

1972

Year

08717

County

MONTGOMERY

Job No.

Bridge No.

MOT-675-0001

Changes

Section

MOT-675-0-00

☐ Over ☐ Under

Location

Ramp 4 over R75

## STORAGE DATA

## FOLDER

Section File No.

FES 169

Record Center No.

10-H-28

## TRACINGS

Section File No.

FEV-131

Record Center No.

5-L-182

Topo Sheet

435-9-SW.

006639

## Site Plans

Date Rec'd.

11-26-71

Revisions

No. Copies

4

Design By

A. M. KINNEY INC.

## RECON

## AUGER

## CORE

## DRIVE ROD

By

VCEKA-SMITH BROWN

Dates

12/29/71-1/12/13-2/1/72

No. of Holes  
or Soundings

2

4

Footage

85.0

124.0

Samples Tested

18

☒ Samples  
Accounted

No. of Tracings

4

Remarks

Transmittal Date 2/2/72 Revisions

Refer to

## AUGER DATA

## DRIVE ROD DATA

## CORE DATA

No. of  
Holes

Footage

Samples

No. of  
Soundings

Footage

No. of  
Holes

Footage

Samples

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4

124.0

2

85.0

18

# FIELD DATA - SOIL LOG

Location No. 66 County: MOT. 675  
Br Pier Adm. Bridge No. 222-0001  
 Station: 45+50.42+00 Over: 275  
 Offset: 55+9'4" 4520005  
 Started: 12-27-71 Equipment: COKE DRILL  
 Completed: 12-29-71 Diameter: \_\_\_\_\_

Depth Of Feet	Log	Samples	Elevation	Proposed Footer:	Water Level:
			940.29	Ground Line	
5		1	2.5	BROWN SILTY CLAY WITH TRACE OF SAND	
10		2	7.5	25' FROM 28.36' BLOWS - 5-6 BROWN SILTY CLAY -	
15		3	9.55.29	25' FROM 5.6' BLOWS - 5-6 BROWN SILTY CLAY	
20		4	12.5	25' FROM 74.54' BLOWS - 5-5 SILTY CLAY INTO SAND AND GRAVEL	
25		5	14.950.29	25' FROM 111' BLOWS - 8-9 SAND AND GRAVEL	
30		6	17.5	25' FROM 128.18' BLOWS - 6-6 SAND AND GRAVEL WITH BOULDERS	
35		7	19.45.29	25' FROM 157.6' BLOWS - 19-15 HOLE CAVED AT 17' NO D SAMPLE PUT IN CASING	
40		8	21.440.29	25' FROM 20-21' BLOWS - 14-17 SOFT GRAY SILTY SAND	
45		9	23.5.29	25' FROM 25-26' BLOWS - 4-7	

WATER GRAVEL

GRAY

26	938.29	25' FROM 111' BLOWS - 19-15 HOLE CAVED AT 17' NO D SAMPLE PUT IN CASING
30	938.29	25' FROM 20-21' BLOWS - 14-17 SAND AND GRAVEL WITH BOULDER
35	1925.29	25' FROM 35.36' BLOWS - 17-16 TOP OF ROCK AT 38'
40	920.29	25' FROM 28.36' BLOWS - 5-6 GRAY CLAY AND LIMESTONE
45	915.29	25' FROM 5.6' BLOWS - 5-6 LAYERS OF LIMESTONE AND CLAY
50	913.29	25' FROM 74.54' BLOWS - 5-5 BIBL PLUGGED TWICE HUN. 7' REC. 5.9
55	910.29	25' FROM 111' BLOWS - 8-9 END OF BORING
60	907.29	25' FROM 128.18' BLOWS - 6-6 RM IN CATCH BASIN

Remarks: 38' CASING IN HOLE  
TOP OF ROCK AT 38'

Party HIGHMAN EVANS  
 Chief of Party BROWN

# FIELD DATA - SOIL LOG

Location No. 10 County: MAT 575  
Fifth Pier - Abut. Bridge No. 0001  
 Station: 43+94 Over:  
 Offset: 25' RT  
 Started: 12-29-71 Equipment: 1. Drill  
 Completed: 1-3-72 Diameter

Depth Feet	Log	Proposed Footer:	Water Level:
0	Log		
	0	Ground Line	WATER
	12.5	515 SAND + BR. CLAY	
5	2445.5	616 BR SANDY CLAY	
	37.5	516 BR SAND + CLAY	
10	4140.5	516 BR SAND + BR CLAY	
	512.5	416 BR SANDY CLAY	
15	6935.5	1319 BR SANDY CLAY	
	717.5	8113 BR SANDY CLAY	
20	9930.5	719 BR SANDY CLAY	
		BR SANDY CLAY	
25	9935.5	15125	

26	925.5	
30	920.5	NO FAULT - N.H. HARVEY BOUNCEN
35	915.5	BROKEN H.S. & CLAY SANDS & CLAY
40	910.5	RUN 5' H.C. 13" BROKEN H.S. & SANDY CLAY
45		BR SANDY CLAY
50		BR SANDY CLAY
55		BR SANDY CLAY
60		BR SANDY CLAY

Remarks: NOT 125' DEEP  
 Party RAYNOLD ST. MEYER  
 Chief of Party RAYNOLD ST. MEYER

## County, Rt. No., Section

770t - 675

0.000

Lab. No. So.-	Sample No.	Station No.	Represents Feet	Mechanical Analysis					Physical Characteristics			Ohio Class.	Remarks
				Age %	C Sand %	F Sand %	Silt %	Clay %	L.L.	P.I.	Water Cont.		
43679	1	37+20 12L	5-6	18	12	20	34	16	N-P	12	H-4a	BR- <del>GS</del> MA +	
43680	2	"	7.5-8.5	15	10	20	33	22	21	6	13	H-4a	BR- <del>GS</del> MA +
	3	"	10-10	15	10	18	34	23	19	5	13	H-4a	BR- <del>GS</del> MA +
	4	"	12.5-13.5	15	12	20	35	18	17	4	13	H-4a	BR-GR- <del>GS</del> MA +
	5	"	15-16	16	11	17	33	23	17	5	11	H-4a	BR- <del>GS</del> MA +
	6	"	17.5-18.5	9	9	16	35	31	18	5	11	H-4a	BR- <del>GS</del> MA +
	7	"	20-21	26	10	19	26	19	17	4	11	H-4a	GR- <del>GS</del> MA +
	8	"	25-26	15	9	16	37	23	18	5	13	H-4a	BR- <del>GS</del> MA +
	9	"	30-31	39	11	16	27	7	N-P	12	H-2-4	GR- <del>GS</del> MA +	
	10	"	35-36	9	9	11	39	32	21	7	11	None	GR- <del>GS</del> MA + On Clay, shale

770t - 675

000/

Lab. No. So.-	Sample No.	Station No.	Repre- sents Feet	Mechanical Analysis					Physical Characteristics			Ohio Class.	Remarks
				Agg %	C Sand %	F Sand %	Silt %	Clay %	L.L.	P.I.	Water Cont.		
43639	1	43792 25 ft	2.5-3.5	21	7	18	27	27	27	13	27	A-6 <sup>2</sup>	BR-1062 +
43640	2	"	5-6	17	13	21	33	16	17	6	12	A-4a	BR-1051A +
	3	"	7.5-8.5	33	25	18	19	5	N-P		16	A-1-b	BR-10652 w
	4	"	10-11	61	27	7	-5-		N-P		10	A-1-a	BR-66 w/c
	5	"	15-16	55	24	15	-6-		N-P		12	A-1-a	GR-513 no C
	6	"	17.5-18.5	27	10	16	30	17	18	6	10	A-4a	GR-5151A =
	7	"	20-21	0	1	3	82	14	N-P		20	A-4b	GR-111 +
	8	"	25-26	28	8	9	38	27	21	7	14	A-4a	GR-1261A +

7170t-675-0000

Bridge No.

[illegible]

8890  
LOGS OF CORE BORINGS

BRIDGE \_\_\_\_\_ PROFILE \_\_\_\_\_ LOGGED BY: \_\_\_\_\_

COUNTY, RT. NO. & SECTION MOT-675-0000 - PROP. RAMP S OVER I-75HOLE NO. B-6 SURFACE ELEVATION \_\_\_\_\_STATION 43+30, 55' LT. ELEVATION TOP OF ROCK \_\_\_\_\_TOTAL DEPTH OF HOLE 47' ELEVATION BOTTOM OF HOLE \_\_\_\_\_

DEPTH	ELEV.	DESCRIPTION	CORE LOSS (%)
		OVERBURDEN _____ DRIVE SAMPLES	
38.0		<p>top of rock</p> <p>day shale, gray, medium-fine, calcareous with light clay seams and gray, fine, fossiliferous limestone interbeds (comprising 38 2/3 of the interval) broken and jointed.</p>	18%
47.0		Bottom of Boring	
		* High core loss due to mechanical disintegration encountered during drilling operations.	





85

## 21

COUNTY, RT. NO. & SECTION MOT-675-0000

STATION	39+20, 12' LT.	ELEVATION TOP OF ROCK	.....
---------	----------------	-----------------------	-------

TOTAL DEPTH OF HOLE 21' ELEVATION BOTTOM OF HOLE

DEPTH	ELEV.	DESCRIPTION	CORE LOSS
		OVERBURDEN _____ DRIVE SAMPLES	(%)
		top of Rock	
35.0		DS	
36.5		Clay Shale, gray, medium-fine, calcareous with clay seams and gray, fine, fossiliferous limestone interbeds (comprising 14% of the interval) badly broken and jointed.	56%
45.0		Bottom of boring	

Grade or Footing Elevation

Crew WARNE WALLACE  
Crew Chief CARR, SNYDER

Station 8 Offset 39+20 = 124'

Type & Size of Bit TRY CONE

Type of Sampler SS Size 1" ID Wt. Hammer 140 Fall 30"

Depth of Casing Used 30' Size 7" ID Wt Hammer 300 Fall 30'

Date Started 12/29/71 Date Completed 1-3-72

Structures	Profile	<= Less than
------------	---------	--------------

Check One ☐ Rock Above Footing ☐ Rock Above Grade ☐ ☐ Rock  $\geq 10'$  Below Footing ☐ Rock  $\geq 10'$  Below Grade ☐ ☐  $\geq$  Greater than

962.5 ☒ Rock < 10' Below Footing ☐ Rock < 10' Below Grade  
☐ Rock > 10' Below Footing ☐ Rock > 10' Below Grade -NOT

Surf 95% ☐ No Rock Encountered ☐ No Rock Encountered

## ABBREVIATIONS

SS = Split Spoon

ST-2: Shelby Tube - 2 inch ID

ST-3: Shelby Tube - 3-inch ID

NXM = NXM. Core Barrel

NX = NX Core Barrel 11

M = Damco Core Barrel

\*NOTE: CLEAN BORING THOROUGHLY  
BEFORE SAMPLING

Surf Elev		Field No.		Type of Sampler	No. of Blows	LOS	Core Run	Rec'd	No. of Pieces	Water Color	Layer Description	Log
956.0												

## FIELD BORING LOG (CONT)

Boring No. 1

Project Identification MDT 675-0+00

Sheet 2 of 2

Depth	Elev	Field No.	Type of Sampler	No. Blows	L.O.S	Core Run	Rec'd	No. of Water Pieces	Description	Log
26.0	930.0	8	SS	9 1/2	1.0				TILL	TILL  ROCK CLAY SEAMS
31.0	925.0	9	SS	1 1/2	1.0				TILL	
36.0	920.0	10	SS	1 1/2	0.5				GR SHALE	
36.5									RUN 3.5 REC 1.4	
40.0	916.0	(C)							GR SHALE CLAY SEAMS LIMESTONE BLDG.	
45.0	911.0	(C)							RUN 5' REC 2.3	
									GR SHALE CLAY SEAMS LIMESTONE BLDG.	



STATE OF OHIO  
**DEPARTMENT OF HIGHWAYS**

Columbus, Ohio 43216

J. PHILLIP RICHLEY  
Director of Highways

JOHN J. GILLIGAN  
Governor

WILLIAM P. McKENNA  
Chief Engineer

February 1, 1972

A. M. Kinney, Inc.  
Consulting Engineers  
2912 Vernon Place  
Cincinnati, Ohio 45219

Attn: Mr. J. C. Overmann

File: 203-1.2  
Montgomery

Re: Structure Foundation Investigation  
MOT-675-0001  
Ramp U over IR 75  
Fed. Proj. No. 1-675-

Dear Mr. Overmann:

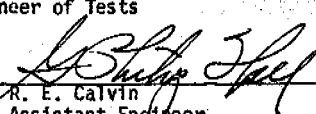
Transmitted herewith are the results of the foundation investigation made for the Ramp U structure over IR 75, on project MOT-675-0.00.

