

SHEET _____ of _____
 BY C. NEWHALL
 DATE _____

STATE OF OHIO
 DEPARTMENT OF HIGHWAYS
 BUREAU OF BRIDGES

SUMMIT COUNTY
 ROUTE 5 SEC. 12.31
 BR. NO. EXPRESSWAY PART I
 OVER AKRON SU-5-124
 Little Cuyahoga River
 FOOTING

PILE DATA FOR SOUTH ABUTMENT
 Type and Dia. of Pile 14" BPT34
 Make and Size No. of Hammer MCKIERNEN-TERRY Differential Acting
 Formula: "R" = $\frac{2F}{510.T}$
 File Load Required 45 Tons & preferably ROCK Tons
 Remarks _____

File No.	Length Driven*	Cut Off	Bearing Power (Tons)	Pay Length	REMARKS
1	44.98			40.23	REFUSAL - 156 BLOVS PER FT. DRIVEN 12-6-50
		6.75			
2	44.68			40.83	ROCK - 156 BLOVS PER FT. DRIVEN 12-6-50
		5.77			
3	35.47			28.34	ROCK - 136 BLOVS PER FT. DRIVEN 12-6-50
BATTER		4.80	USED ON FILE NO. 45 SOUTH ABUTMENT		
		3.50			
4	29.98			25.73	ROCK - 142 BLOVS PER FT. DRIVEN 12-5-50
		6.25			
5	33.32			27.32	ROCK - 142 BLOVS PER FT. DRIVEN 12-6-50
BATTER		8.00	LOST IN PILE - TRANSFER		
6	39.14			36.91	ROCK - 150 BLOVS PER FT. DRIVEN 12-1-50
		3.35			
7	34.59			34.33	ROCK - 148 BLOVS PER FT. DRIVEN 12-1-50
		0.39			
8	39.86			36.73	ROCK - 140 BLOVS PER FT. DRIVEN 12-4-50
		4.70			
9	45.65			40.95	ROCK - 138 BLOVS PER FT. DRIVEN 11-30-50
		4.70	USED ON FILE NO. 8 SOUTH ABUTMENT		

*Total of all lengths placed in leads

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 DEPARTMENT OF HIGHWAYS
 BUREAU OF BRIDGES

SUMMIT COUNTY
 ROUTE 5 SEC. 12.31
 BR. NO. EXPRESSWAY PART I
 OVER AKRON

PILE DATA FOR SOUTH ABUTMENT FOOTING
 Type and Dia. of Pile 14" H 73
 Make and Size No. of Hammer MCKIERNAN-TERRY
 Formula: "R" = $\frac{2 \times F}{S.D.T.}$
 Pile Load Required 45 Tons & preferably ROCK Tons
 Remarks _____

File No.	Length Driven*	Cut Off	Bearing Power (Tons)	Pay Length	REMARKS
10	31.92			31.80	ROCK - 145 BLOVS PER FT. DRIVEN 11-30-50
		0.12	USED ON FILE NO. 11 SOUTH ABUTMENT		
11	31.73 31.75			31.73 31.75	ROCK - 140 BLOVS PER FT. DRIVEN 11-30-50
		NONE			
12	30.02			29.13	ROCK - 150 BLOVS PER FT. DRIVEN 11-30-50
		1.34			
13	29.06			28.55	ROCK - 135 BLOVS PER FT. DRIVEN 11-29-50
		0.76			
14	30.14			27.75	ROCK - 135 BLOVS PER FT.-115/MIN. DRIVEN 11-22-50
		3.59			
15	27.00			25.07	ROCK - 135 BLOVS PER FT.-135/MIN. DRIVEN 11-22-50
		1.60	USED ON FILE NO. 11 SOUTH ABUTMENT		
		0.49			
16	26.01			24.07	ROCK - 140 BLOVS/FT. - 140/MIN. DRIVEN 11-22-50
		1.94	USED ON FILE NO. 10 SOUTH ABUTMENT		
17	24.88			24.70	ROCK - REFUSAL - 115/MIN. DRIVEN 11-22-50
		0.27			
18	24.44			24.44	ROCK - 101 BLOVS/FT. - 104/MIN. DRIVEN 11-22-50
		NONE			

