

TS-18  
508-9-75

GENERAL INFORMATION

INTRODUCTION

THIS REPORT CONSISTS OF THE SOILS INVESTIGATION OF 0.76 MILE OF PROPOSED WILLOUGHBY-KIRTLAND ROAD, BEGINNING AT IR 90, EXTENDING EASTWARD TO NORTHEASTWARD AND TERMINATING AT SR 306.

PROPOSED GRADE INDICATES MAXIMUM PROPOSED 4-FOOT CUTS AND 12-FOOT FILL EMBANKMENTS

GEOLOGY OF THE PROJECT

THE PROJECT IS LOCATED ON THE LAKE FRONT ESCARPMENT, IN AN AREA WHERE THIN GLACIAL DRIFT OVERLIES SHALE BEDROCK, OF DEVONIAN AGE.

EXPLORATION

EXPLORATORY BORINGS WERE MADE BY MEANS OF TRUCK-MOUNTED MECHANICAL SOIL, BETWEEN MAY 5 AND 8, 1975.


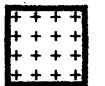



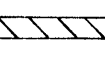
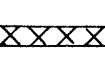



INVESTIGATIONAL FINDINGS

MATERIALS ENCOUNTERED ON THE PROJECT WERE PREDOMINANTLY COMPRISED OF SANDY SILTS (A-4A) AND SILT CLAYS (A-6A), GENERALLY HAVING LOW MOISTURE CONTENTS AND MOISTURE CONTENTS IN THE LOWER PORTIONS OF THE PLASTIC RANGE.

WET MATERIAL WAS ENCOUNTERED AT STATION 34+20.

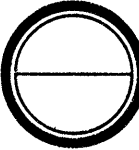
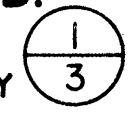
FROST SUSCEPTIBLE SILT WAS ENCOUNTERED WITHIN THREE FEET BELOW PROPOSED GRADE AT STATION 26+50.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS— 38 SAMPLES TESTED

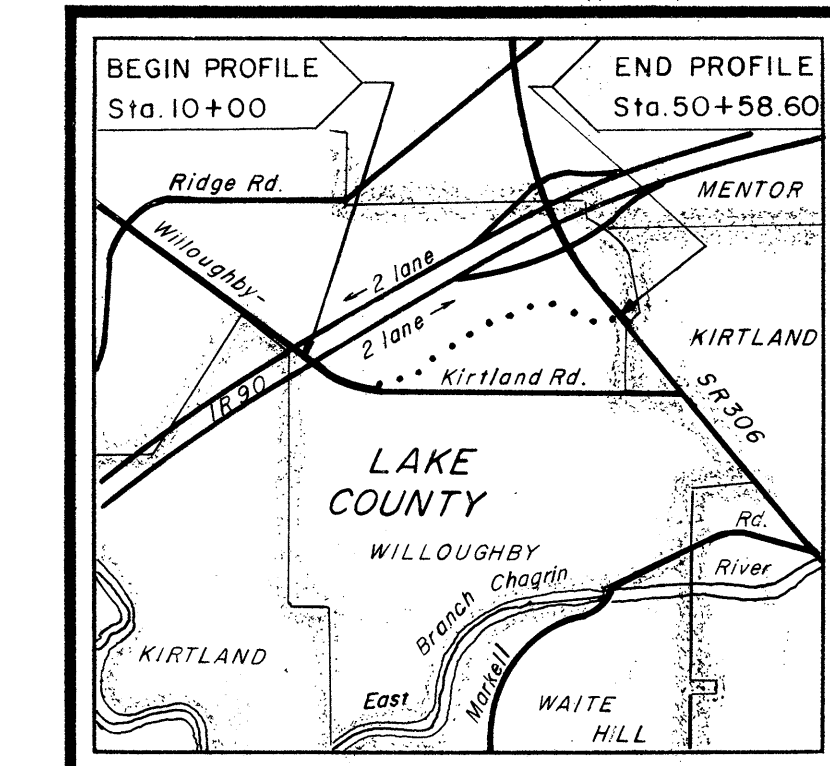
DESCRIPTION	H.R.B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
 SANDY SILT	A-4A(8)	A-4A	9	6	11	41	33	27	8	15	11
 SILT	A-4B(8)	A-4B	0	2	7	55	36	28	8	21	2
 SILT AND CLAY	A-6A(9)	A-6A	6	5	8	41	40	31	12	19	21
 SILTY CLAY	A-6B(10)	A-6B	0	3	9	42	46	37	16	25	3
 CLAY	A-7-6(9)	A-7-6	0	4	12	43	41	41	12	40	1
 SOD AND/OR TOPSOIL=X=APPROXIMATE DEPTH											
 BERM MATERIAL											
 AUGER BORING-PLAN VIEW											
 AUGER BORING PLOTTED TO VERTICAL SCALE ONLY											
 WATER CONTENT NEARLY EQUAL TO OR GREATER THAN LIQUID LIMIT											

NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT. . E.G. 15

**SOIL PROFILE**  
LAKE COUNTY  
**WILLOUGHBY-KIRTLAND RD.**  
OHIO DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS-TESTING LABORATORY  
1600 WEST BROAD STREET COLUMBUS, OHIO 43223

NOTE: INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT.



Recon. - J.S.M. - 4/23/75

Drilling - J.A.G. - 5/5/75 to 5/8/75

Drafting - R.L.F. - 6/19/75

SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC  
\* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

STATION & OFFSET	DEPTH FROM	DEPTH TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	SHTL CLASS
14+50 22 RT	0.3- 5.0	0	1	4	47	48	33	15	19		A-6A*
	5.0- 8.0	0	6	6	36	52	34	14	20		A-6A
	8.0- 9.0	7	10	17	46	20	NP	NP	10		A-4A
	9.0-10.0	0	2	3	46	49	28	9	18		A-4A
18+00 CL	0.3- 4.0	5	7	12	43	33	28	8	15		A-4A*
	4.0- 7.0	9	12	23	39	17	NP	NP	12		A-4A
	7.0-11.0	0	3	7	41	49	29	13	17		A-6A
22+00 35 RT	0.3- 5.5	14	6	10	35	35	28	10	15		A-4A*
	5.5- 8.0	10	4	6	37	43	30	12	15		A-6A
	8.0-11.0	7	5	7	43	38	30	11	16		A-6A
24+50 CL	0.5- 4.0	5	4	10	42	39	33	11	23		A-6A
25+50 CL	0.5- 4.0	0	4	8	52	36	38	13	28		A-6A
26+50 CL	0.5- 2.0	0	3	10	51	36	31	9	25		A-4B*
	2.0- 4.0	0	4	8	40	48	37	17	20		A-6B*
	4.0- 9.0	6	6	8	36	44	30	11	18		A-6A
	9.0-12.0	0	4	6	41	49	31	14	19		A-6A
29+50 CL	0.5- 5.0	0	4	9	42	45	38	16	24		A-6B*
	5.0- 7.0	7	5	9	39	40	35	14	25		A-6A*
	7.0- 11.0	0	4	12	43	41	41	12	40		A-7-6
	11.0-14.0	8	6	8	38	40	28	9	16		A-4A
34+20 CL	0.5- 2.0	0	4	12	43	41	41	12	40		A-7-6
	2.0- 4.0	33	9	10	23	25	33	13	16		A-6A
	4.0- 8.0	6	6	7	41	40	30	11	17		A-6A
	8.0-13.0	0	2	3	46	49	30	11	18		A-6A
38+00 20 LT	0.5- 2.5	6	6	14	40	34	31	13	18		A-6A*
	2.5- 7.0	7	6	9	37	41	28	10	16		A-4A*
	7.0- 11.0	7	5	9	43	36	28	11	15		A-6A
	11.0-14.0	8	6	8	38	40	28	9	16		A-4A
41+50 30 RT	0.5- 5.0	6	4	9	41	40	32	12	18		A-6A*
	5.0- 10.0	7	6	10	45	32	30	12	16		A-6A
	10.0-12.0	7	7	10	39	37	31	11	15		A-6A
	12.0-15.0	0	1	3	59	37	25	7	16		A-4B
45+50 30 RT	0.5- 3.0	5	4	10	42	39	32	11	19		A-6A*
	3.0- 8.0	7	6	11	43	33	28	10	17		A-4A*
	8.0- 9.5	10	6	11	43	30	29	11	15		A-6A
	9.5-12.0	22	5	9	37	27	25	10	12		A-4A
48+50 CL	0.5- 3.0	0	1	10	45	44	37	16	30		A-6B*
	3.0- 5.5	0	3	11	45	41	32	13	22		A-6A*
	5.5- 9.5	6	7	11	45	31	29	9	17		A-4A
	9.5-12.0	10	6	11	42	31	25	8	15		A-4A

17-23