Enclosures consist of reproducible tracings which are to be attached to the plans.

Very truly yours,

F. M. Williams  
Engineer of Tests

Per:

  
R. E. Calvin  
Assistant Engineer

REC:nja  
Encl.

cc: J. R. Leeke (no encl.)  
C. H. Altwater, Attn: Ray Grover  
R. F. Bevis, Attn: E. B. Stokes (no encl.)  
Attn: J. R. Grant (no encl.)  
Attn: J. L. Oswald (no encl.)  
R. C. Leathers, Attn: W. E. Lander  
T. J. Rennick (no encl.)  
R. E. Calvin (4)

6  
14

A. M. KINNEY, INC.  
CONSULTING ENGINEERS  
2912 VERNON PLACE  
CINCINNATI, OHIO  
45219

NEW YORK  
CHICAGO  
DENVER  
BASEL

513-751-3934

CABLE - KINPLAN

November 22, 1971

BRIDGE BUREAU

NOV 23 1971

REFER TO

CHA		CW		MPB	
FHR		PES		JHB	
MEW		RVH		RAG	
BFG		WJJ		MEB	

Orig: H. H. W. L. K.  
cc: Schaefer

Mr. J. R. Leeke  
Administrator of Production Control  
Bureau of Location and Design  
Department of Highways  
25 South Front Street  
Columbus, Ohio 43215

Subject: MOT-675-0.00  
Foundation Investigation  
Br. No. MOT-675-0000  
Br. No. MOT-675-0001  
Br. No. MOT-675-0012  
Br. No. MOT-675-0016

Dear Mr. Leeke:

We are enclosing, for structure foundation investigation, four prints each of the following preliminary Site Plans:

1. Bridge No. MOT-675-0000, Proposed Ramp S over I-75.
2. Bridge No. MOT-675-0001, Proposed Ramp U over I-75.
3. Bridge No. MOT-675-0012, Proposed Ramp V over S.R. 741.
4. Bridge No. MOT-675-0016, Proposed Ramp U over S.R. 741.

Also enclosed are four copies of the I-675 to I-75 interchange layout plan showing the relative locations of the subject structures within the interchange complex.

This submission concludes all of the 15 structures within the MOT-675-0.00 section.

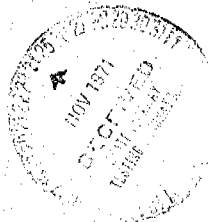
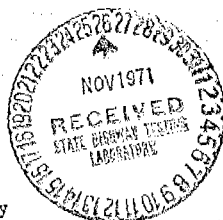
Very truly yours,

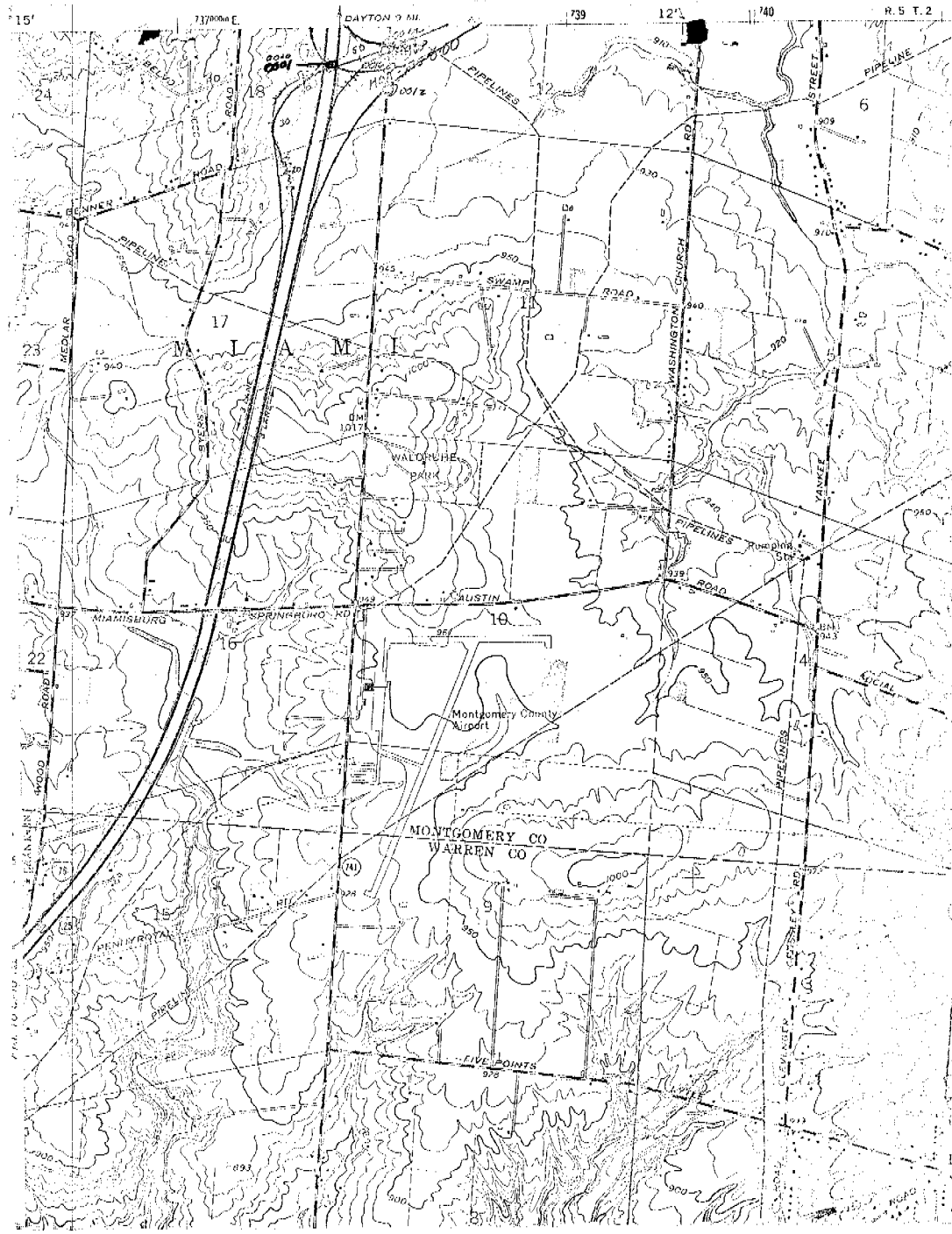
A. M. KINNEY, INC.

J. C. Overmann  
Project Manager

JCO/sa  
Encl.

cc: A. R. Petrocy





BR-2-75(7-83)

File No. 105 Vertical

Montgomery County

No. 4 ~~Abut. Pier~~

Br. No. MOT-675-0001

## PILE DRIVING LOG

Date Driven 5/11/82

**Location** I-675 over I-75  
Sta. 42+81.04, 49.46' R.

Type of Pile	Steel HP 10 x 42
--------------	------------------

Hammer: Link Belt 520 w/o bounce chamber

WH or F = 20,000 Ft.lbs.

Capacity formula: "R" =  $\frac{2 \text{ DF}}{S+0.1}$

Required "R" = 100,000 Lbs.

Elev. of top of pile (cut-off elev.) 955.0

Elev. of nominal point of zero penetration	954.0
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Elev. of pile point at final penetration	920.667
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Length of pile in leads	40.0	Feet
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(Explanatory Notes and Instructions on Reverse Side)

[illegible]

BR-2-75(7-83)

Page 1 of 2

File No. 19 BatteredOhio Department of Transportation  
Design and Construction  
Bureau of BridgesMontgomery CountyRear Abut. ~~255X~~Br.No. MDT-675-0001Date Driven 11/9/82

## PILE DRIVING LOG

Location Sta. 39+15.13  
0.60' Lt.Type of Pile Steel HP 10 x 42Hammer: Link Belt 520 w/o Energy gageWH or F = 20,000 Ft. lbs.Capacity formula: "R" =  $\frac{2DF}{S+0.1}$ Required "R" = 88,000 Lbs.Elev. of top of pile (cut-off elev.) 998.96Elev. of nominal point of zero penetration 996.96Elev. of pile point at final penetration 924.34Length of pile in leads 79.70 Feet

(Explanatory Notes and Instructions on Reverse Side)

Penetration (feet)	Blows	"S" (inches)	Indicated "R" (Pounds)	Remarks
10 - 11	18	0.666	50,000	Pile nearest
11 - 12	19	0.632	52,300	test boring B1
12 - 13	16	0.750	45,100	Sta. 39+20 12' Lt.
13 - 14	16	0.750	45,100	
14 - 15	17	0.706	47,500	Batter = 1:4, D=0.958
15 - 16	19	0.632	52,300	
16 - 17	21	0.571	57,100	
17 - 18	23	0.522	61,600	
18 - 19	24	0.500	63,900	
19 - 20	24	0.500	63,900	
20 - 21	21	0.571	57,100	
21 - 22	18	0.666	50,000	
22 - 23	20	0.600	54,700	
23 - 24	24	0.500	63,900	
24 - 25	31	0.387	78,700	
25 - 26	30	0.400	76,600	
26 - 27	36	0.333	88,500	
27 - 28	35	0.343	86,500	
28 - 29	35	0.343	86,500	
29 - 30	37	0.324	90,400	
30 - 31	44	0.273	102,700	
31 - 32	46	0.261	106,100	
32 - 33	50	0.240	112,700	
33 - 34	51	0.235	114,400	
34 - 35	49	0.245	111,100	
35 - 36	44	0.273	102,700	
36 - 37	52	0.235	114,400	
37 - 38	48	0.250	109,500	
38 - 39	43	0.279	101,100	
39 - 40	42	0.286	99,300	
40 - 41	42	0.286	99,300	
41 - 42	41	0.293	97,500	
42 - 43	39	0.308	93,900	
43 - 44	32	0.375	80,700	
44 - 45	28	0.429	72,400	



BR-2-75(7-83)

Pile No. 19 Battered

Ohio Department of Transportation  
Design and Construction  
Bureau of Bridges

Montgomery County

Rear	Abut. Pier
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Br. No. MOT-675-0001

# PILE DRIVING LOG

Date Driven 11/9/82

Location Sta. 39+15.13,  
0.60 Rt.

Type of Pile Steel HP 10 x 42

**Hammer:** Link Belt 520 w/o energy gage

WH or F = 20,000 Ft.lbs.

Capacity formula: "R" =  $\frac{2DF/S+0.1}{}$

Required "R" = 88,000 Lbs.

Elev. of top of pile (cut-off elev.) 998.96

Elev. of nominal point of zero penetration	996.96
--	--------

Elev. of pile point at final penetration 924.34

Length of pile in leads 79.70 Feet

(Explanatory Notes and Instructions on Reverse Side)

[illegible]

BR-2-75(7-83)

File No. 20 Battered

Ohio Department of Transportation  
Design and Construction  
Bureau of Bridges

Montgomery County

Rear Abut. ~~XXXX~~

Br.No. MOT-675-0001

Date Driven 8/18/82

## PILE DRIVING LOG

Location Sta. 39+19.53  
2.75' Rt.

Type of Pile Steel HP 10 x 42

Hammer: Link Belt 520 w/o Energy gage

WH or F = 20,000 Ft.lbs.

Capacity formula: "R" = 2 DF/S+0.1

Required "R" = 88,000 Lbs.

