TE-95 (FORMERLY TE-54-A)
2-00-10-61

M10

GENERAL INFORMATION

INTRODUCTION

The project consists of the slight grade improvement, widening and resurfacing of 4.2 miles of SR 91, in Willoughby, beginning 400 feet north of the junction of SR 91 and SR 84, extending northward, and terminating 200 feet north of the junction of SR 91 and USR 20.

Proposed grade indicates cuts, maximum 13 feet in depth; fill embankments, maximum 5 feet in height.

EXPLORATION

The exploration was made by means of truck-mounted mechanical earth auger, on March 14 and 15, 1963.

GEOLOGY OF THE PROJECT

The alignment traverses a portion of the Lake Escarpment Moraine, then drops down onto the bed of glacial Lake Whittlesey. Moderately deep morainal depostis and thin lacustrine deposits overlie shale bedrock, of Devonian age.

INVESTIGATIONAL DISCLOSURES

Materials occurring immediately below grade consist predominantly of silt clays and clays, in the A-6 and A-7-6 classifications, generally having moisture contents in the lower portion of the plastic range, and few sandy gravels. Elastic clay, in the A-7-5 classification, was encountered immediately below grade at station 172+00. Wet, organic materials were encountered at station 145+20.

In the embankment foundation areas, materials consist of silt clays, elastic clays, and clays, in the A-6a, A-7-5, and A-7-6 classifications.

LEGEND FOR PROJECT-AVERAGE RESULTS OF TESTS- 58 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Gravel	A-1-a(0)	A-1-a	58	23	8	3	8	22	4	16	1
Gravel and/or stone fragments with sand	A-1-b(0)	A-1-b	42	31	12	5	8	NP	NP	11	3
Stone fragments with sand and silt	A-2-4(0)	A-2-4	48	11	11	16	14	30	6	20	2
Sandy silt	A-4(2)	A-4a	24	7	17	26	26	26	6	22	3
Silt	A-4(8)	A-4b	0	1	5	71	23	29	2	21	4
Silt and clay	A-6(8)	A-6a	17	5	9	30	39	32	12	18	25
Silty clay	A-6(6)	A-6b	30	7	9	20	34	39	17	21	4
Elastic clay	A-7-5(19)	A-7-5	15	2	4	25	54	61	28	37	4
Clay	A-7-6(12)	A-7-6	19	2	4	24	51	46	20	24	6
Weathered shale				VISUAL CLASSIFICATION							5
Shale				VISUAL CLASSIFICATION							1

Berm material.

Auger boring - plan view.

Auger boring plotted to vertical scale only.

Water content nearly equal to or greater than liquid limit.

W — Free water.

B — Indicates broken rock interval.

NOTE: Figures beside borings indicate water content in percent. e.g. 15

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.

