

SHEET \_\_\_\_\_ of \_\_\_\_\_  
 BY C. Marshall  
 DATE \_\_\_\_\_

STATE OF OHIO  
 DEPARTMENT OF HIGHWAYS  
 BUREAU OF BRIDGES

Summit COUNTY  
 ROUTE 5 SEC. 12.31  
 BR. NO. SU-5-124  
 OVER Akron  
 Little Cuyahoga River  
 FOOTING

PILE DATA FOR Pier # 7  
 Type and Dia. of Pile 14 BP 73  
 Make and Size No. of Hammer Vulcan G-50 Differential Acting  
 Formula: "PR =  $\frac{2F}{50.1}$  (x.954 for 3 to 12 batter)  
 File Load Required 65 Tons & Preferably to rock Tons  
 Remarks \_\_\_\_\_

C.	Length Driven	Cut Off	Bearing Power (Tons)	Pay Length	REMARKS
	110.15	31.91	73.0	78.24	21 blows / 1" @ 104 blows / min. Used on south abutment File # 45
	110.12	1.44 13.36	51.5	95.80	119 blows / 1" @ 102 blows / min. Wasted Used on pile # 30 N. Abutment
	110.04	34.40	66.5	75.64	25 blows / 1" @ 96 blows / min. Used in west pad pier # 7 File # 11
Batter	4 80.01	9.61	70.2	70.40	201 blows / 1 1/2" @ 108 blows / min. Used in west pad Pier # 7 File # 18
	110.18	15.40	72.5	94.78	23 blows / 1" @ 102 blows / min. Used in center pad Pier # 7 File # 30
Batter	6 80.22	10.72	62.0	69.50	23 blows / 1" @ 96 blows / min. Used in north abutment File # 26
	110.15	25.26	76.5	84.89	22 blows / 1" @ 106 blows / min. Used on File 41 NA
	99.97	.95 19.62	69.0	79.72	20 blows / 1" @ 102 blows / min. Wasted Used on pile # 17 N. Abutment
Sub. Test 9 Pile Loading	110.18	18.10	66.0	92.08	16 blows / 1" @ 104 blows / min. Used in south abut. pile # 39
	90.20	23.80	81.0	66.40	35 blows / 1" @ 102 blows / min. Used in Pier # 6 File # 159
Batter	11 84.42	4.95	69.6	79.47	21 blows / 1" @ 104 blows / min. Used Pile # 8 Pier # 7
Batter	12 108.19	10.52	69.0	97.67	20 blows / 1" @ 102 blows / min. Used in south abut. File # 3
	110.14	11.09 .28	69.0	98.86	20 blows / 1" @ 102 blows / min. Used in north abut. File # 34 Waste

SHEET \_\_\_\_\_ of \_\_\_\_\_  
 BY C. Newhall  
 DATE \_\_\_\_\_

STATE OF OHIO  
 DEPARTMENT OF HIGHWAYS  
 BUREAU OF BRIDGES

COUNTY Summit  
 ROUTE 5 SEC. 12-31  
 BR. NO. 84-5-124  
 OVER Alton

PILE DATA FOR Pier # 7 FOOTING  
 Type and Dia. of Pile 14 BP 73  
 Make and Size No. of Hammer Vulcan C-50  
 Formula: "B" = 2F (x.954 for 3 to 12 batter)  
 Pile Load Required 570.1 Tons & Preferably to rock Tons  
 Remarks \_\_\_\_\_

No.	Length Driven	Cut Off	Bearing Power (Tons)	Pay Length	REMARKS
14	79.99	31.91 6.32	69.6	73.67	21 blows / 1" @ 104 blows / min. Used in Pier # 7 Pile # 8
15	111.48	24.55 .05	66.5	86.90	18 blows / 1" @ 102 blows / min. Used in north abut. pile # 36 Wasted
16	110.11	10.84	72.5	99.27	20 blows / 1" @ 105 blows / min. Used south abut. Pile # 42
17	110.12	18.17	74.5	91.95	23 blows / 1" @ 104 blows / min. Used south abutment Pile # 37
Batter 18	79.95	6.66	70.6	73.29	22 blows / 1" @ 104 blows / min. Used on pier # 7 Pile # 8
19	111.18	26.00	71.5	85.18	22 blows / 1" @ 102 blows / min. Used in center pad pier # 7 Pile # 20
20	86.10	4.23	78.0	81.82	21 blows / 1" @ 108 blows / min. Used in center pad pier # 7 Pile # 26
21	98.66	13.93	66.0	84.63	21 blows / 1" @ 98 blows / min. Used in center pad pier # 7 Pile # 31
22	89.08	9.55	71.0	79.53	24 blows / 1" @ 100 blows / min. Used on south sbut. Pile # 25
23	110.16	29.00	74.0	81.18	23 blows / 1" @ 104 blows / min. Used on center pad pier # 7 Pile # 22
24	94.08	4.25	72.0	91.25	23 blows / 1" @ 102 blows / min.
25	109.54	29.90	69.5	79.64	23 blows / 1" @ 100 blows / min. Used on center pad pier # 7 Pile # 30
26	96.31	1.50	74.0	94.81	22 blows / 1" @ 104 blows / min. Used on center pad pier # 7 Pile # 32
27	107.15	14.20	66.5	92.95	20 blows / 1" @ 100 blows / min. Used in center pad pier # 7 Pile # 31