Elev. of top of pile (cut-off elev.) 998.96

Elev. of nominal point of zero penetration 996.96

Elev. of pile point at final penetration 924.67

Length of pile in leads 74.41 Feet

(Explanatory Notes and Instructions on Reverse Side)

Penetration (feet)	Blows	"S" (inches)	Indicated "R" (Pounds)	Remarks
40 - 41	28	0.428	72,600	File nearest
41 - 42	29	0.414	74,600	test boring B1
42 - 43	29	0.414	74,600	Sta. 39+20 12' Lt.
43 - 44	28	0.428	72,600	
44 - 45	30	0.400	76,600	Battered = 1:4, D=0.958
45 - 46	27	0.444	70,400	
46 - 47	26	0.462	68,200	
47 - 48	26	0.462	68,200	
48 - 49	24	0.500	63,900	
49 - 50	25	0.480	66,100	
50 - 51	31	0.387	78,700	
51 - 52	31	0.387	78,700	
52 - 53	29	0.414	74,600	
53 - 54	30	0.400	76,600	
54 - 55	25	0.480	66,100	
55 - 56	30	0.400	76,600	
56 - 57	30	0.400	76,600	
57 - 58	28	0.428	72,600	
58 - 59	36	0.333	88,500	
59 - 60	37	0.324	90,400	
60 - 61	40	0.300	95,800	
61 - 62	38	0.316	92,100	
62 - 63	36	0.333	88,500	
63 - 64	35	0.343	86,500	
64 - 65	38	0.316	92,100	
65 - 66	37	0.324	90,400	
66 - 67	35	0.343	86,500	
67 - 68	34	0.353	84,600	
68 - 69	39	0.308	93,900	
69 - 70	30	0.400	76,600	
70 - 71	51	0.235	114,400	
71'-0" - 71'-6"	53	0.173	179,900	106 B/F
71'-6" - 71'-8"	45	0.044	266,100	270 B/F

BR-2-75(7-83)

File No. 172 BatteredOhio Department of Transportation  
Design and Construction  
Bureau of Bridges

Montgomery County

Forward Abut. ~~DW~~Br. No. MOT-675-0001Date Driven 11/18/82

## PILE DRIVING LOG

Location Sta. 44+57.31  
18.667 Rt.Type of Pile Steel HP 10 x 42Hammer: Link Belt 520 w/o energy gageWH or F = 20,000 Ft. lbs.Capacity formula: "R" =  $\frac{2DF}{S+0.1}$ Required "R" = 90,000 Lbs.Elev. of top of pile (cut-off elev.) 997.10Elev. of nominal point of zero penetration 995.10Elev. of pile point at final penetration 913.38Length of pile in leads 84.92 Feet

(Explanatory Notes and Instructions on Reverse Side)

Penetration (feet)	Blows	"S" (inches)	Indicated "R" (Pounds)	Remarks
15 - 16	10	1.200	29,500	File nearest
16 - 17	11	1.091	32,200	test boring B-10
17 - 18	11	1.091	32,200	Sta. 43+92 25' Rt.
18 - 19	14	0.857	40,000	
19 - 20	14	0.857	40,000	Batter = 1:4, D= 0.958
20 - 21	12	1.000	34,800	
21 - 22	14	0.857	40,000	
22 - 23	15	0.800	42,600	
23 - 24	16	0.750	45,100	
24 - 25	20	0.600	54,700	
25 - 26	23	0.522	61,600	
26 - 27	23	0.522	61,600	
27 - 28	22	0.545	59,400	
28 - 29	21	0.571	67,100	
29 - 30	22	0.545	59,400	
30 - 31	24	0.500	63,900	
31 - 32	29	0.414	74,600	
32 - 33	35	0.343	86,500	
33 - 34	38	0.316	92,100	
34 - 35	36	0.333	88,500	
35 - 36	42	0.286	99,300	
36 - 37	52	0.231	115,800	
37 - 38	50	0.240	112,700	
38 - 39	54	0.222	119,800	
39 - 40	55	0.218	120,500	
40 - 41	54	0.222	119,800	
41 - 42	49	0.245	111,800	
42 - 43	45	0.267	104,400	
43 - 44	42	0.286	99,300	
44 - 45	40	0.300	95,800	
45 - 46	30	0.400	76,600	
46 - 47	30	0.300	95,800	
47 - 48	30	0.400	76,600	
48 - 49	30	0.400	76,600	
49 - 50	31	0.387	78,700	

BR-2-75(7-83)

File No. 172 BatteredOhio Department of Transportation  
Design and Construction  
Bureau of Bridges

Montgomery

County

Form. Abut. PierBr. No. MOT-675-0001Date Driven 11-18-82PILE DRIVING LOGLocation Sta. 44+57.31,  
18.667' Rt.Type of Pile Steel HP 10 X 42Hammer: Linkbelt 520 w/o energy gageWH or F = 20,000 Ft. lbs.Capacity formula: "R" = 2 DF/S+0.1Required "R" = \*90,000 Lbs.Elev. of top of pile (cut-off elev.) 997.10Elev. of nominal point of zero penetration 995.10Elev. of pile point at final penetration 913.38Length of pile in leads 84.92 Feet

(Explanatory Notes and Instructions on Reverse Side)

Penetration (feet)	Blows	"S" (inches)	Indicated "R" (Pounds)	Remarks
50 - 51	30	0.400	76,600	
51 - 52	29	0.414	74,600	
52 - 53	31	0.387	78,700	
53 - 54	30	0.400	76,600	
54 - 55	30	0.400	76,600	
55 - 56	33	0.364	82,600	
56 - 57	38	0.316	92,100	
57 - 58	39	0.308	93,900	
58 - 59	40	0.300	95,800	
59 - 60	29	0.414	74,600	
60 - 61	30	0.400	76,600	
61 - 62	38	0.316	92,100	
62 - 63	58	0.207	124,800	
63 - 64	60	0.200	127,700	
64 - 65	53	0.226	117,500	
65 - 66	50	0.240	112,700	
66 - 67	60	0.200	127,700	
67 - 68	60	0.200	127,700	
68 - 69	40	0.300	95,800	
69 - 70	38	0.316	92,100	
70 - 71	40	0.300	95,800	
71 - 72	47	0.255	107,900	
72 - 73	43	0.279	101,100	
73 - 74	34	0.353	84,600	
74 - 75	27	0.444	70,400	
75 - 76	26	0.462	68,200	
76 - 77	26	0.462	68,200	
77 - 78	25	0.480	66,100	
78 - 79	26	0.462	68,200	
79 - 80	46	0.261	106,100	
80 - 80'9"	100	0.090	200,600	133 B/F
80'10"-80'11"	30	0.033	288,100	360 B/F

BR-2-75(7-83)

File No. 173 BatteredOhio Department of Transportation  
Design and Construction  
Bureau of Bridges

Montgomery County

Forward Abut. PierBr. No. MOT-675-0001Date Driven 11-18-82PILE DRIVING LOGLocation Sta. 44+57.31  
23.33 Rt.Type of Pile Steel HP 10 x 42Hammer: Linkbelt 520 w/d energy gageWH or F = 20,000 Ft. lbs.Capacity formula: "R" = 2 DF/S+0.1Required "R" = 90,000 Lbs.Elev. of top of pile (cut-off elev.) 997.10Elev. of nominal point of zero penetration 995.10Elev. of pile point at final penetration 908.40Length of pile in leads 88.70 Feet

(Explanatory Notes and Instructions on Reverse Side)

Penetration (feet)	Blows	"S" (inches)	Indicated "R" (Pounds)	Remarks
15 - 16	13	0.923	37,500	Pile nearest test boring
16 - 17	11	1.091	32,200	B-10 Sta. 43+92 25' Rt.
17 - 18	11	1.091	32,200	
18 - 19	12	1.000	34,800	
19 - 20	13	0.923	37,500	Batter= 1:4 0= 0.958
20 - 21	13	0.923	37,500	
21 - 22	12	1.000	34,800	
22 - 23	13	0.923	37,500	
23 - 24	14	0.857	40,000	
24 - 25	15	0.800	42,600	
25 - 26	16	0.750	45,100	
26 - 27	18	0.667	50,000	
27 - 28	18	0.667	50,000	
28 - 29	18	0.667	50,000	
29 - 30	19	0.632	52,300	
30 - 31	21	0.571	57,100	
31 - 32	22	0.545	59,400	
32 - 33	21	0.571	57,100	
33 - 34	25	0.480	66,100	
34 - 35	27	0.444	70,400	
35 - 36	33	0.364	82,600	
36 - 37	41	0.293	97,500	
37 - 38	40	0.300	95,800	
38 - 39	40	0.300	95,800	
39 - 40	42	0.286	99,300	
40 - 41	56	0.214	122,000	
41 - 42	44	0.273	102,700	
42 - 43	43	0.279	101,100	
43 - 44	32	0.375	80,700	
44 - 45	33	0.364	82,600	
45 - 46	28	0.429	72,400	
46 - 47	27	0.444	70,400	
47 - 48	26	0.462	68,200	
48 - 49	25	0.480	66,100	
49 - 50	24	0.500	63,900	

BR-2-75(7-83)  
File No. 173 Battered

Ohio Department of Transportation  
Design and Construction  
Bureau of Bridges

Montgomery County

Br.No. MOT-675-0001

Location Sta. 44+57.31,  
23.33 Rt.

Forward	Abut. Pier
---------	------------

Date Driven 11-18-82

# PILE DRIVING LOG

Type of Pile Steel HP 10 x 42

Hammer: Linkbelt 520 w/o energy gage

WH. or F = 20,000 Ft. lbs.

Capacity formula: "R" =  $\frac{2DF}{S+0.1}$

Required "R" = 90,000 Lbs.

Elev. of top of pile (cut-off elev.)	997.10
--------------------------------------	--------

Elev. of nominal point of zero penetration	995.10
--	--------

Elev. of pile point at final penetration	908.40
--	--------

Length of pile in leads	88.70	Feet
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(Explanatory Notes and Instructions on Reverse Side)

[illegible]

Recorder: L. Mutschler

Sec. I.R. 675 - 0.00

Date: 1-3-83

Br.No. MOT-675-0001

Location Ramp U over I-75

PILING RECORD:	Rear Abut.	FOOTING
----------------	------------	---------

Type of Pile:	Steel HP 10 x 42
---------------	------------------

Hammer: Link Belt 520 w/o energy gage      WH or F = 20,000      Ft.lbs.

Capacity formula: "R" =  $\frac{2 \text{ DF/S} + 0.1}{}$  Required "R" = \*88,000 Lbs.

Elev. of top of pile (cut-off elev.)	997.96
--------------------------------------	--------

Elev. of nominal point of zero penetration: 996.96

(SUBMIT IN DUPLICATE)

[illegible]

Sheet 2 of 7  
Recorder: L. Mutschler  
Date: 1-3-83

Ohio Department of Transportation  
Design and Construction

Montgomery County  
Sec. I.R. 675 - 0.00  
Br.No. MOT-675-0001  
Location Ramp U over I-75

PILING RECORD: Pier No. 1 FOOTING

Type of Pile: Steel HP 10 x 42

Hammer: Link belt 520 w/o gage

WH or F = 20,000 Ft.lbs.

Capacity formula: "R" = 2 DF/S+0.1

Required "R" = \*88,000 Lbs.

Elev. of top of pile (cut-off elev.) 955.00

Elev. of nominal point of zero penetration: 954.00

(SUBMIT IN DUPLICATE)

Pile No.	Pay Length	Indicated "R" (Pounds)	Remarks	Misc.
26	33.58	255,500	Batter = 1:4, D=0.958	Batt.
27	33.25	263,400		Batt.
28	33.58	263,400	*Design bearing for this	Batt.
29	32.00	263,400	unit is 44T. PLAN NOTE	Batt.
30	33.58	263,400	requires piles to be	Batt.
31	32.58	263,400	driven to refusal;	Batt.
32	32.42	270,400	defined as 20 blows/in.	Batt.
33	32.33	270,400		Batt.
34	33.25	255,500		Batt.
35	32.00	255,500		Batt.
36	32.83	255,500		Batt.
37	32.50	263,400		Batt.
38	32.75	263,400		Batt.
39	32.83	263,400		Batt.
40	32.00	263,400		Batt.
41	34.00	263,400		Batt.
42	32.25	270,400		Batt.
43	32.75	267,000		Batt.
44	32.42	263,400		Batt.
45	30.83	266,700		Vert.
46	30.50	266,700		Vert.
47	31.00	266,700		Vert.
48	30.75	144,700		Vert.
49	31.00	266,700		Vert.
50	30.67	266,700		Vert.
51	31.08	274,900		Vert.
52	31.25	266,700		Vert.
53	30.50	266,700		Vert.
54	30.18 <u>30.17</u>	266,700		Vert.
55	30.67	266,700		Vert.
56	30.42	266,700		Vert.
57	30.67	266,700		Vert.
58	30.33	282,300		Vert.
59	30.50	274,900		Vert.
60	30.92	266,700		Vert.



Location Ramp U over I- 75

Sheet 4 of 7Ohio Department of Transportation  
Design and Construction

Montgomery County

Recorder: L. MutschlerSec. I.R. 675 - 0.00Date: 1-4-83Br.No. MOT-675-0001Location Ramp U over I-75PILING RECORD: Pier No. 2 FOOTINGType of Pile: Steel HP 10 x 42Hammer: Link Belt 520 w/o energy gageWH or F = 20,000 Ft.lbs.Capacity formula: "R" = 2DF/S+0.1Required "R" = \*90,000 Lbs.Elev. of top of pile (cut-off elev.) 956.0Elev. of nominal point of zero penetration: 955.0

(SUBMIT IN DUPLICATE)

File No.	Pay Length	Indicated "R" (Pounds)	Remarks	Misc.
64	3.75	255,500	Batter = 1:4, D=0.958	Batt.
65	33.83	266,700		Vert.
66	35.17	255,500	*Design bearing for this	Batt.
67	33.83	266,700	unit is 45T. Plan note	Vert.
68	34.58	255,500	requires piling to be	Batt.
69	33.75	266,700	driven to refusal;	Vert.
70	33.58	266,700	defined as 20 blows/in.	Vert.
71	33.58	266,700		Vert.
72	34.33	255,500		Batt.
73	33.83	266,700		Vert.
74	33.58	266,700		Vert.
75	33.58	266,700		Vert.
76	33.83	266,700		Vert.
77	33.75	266,700		Vert.
78	33.67	266,700		Vert.
79	33.75	266,700		Vert.
80	33.67	266,700		Vert.
81	33.75	266,700		Vert.
82	34.00	266,700		Vert.
83	39.83	266,700		Vert.
84	34.50	266,700		Vert.
85	33.75	266,700		Vert.
86	33.50	266,700		Vert.
87	33.17	255,500		Batt.
88	33.75	266,700		Vert.
89	34.75	255,500		Batt.
90	33.50	266,700		Vert.
91	35.33	255,500		Batt.
92	33.33	266,700		Vert.
93	34.92	255,500		Batt.
94	33.42	266,700		Vert.
95	35.00	255,500		Batt.
			Average bearing this unit = 263,600lb.	
			Pay length this unit = 1,088.56 L.F.	

