WOODWARD-GARDNER & ASSOCIATES, INC.

CONSULTING ENGINEERS AND GEOLOGISTS

AN AFFILIATE OF WOODWARD-CLYDE CONSULTANTS

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54925

October 8, 1974
73 P 77

The Goodman Company
P.O. Box 2523
Allentown, Pennsylvania 18001

Attention: Mr. John T. Decker

Re: Odor Control
Seaview Square
Ocean Township, New Jersey

Gentlemen:

In accordance with previous discussions, we have investigated the odor control measures to be implemented in conjunction with the Seaview Square site development. This letter presents our findings and conclusions.

It was reported that a landfill disruption operation in Cherry Hill, New Jersey, encountered odor problems. Interviewing the personnel associated with this project disclosed that the odor problems were greatly reduced when the construction procedures were modified. Instead of large excavation and fill areas, the area of exposed landfill materials was limited. Also, soil cover was frequently applied to the exposed landfill materials.

These procedures of limited exposure of the refuse materials and application of temporary soil cover have been incorporated in our Technical Specifications for Refuse Fill Construction. Thus it is expected that only the minimum amount of odor that is reasonable to expect will be produced by the Seaview Square site development work.

If there are any questions, do not hesitate to call.

Very truly yours,

WOODWARD-GARDNER & ASSOCIATES, INC.

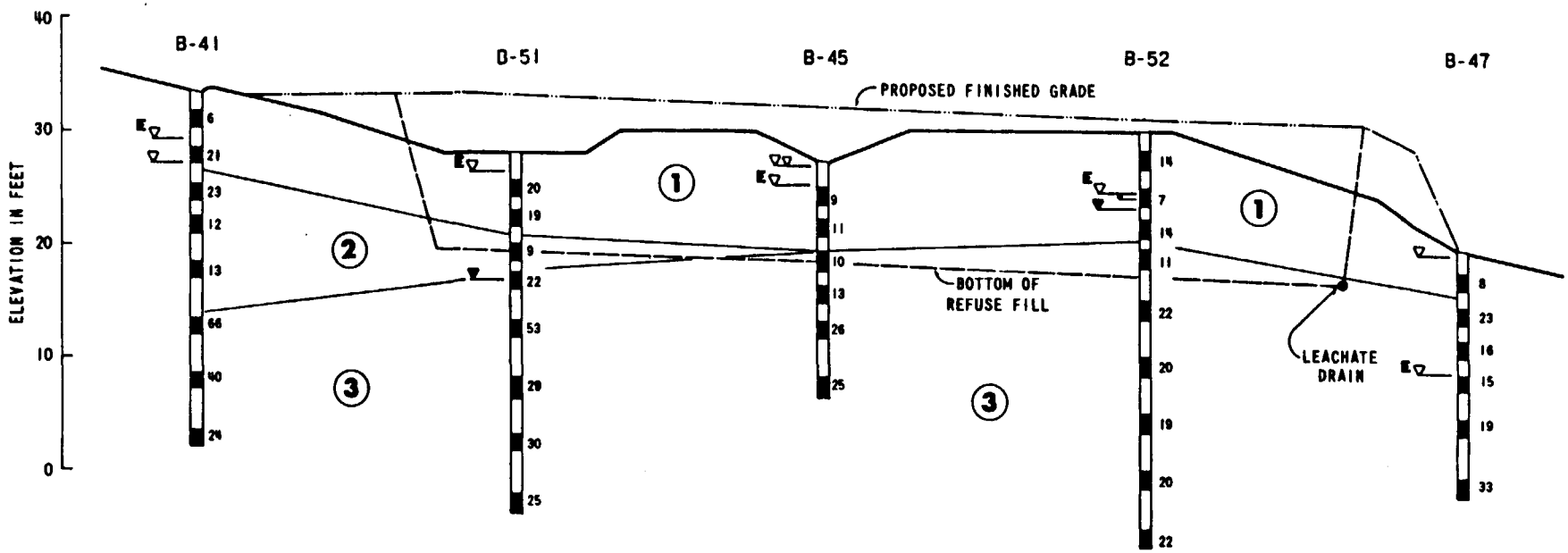
Richard E. Mabry

Richard E. Mabry, P.E.