SHEET          of           
 BY C. Newhall  
 DATE         

STATE OF OHIO  
 DEPARTMENT OF HIGHWAYS  
 BUREAU OF BRIDGES

Summit COUNTY  
 ROUTE 5 SEC. 12.31  
 BR. NO. SU-5-124  
 OVER Acron

PILE DATA FOR Pier # 7 FOOTING  
 Type and Dia. of Pile 14 BP 73  
 Make and Size No. of Hammer Vulcan C-50  
 Formula:  $D'' = S \cdot 0.1$  (x .954 for 3 to 12 batter)  
 Pile Load Required 65 Tons & Preferably to rock Tons  
 Remarks         

No.	Length Driven	Cut Off	Bearing Power (Tons)	Pay Length	REMARKS
28	84.61	.36	73.0	84.37	21 blows / 1" @ 104 blows / min.
29	111.17	8.23	74.0	102.94	22 blows / 1" @ 104 blows / min. Used in south abut. File # 5
30	105.43	2.43 3.43	68.0	101.52	21 blows / 1" @ 100 blows / min.
31	108.98	6.36	69.0	102.62	22 blows / 1" @ 100 blows / min. Used in south abutment File # 52
32	93.64	None	66.5	93.64	20 blows / 1" @ 100 blows / min.
33	89.80	2.10 12.65	Refusal Wasted	75.75	340 blows / 6" @ 102 blows / min. Used on File # 37 Pier # 6 after trimming to 12.65
34	97.99	1.87	70.5	96.74	21 blows / 1" @ 102 blows / min.
35	115.58	1.29 11.79	72.5	102.93	20 blows / 1" @ 105 blows / min. Used pile # 38 N. Abutment
36	101.17	21.56	74.0	79.61	20 blows / 1" @ 106 blows / min. Used in south abutment File # 21
37	110.21	27.20	67.5	83.01	19 blows / 1" @ 102 blows / min. Used on File # 29 N. Abut.
38	107.16	23.03	76.0	84.13	24 blows / 1" @ 104 blows / min. Used in south abutment File # 19
39	103.40	4.15	78.0	99.25	21 blows / 1" @ 108 blows / min. Used in center pad File # 32 Pier # 7
40	105.26	4.63	71.5	100.63	20 blows / 1" @ 104 blows / min. Used in center pad File # 32 Pier # 7

SHEET \_\_\_\_\_ of \_\_\_\_\_  
 BY \_\_\_\_\_  
 DATE \_\_\_\_\_

STATE OF OHIO  
 DEPARTMENT OF HIGHWAYS  
 BUREAU OF BRIDGES

COUNTY \_\_\_\_\_  
 ROUTE \_\_\_\_\_ SEC. \_\_\_\_\_  
 BR. NO. \_\_\_\_\_  
 OVER Summit  
5 12.31

C. Newhall

FOOTING SU-5-124  
Alcon

PILE DATA FOR \_\_\_\_\_  
 Type and Dia. of Pile \_\_\_\_\_  
 Make and Size No. of Hammer \_\_\_\_\_  
 Formula: "pn" = \_\_\_\_\_  
 File Load Required 14 BP 73 Tons & Preferably \_\_\_\_\_ Tons  
 Remarks Vulcan C-50  
3/0.1 65 (x.954 for 3 to 12 batter)  
to rock