Sheet 5 of 7

Ohio Department of Transportation  
Design and Construction

Montgomery County

Recorder: L. Mutschler

Sec. MOT-675-0.00

Date: 1-3-83

Br.No. MOT-675--0001

Location \_\_\_\_\_

PILING RECORD: Pier No. 4 FOOTING

Type of Pile: Steel HP 10 x 42

Hammer: Linkbelt 520 w/o energy gage WH or F = 20,000 Ft.lbs.

Capacity formula: "R" = 2DF/S+0.1 Required "R" = \*90,000 Lbs.

Elev. of top of pile (cut-off elev.) 956.00

Elev. of nominal point of zero penetration: 955.00

(SUBMIT IN DUPLICATE)

File No.	Pay Length	Indicated "R" (Pounds)	Remarks	Misc.
96	35.10	255,500	Batter = 1:4, D=0.958	Batt..
97	35.15	266,700	Note: Numbers in	Vert.
98	35.25	255,500	parentheses are not	Batt.
99	35.00	266,700	included in the totals	Vert.
100	36.70	255,500		Batt.
101	36.50	266,700		Vert.
102	37.00	255,500		Batt.
103	35.65	266,700		Vert.
104	36.60	255,500		Batt.
105	(34.33)	322,600	Test Pile BR-2 Drvg. Log submitted	Vert.
106	34.10	266,700		Vert.
107	34.90	266,700	*Design bearing for	Vert.
108	35.60	266,700	this unit is 45T. Plan	Vert.
109	35.85	266,700	note requires piles to	Vert.
110	35.90	266,700	be driven to refusal;	Vert.
111	35.35	266,700	defined as 20 blows/in.	Vert.
112	34.40	266,700		Vert.
113	<u>35.90</u> 35.4	266,700		Vert.
114	35.00	266,700		Vert.
115	35.15	266,700		Vert.
116	35.45	266,700		Vert.
117	35.45	266,700		Vert.
118	35.25	266,700		Vert.
119	35.50	255,500		Batt.
120	35.45	266,700		Vert.
121	36.35	255,500		Batt.
122	34.90	266,700		Vert.
123	35.35	255,500		Batt.
124	35.65	266,700		Vert.
125	36.45	255,500		Batt.
126	35.90	266,700		Vert..
127	36.90	255,500		Batt.
		Average bearing this	unit = 264,900 lb.	
		Pay length this unit	= 1,103.20 L.F.	
			1102.7 L.F.	

Sheet 6 of 7  
Recorder: Fischer  
Date: 8/27/82

Ohio Department of Transportation  
Design and Construction

Montgomery County  
Sec. MOT-675-0.00  
Br.No. MOT-675-0001  
Location Ramp U over I-75

PILING RECORD: Pier No. 5 FOOTING

Type of Pile: Steel HP 10 x 42

Hammer: Link belt 520 w/o energy gage

WH or F = 20,000 Ft.lbs.

Capacity formula: "R" = 2 DF/S+0.1

Required "R" = \*90,000 Lbs.

Elev. of top of pile (cut-off elev.) 955.00

Elev. of nominal point of zero penetration: 954.00

(SUBMIT IN DUPLICATE)

File No.	Pay Length	Indicated "R" (Pounds)	Remarks	Misc.
128	33.75	266,700	Batter = 1:4, D=0.958	Vert.
129	34.75	274,900		"
120	34.75	282,300	*Design bearing for	"
131	34.83	278,700	this unit is 45T. Plan	"
132	33.75	285,700	note requires piling	"
133	34.25	266,700	to be driven to refusal;	"
134	33.83	266,700	defined as 20 blows/in.	"
135	34.42	266,700		"
136	34.42	266,700		"
137	34.75	266,700		"
138	33.75	271,000		"
139	35.00	274,900		"
140	34.83	266,700		"
141	34.67	266,700		"
142	34.58	266,700		"
143	34.25	266,700		"
144	33.50	278,700		Vert.
145	35.67	263,400		Batt.
146	37.00	263,400		"
147	37.08	263,400		"
148	36.00	263,400		"
149	36.25	263,400		"
150	34.08	263,400		"
151	35.83	263,400		"
152	36.00	263,400		"
153	36.25	263,400		"
154	35.75	263,400		"
155	35.92	263,400		"
156	36.00	263,400		"
157	34.42	263,400		"
158	34.67	263,400		"
159	35.33	263,400		"
160	35.42	263,400		"
161	35.75	263,400		Batt.

Average bearing this unit = 267,400 lb.

Pay length this unit = 1,191.50 L.F.

Montgomery County

Sec. I.R. 675 - 0.00

Br.No. MOT-675-0001

Location Ramp U over I-75

Type of Pile:	Steel HP 10 x 42
---------------	------------------

WH or F = 20,000 Ft.lbs.

Required "R" = 88,000 Lbs.

Elev. of top of pile (cut-off elev.)	996.10
--------------------------------------	--------

Elev. of nominal point of zero penetration: 995.10

(SUBMIT IN DUPLICATE)

[illegible]

LOCATION BR. MOT 675 0001



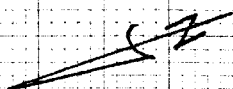
REF. NO. 407 SUBJECT PIILING LAYOUT

MEASUREMENT DATE 12-14-81 INITIALS C. [signature]

ITEM NO. 507 PROJECT NO. 46-82

COMPUTATION DATE \_\_\_\_\_ INITIALS \_\_\_\_\_

LOCATION BR. MOT 675 0001

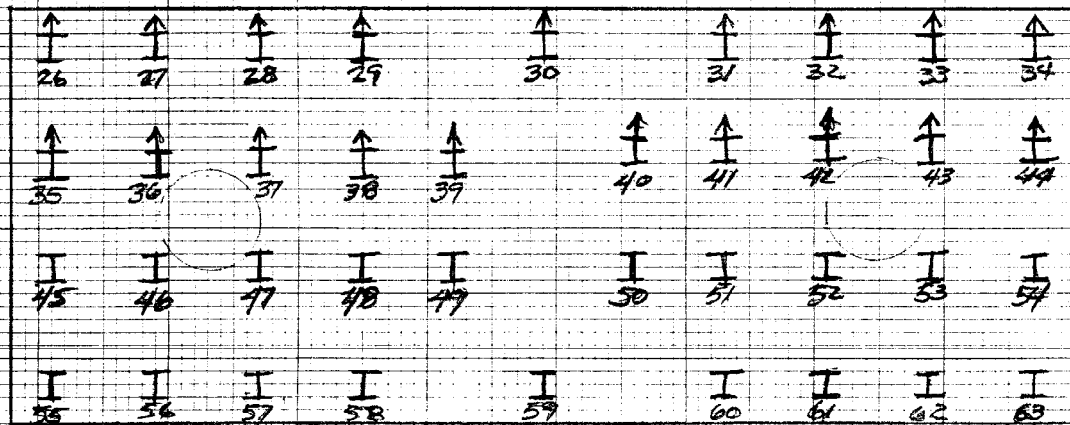


PIER # 1

NOT TO SCALE

H-PIILING 10 x 42

↑ TO PIER #2



← 4'-0" \* 4'-0" \* 4'-0" \* 3'-6" \* 3'-6" \* 3'-6" \* 3'-6" \* 4'-0" \* 4'-0" \* 4'-0" \* 1'-6"

↑ ↓ BATTERED PILES 1:4

REF. NO. 407 SUBJECT PILING LAYOUT MEASUREMENT DATE 12-14-81 INITIALS J. C. Sullivan  
 ITEM NO. 507 PROJECT NO. 46-82 COMPUTATION DATE \_\_\_\_\_ INITIALS \_\_\_\_\_  
 LOCATION BR. Mot 675 0001

PIER # 2

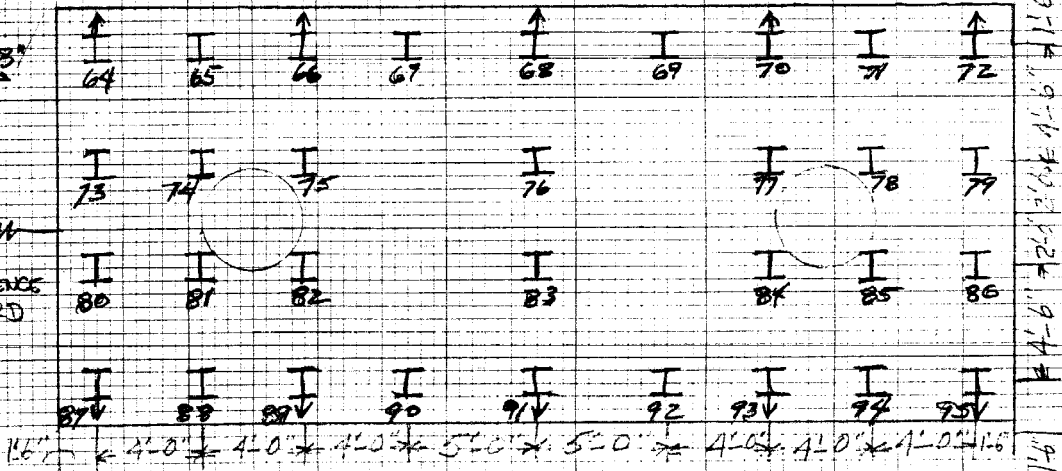
H-PILING 10X42

↑ TO PIER #3

NOT TO SCALE

26°12'33"

REFERENCE CHORD



↑ ↓ BATTERED PILES 1:4



REF. NO. 407 SUBJECT PIILING LAYOUT

MEASUREMENT DATE 12/14/81

INITIALS EBJ

ITEM NO. 507 PROJECT NO. 46 (1982)