REM/ds

cc: Ackerman - Ney Associates
Evantash - Friedman Associates

000786



E ▽ — GROUNDWATER ENCOUNTERED DURING DRILLING

▽ — GROUNDWATER LEVEL IN OPEN HOLE

▼ — GROUNDWATER LEVEL IN SEALED WELLPOINT

(1) LOOSE TO MEDIUM DENSE BROWN, TAN & GRAY SAND AND GRAVEL SILTY GRAVELLY SAND AND SANDY SILT w/ LENSES OF CLAYEY SILT

(2) STIFF BROWN AND GRAY SILTY CLAY w/ MEDIUM DENSE DARK GRAY SILTY SAND

(3) STIFF GREEN AND GREEN-GRAY CLAYEY SILT w/ OCCASIONAL FINE SANDY SILT/SILTY SAND LENSES

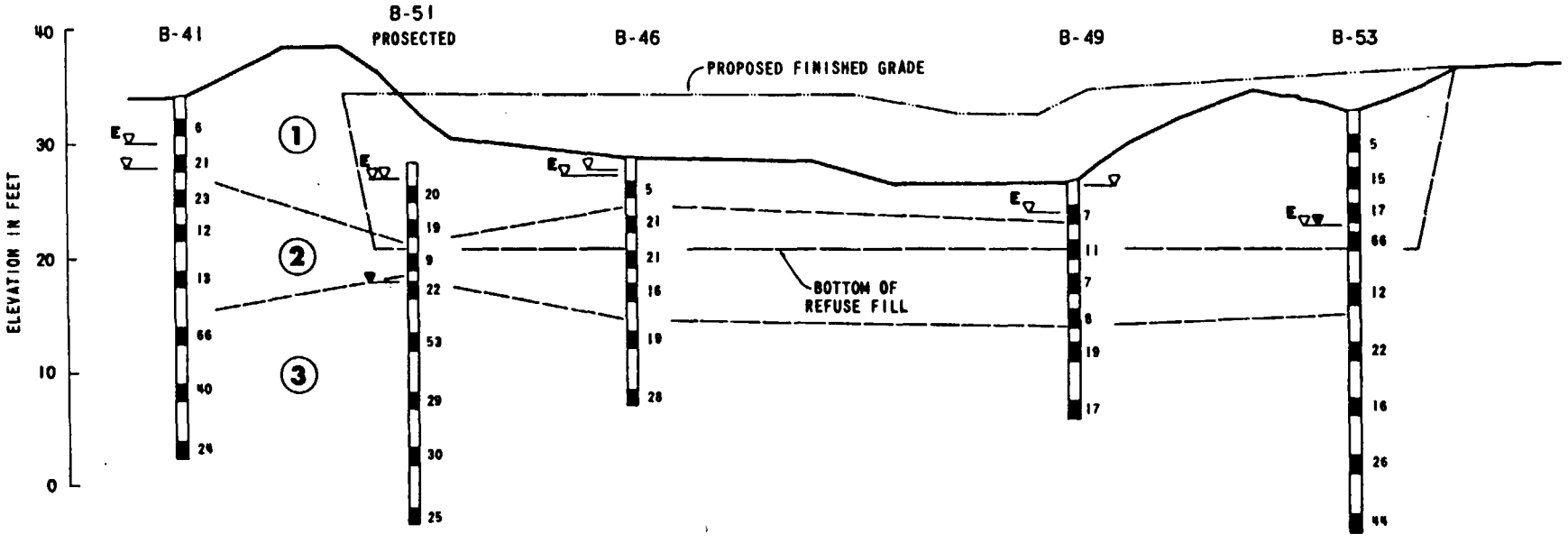
SUBSURFACE PROFILE
SEAVIEW SQUARE
Ocean Twp. N.J.

WOODWARD • GARDNER AND ASSOCIATES, INC.
CONSULTING ENGINEERS AND GEOLOGISTS

DRAWN BY: B. CORSON	SCALE in FEET 0 — 100	DATE: 10/7/74
CHECKED :		JOB : 73P77

PLATE 1

000787



FOR LEGEND SEE PLATE 1

SUBSURFACE PROFILE
SEAVIEW SQUARE
Ocean Twp. N.J.

WOODWARD • GARDNER AND ASSOCIATES, INC.
CONSULTING ENGINEERS AND GEOLOGISTS

DRAWN BY: B. CORSON	SCALE in FEET 0 100	DATE: 10/7/74
CHECKED :		JOB : 73P77

PLATE 2

000788

LOG of BORING No. B-51

DATE 10/1/74 SURFACE ELEV. 28 (Est) LOCATION

DEPTH, FEET	SAMPLES	SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
0			Topsoil	27.3				
		20	Medium dense gray silty fine to coarse sand.					
5		19		21.0				
		9	Loose dark gray sandy silt.	18.0				
10		22						
15		53						
20		29	Stiff green clayey sandy silt to silty clay.					
25		30						
30		25		-3.5				
35			Encountered water at 1.5' while drilling. Wellpoint with riser pipe installed at 20.0' Impervious seal installed at 12.0'. Water observation pipe set at 10.0'.					

Date	Water Depths Wellpoint	Pipe
10/1	11.2'	0.0'
10/2	10.9'	1.1'
10/4	10.8'	1.3'

COMPLETION DEPTH 31.5' Water Depth Date ~~000789~~

SAMPLER: 2" O.D. SPLIT BARREL SAMPLER

JOB no 73 P 77

45 LOG

VVGA KP 1

LOG of BORING No. B-52

DATE 9/27/74 SURFACE ELEV. 30 (Est) LOCATION

DEPTH, FEET	SAMPLES	SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
0			Topsoil	29.5				
		14	Medium dense brown silty fine to coarse sand.	26.0				
5		7	Loose to medium dense tan silty gravelly sand.					
		14		20.5				
10		11						
15		22						
20		20	Stiff green clayey silt.					
25		19						
30		20						
35		22		-6.5				
40			Encountered water at 5.0' while drilling. Wellpont with riser pipe set at 20.0'. Impervious seal installed at 11.0'. Water observation pipe set at 10.0'.					

COMPLETION DEPTH 36.5' Water Depth 6.3' - W.P. Date 10/4/74
SAMPLER: 2" O.D. SPLIT BARREL SAMPLER 5.2' - pipe 10/4/74

000790

JOB 73 P 77

LOG of BORING No. B-53

DATE 9/30/74 SURFACE ELEV. 32 (Est) LOCATION

DEPTH, FEET / SAMPLES	SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
0		Topsoil	31.8				
	5	Loose brown and gray silty fine to medium sand.	27.5				
5	15						
	17	Gray interbedded firm to stiff silty and					
10	16						
15	12		14.5				
20	22						
25	16	Stiff green clayey sandy silt.					
30	26						
35	44		-4.5				
40		Encountered water @ 10.2' while drilling. Wellpoint with riser pipe set at 20.0'. Impervious seal installed at 12.0'. Water observation pipe set at 10.0'.					

COMPLETION DEPTH 36.5' Water Depth 10.2' - W.P. Date 10/4/74

SAMPLER: 2" O.D. SPLIT BARREL SAMPLER

00079

73 P 77

[redacted] ENGINEER REM

ASSIGNED 9-20-74

DATE DUE end of month

JOB No. 73 P 77

JOB NAME view Square

DATE REC. 9-20-74

DATE CMP.