No.	Length Driven	Cut Off	Bearing Power (Tons)	Pay Length	REMARKS
41	110.16		83.0	104.48	28 blows / 1" @ 107 blows / min.
		5.68	Used in east pad pair # 7 Pile # 53		
42	100.12		68.2	99.00	20 blows / 1" @ 104 blows / min.
		1.68			
43	102.15		80.0	98.22	23 blows / 1" @ 108 blows / min.
		3.93	Used in center pad pier # 7 Pile # 24		
44	123.68		68.6	111.82	23 blows / 1" @ 102 blows / min.
		11.86	Used in east pad pier # 7 Pile # 46		
45	113.04	11.24	79.0	101.67	22 blows / 1" @ 108 blows / min.
		<del>16.24</del>	Used on center pad pier # 7 Pile # 24		
		.20	Trimmed from the above to use on Pile 24, wasted		
46	112.01		65.8	110.27	20 blows / 1" @ 102 blows / min.
		.13			
		1.65	Used on Pile # 28 Pier # 7 Center pad		
47	110.20	4.0	174.03	101.53	20 blows / 1" @ 106 blows / min.
		8.67	Used on pile # 44 Pier # 7 East pad.		
48	110.14		69.0	94.54	18 blows / 1" @ 104 blows / min.
		15.60	Used on Pile # 21 Center pad pier # 7		
49	102.85		71.0	97.70	22 blows / 1" @ 102 blows / min.
		5.15	Used on Pile # 24 center pad pier # 7		
50	110.11		Refusal	103.71	Refusal @ 102 blows / min.
		6.40	Used on Pile # 32 center pad pier # 7		
51	101.12		65.8	96.05	20 blows / 1" @ 102 blows / min.
		4.35	Used on Pile # 32 center pad pier # 7		
		.13	Used to square up pile wasted		
		.95	Wasted		
52	107.10		79.5	101.80	22 blows / 1" @ 108 blows / min.
		5.30	Used on Pile # 24 center pad pier # 7		
53	150.05		67.7	127.40	16 blows / 1" @ 108 blows / min.
		22.65	Used in S. Abut. pile 23		



Pile No. 9  
 WEST FOOTING #7 HOLM + Pier  
 Sta. 39+29.45  
 Offset 37' R-L  
 Date Driven 8-29-50

State of Ohio -  
 Department of Highways  
 Bureau of Bridges

SUMMIT County  
 S.H.S.R. 5 Sec. 12.31  
 Br. No. SU-5-124  
 Over LITTLE CUYAHOGA RIVER

**TEST LOAD**

Type of Pile 14 BP 73  
 L<sub>d</sub> 92.07 L<sub>g</sub> 91.07 Weather CLEAR, WARM  
 Ground El. 965.00 ; Soil SAND

Refer to Driving Log report for this pile

DATE	LOADING TIME (Hr. of Day)	INCREMENT OF LOAD (In Tons) + or -	TOTAL LOAD APPLIED (In Tons)	SETTLEMENT PER LOAD INCREMENT (Inches)	TOTAL SETTLEMENT (Inches)	REMARKS
SUB.	LOAD TEST FILE	#9	PIER #7	WAS DRIVEN	<del>92.07</del>	TO
65 TONS BEARING AND LOADED WITH HEIN WERNER HYDRAULIC JACKS. RESISTING PILES #2, 5, 7, 12, 13 AND 16.						
9-8-50						
	5:00	+65	65 Ton		.065	
	5:20				.065	
	5:40				.065	
	6:00			.065	.065	
ADDED 13 TON INCREMENT TO 65 TONS.						
	6:01	+13	78 Ton		.0875	
	6:20				.0875	
	6:40				.0875	
	7:00				.0875	
	7:20				.0875	
	7:40				.0875	
	8:00			.0225	.0875	
ADDED 13 TON INCREMENT TO 78 TONS.						
	8:01	+13	91 Ton		.1125	
	8:20				.1125	
	8:40				.1125	
	9:00				.115	
	9:20				.12	
	9:40				.12	
	10:00				.12	
	10:20				.12	
	10:40				.12	
	11:00			.0325	.12	
ADDED 13 TON INCREMENT TO 91 TONS.						
	11:01	+13	104 Ton		.1375	

\* Continuation of columns and Explanatory Notes on reverse side.

Pile No. 9  
 WEST FOOTING #7 ABUTMENT Pier  
 Sta. 39+29.45  
 Offset 37' RT-L  
 Date Driven 8-29-50

State of Ohio  
 Department of Highways  
 Bureau of Bridges

SUMMIT County  
 I.H. S.R. 5 Sec. 12.31  
 Br. No. SU-5-124  
 Over LITTLE CUYAHOGA RIVER

**TEST LOAD**

Type of Pile 14 BP 73  
 L<sub>d</sub> 92.07 L<sub>g</sub> 91.07 Weather CLEAR, WARM  
 Ground El. 965.00; Soil SAND