COMPUTATION DATE \_\_\_\_\_

INITIALS \_\_\_\_\_

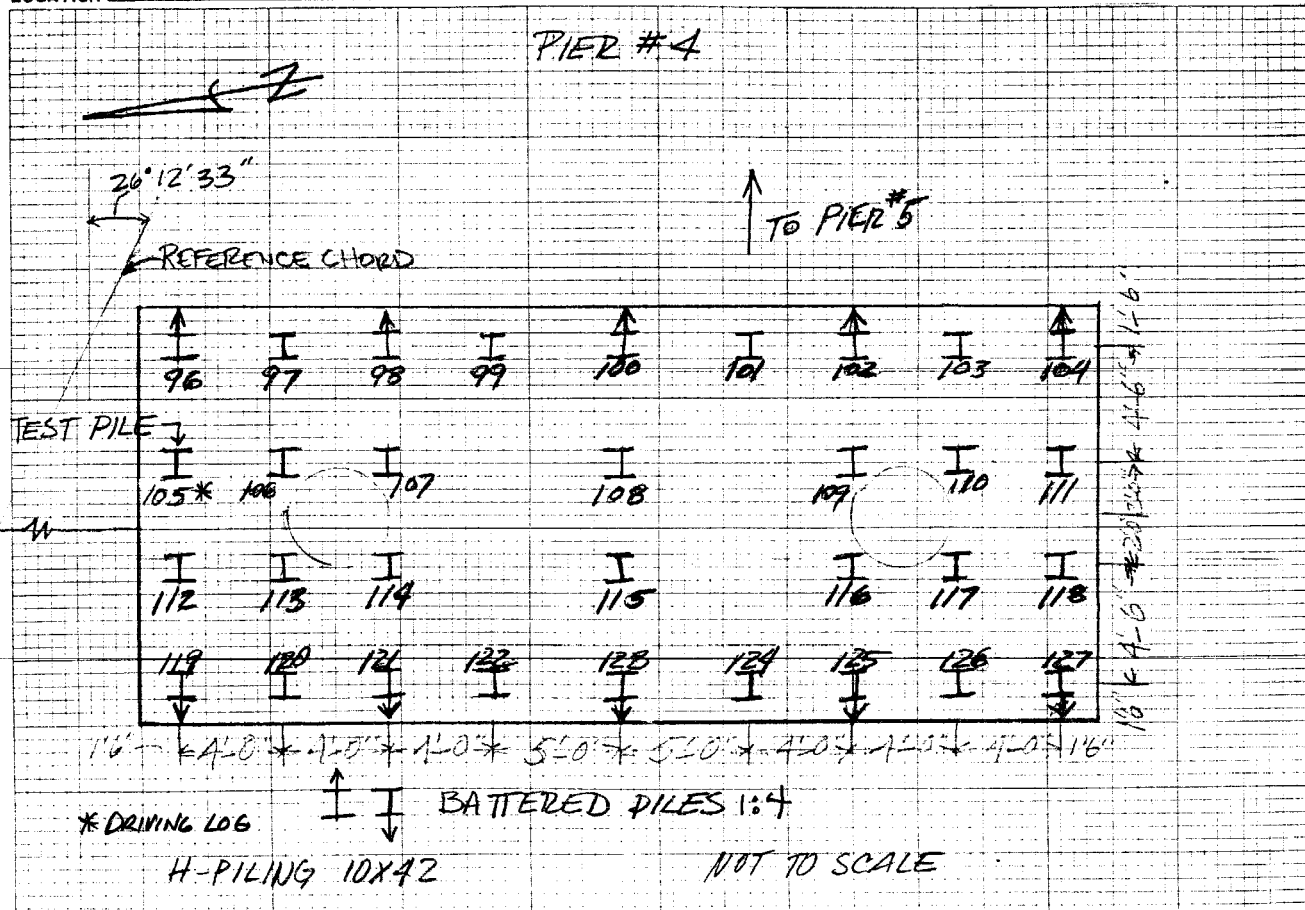
LOCATION MOT-675-0001

PIER #3

STEEL HP 10x42

THIS PIER IS COMMON WITH PIER #2  
OF BRIDGE MOT-675-0000. ALL PILES  
ARE LISTED WITH BR 0000, CENTER PIER

REF. NO. 407 SUBJECT PILING LAYOUT MEASUREMENT DATE 12-14-81 INITIALS H. [Signature]  
 ITEM NO. 507 PROJECT NO. 46-82 COMPUTATION DATE \_\_\_\_\_ INITIALS \_\_\_\_\_  
 LOCATION BR. MOT 675 0001



REF. NO. 407 SUBJECT PILING LAYOUTMEASUREMENT DATE 12-14-81 INITIALS N. C. [Signature]ITEM NO. 507 PROJECT NO. 46-82

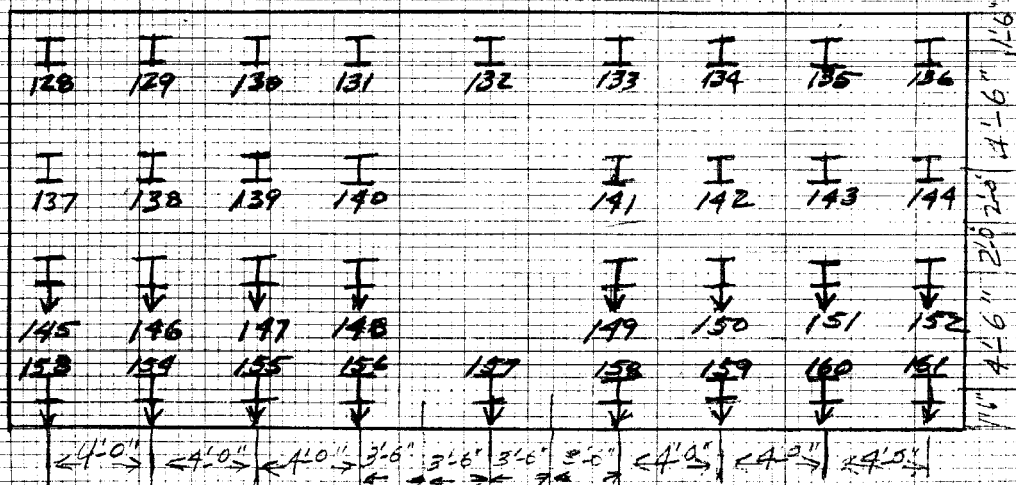
COMPUTATION DATE \_\_\_\_\_ INITIALS \_\_\_\_\_

LOCATION BR. MOT 675 0001

PIER #5

# PILING 10x42

NOT TO SCALE

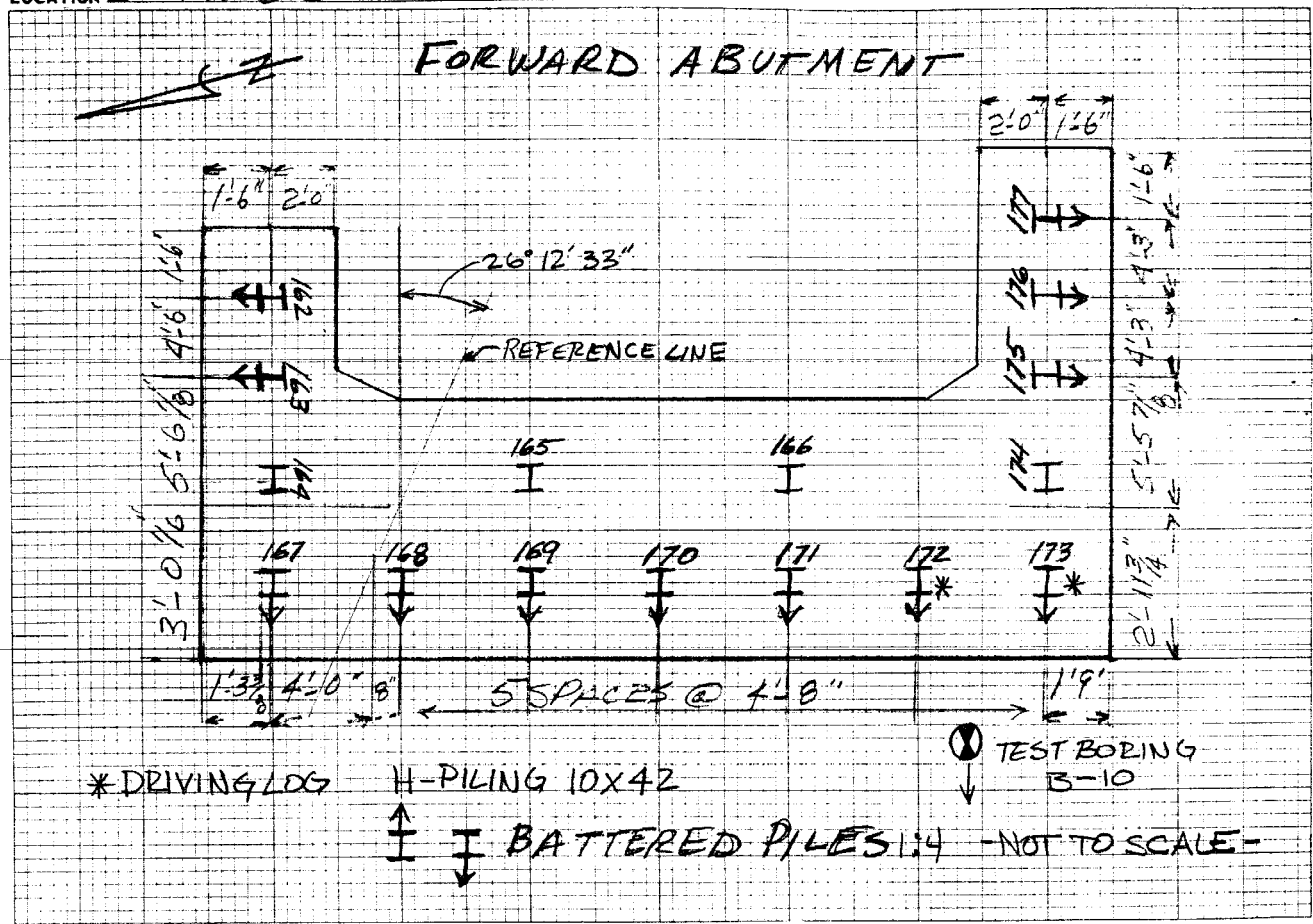


↑ ↓ BATTERED PILES 1:4

REF. NO. 407 SUBJECT PIILING LAYOUT MEASUREMENT DATE 12-14-51 INITIALS K. C. Miller

ITEM NO. 507 PROJECT NO. 46-82 COMPUTATION DATE \_\_\_\_\_ INITIALS \_\_\_\_\_

LOCATION BRIMOT 675 0001





## INTER-OFFICE COMMUNICATION

TO D.L. Riddiough, P.E., Dist. Constr. Engr. DATE June 22, 1984

FROM E.B. Johnson, P.E., Project Engineer

*25 JUN 1984*

SUBJECT: FINAL PILING REPORT FOR BRIDGE MOT-675-0001

ATTEN: A.W. Copenhaver, P.E.

Re: Montgomery County  
I.R. 675 - 0.00  
Project No. 46(1982)

Transmitted herewith is the final piling report for the subject bridge.  
There were no unusual driving conditions encountered.

ENCLOSURES

EBJ/alb

cc: Ref. No. 407



## INTER-OFFICE COMMUNICATION

TO: W. J. Jestings, Engineer of Bridges DATE: June 28, 1984

FROM: L. H. WALLACE, DIST. 8 DEPUTY DIRECTOR By: D. L. Riddiough, Dist. 8  
Construction Engineer

SUBJECT: Piling Report for Project 46(1982), Montgomery County, Bridge No.  
MOT-675-0001

Re: Project 46(1982)  
Mot 675 - 0.00

Attached find piling report for above referenced structure. Included in this report are the following:

- 1) Pile Layout Sheets
- 2) Pile Driving Log (BR-2) for Test Pipe (Pier No. 4, Pile No. 105)
- 3) Pile Driving Log (BR-2) for piles closest to test hole
  - a) Rear Abutment, Pile Nos. 19 and 20 (Test Hole B-1)
  - b) Forward Abutment, Pile Nos. 172 and 173 (Test Hole B-10)
- 4) Piling Records (BR-5)
- 5) IOC from Project Engineer

Final pay quantity for Reference 407 is shown below:

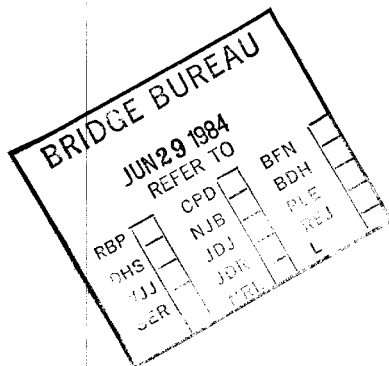
Rear Abutment	1785.24
Pier No. 1	1209.74
Pier No. 2	1088.56
Pier No. 4	1102.70
Pier No. 5	1191.50
Forward Abutment	1147.08
	<u>7524.82</u> L.F.

Use 7525 L.F. (Ref. 407)

*D.L.R.*  
DLR:RCH:cls

Attachments

cc: Copenhagen  
E. Johnson w/a  
File



STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION  
FILE LOG - CAPACITY GRAPH (BLOWCAP) INPUT FORMAT  
SHEETS 1-4

CARD NO.	(1) STRUCTURE FILE #
1	DOB.F085

CARD NO.	(2) BRIDGE #
2	MO.T.-6.75-0001

CARD NO.	(3) SECTION #
3	MO.T.-6.75-0.00

CARD NO.	(4) PROJECT #
4	46.182

CARD NO.	(5) SUB-STRUCTURE UNIT
5	REAR ABUT. <sup>Spice</sup> RAMP & OVER I.R. 75

CARD NO.	(6) HAMMER TYPE
6	LINK BELT S20 W/OUT ENERGY GAGE

(7)	(8)	(9)	(9A)
MANUFACTURER'S RATING (FT-LBS)	DEEP HAMMER	STATE'S RATING (FT-LBS)	NO. OF SPANS
7	30000	20000	5

CARD NO.	(10) PILE TYPE
8	H.P. 10. X 42 STEEL

(8) DR. HAM = 1 If hammer is a drop hammer

= 0 If hammer is not a drop hammer

CARD NO.	(11) TOTAL # OF PILES	(12) DESIGN LOAD (TONS)	(13) ESTIMATED PILE LENGTH (FT.)	(14) TOP OF PILE ELEVATION (FT.)
9	25	4.4	71	99.9

CARD NO.	(20) BEDROCK	(21) FINAL BLOW COUNT	(22) FINAL CAPACITY (TONS)	(23) TEST LOAD	CARD NO.	(24) NOTE
11	1	240	138	0	2	1

CARD NO.	(15) LOW RANGE OF PILE LENGTH (FT.)	(16) HIGH RANGE OF PILE LENGTH (FT.)	(17) AVERAGE VERTICAL PILE LENGTH (FT.)	(18) PILE CAPACITY INSTALLED (TONS)	(19) AVERAGE BATTERED PILE LENGTH (FT.)
10	6.7	7.5	7.1	138	72

(20) BEDROCK = 0 Bedrock not encountered

= 1 Bedrock encountered

(21) & (22) leave blank if Bedrock (20) = 0

(24) NOTE = 0 If no notes  
= 1 If notes are to be added

(23) Test Load = 1 if performed

= 0 if not performed

CARD NO.	(25) NOTE 1
3	ALL PILES ON THIS BRIDGE DRIVEN TO REFUSAL.