REC. BY

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WCA-LT-29

SUMMARY OF LABORATORY TEST RESULTS

BORING and SAMPLE No.	DEPTH - feet	CLASSIFICATION	SPECIAL TESTS	NATURAL WATER CONTENT (%)	ATTERBERG LIMITS		UNCON. COMPRESS.		UNIT DRY WGT. (pcf)	SPECIFIC GRAVITY	GRAIN SIZE		OPT MOIST	CONSOLID.	TRIAXIAL			
					LIQUID LIMIT	PLASTIC LIMIT	STRESS (tsf)	STRAIN (%)			SIEVE	HYDR.			U.U.	$\overline{CIU}$	CELL PRESSURE (psi)	BACK PRESSURE (psi)
B-17 S-12	49-50.5	MH	43.3								*							
S-13	54-55.5	MH	46.6	64	47													
S-14	54-60.5	MH	18.6								*							
B-19 S- 5	14-15.5	SM	14.5	61	32						*							
S- 6	19-20.5	SM-MH	44.0	56	48						*							
S- 7	24-25.5	MH	41.4	74	54													
S- 8	29-30.5	MH	37.2								*							
B-33 B- 7	24-25.5	SP-SM	16.5								*							
B- 8	30-31.5	SP-SM	14.1								*							
B-43 S- 1	2- 3.5	SM	28.7								*							
S- 2	5- 6.5		28.3															
S- 3	8- 9.5	SM	22.6								*							
S- 4	11-12.5		22.3															
S- 5	14-15.5	MH	32.0	80	49													
S- 6	19-20.5		34.1															

* See Test Curves X TEST COMP and CHECKED ● TEST IN PROGRESS

000792

WCA-LT-29

ENGINEER REM

ASSIGNED 9-20-74

DATE DUE

JOB No. 73 P 77

JOB NAME view Square

DATE REC.

DATE CMP.

REC. BY

SUMMARY OF LABORATORY TEST RESULTS

BORING and SAMPLE No.	DEPTH - feet	CLASSIFICATION	SPECIAL TESTS	NATURAL WATER CONTENT (%)	ATTERBERG LIMITS		UNCON. COMPRESS.		UNIT DRY WGT. (pcf)	SPECIFIC GRAVITY	GRAIN SIZE		OPT MOIST	CONSOLID.	TRIAXIAL			
					LIQUID LIMIT	PLASTIC LIMIT	STRESS (tsf)	STRAIN (%)			SIEVE	HYDR.			U.U.	$\overline{CIU}$	CELL PRESSURE (psi)	BACK PRESSURE (psi)
B-46 S- 1	2-3.5		19.1															
S-2	5-6.5		42.4															
S-3	8-9.5	MH	42.2	83	53						*							
S-4	11-12.5	MH	40.4								*							
S-5	15-16.5	SM-MH	34.3	69	49						*							
S-6	20-21.5		29.2															
B-47 S-1	2- 3.5	MH	58.8	90	51													
S-2	5- 6.5	SM-MH	29.5								*							
S-3	8- 9.5	MH 1	34.2	56	34													
B-49 S-1	2- 3.5		24.2															
S-2	5- 6.5	MH	29.0								*							
S-3	8- 9.5	ML-MH	44.3	47	27													
S-4	11-12.5	SM	18.5								*							
S-5	14-15.5	MH	33.4	80	40													
S-6	19-20.5		40.2															

* See Test Curves ✓ TEST COMP and CHECKED ● TEST IN PROGRESS

000103

[redacted] ENGINEER REM

E ASSIGNED 9-20-74

DATE DUE

JOB No. 73 P 77

JOB NAME view Square

DATE REC.

DATE CMP.

