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

M-10

GENERAL INFORMATION

INTRODUCTION

The project consists of minor alignment and grade improvements, widening and resurfacing of two sections of SR 91. The first section begins on SR 91, at the Cuyahoga-Lake County line, and extends 1.9 miles northward along SR 91. The second section begins on SR 91, 1100 feet south of the intersection of SR 91 and SR 84, and extends 2000 feet northward along SR 91. Included in this report are the profiles of intersecting roads-Euclid Chardon Road (USR 6), Eddy Road, and Maple Grove Road.

Proposed grades indicate the following:
SR 91 - cuts, maximum 10 feet in depth; fill embankments maximum 10 feet in height.

Euclid-Chardon Road (USR 6) - cuts, maximum 1 foot in depth.

Eddy Road - cut, maximum 9 feet in depth.

Maple Grove Road - fill embankment, maximum 9 feet in height.

GEOLOGY OF THE PROJECT

The alignment traverses a relatively flat portion of the glaciated Lake Plain Region, in areas of thin to moderately deep lacustrine and glacial deposits, overlying shales of Devonian age.

EXPLORATION

Exploratory borings were made by means of truck mounted mechanical earth auger, between July 26 and 31, 1962.

INVESTIGATIONAL DISCLOSURES

Materials immediately below grades consist predominantly of silt clays, in the A-6a classification, having moisture contents generally below the plastic range. Frost susceptible silts and sandy silts were encountered within 3 feet below proposed grade, at stations 80+00 (SR 91) and 0+50 (Chardon Road).

Materials in the embankment foundation areas consist predominantly of the following:

SR 91 - silt clays, in the A-6a classification, with few silts and silty clays. Wet materials were encountered at station 67+75.

Maple Grove Road - silt clays, in the A-6a classification.

LEGEND FOR PROJECT-AVERAGE RESULTS OF TESTS- 121 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	69	14	11	7	6	-	-	5	1
Coarse and fine sand	-------	A-3a	14	4	52	17	13	NP	NP	11	1
Stone fragments with sand and silt	A-2-4(0)	A-2-4	28	13	27	14	18	NP	NP	14	1
Gravel with sand, silt, and clay	A-2-6(1)	A-2-6	52	6	8	21	13	36	17	25	1
Sandy silt	A-4(3)	A-4a	19	8	24	27	22	23	3	14	7
Silt	A-4(8)	A-4b	1	2	8	56	33	31	6	19	8
Silt and clay	A-6(8)	A-6a	17	4	7	33	39	30	12	16	74
Silty clay	A-6(11)	A-6b	12	3	7	28	50	36	17	18	7
Clay	A-7-6(13)	A-7-6	3	2	5	35	55	42	21	21	6
Shale											15

VISUAL CLASSIFICATION

Sod 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.

W — Free water.

B — Indicates broken rock interval.

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

SOIL PROFILE
LAKE COUNTY
LAK-91-(0.00)(2.38).

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST., COLUMBUS 23, OHIO

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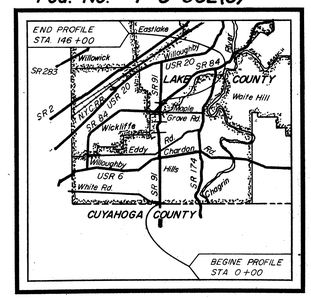
NOTE: INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT.

Fed. No. F-U-662(6)



LOCATION MAP

Recon - C.J.K. - 7-13-62
Drilling - L.M.D. - 7-26-62 to 7-31-62
Drafting - R.C.B. - F.S.F. - 8-28-62

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.

LAK-91-0.00 (S.O.M. CENTER RD.)