CARD NO.	(26) NOTE 2
4	THIS PILE DRIVEN AT A BATTER OF 1:4. 45 FEET OF FILL PLACED FOR

CARD NO.	(27) NOTE 3
5	REAR ABUTMENT, 55 FEET. PLACED FOR FORWARD ABUTMENT.

CARD NO.	(28) NOTE 4
6	ELEVATION OF CLAY SHALE DROPE <del>5</del> FROM NORTHWEST TO SOUTH EAST.

CARD NO.	(29) NO. OF SOIL LAYERS
7	10

(29) Less than or equal to 20

(25-28) If (24) = 1, 4 lines must be input (blank if necessary)



CARD NO.	(30) SOIL TYPE	(31) SPT VALUE	(32) P.I. NO.
1	13	1	0
2	16	2	0
3	5	16	0
4	5	20	6
5	11	21	4
6	16	20	5
7	11	26	4
8	5	20	5
9	11	44	0
10	20	99	0
11			
12			
13			
14			
15			
16			
17			
18			
19			

(30) Soil Type

1. Sand
2. Clay
3. Gravel
4. Silt
5. Sandy Silt
6. Sandy Clay
7. Gravelly Clay
8. Gravelly Silt
9. Clayey Sand
10. Clayey Gravel
11. Silty Sand
12. Silty Gravel
13. Fill
14. Slag
15. Organic

CARD NO.	(33) SOIL LAYER BOUNDARY ELEVATIONS (FT)
1	99.7
2	96.3
3	95.9
4	95.5
5	95.1
6	94.7
7	94.3
8	93.8
9	93.3
10	92.6
11	91.8
12	
13	
14	
15	
16	
17	
18	
19	

(14) & (33) Top of pile and  
top soil elevation  
shall be the same

CARD NO.	(34) NO. OF PILES TO PLOT
1	1
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	

(34) Less than or equal to 4

16. Clayey Silt
17. Silty Clay
18. Sandy Gravel
19. Gravelly Sand

CARD NO.	(35)
	PILE NUMBER
1	19

CARD NO.	(36)
	DATE DRIVEN
2	11-09-82

CARD NO.	(37)
	DRIVEN LENGTH (FT.)
3	72

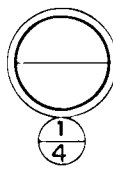
CARD NO.	(38)
	WATER ELEVATION (FT.)
4	0

CARD NO.	(39)
	NO. OF BLOW COUNT PTS.
5	16

CARD NO.	(40)	(41)
	DEPTH TO BLOW COUNT (FEET)	BLOW COUNT
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21	1.0	18
22	1.4	17
23	1.8	24
24	2.2	20
25	2.6	36
26	3.0	37
27	3.4	49
28	3.8	43
29	4.2	39
30	4.6	37
31	5.1	31
32	5.6	31
33	6.0	39
34	6.4	28
35	6.8	49
36	7.2	240

(39) Less than or equal to 25

Duplicate this sheet according  
to value of (34)



GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED ON THE DISSECTED GLACIATED LEXINGTON PENEPLAIN, IN AN AREA WHERE MODERATELY DEEP GLACIAL-DERIVED SOILS OVERLIE INTERBEDDED SHALE AND LIMESTONE BEDROCK, OF ORDOVICIAN AGE.

EXPLORATION

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE-CORE BORINGS AND FOUR DRIVE ROD PENETRATION TESTS, MADE BETWEEN DECEMBER 19, 1971 AND JANUARY 3, 1972. ALSO INCLUDED IN THIS REPORT IS THE LOG OF BORING MADE FOR THE ADJACENT STRUCTURE FOUNDATION INVESTIGATION, DESIGNATED MOT-675-0000.

INVESTIGATIONAL FINDINGS

THE BORINGS DISCLOSED THAT BEDROCK SURFACE, ENCOUNTERED BETWEEN 30 AND 38-FOOT DEPTHS, ELEVATIONS 923 AND 921 FEET, IS overlain BY GENERALLY DENSE SILTS AND GRAVELS AND SOME SAND INTERVALS. THE BORINGS WERE TERMINATED AT 40 TO 47-FOOT DEPTHS, ELEVATIONS 916 TO 911 FEET, AFTER PENETRATING 9 AND 10 FEET BELOW BEDROCK SURFACE.

ROD SOUNDINGS ENCOUNTERED INCREASING, SOMEWHAT ERRATIC, PENETRATION RESISTANCE WITH INCREASE IN DEPTH, AND WERE TERMINATED UPON ENCOUNTER WITH REFUSAL TO PENETRATION AT 26 TO 37-FOOT DEPTHS, ELEVATIONS 926 AND 924 FEET, CONSIDERED TO BE ON BEDROCK SURFACE IN THE REAR AND CENTER PORTIONS OF THE SITE, AND IN DENSE MATERIALS, IMMEDIATELY ABOVE BEDROCK SURFACE IN THE FORWARD PORTION, AS REVEALED BY THE BORINGS.

NO FREE WATER OBSERVATIONS WERE MADE IN ANY OF THE ROD SOUNDING HOLES.

LEGEND

- Auger Boring Location - Plan View.
- Press and / or Drive Sample and / or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- TR Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.  
X = Number of Blows for First 6 inches.  
Y = Number of Blows for Second 6 inches.
- Drive Rod Penetration Resistance Sounding Log - Profile
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z Indicates Final Measurement of Penetration, in Inches.
- W Indicates Free Water Elevation.
- V Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Mudstone or Claystone
- Mudstone or Claystone
- Weathered Shale
- Shale
- Weathered Siltstone
- Siltstone
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone
- Boulders or Cobbles

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface condition may be evaluated.

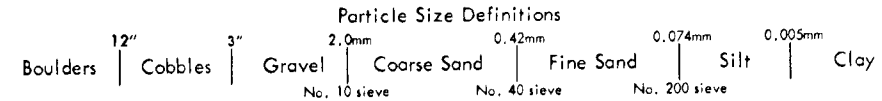
Drive Sample Borings - Drive-Press Sample Borings

Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and / or 5-foot depth intervals, driven by means of a 140 - pound drop-hammer with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6-inch increments, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system - and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.



NOTE: Information shown by this subsurface investigation was obtained solely for the 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.

OHIO DEPARTMENT OF HIGHWAYS  
TESTING LABORATORY  
1600 WEST BROAD STREET, COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION  
BRIDGE NO. MOT-675-0001  
RAMP U OVER IR 75  
SEC. MOT-675-0.00

CHECKED BY R. D. R.	REVIEWED BY G. P. H.	DATE 2/1/72
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## GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED ON THE DISSECTED GLACIATED LEXINGTON PENEPLAIN, IN AN AREA WHERE MODERATELY DEEP GLACIAL-DERIVED SOILS OVERLIE INTERBEDDED SHALE AND LIMESTONE BEDROCK, OF ORDOVICIAN AGE.

## EXPLORATION

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE-CORE BORINGS AND FOUR DRIVE ROD PENETRATION TESTS, MADE BETWEEN DECEMBER 13, 1971 AND JANUARY 3, 1972. ALSO INCLUDED IN THIS REPORT IS THE LOG OF BORING MADE FOR THE ADJACENT STRUCTURE FOUNDATION INVESTIGATION, DESIGNATED MOT-676-0000.

## INVESTIGATIONAL FINDINGS

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## LEGEND



Auger Boring Location - Plan View.



Press and / or Drive Sample and / or Core Boring Location - Plan View.



Drive Rod Penetration Resistance Sounding Location - Plan View.



Capped Pile



Footing



Footing on Pile

**TR**

Top of Rock



Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.

X/Y

Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.

X = Number of Blows for First 6 inches.

Y = Number of Blows for Second 6 inches.

Drive Rod Penetration Resistance Sounding Log - Profile



Casing

Resistance "R" < 10,000 lbs.

Resistance "R" > 10,000 lbs.

**Z**

Indicates Final Measurement of Penetration, in Inches.



Indicates Free Water Elevation.



Indicates Static Water Elevation.

## SYMBOLS OF ROCK TYPES



Coal



Weathered Mudstone or Claystone



Mudstone or Claystone



Weathered Shale



Shale



Weathered Siltstone



Siltstone



Weathered Sandstone



Sandstone



Leached Dolomite



Dolomite



Leached Limestone



Limestone



Boulders or Cobbles

## GENERAL INFORMATION

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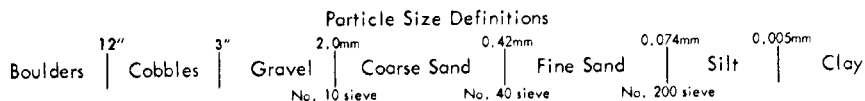
### Drive Sample Borings - Drive-Press Sample Borings

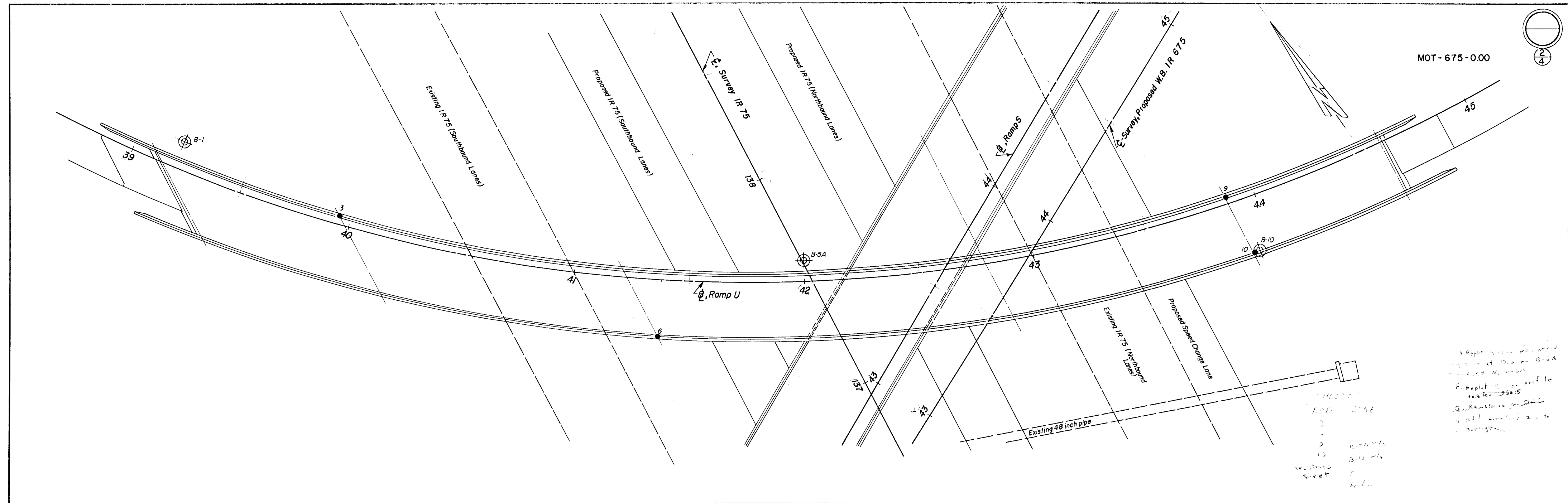
Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and / or 5-foot depth intervals, driven by means of a 140 - pound drop-hammer with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

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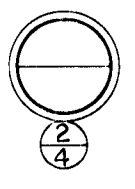
The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6-inch increments, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system - and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.