REC. BY

Page No. 3 of 3

WCA-LT-29

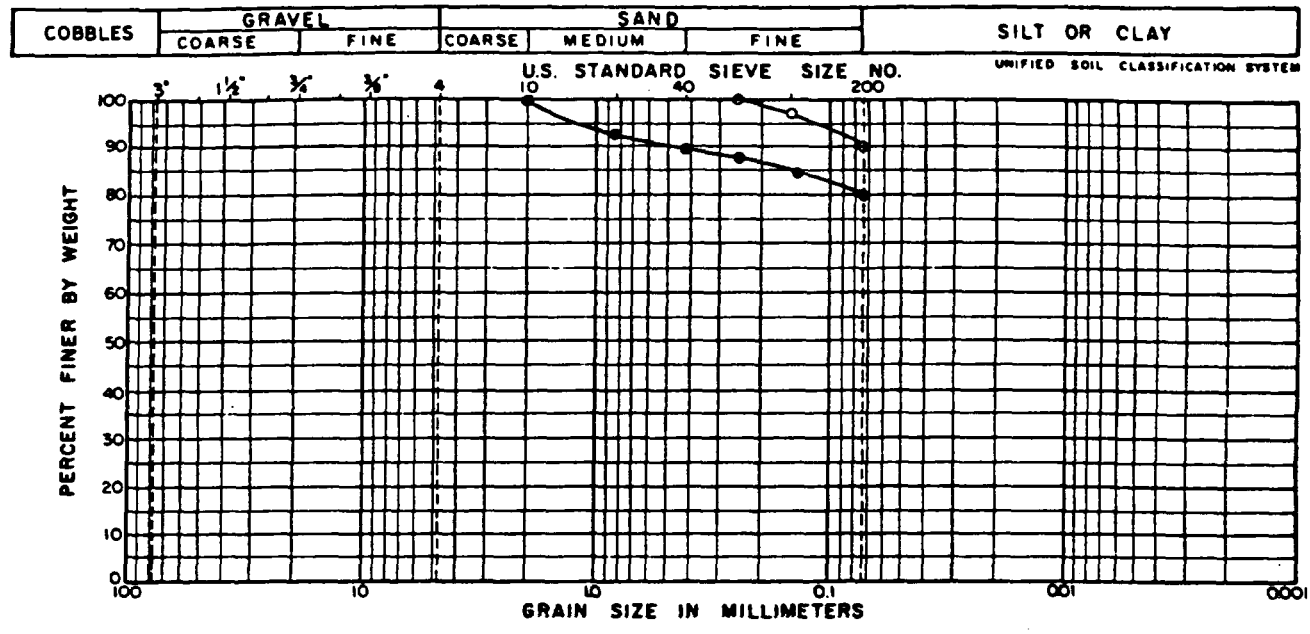
SUMMARY OF LABORATORY TEST RESULTS

BORING and SAMPLE No.	DEPTH - feet	CLASSIFICATION	SPECIAL TESTS	NATURAL WATER CONTENT (%)	ATTERBERG LIMITS		UNCON. COMPRESS.		UNIT DRY WGT. (pcf)	SPECIFIC GRAVITY	GRAIN SIZE		OPT MOIST	CONSOLID.	TRIAXIAL			
					LIQUID LIMIT	PLASTIC LIMIT	STRESS (tsf)	STRAIN (%)			SIEVE	HYDR.			U.U.	$\overline{CIU}$	CELL PRESSURE (psi)	BACK PRESSURE (psi)
B-50 S-5	14-15.5	MH	44.1	105	59						*							
S-6	19-20.5	SM	21.2	84	39						*							
S-7	24-25.5	SM	21.6								*							
S-8	29-30.5		17.7															

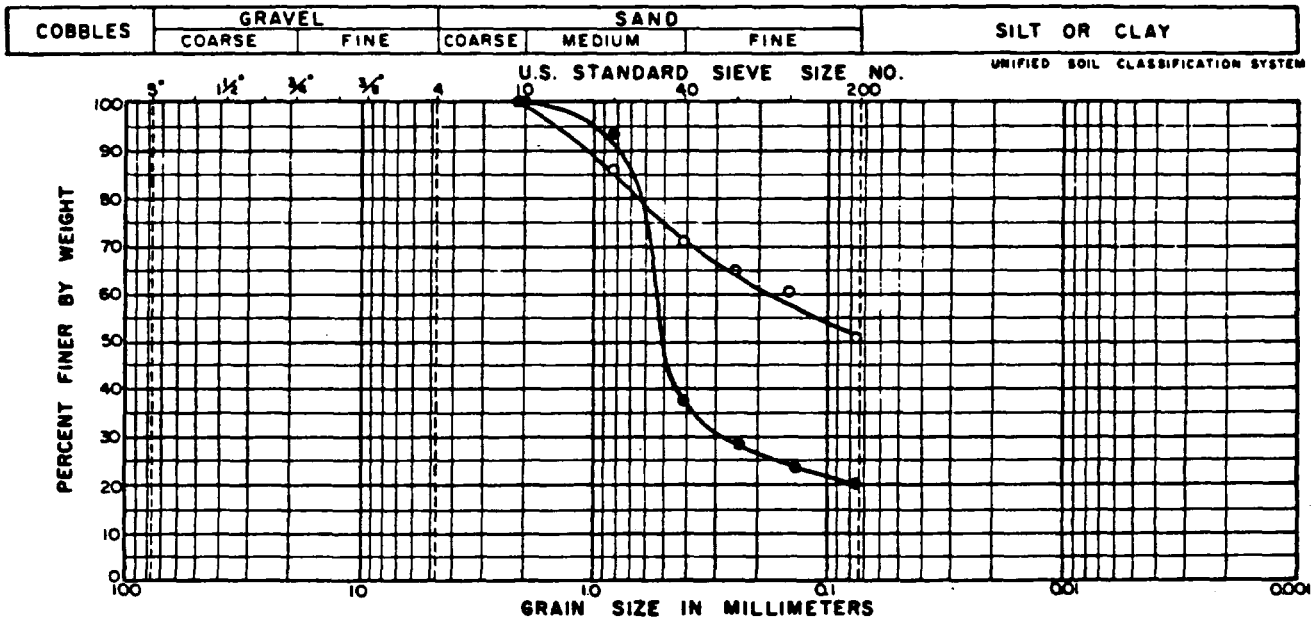
* See Test Curves ✓ TEST COMP and CHECKED ● TEST IN PROGRESS

000794

MECHANICAL ANALYSIS



BORING	SAMPLE	DEPTH	SYMBOL	CLASSIFICATION	MC	LL	PL
B-17	S-12	49.0-50.5	●	Dark gray micaceous medium to fine sandy silty clay.	43.3		
B-17	S-14	59.0-60.5	○	Dark gray micaceous fine sandy silty clay.	18.6		