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
1+00	12'Rt	0.5-3.0	31	2	6	22	36	32	13	18	A-6a *
6+00	15'Rt	0.5-5.0	13	3	10	17	57	34	17	18	A-6b *
11+00	15'Rt	0.5-4.0	0	2	4	48	46	50	22	28	A-7-6 *
		4.0-6.5	Gray Broken Carbonaceous Shale							9	Visual
16+00	15'Rt	0.5-4.5	0	3	9	30	58	35	15	18	A-6a *
		4.5-8.0	Gray Broken Carbonaceous Shale							6	Visual
21+00	15'Rt	0.5-4.5	0	2	2	27	69	44	20	27	A-7-6 *
		4.5-7.0	Gray Broken Shale							13	Visual
26+00	15'Rt	0.0-4.0	17	2	10	26	45	41	22	21	A-7-6 *
		4.0-8.0	Gray Broken Carbonaceous Shale							10	Visual
31+00	15'Rt	0.8-3.5	34	1	3	21	41	33	12	13	A-6a *
		3.5-7.5	Gray Broken Carbonaceous Shale							9	Visual
36+00	15'Rt	0.0-3.0	26	3	9	26	37	30	13	17	A-6a *
		3.0-8.0	Gray Broken Shale							12	Visual
41+00	15'Rt	0.5-6.0	0	1	5	36	58	45	23	26	A-7-6 *
		6.0-10.0	Gray Broken Shale							16	Visual
46+00	15'Rt	0.5-5.0	35	6	11	15	33	34	16	13	A-6b *
		5.0-10.0	0	1	14	50	35	NP	NP	18	A-4b
51+00	15'Rt	0.5-5.0	12	2	6	27	53	33	17	14	A-6b *
		5.0-9.0	35	2	4	24	35	32	11	13	A-6a
		9.0-12.0	11	3	7	32	47	26	11	15	A-6a
53+25	20'Lt	0.5-5.0	16	5	11	27	41	29	11	16	A-6a *
		5.0-10.0	0	5	10	35	50	23	11	14	A-6a *
		10.0-15.0	14	4	7	30	45	25	11	5	A-6a
57+00	15'Rt	1.5-7.0	9	2	5	33	52	30	17	21	A-6b
		7.0-12.0	21	3	7	27	42	31	12	15	A-6a
61+00	25'Lt	0.0-5.0	20	6	14	25	35	25	6	14	A-4a
		5.0-10.0	0	5	10	32	53	30	11	15	A-6a *
		10.0-15.0	16	2	6	23	53	26	11	14	A-6a
66+45	12'Rt	0.5-3.0	0	2	8	60	30	25	4	23	A-4b
		3.0-9.0	18	2	6	35	39	29	11	16	A-6a
		9.0-12.0	Gray Broken Shale							9	Visual
67+70	65'Lt	0.5-3.0	0	1	2	53	44	40	15	31	A-6a
		3.0-5.0	10	2	13	69	7	25	5	23	A-4b
		5.0-9.0	Gray Broken Shale							14	Visual
67+75	12'Rt	0.0-3.0	34	5	8	26	27	29	11	14	A-6a
		3.0-7.0	0	1	2	55	42	30	8	27	A-4b
		7.0-10.0	0	1	3	29	67	42	19	19	A-7-6
		10.0-11.5	Gray Broken Shale							13	Visual
70+75	15'Lt	0.0-5.0	26	4	9	36	25	26	7	13	A-4a
		5.0-10.0	22	3	6	26	43	30	11	14	A-6a *
		10.0-15.0	32	4	7	26	31	24	11	15	A-6a
75+00	15'Rt	0.5-5.0	0	3	8	36	53	31	11	15	A-6a *
		5.0-10.0	22	2	6	26	43	27	11	14	A-6a
		10.0-12.0	24	4	8	26	38	28	11	14	A-6a
80+00	20'Lt	0.0-5.0	31	4	7	31	27	30	11	14	A-6a
		5.0-9.0	32	10	17	20	21	NP	NP	15	A-4a
		9.0-11.0	28	13	27	14	18	NP	NP	11	A-2-4 *
		11.0-15.0	22	5	11	49	13	23	6	15	A-4a *
		15.0-20.0	36	13	7	21	23	NP	NP	11	A-4a
84+60	50'Lt	0.0-5.0	29	3	11	28	29	29	11	18	A-6a
		5.0-11.0	22	2	5	41	30	34	12	17	A-6a
		11.0-14.0	Gray Broken Shale							10	Visual
85+00	50'Lt	1.2-4.0	0	2	10	22	66	37	14	24	A-6a
		4.0-8.0	37	2	3	22	36	37	14	15	A-6a
		8.0-11.5	Gray Broken Shale							7	Visual
88+60	OL	0.0-5.0	12	4	9	34	42	31	11	14	A-6a *
		5.0-11.0	14	5	7	33	41	34	11	16	A-6a
		11.0-14.0	33	3	7	28	29	27	11	13	A-6a
91+75	12'Rt	0.0-7.0	0	5	18	43	34	32	11	24	A-6a
		7.0-10.0	52	6	8	21	13	36	17	25	A-2-6
		10.0-14.0	24	3	9	34	30	30	11	14	A-6a
95+00	30'Rt	0.0-5.0	33	4	6	24	33	34	13	15	A-6a *
		5.0-11.0	21	4	7	30	38	28	11	15	A-6a *
		11.0-14.0	0	3	8	50	39	25	7	13	A-4b
99+00	15'Lt	0.0-4.0	32	3	6	33	26	29	11	13	A-6a *
		4.0-10.0	0	3	5	38	54	33	12	15	A-6a
		10.0-12.0	0	0	1	52	47	26	7	18	A-4b
102+85	35'Lt	0.0-3.0	14	4	52	17	13	NP	NP	11	A-3a *
		3.0-6.0	Gray Broken Shale							6	Visual