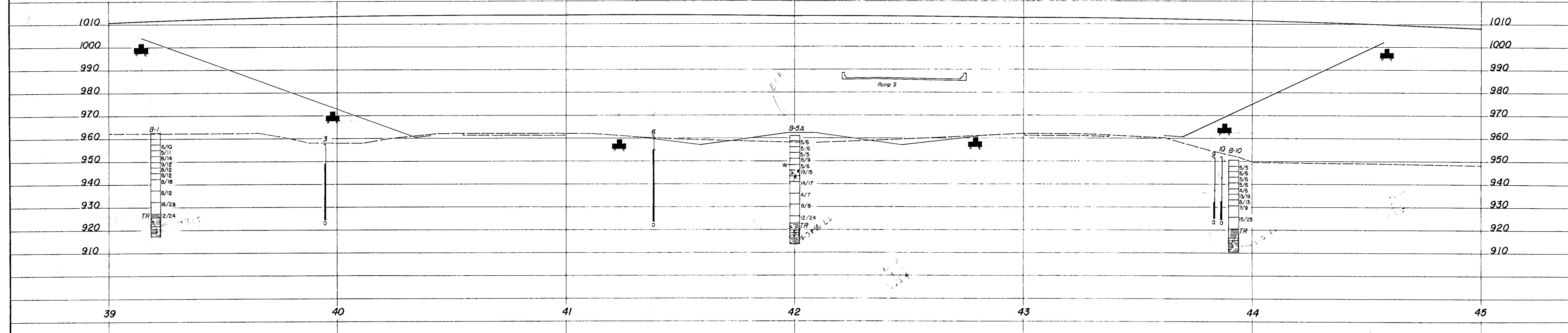


MOT-675-0.00



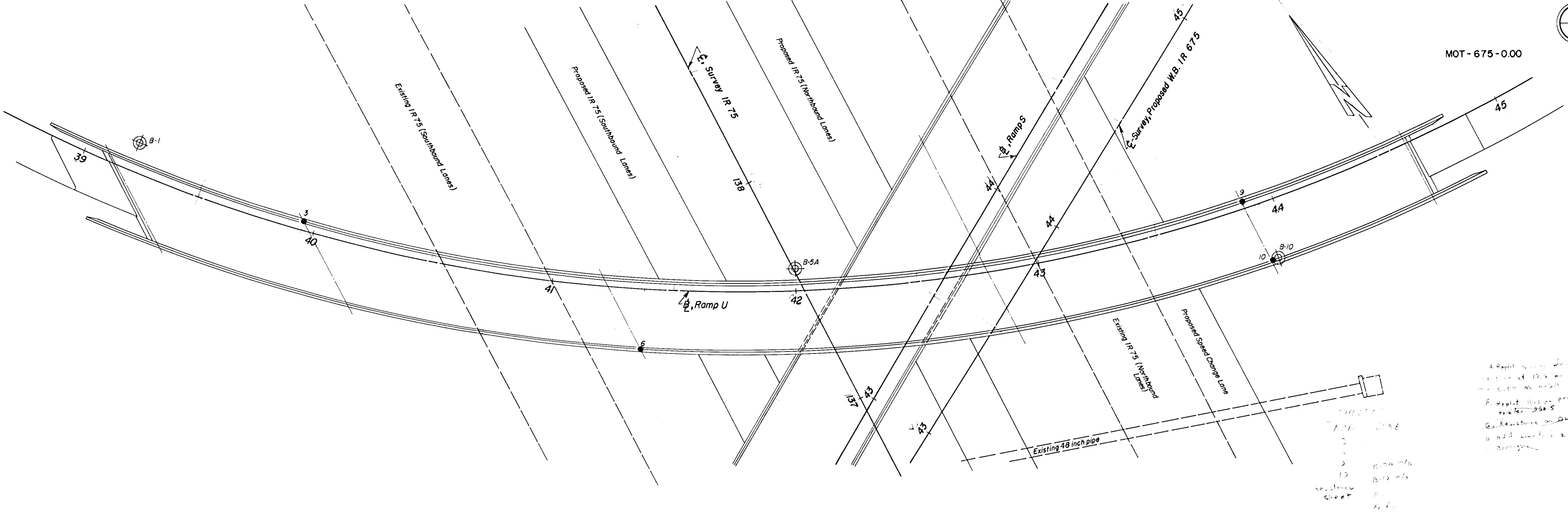
A Report by the Ohio Department of Highways  
dated at 12-5-59 on 12-24  
has been received.  
The report shows profile  
resistance 35-5  
and resistance on the  
roadway.

FIELD DATA  
2  
3  
10  
15  
Resistance  
Sheet  
B-1  
B-5A  
B-10  
B-11



OHIO DEPARTMENT OF HIGHWAYS TESTING LABORATORY 1600 WEST BROAD STREET, COLUMBUS, OHIO 43223			
STRUCTURE FOUNDATION INVESTIGATION			
BRIDGE NO. MOT-675-0001			
RAMP U OVER IR 75			
SEC. MOT-675-0.00			
PLAN AND PROFILE			
DRAWN BY D.E.N.	CHECKED BY R.D.R.	REVIEWED BY G.P.H.	DATE 2/1/72

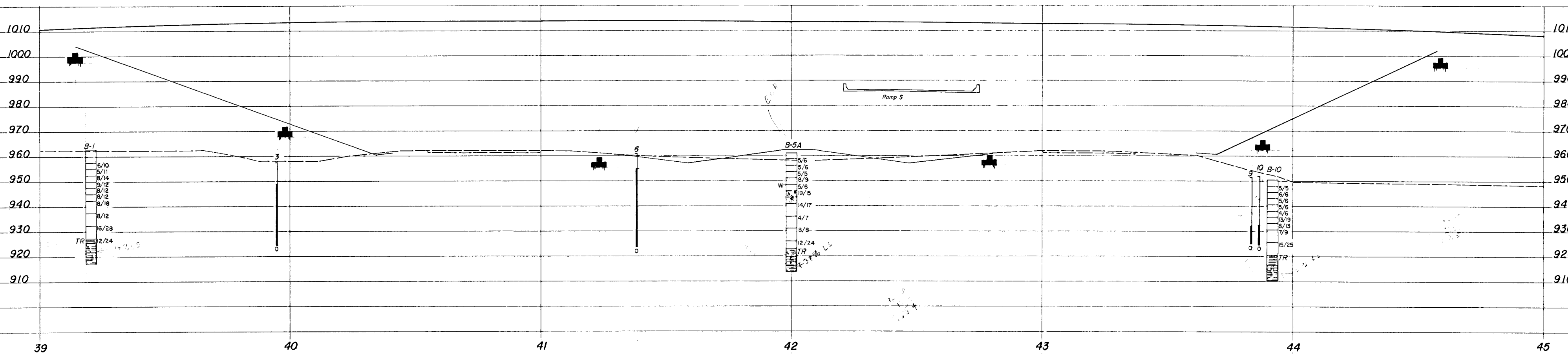
SCALE: 1" = 20'



SHEET  
 100 1000  
 2  
 3  
 4  
 10  
 resistance  
 sheet

A Report by the  
 at 17.5 m  
 No. 1000  
 Report 1000 m  
 No. 1000  
 Resistance on  
 add 1000 m  
 1000 m





LOG OF BORING

12-29-71

1 3/8"

1-3-72

30'

3 1/2"

B-1

Station & Offset 29+20, 12' LT. (REAR ABUTMENT)

Surface Elev. 962.5'

Water Elev.

Elev.	Depth	Sl. Pen (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
962.5	0														
	2														
	4														
957.5	6	6/10			BROWN GRAVELLY SANDY SILT	1	18	12	20	34	16	NP	NP	12	A-4a
955.0	8	5/11			BROWN GRAVELLY SANDY SILT	2	15	10	20	33	22	21	6	13	A-4a
952.5	10	8/14			BROWN GRAVELLY SANDY SILT	3	15	10	18	34	23	19	5	13	A-4a
950.0	12														
947.5	14	9/12			BROWNISH-GRAY GRAVELLY SANDY SILT	4	15	12	20	35	18	17	4	13	A-4a
	16	8/12			BROWN GRAVELLY SANDY SILT	5	16	11	17	33	23	17	5	11	A-4a
945.0	18	8/12			BROWN SANDY SILT	6	9	9	16	35	31	18	5	11	A-4a
942.5	20	8/18			GRAY GRAVELLY SANDY SILT	7	26	10	19	26	19	17	4	11	A-4a
	22														
937.5	24														
	26	8/12			BROWN GRAVELLY SANDY SILT	8	15	9	16	37	23	18	5	13	A-4a
	28														
932.5	30	16/28			GRAY SILTY SANDY GRAVEL	9	39	11	16	27	7	NP	NP	12	A-2-4
	32														
	34				TOP OF ROCK										
927.5	36	12/24			GRAY CLAY SHALE	10	9	9	11	39	32	21	7	11	VISUAL
926.0	38		1.4	2.1											
	40														
	42		2.3	2.7	CLAY SHALE, GRAY, MEDIUM-FIRM, CALCAREOUS WITH CLAY SEAMS AND GRAY, FIRM, FOSSILIFEROUS LESTONE INTERBEDS (COMPRISING 14% OF THE INTERVAL) BADLY BROKEN AND JOINTED. CORE LOSS 56%.										
917.5	44														
					BOTTOM OF BORING										

LOG OF BORING															
Date Started <u>12-27-71</u>		Sampler Type <u>SS</u>		Dia. <u>1 3/8"</u>		Water Elev. <u>947.9'</u>									
Date Completed <u>12-29-71</u>		Casing Length <u>38'</u>		Dia. <u>3 1/2"</u>											
Boring No. <u>B-2A</u>		Station & Offset <u>42+00, 9' LT. (THIRD PIER)</u>		Surface Elev. <u>960.9'</u>											
Elev.	Depth	Sl. Pen (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
960.9	0														
	2														
958.4	4	5/6			BROWN SANDY GRAVELLY CLAY	1	32	4	12	26	26	36	18	18	A-6b
955.9	6	5/6			BROWN SILTY CLAY	2	0	1	6	51	42	41	19	25	A-7-6
	8														
953.4	8	5/5			BROWN SANDY CLAY	3	7	4	20	28	41	37	18	23	A-6b
950.9	10	8/9			BROWN SILTY SANDY GRAVEL	4	40	10	15	21	14	20	7	20	A-2-4
	12														
948.4	14	5/6			BROWN SILTY SANDY GRAVEL	5	37	15	17	24	7	NP	NP	9	A-2-4
945.9	16	19/15			BROWN SILTY SANDY GRAVEL WITH COBBLES	6	64	13	9	-14	-	NP	NP	10	A-1-a
943.4	18				NO SAMPLE RECOVERED (HOLE CAVED IN)										
940.9	20	14/17			GRAY GRAVELLY SANDY SILT	7	23	10	17	32	18	18	5	9	A-4a
	22														
	24														
935.9	26	4/7			GRAY GRAVELLY SANDY SILT	8	17	9	16	35	23	18	5	13	A-4a
	28														
930.9	30	8/8			GRAY SANDY SILT	9	14	10	6	45	25	20	7	19	A-4a
	32														
	34														
925.9	36	12/24			GRAY SANDY GRAVEL WITH COBBLES	10	74	13	5	-3	-	NP	NP	7	A-1-a
922.9	38				TOP OF ROCK										
	40		1.5	0.5											
	42														
	44		5.9	1.1	CLAY SHALE, GRAY, MEDIUM-FIRM, CALCAREOUS WITH THICK CLAY SEAMS AND GRAY, FIRM, FOSSILIFEROUS LIMESTONE INTERBEDS (COMPRISING 38% OF THE INTERVAL) BROKEN AND JOINTED. *CORE LOSS 18%.										
	46														
913.9															

\*HIGH CORE LOSS DUE TO MECHANICAL DIFFICULTIES ENCOUNTERED DURING DRILLING OPERATIONS.