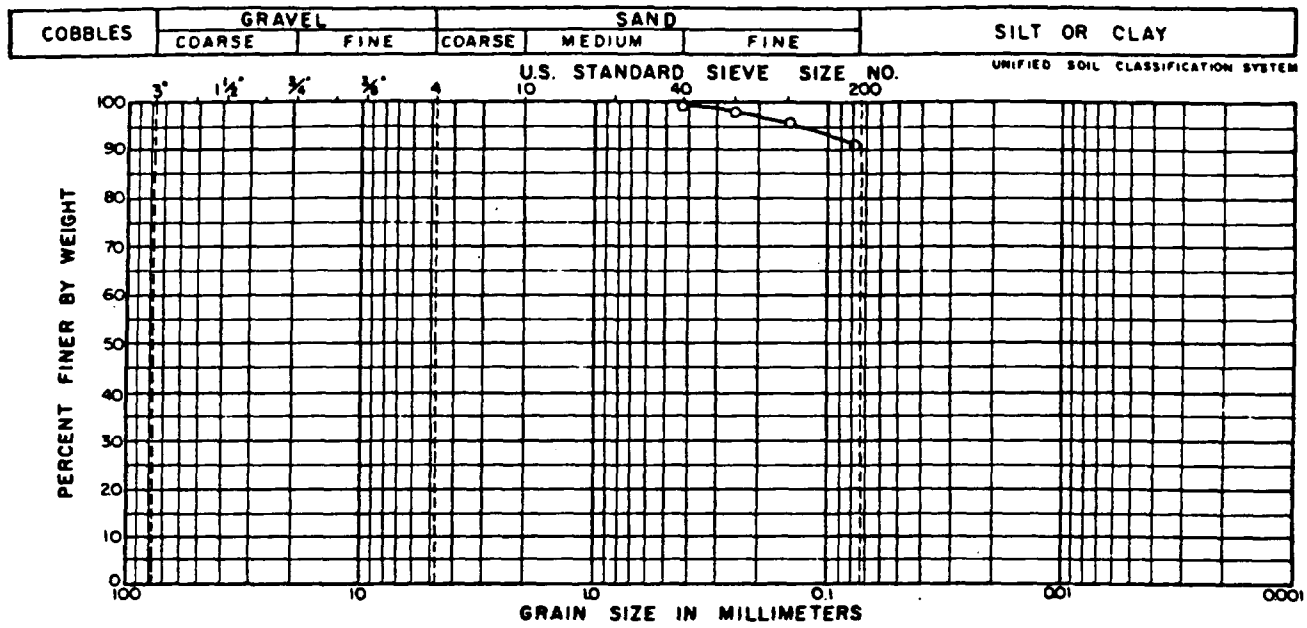


BORING	SAMPLE	DEPTH	SYMBOL	CLASSIFICATION	MC	LL	PL
B-19	S-5	14.0-15.5	●	Gray silty clayey medium to fine sand	14.5	61	32
B-19	S-6	19.0-20.5	○	Gray micaceous medium to fine sandy silty clay/clayey silt.	44.0	56	48

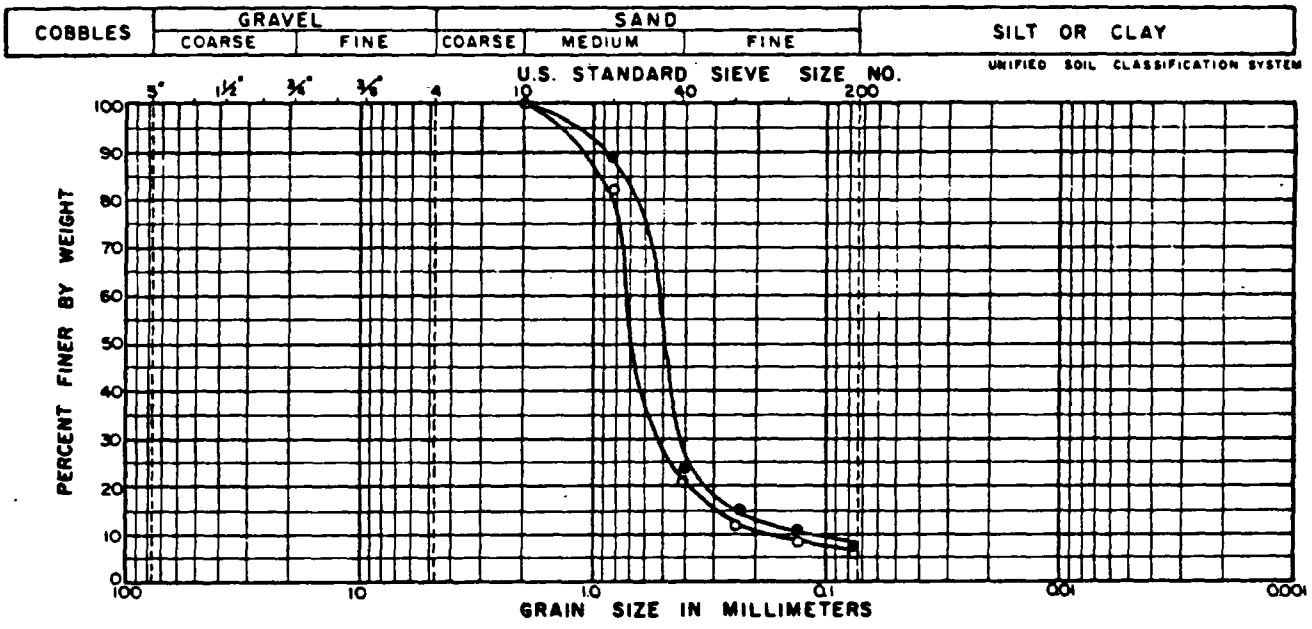
JOB NO. 73 P 77

WG RP-G

MECHANICAL ANALYSIS



BORING	SAMPLE	DEPTH	SYMBOL	CLASSIFICATION	MC	LL	PL
B-19	S-8	29.0-30.5	○	Gray micaceous fine sandy silty clay.	37.2		



BORING	SAMPLE	DEPTH	SYMBOL	CLASSIFICATION	MC	LL	PL
B-33	S-7	24.0-25.5	○	Gray medium to fine sand, trace of silt.	16.5		
B-33	S-8	30.0-31.5	●	Tan medium to fine sand, trace of silt.	14.1		