*Refer to Driving Log report for this pile*

DATE	LOADING TIME (Hr. of Day)	INCREMENT OF LOAD (In Tons) + or -	TOTAL LOAD APPLIED (In Tons)	SETTLEMENT PER LOAD INCREMENT (Inches)	TOTAL SETTLEMENT (Inches)	REMARKS
9-9-50	7:20				.160	
	7:40				.160	
	8:00			.0150	.160	
<b>ADDED 13 TON INCREMENT TO 117 TONS</b>						
	8:01	+13	130 TONS		.180	
	8:20				.185	
	8:40				.185	
	9:00				.185	
	9:20				.190	
	9:40				.190	
	10:00				.190	
	10:20				.190	
	10:40				.190	
	11:00				.190	
	11:20				.190	
	11:40				.190	
	12:00				.190	
	12:20				.190	
	12:40				.190	
	1:00				.190	
	1:20				.190	
	1:40				.190	
	2:00			.030	.190	
<b>TESTING TIME COMPLETED AND STARTED TO REMOVE THE LOAD; AFTER 2:00 READING AND AFTER LOAD WAS REMOVED.</b>						
	2:10	- 130 TON	NONE			
<b>THE TOP OF THE PILE IS .01" ABOVE POINT AT THE START OF THE TEST.</b>						
	5:00			RAISED .01		
<b>FINAL ELEVATION: .01 ABOVE STARTING ELEVATION.</b>						

\* Continuation of columns and Explanatory Notes on reverse side.

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

DRIVING LOG OF PILE NO. 9 IN #7 W. Pad PIER ~~ABUT.~~ Summit COUNTY

Station 39+29.45 Offset 37 Ft. ~~E.~~ - L. S.R. NO. 5 SEC. 12.31

Date Driven 8-29-50 Hammer Vulcan C-50 Differential Acting

Type of Pile 14 BP 73 BR. NO. SU-5-124

Ground El. \_\_\_\_\_ Pile Cap. El. \_\_\_\_\_

~~OVER~~ Expressway

Formula:  $R = \frac{2F}{S+0.1}$

Little Cuyahoga River

Depth	Blows	S	H	F	R	Remarks
1						
2						
3	2	6.00				
4	3	4.00				
5	5	2.40				
6	7	1.714				
7	7	1.714				
8	7	1.714				
9	7	1.714				
10	8	1.50				
11	10	1.20				
12	12	1.00				
13	13	.923				
14	15	.800				
15	14	.857				
16	14	.857				
17	14	.857				
18	13	.923				
19	14	.857				
20	15 90/M	.800				90 Blows per minute
21	16 "	.750				"
22	17 "	.706				"
23	15 "	.800				"
24	15 "	.800				"
25	15 "	.800				"
26	14 "	.857				"
27	16 "	.750				"
28	15 "	.800				"
29	14 "	.857				"
30	14 "	.857				"
31	13 "	.923				"
32	12 "	1.00				"
33	13 "	.923				"
34	14 "	.857				"
35	14 "	.857				"
36	13 "	.923				"
37	14 "	.857				"
38	16 "	.750				"
39	16 "	.750				"
40	17 "	.706				"
41	18 "	.667				"



STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

DRIVING LOG OF PILE NO. 9 IN #7 W. Pad PIER ~~ABUT.~~ Summit COUNTY

Station 39+29.45 Offset 37 Ft. ± - L. S.R. NO. 5 SEC. 12.31

Date Driven 8-29-50 Hammer Vulcan C-50

Type of Pile 14 BP 73

BR. NO. SU-5-124

Ground El. \_\_\_\_\_ Pile Cap. El. \_\_\_\_\_

OVER Expressway

Formula:  $R = \frac{2F}{S+0.1}$

Depth	Blows	S	H	F	R	Remarks
42	19 90/M	.632				90 Blows per minute
43	19 "	.632				"
44	19 "	.632				"
45	19 "	.632				"
46	20 "	.600				"
47	22 "	.545				"
48	22 "	.545				"
49	21 "	.571				"
50	24 "	.500				"
51	24 "	.500				"
52	24 "	.500				"
53	23 "	.522				"
54	26 "	.462				"
55	25 "	.480				"
56	27 92/M	.444				92 "
57	39 90/M	.308				90 "
58	36 "	.333				"
59	36 "	.333				"
60	36 "	.333				"
61	39 "	.308				"
62	36 "	.333				"
63	38 "	.316				"
64	39 "	.308				"
65	41 "	.293				"
66	41 "	.293				"
67	46 "	.261				"
68	46 "	.261				"
69	50 "	.240				"
70	49 "	.245				"
71	52 96/M	.231		9,420	56,000	96 "
72	53	.226		9,420	57,800	"
73	53	.226		9,420	57,800	"
74	50	.240		9,420	55,400	"
75	50	.240		9,420	55,400	"
76	52	.231		9,420	53,900	"
77	51	.235		9,420	56,200	"
78	55	.218		9,420	59,000	"
79	60 100/M	.200		9,975	66,500	100 "
80	74	.162		9,975	76,100	"
81	83	.145		9,975	81,400	"
82	84	.143		9,975	82,100	"

See reverse side for EXPLANATORY NOTES AND INSTRUCTIONS