LAK-91-2.38 (S.O.M. CENTER RD)

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
125+75	40'Lt	0.0-4.0	69	14	11	7	6	-	-	5	A-1-a *
		4.0-10.0	Gray Broken Shale							8	Visual
130+00	25'Lt	0.0-5.0	19	4	7	31	39	31	11	14	A-6a *
		5.0-11.0	19	5	8	31	37	27	11	16	A-6a
134+25	65'Lt	0.0-5.0	0	4	10	39	47	33	11	15	A-6a
		5.0-9.0	0	7	12	38	43	28	11	13	A-6a
		9.0-11.0	0	15	43	15	27	17	2	19	A-4a
		11.0-15.0	18	5	16	28	33	23	11	16	A-6a
		15.0-20.0	15	4	7	39	35	25	11	16	A-6a
134+25	80'Rt	0.4-5.0	0	4	9	40	47	31	11	19	A-6a
		5.0-10.0	0	4	8	38	50	37	20	18	A-6b
		10.0-11.0	0	4	8	36	52	38	16	20	A-6b
		11.0-16.0	0	0	64	23	13	NP	NP	13	A-4a
		16.0-20.0	27	2	6	30	35	30	11	14	A-6a
136+00	15'Rt	0.0-6.0	36	4	6	25	29	33	13	19	A-6a *
		6.0-12.0	29	3	4	26	38	36	16	16	A-6b
140+00	15'Rt	0.0-5.0	0	3	10	41	46	34	14	24	A-6a *
		5.0-10.0	10	3	10	39	38	31	11	15	A-6a
145+00	15'Rt	0.0-5.0	20	4	8	32	36	32	14	14	A-6a *
		5.0-10.0	29	4	7	29	31	31	11	17	A-6a

EUCLID-CHARDON ROAD (USR 6)

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
0+50	15'Rt	0.0-4.0	0	2	9	58	31	27	7	15	A-4b *
		4.0-9.0	0	3	9	45	43	30	11	16	A-6a
		9.0-11.0	0	1	7	46	46	26	11	19	A-6a
2+75	15'Rt	0.0-3.0	17	3	6	34	43	32	11	18	A-6a *
		3.0-8.0	0	2	5	45	50	41	18	25	A-7-6
		8.0-10.0	0	1	7	49	43	32	11	18	A-6a
8+00	15'Rt	0.0-4.0	0	3	8	37	42	30	11	14	A-6a *
		4.0-8.0	0	3	8	46	43	30	11	15	A-6a *
		8.0-12.0	0	2	5	24	39	26	7	16	A-4b
12+50	15'Lt	0.0-5.0	11	6	9	40	34	30	11	26	A-6a *
		5.0-8.0	32	5	8	31	24	31	11	24	A-6a
		8.0-10.0	Gray Broken Shale							11	Visual

EDDY ROAD

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
2+00	15'Lt	0.0-5.0	20	4	7	33	36	31	11	15	A-6a
		5.0-10.0	26	4	8	31	31	28	11	13	A-6a *
		10.0-11.0	0	7	9	42	42	29	11	16	A-6a *
		11.0-20.0	23	4	7	32	34	27	11	13	A-6a
5+50	15'Rt	0.0-5.0	28	4	7	28	33	30	11	15	A-6a *
		5.0-11.0	31	5	7	27	30	28	11	13	A-6a *
		11.0-15.0	32	4	6	28	30	25	11	16	A-6a
8+00	15'Lt	0.5-5.0	21	4	7	31	37	31	11	16	A-6a *
		5.0-10.0	22	4	7	31	36	31	11	17	A-6a
		10.0-15.0	22	3	5	31	39	30	11	15	A-6a

MAPLE GROVE ROAD

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
4+00	15'Lt	0.0-5.0	19	5	9	30	37	30	11	16	A-6a *
		5.0-10.0	21	5	10	31	33	30	12	15	A-6a
6+50	15'Lt	0.0-5.0	15	5	7	34	39	32	12	14	A-6a
		5.0-9.0	15	4	6	31	44	33	13	19	A-6a
		9.0-15.0	12	3	5	33	47	29	11	16	A-6a
		15.0-20.0	12	4	8	33	43	27	11	17	A-6a
8+90	15'Rt	0.0-5.0	0	5	9	44	42	34	13	17	A-6a
		5.0-10.0	30	4	6	29	31	29	11	18	A-6a
		10.0-15.0	13	4	6	36	41	31	11	18	A-6a