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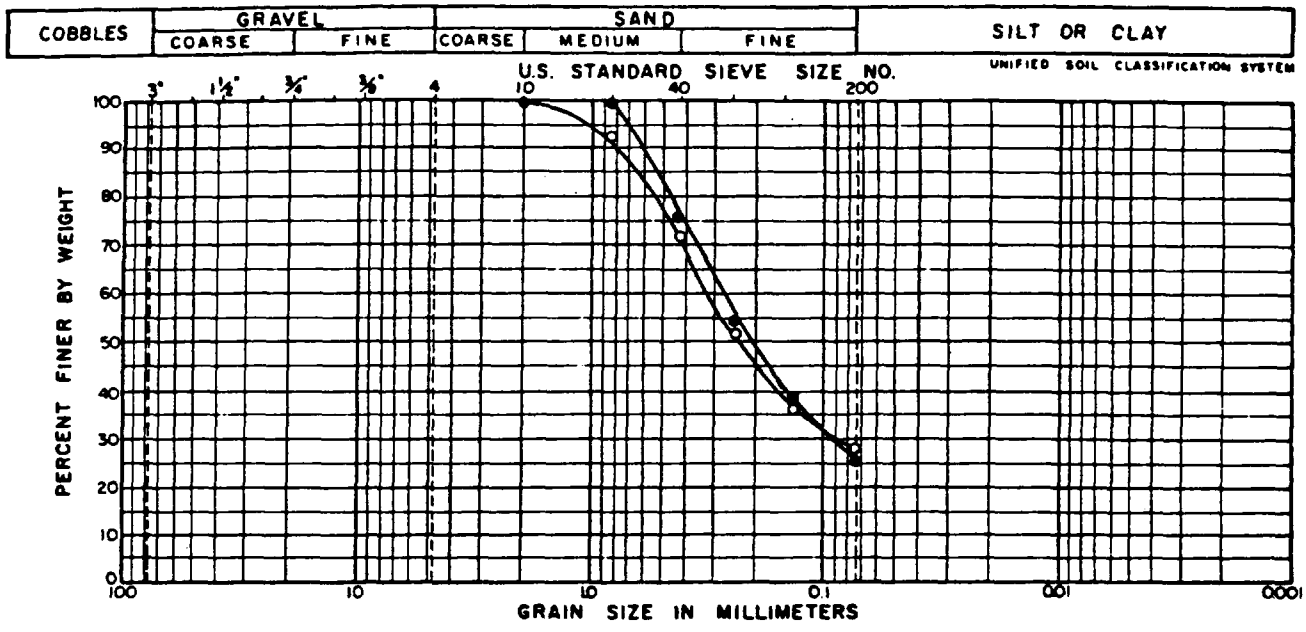
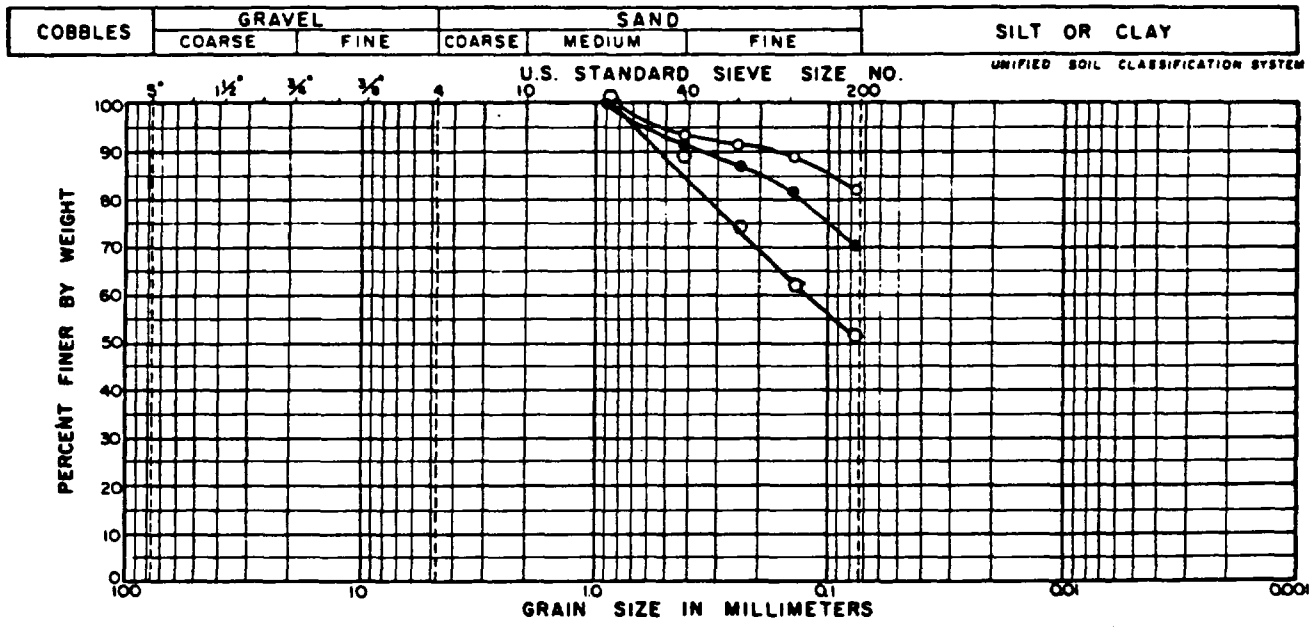
WG RP-G

000796

MECHANICAL ANALYSIS



BORING	SAMPLE	DEPTH	SYMBOL	CLASSIFICATION	MC	LL	PL
B-43	S-1	2.0-3.5	○	Green tan silty clayey medium to fine sand.	28.7		
B-43	S-3	8.0-9.5	●	Green tan silty clayey medium to fine sand.	22.6		



BORING	SAMPLE	DEPTH	SYMBOL	CLASSIFICATION	MC	LL	PL
B-46	S-3	8.0-9.5	○	Gray micaceous medium to fine sandy silty clay.	42.2	83	53
B-46	S-4	11.0-12.5	●	Dark gray micaceous medium to fine sandy silty clay.	40.4		
B-46	S-5	15.0-16.5	○	Green tan silty clayey medium to fine sand.	34.3	69	49

