATIONS

LOCATION NUMBER : 16	
WEIGHT OF WET SOIL + PAN (GRAMS) :	516.10
WEIGHT OF PAN (GRAMS) :	216.10
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	493.90
WEIGHT OF DRY SOIL (GRAMS) :	277.80
MOISTURE CONTENT (%) :	7.99
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	493.60
WEIGHT LOSS (GRAMS) :	0.30
ORGANIC CONTENT (%) :	0.11

LOCATION NUMBER : 19	
WEIGHT OF WET SOIL + PAN (GRAMS) :	515.50
WEIGHT OF PAN (GRAMS) :	215.50
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	484.70
WEIGHT OF DRY SOIL (GRAMS) :	269.20
MOISTURE CONTENT (%) :	11.44
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	484.70
WEIGHT LOSS (GRAMS) :	0.00
ORGANIC CONTENT (%) :	0.00

LOCATION NUMBER : 17	
WEIGHT OF WET SOIL + PAN (GRAMS) :	524.00
WEIGHT OF PAN (GRAMS) :	224.00
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	488.30
WEIGHT OF DRY SOIL (GRAMS) :	264.30
MOISTURE CONTENT (%) :	13.51
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	487.30
WEIGHT LOSS (GRAMS) :	1.00
ORGANIC CONTENT (%) :	0.38

LOCATION NUMBER : 20	
WEIGHT OF WET SOIL + PAN (GRAMS) :	515.30
WEIGHT OF PAN (GRAMS) :	215.30
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	486.70
WEIGHT OF DRY SOIL (GRAMS) :	271.40
MOISTURE CONTENT (%) :	10.54
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	486.70
WEIGHT LOSS (GRAMS) :	0.00
ORGANIC CONTENT (%) :	0.00

LOCATION NUMBER : 18	
WEIGHT OF WET SOIL + PAN (GRAMS) :	514.60
WEIGHT OF PAN (GRAMS) :	214.60
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	485.20
WEIGHT OF DRY SOIL (GRAMS) :	270.60
MOISTURE CONTENT (%) :	10.86
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	485.20
WEIGHT LOSS (GRAMS) :	0.00
ORGANIC CONTENT (%) :	0.00

LOCATION NUMBER : 21	
WEIGHT OF WET SOIL + PAN (GRAMS) :	520.80
WEIGHT OF PAN (GRAMS) :	220.80
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	486.50
WEIGHT OF DRY SOIL (GRAMS) :	265.70
MOISTURE CONTENT (%) :	12.91
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	485.30
WEIGHT LOSS (GRAMS) :	1.20
ORGANIC CONTENT (%) :	0.45

ORGANIC CONTENT DETERMINATIONS

LOCATION NUMBER : 22	
WEIGHT OF WET SOIL + PAN (GRAMS) :	514.90
WEIGHT OF PAN (GRAMS) :	214.90
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	484.80
WEIGHT OF DRY SOIL (GRAMS) :	269.90
MOISTURE CONTENT (%) :	11.15
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	484.30
WEIGHT LOSS (GRAMS) :	0.50
ORGANIC CONTENT (%) :	0.19

LOCATION NUMBER : 25	
WEIGHT OF WET SOIL + PAN (GRAMS) :	453.20
WEIGHT OF PAN (GRAMS) :	153.20
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	435.00
WEIGHT OF DRY SOIL (GRAMS) :	281.80
MOISTURE CONTENT (%) :	6.46
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	434.20
WEIGHT LOSS (GRAMS) :	0.80
ORGANIC CONTENT (%) :	0.28

LOCATION NUMBER : 23	
WEIGHT OF WET SOIL + PAN (GRAMS) :	520.50
WEIGHT OF PAN (GRAMS) :	220.50
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	494.30
WEIGHT OF DRY SOIL (GRAMS) :	273.80
MOISTURE CONTENT (%) :	9.57
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	494.30
WEIGHT LOSS (GRAMS) :	0.00
ORGANIC CONTENT (%) :	0.00

LOCATION NUMBER : 26	
WEIGHT OF WET SOIL + PAN (GRAMS) :	457.70
WEIGHT OF PAN (GRAMS) :	157.70
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	435.20
WEIGHT OF DRY SOIL (GRAMS) :	277.50
MOISTURE CONTENT (%) :	8.11
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	435.20
WEIGHT LOSS (GRAMS) :	0.00
ORGANIC CONTENT (%) :	0.00

LOCATION NUMBER : 24	
WEIGHT OF WET SOIL + PAN (GRAMS) :	453.50
WEIGHT OF PAN (GRAMS) :	153.50
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	430.90
WEIGHT OF DRY SOIL (GRAMS) :	277.40
MOISTURE CONTENT (%) :	8.15
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	428.70
WEIGHT LOSS (GRAMS) :	2.20
ORGANIC CONTENT (%) :	0.79

LOCATION NUMBER : 27	
WEIGHT OF WET SOIL + PAN (GRAMS) :	453.60
WEIGHT OF PAN (GRAMS) :	153.60
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	434.80
WEIGHT OF DRY SOIL (GRAMS) :	281.20
MOISTURE CONTENT (%) :	6.69
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	434.00
WEIGHT LOSS (GRAMS) :	0.80
ORGANIC CONTENT (%) :	0.28

LOCATION NUMBER : 28	
WEIGHT OF WET SOIL + PAN (GRAMS) :	453.40
WEIGHT OF PAN (GRAMS) :	153.40
WEIGHT OF WET SOIL (GRAMS) :	300.00
WEIGHT OF DRY SOIL + PAN (GRAMS) (BEFORE IGNITION) :	414.40
WEIGHT OF DRY SOIL (GRAMS) :	261.00
MOISTURE CONTENT (%) :	14.94
AFTER IGNITION	
WEIGHT OF DRY SOIL + PAN (GRAMS) (AFTER IGNITION) :	410.80
WEIGHT LOSS (GRAMS) :	3.60
ORGANIC CONTENT (%) :	1.38

ORGANIC CONTENT DETERMINATIONS