LOG OF BORING																
Date Started <u>12-29-71</u>		Sampler Type <u>SS</u>		Dia. <u>1 3/8"</u>		Water Elev. _____										
Date Completed <u>1-3-72</u>		Casing Length <u>25'</u>		Dia. <u>3 1/2"</u>												
Boring No. <u>B-10</u>		Station & Offset <u>42+22, 25' RT. (FIFTH PIER)</u>		Surface Elev. <u>950.5'</u>												
Elev.	Depth	Sl. Pen (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics									SHTL Class.
950.5	0						% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.		
	2															
948.0	4	5/5			BROWN GRAVELLY SANDY CLAY	1	21	7	18	27	27	29	13	27	A-6a	
945.5	6	6/6			BROWN GRAVELLY SANDY SILT	2	17	13	21	33	16	17	6	12	A-4a	
943.0	8	5/6			BROWN SILTY GRAVELLY SAND	3	33	25	18	19	5	NP	NP	16	A-1-a	
940.5	10	5/6			BROWN SANDY GRAVEL	4	61	27	7	-	-	NP	NP	10	A-1-a	
	12															
938.0	14	4/6														
935.5	16	13/19			GRAY SANDY GRAVEL	5	55	24	15	-	6	-	NP	NP	12	A-1-a
	18															
933.0	18	8/13			GRAY SANDY GRAVELLY SILT	6	27	10	16	30	17	18	6	10	A-4a	
930.5	20	7/9			GRAY SILT	7	0	1	3	82	14	NP	NP	20	A-4b	
	22															
	24															
925.5	26	15/25			GRAY SANDY GRAVELLY SILT	8	28	8	9	28	27	21	7	14	A-4a	
	28															
920.5	30				TOP OF ROCK											
	32		1.2	3.8	CLAY SHALES, GRAY, MEDIUM-FIRM, CALCAREOUS WITH THICK CLAY SEAMS AND GRAY, FIRM, FOSSILIFEROUS LIMESTONE INTERBEDS (COMPRISING 21% OF THE INTERVAL) VERY BADLY BROKEN AND JOINTED. CORE LOSS 61%.											
	34															
	36															
	38		2.5	2.5												
910.5	40															
					BOTTOM OF BORING											

OHIO DEPARTMENT OF HIGHWAYS  
TESTING LABORATORY  
1620 WEST BROAD STREET, COLUMBUS 23, OHIOSTRUCTURE FOUNDATION INVESTIGATION  
BRIDGE NO. MOT-675-0001  
RAMP U OVER I.R. 75  
SEC. MOT-675-000

BORING DATA

TYPED BY S. A. C. CHECKED BY R. D. R. REVIEWED BY G. P. H. DATE 2/1/72

## LOG OF BORING

Date Started 12-29-71Sampler Type SS Dia. 1 3/8"

Water Elev. \_\_\_\_\_

Date Completed 1-3-72Casing Length 30' Dia. 3 1/2"Boring No. B-1Station & Offset 29+20, 12' LT. (REAR ABUTMENT)Surface Elev. 962.5'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics								SHTL Class.
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
962.5	0														
	2														
	4														
957.5	6	6/10			BROWN GRAVELLY SANDY SILT	1	18	12	20	34	16	NP	NP	12	A-4a
955.0	8	5/11			BROWN GRAVELLY SANDY SILT	2	15	10	20	33	22	21	6	13	A-4a
952.5	10	8/14			BROWN GRAVELLY SANDY SILT	3	15	10	18	34	23	19	5	13	A-4a
950.0	12														
947.5	14	9/12			BROWNISH-GRAY GRAVELLY SANDY SILT	4	15	12	20	35	18	17	4	13	A-4a
	16	8/12			BROWN GRAVELLY SANDY SILT	5	16	11	17	33	23	17	5	11	A-4a
945.0	18														
942.5	20	8/12			BROWN SANDY SILT	6	9	9	16	35	31	18	5	11	A-4a
	22	8/18			GRAY GRAVELLY SANDY SILT	7	26	10	19	26	19	17	4	11	A-4a
	24														
937.5	26	8/12			BROWN GRAVELLY SANDY SILT	8	15	9	16	37	23	18	5	13	A-4a
	28														
932.5	30														
	32	16/28			GRAY SILTY SANDY GRAVEL	9	39	11	16	27	7	NP	NP	12	A-2-4
	34														
927.5	36				TOP OF ROCK										
926.0	38	12/24			GRAY CLAY SHALE	10	9	9	11	39	32	21	7	11	VISUAL
	40		1.4	2.1											
	42														
	44		2.3	2.7	CLAY SHALE, GRAY, MEDIUM-FIRM, CALCAREOUS WITH CLAY SEAMS AND GRAY, FIRM, FOSSILIFEROUS LIMESTONE INTERBEDS (COMPRISING 1/3 OF THE INTERVAL) BADLY BROKEN AND JOINTED. CORE LOSS 56%.										
917.5															

BOTTOM OF BORING

## LOG OF BORING

Date Started 12-27-71Sampler Type SSDia. 1 3/8"Water Elev. 947.3'Date Completed 12-29-71Casing: Length 38'Dia. 3 1/2"Boring No. 12-54B-5AStation & Offset 42+00, 9' LT. (THIRD PIER)Surface Elev. 960.9'

Elev.	Depth	Std. Pen (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics								SHTL Class.
960.9	0						% Agg	% C.S	% F.S	% Silt	% Clay	L.L	P.I.	W.C.	
958.4	2					1	32	4	12	26	26	36	18	18	A-6b
955.9	4	5/6			BROWN SANDY GRAVELLY CLAY	2	0	1	6	51	42	41	19	25	A-7-6
	6	5/6			BROWN SILTY CLAY	3	7	4	20	28	41	37	18	23	A-6b
953.4	8	5/5			BROWN SANDY CLAY	4	40	10	15	21	14	20	7	20	A-2-4
950.9	10	8/9			BROWN SILTY SANDY GRAVEL	5	37	15	17	24	7	NP	NP	9	A-2-4
948.4	12					6	64	13	9	-14	-	NP	NP	10	A-1-a
945.9	14	5/6			BROWN SILTY SANDY GRAVEL	7	23	10	17	32	18	18	5	9	A-4a
	16	19/15			BROWN SILTY SANDY GRAVEL WITH COBBLES	8	17	9	16	35	23	18	5	13	A-4a
943.4	18				NO SAMPLE RECOVERED (HOLE CAVED IN)	9	14	10	6	45	25	20	7	19	A-4a
940.9	20	14/17			GRAY GRAVELLY SANDY SILT	10	74	13	5	-	-	NP	NP	7	A-1-a
	22														
	24														
935.9	26	4/7			GRAY GRAVELLY SANDY SILT										
	28														
930.9	30	8/8			GRAY SANDY SILT										
	32														
925.9	34														
	36	12/24			GRAY SANDY GRAVEL WITH COBBLES										
922.9	38				TOP OF ROCK										
	40		1.5	0.5											
	42														
	44		5.9	1.1	CLAY SHALE, GRAY, MEDIUM-FIRM, CALCAREOUS WITH THICK CLAY SEAMS AND GRAY, FIRM, FOSSILIFEROUS LIMESTONE INTERBEDS (COMPRISING 38% OF THE INTERVAL) BROKEN AND JOINTED. *CORE LOSS 18%.										
913.9	46														

BOTTOM OF BORING

\*HIGH CORE LOSS DUE TO MECHANICAL DIFFICULTIES ENCOUNTERED DURING DRILLING OPERATIONS.

## LOG OF BORING

Date Started 12-29-71Sampler Type SSDia. 1 3/8"

Water Elev. \_\_\_\_\_

Date Completed 1-3-72Casing Length 25'Dia. 3 1/2"Boring No. B-10Station & Offset 43+92.25' RT. (FIFTH PIER)Surface Elev. 950.5'

Elev.	Depth	Std. Pen (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics								SHTL Class.
950.5	0						% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
948.0	2														
945.5	4	5/5			BROWN GRAVELLY SANDY CLAY	1	21	7	18	27	27	29	13	27	A-6a
	6	6/6			BROWN GRAVELLY SANDY SILT	2	17	13	21	33	16	17	6	12	A-4a
943.0	8	5/6			BROWN SILTY GRAVELLY SAND	3	33	25	18	19	5	NP	NP	16	A-1-b
940.5	10	5/6			BROWN SANDY GRAVEL	4	61	27	7	-	-	NP	NP	10	A-1-a
938.0	12														
935.5	14	4/6													
	16	13/19			GRAY SANDY GRAVEL	5	55	24	15	-	-	NP	NP	12	A-1-a
933.0	18	8/13			GRAY SANDY GRAVELLY SILT	6	27	10	16	30	17	18	6	10	A-4a
930.5	20	7/9			GRAY SILT	7	0	1	3	82	14	NP	NP	20	A-4b
	22														
925.5	24														
	26	15/25			GRAY SANDY GRAVELLY SILT	8	28	8	9	28	27	21	7	14	A-4a
	28														
920.5	30				TOP OF ROCK										
	32														
	34		1.2	3.8											
	36														
	38		2.5	2.5											
910.5	40														

CLAY SHALE, GRAY, MEDIUM-FIRM, CALCAREOUS WITH THICK CLAY SEAMS AND GRAY, FIRM, FOSSILIFEROUS LIMESTONE INTERBEDS (COMPRISING 21% OF THE INTERVAL) VERY BADLY BROKEN AND JOINTED. CORE LOSS 61%.

BOTTOM OF BORING



Test Location No. _____ Station & Offset _____	Test Location No. _____ Station & Offset _____	Test Location No. _____ Station & Offset _____	Test Location No. _____ Station & Offset _____	Test Location No. <u>3</u> Station & Offset <u>29+95.4 LT</u> <u>FIRST PIER</u>	Test Location No. <u>4</u> Station & Offset <u>21+38.25 RT</u> <u>SECOND PIER</u>	Test Location No. <u>9</u> Station & Offset <u>23+88.3 LT</u> <u>THIRD PIER</u>	Test Location No. <u>10</u> Station & Offset <u>23+92.24 RT</u> <u>FOURTH PIER</u>
Surface Elev. <u>966</u> Water Elev. _____	Surface Elev. _____ Water Elev. _____	Surface Elev. _____ Water Elev. _____	Surface Elev. _____ Water Elev. _____	Surface Elev. <u>957.5</u> Water Elev. _____	Surface Elev. <u>967.7</u> Water Elev. _____	Surface Elev. <u>951.4</u> Water Elev. _____	Surface Elev. <u>951.8</u> Water Elev. _____
Piling _____	Piling _____	Piling _____	Piling _____	Piling _____	Piling _____	Piling _____	Piling _____
Hammer _____	Hammer _____	Hammer _____	Hammer _____	Hammer _____	Hammer _____	Hammer _____	Hammer _____
Formula _____	Formula _____	Formula _____	Formula _____	Formula _____	Formula _____	Formula _____	Formula _____
Reference _____	Reference _____	Reference _____	Reference _____	Reference _____	Reference _____	Reference _____	Reference _____
Rod Condition _____	Rod Condition _____	Rod Condition _____	Rod Condition _____	Rod Condition <u>GOOD</u>	Rod Condition <u>GOOD</u>	Rod Condition <u>GOOD</u>	Rod Condition _____
<div style="text-align: right;">966</div> <div style="text-align: right;">962</div> <div style="text-align: right;">958</div> <div style="text-align: right;">954</div> <div style="text-align: right;">950</div> <div style="text-align: right;">946</div> <div style="text-align: right;">942</div> <div style="text-align: right;">938</div> <div style="text-align: right;">934</div> <div style="text-align: right;">930</div> <div style="text-align: right;">926</div> <div style="text-align: right;">922</div>				<div style="text-align: right;">958</div> <div style="text-align: right;">954</div> <div style="text-align: right;">950</div> <div style="text-align: right;">946</div> <div style="text-align: right;">942</div> <div style="text-align: right;">938</div> <div style="text-align: right;">934</div> <div style="text-align: right;">930</div> <div style="text-align: right;">926</div> <div style="text-align: right;">922</div>	<div style="text-align: right;">958</div> <div style="text-align: right;">954</div> <div style="text-align: right;">950</div> <div style="text-align: right;">946</div> <div style="text-align: right;">942</div> <div style="text-align: right;">938</div> <div style="text-align: right;">934</div> <div style="text-align: right;">930</div> <div style="text-align: right;">926</div> <div style="text-align: right;">922</div>	<div style="text-align: right;">958</div> <div style="text-align: right;">954</div> <div style="text-align: right;">950</div> <div style="text-align: right;">946</div> <div style="text-align: right;">942</div> <div style="text-align: right;">938</div> <div style="text-align: right;">934</div> <div style="text-align: right;">930</div> <div style="text-align: right;">926</div> <div style="text-align: right;">922</div>	<div style="text-align: right;">958</div> <div style="text-align: right;">954</div> <div style="text-align: right;">950</div> <div style="text-align: right;">946</div> <div style="text-align: right;">942</div> <div style="text-align: right;">938</div> <div style="text-align: right;">934</div> <div style="text-align: right;">930</div> <div style="text-align: right;">926</div> <div style="text-align: right;">922</div>
<div style="display: flex; justify-content: space-between;"> <div>Capacity "R" in Thousands of Pounds</div> <div>Capacity "R" in Thousands of Pounds</div> <div>Capacity "R" in Thousands of Pounds</div> <div>Capacity "R" in Thousands of Pounds</div> <div>Capacity "R" in Thousands of Pounds</div> <div>Capacity "R" in Thousands of Pounds</div> <div>Capacity "R" in Thousands of Pounds</div> <div>Capacity "R" in Thousands of Pounds</div> </div>							

**OHIO STATE HIGHWAY  
TESTING LABORATORY**

1620 WEST BROAD ST. COLUMBUS 23, OHIO

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**STRUCTURE FOUNDATION INVESTIGATION**

BRIDGE NO. MOT-675-0001

RAMP U OVER I-75

SEC. MOT-675-000

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**DRIVE ROD PENETRATION RESISTANCE DATA**

PLOTTER BY R. C.	CHECKED BY R. D. R.	REVIEWED BY G. P. H.	DATE 2/1/72
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