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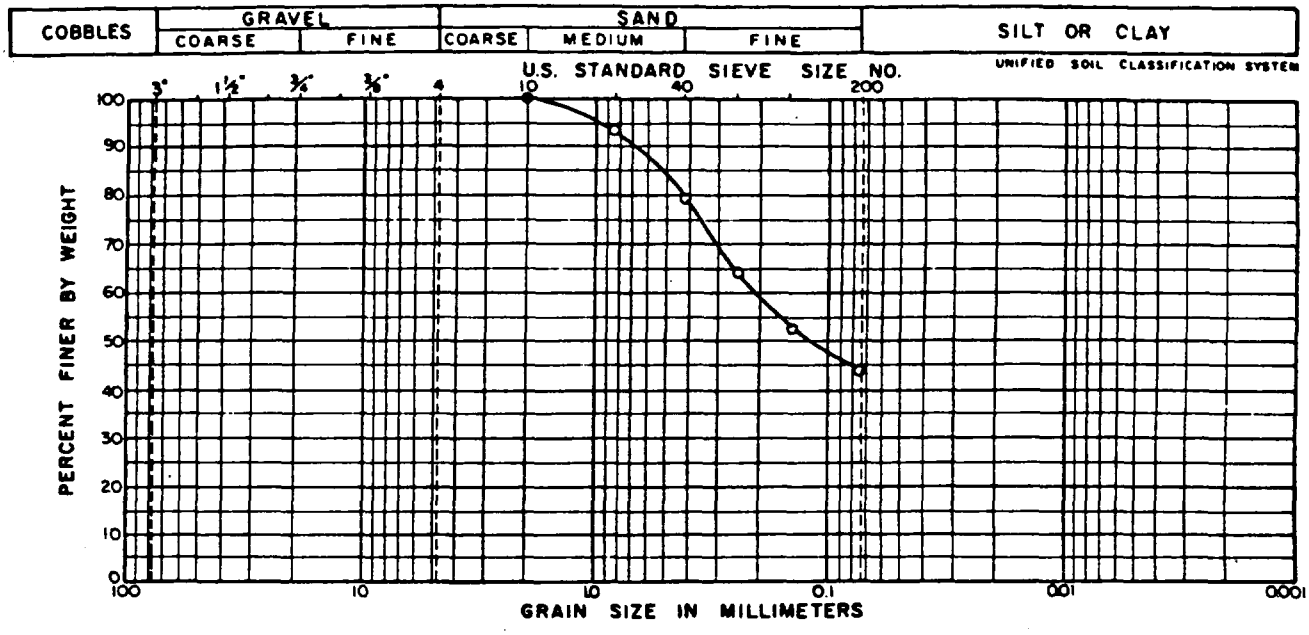
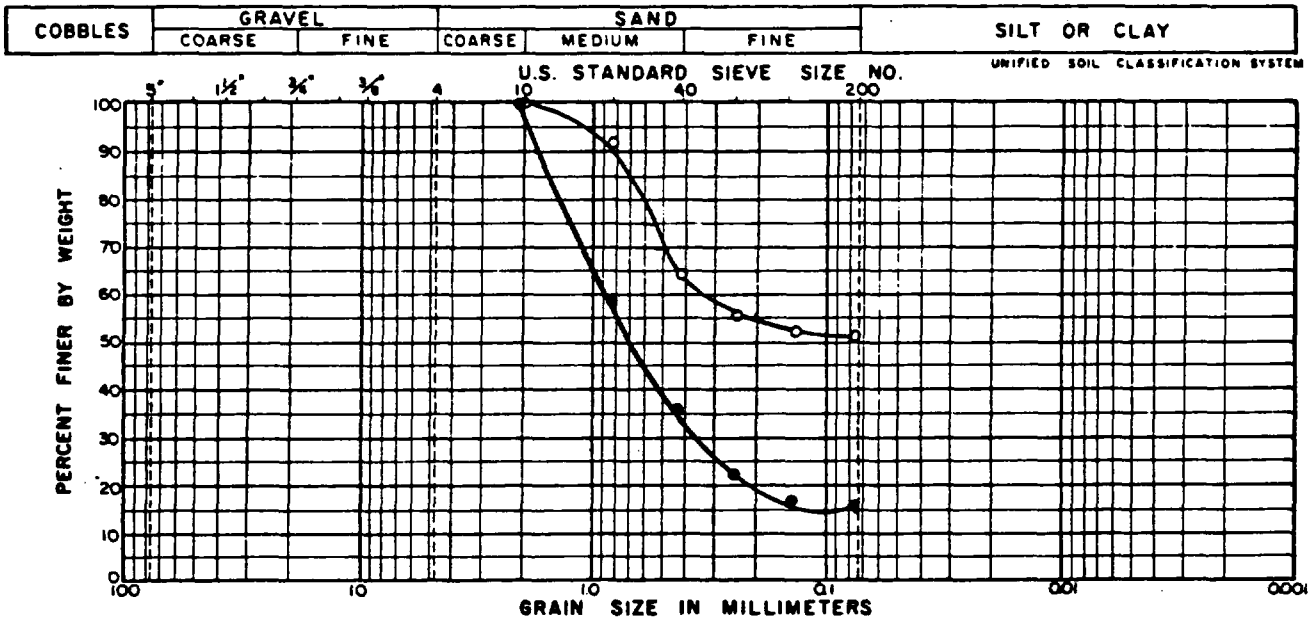
WG RP-G

MECHANICAL ANALYSIS



BORING	SAMPLE	DEPTH	SYMBOL	CLASSIFICATION	MC	LL	PL
B-47	S-2	5.0-6.5	○	Green-tan clayey medium to fine sand.	29.5		



BORING	SAMPLE	DEPTH	SYMBOL	CLASSIFICATION	MC	LL	PL
B-49	S-2	5.0-6.5	○	Tan micaceous medium to fine sandy silty clay.	29.0		
B-49	S-4	11.0-12.5	●	Gray silty clayey medium to fine sand.	18.5		