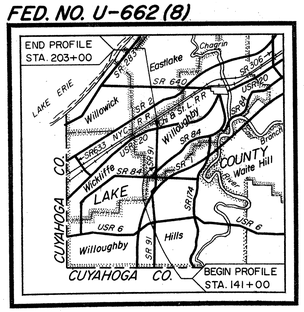
STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
141+00	10'Rt	0.3-4.0	0	14	26	26	24	28	11	22	A-6a *
		4.0-7.5	0	44	10	15	31	32	13	21	A-6a
		7.5-10.0	0	44	8	35	13	24	11	18	A-6a
145+20	10'Rt	0.3-5.5	16	4	10	27	43	24	11	19	A-6a *
		5.5-8.0	0	7	15	40	38	27	5	25	A-4a
		8.0-9.0	0	2	9	38	51	61	41	51	A-7-5
		9.0-14.0	0	5	10	38	47	31	11	20	A-6a
		14.0-17.0	0	5	9	37	49	29	11	19	A-6a
		17.0-20.0	0	5	10	36	49	29	11	15	A-6a
149+00	10'Rt	0.4-4.0	45	10	9	15	21	30	8	29	A-4a
		4.0-8.0	20	14	8	30	28	32	12	28	A-6a *
		8.0-12.0	0	14	10	36	40	21	11	19	A-6a *
		12.0-16.0	0	0	8	76	16	NP	NP	21	A-4b
		16.0-20.0	0	0	6	76	18	NP	NP	20	A-4b
153+00	10'Rt	0.4-5.0	16	14	6	30	34	33	11	19	A-6a
		5.0-9.0	21	14	8	28	29	33	11	15	A-6a
		9.0-13.0	0	6	10	33	51	33	12	17	A-6a
		13.0-17.0	21	14	7	31	27	26	11	16	A-6a *
		17.0-20.0	0	1	5	70	24	NP	NP	16	A-4b
157+00	10'Rt	0.3-5.0	23	5	7	31	34	29	11	22	A-6a *
		5.0-9.0	24	14	10	28	24	30	11	14	A-6a
		9.0-13.0	26	6	23	28	17	23	5	15	A-4a
		13.0-16.0	16	6	12	46	20	22	9	21	A-2-4
		16.0-20.0	12	7	6	24	31	26	11	16	A-6a
160+70	10'Rt	0.2-4.0	0	2	17	50	31	23	11	19	A-6a *
		4.0-8.0	0	2	6	50	42	30	7	22	A-4b
		8.0-10.0	50	10	8	9	23	22	11	14	A-6a
164+90	10'Rt	0.3-2.0	0	1	21	45	33	29	11	22	A-6a*
		2.0-6.0	0	1	14	42	43	43	22	24	A-7-6 *
		6.0-7.5	29	5	5	34	27	31	11	14	A-6a
168+00	10'Rt	0.3-2.0	0	5	17	41	37	38	15	29	A-6a *
		2.0-4.0	0	5	10	32	53	45	19	21	A-7-6*
		4.0-6.0	Gray Weathered Shale							9	Visual *
172+00	10'Rt	0.3-2.0	29	2	2	16	51	60	29	33	A-7-5 *
		2.0-7.0	38	7	4	17	34	37	14	17	A-6a *
176+00	10'Rt	0.3-1.5	21	1	3	27	48	44	17	26	A-7-6
		1.5-4.5	34	1	2	15	28	52	26	30	A-7-6 *
		4.5-9.5	Gray Weathered Shale							9	Visual *
180+00	10'Lt	0.3-3.0	40	4	13	12	31	40	19	25	A-6b *
		3.0-7.0	21	5	4	36	34	28	11	10	A-6a *
		7.0-8.0	Gray Weathered Shale							11	Visual
184+00	10'Lt	0.3-5.0	39	5	6	20	30	39	17	18	A-6b *
		5.0-8.0	Gray Weathered Shale							14	Visual
187+00	10'Lt	0.3-3.5	0	1	1	28	70	46	15	24	A-7-6 *
		3.5-6.0	27	5	6	17	35	40	14	22	A-6a
		6.0-7.0	Gray Weathered Shale							11	Visual
189+05	10'Lt	0.3-2.0	27	6	9	24	34	38	16	24	A-6b *
		2.0-5.0	0	3	4	31	62	51	21	38	A-7-5
		5.0-7.0	29	2	2	16	51	51	21	25	A-7-5
		7.0-8.0	57	3	4	14	22	39	14	16	A-6a
193+00	10'Lt	0.3-4.0	14	9	9	25	43	38	17	19	A-6b *
		4.0-8.0	39	4	3	16	38	42	18	16	A-7-6 *
197+00	10'Rt	0.3-4.0	35	25	21	10	9	NP	NP	10	A-1-b *
		4.0-8.0	47	38	8	1	6	NP	NP	14	A-1-b *
		8.0-9.0	Gray Broken Clay Shale							14	Visual
201+40	CL	0.0-3.0	30	16	20	16	18	28	3	16	A-2-4 *
		3.0-6.0	56	21	11	4	8	NP	NP	9	A-1-b *
		6.0-10.0	88	22	8	3	8	22	4	16	A-1-a

SOIL PROFILE
LAKE COUNTY
LAK - 91 - 2.72
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST., COLUMBUS 23, OHIO

1/3

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.

FED. NO. U-662 (8)



LOCATION MAP

Recon - P.L.H. - 2/5/63

Drilling - A.J.P. - C.M.C. - 3/14/63 to 3/15/63

Drafting - D.A. - 3/28/63