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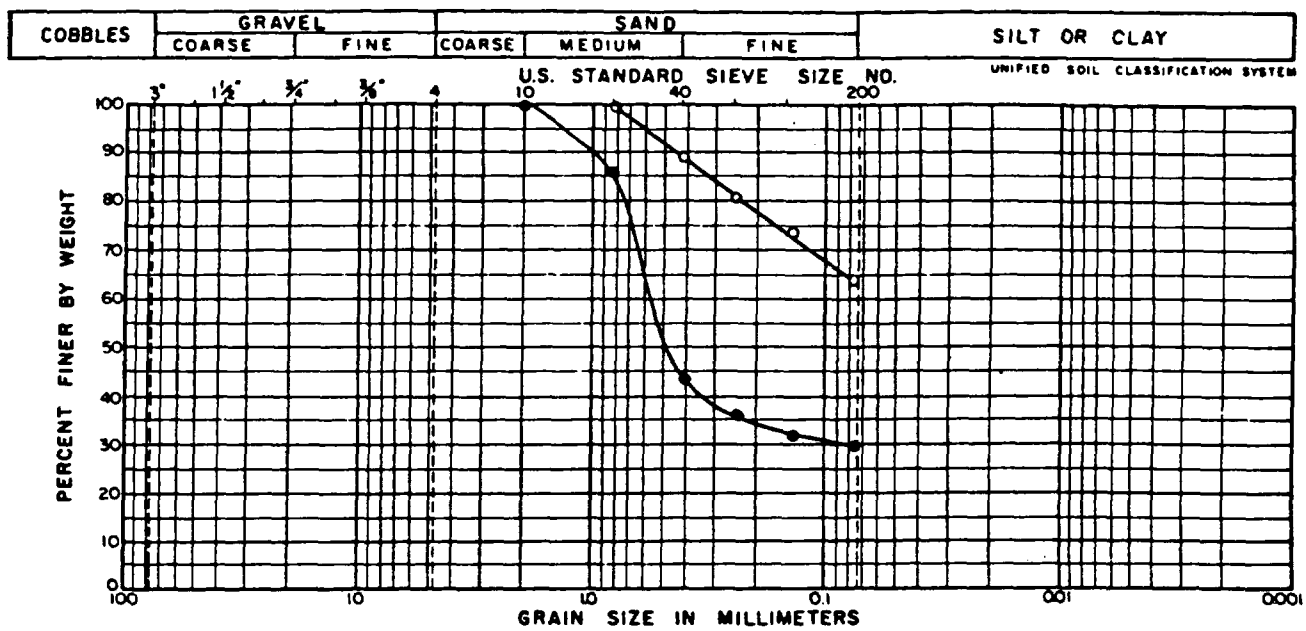
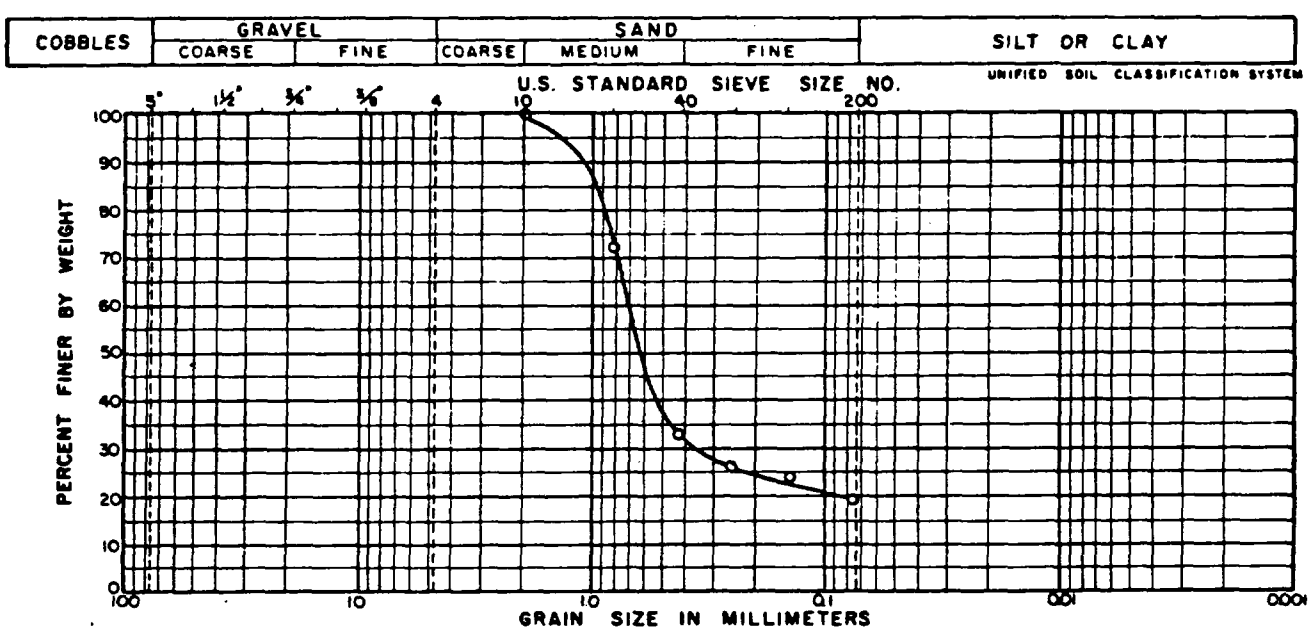
WG RP-G

MECHANICAL ANALYSIS



BORING	SAMPLE	DEPTH	SYMBOL	CLASSIFICATION	MC	LL	PL
B-50	S-5	14.0-15.5	○	Dark gray micaceous medium to fine sandy silty clay.	44.1	105	59
B-50	S-6	19.0-20.5	●	Tan silty clayey medium to fine sand.	21.2	84	39



BORING	SAMPLE	DEPTH	SYMBOL	CLASSIFICATION	MC	LL	PL
B-50	S-7	24.0-25.5	○	Dark gray micaceous silty clayey medium to fine sand.	21.6		

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WG RP-G