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SUMMIT COUNTY
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 BR. NO. EXPRESSWAY PART 1
 OVER AKRON

PILE DATA FOR SOUTH ABUTMENT FOOTING
 Type and Dia. of Pile 14" H 73
 Make and Size No. of Hammer MCKIERNAN-TERRY 9 B 3
 Formula: "R" = $\frac{24F}{S+0.1}$
 Pile Load Required 45 Tons & preferably ROCK Tons
 Remarks _____

File No.	Length Driven*	Cut Off	Bearing Power (Tons)	Pay Length	REMARKS
19	23.03			18.93	16/BLOWS/INCH @ 145/MIN. DRIVEN 10-15-50
		6.10			
20	25.08			23.51	REFUSAL - 145 BLOWS/MIN. DRIVEN 10-5-50
		2.36			
21	26.88			22.28	ROCK - 145 BLOWS/MIN. DRIVEN 10-5-50
		4.60	USED ON FILE No. 9 SOUTH ABUTMENT		
22	25.00			19.98	REFUSAL - 145 BLOWS/MIN. DRIVEN 10-5-50
		5.02	USED ON FILE No. 50 SOUTH ABUTMENT		
23	22.65			19.80	REFUSAL - 145 BLOWS/MIN. DRIVEN 10-5-50
		2.85	USED ON FILE No. 47 SOUTH ABUTMENT		
24	41.49			41.49	ROCK - DRIVEN 12-1-50 145 BLOWS / FT.
		NONE			
25	39.69			39.69	ROCK - 135 BLOWS/FT. DRIVEN 12-4-50
		NONE			
26	37.42			37.42	ROCK - 135 BLOWS/FT. DRIVEN 11-30-50
		NONE			
27	40.34			35.14	ROCK - 138 BLOWS/FT. DRIVEN 12-4-50
		5.16			
		0.06	WASTED		

*Total of all lengths placed in leads

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 BR. NO. EXPRESSWAY PART 1
 OVER AKRON

PILE DATA FOR SOUTH ABUTMENT FOOTING
 Type and Dia. of Pile 14" H 73
 Make and Size No. of Hammer MCKIERNAN-TERRY 9 B 3
 Formula: "R" = 24
 Pile Load Required 50.1 Tons & preferably Rock Tons
 Remarks _____

File No.	Length Driven*	Cut Off	Bearing Power (Tons)	Pay Length	REMARKS
28	34.85			34.78	ROCK - 138 BLOWS/FT. DRIVEN 12-4-50
		0.10			
29	34.21			33.72	ROCK - 142 BLOWS/FT. DRIVEN 12-4-50
		0.74			
30	38.16			35.57	ROCK - 142 BLOWS/FT. DRIVEN 12-4-50
		2.59	USED ON PILE No. 31		
31	34.67			31.57	ROCK DRIVEN 11-29-50
		2.87	USED ON PILE No. 47 SOUTH ABUTMENT		
		0.34	WASTED		
32	32.00			29.39	ROCK - 135 BLOWS/MIN. DRIVEN 11-29-50
		2.61	USED ON PILE No. 41 SOUTH ABUTMENT		
33	30.10			28.61	ROCK DRIVEN 12-29-50
		2.23			
34	26.02			23.55	ROCK - 140 BLOWS/MIN. 140/FT. DRIVEN 11-22-50
		3.71			
35	17.60			13.57	ROCK - 145 BLOWS/MIN. DRIVEN 10-5-50
BATTER		4.03	USED ON PILE No. 29 SOUTH ABUTMENT		
36	17.42			15.16	ROCK - 145 BLOWS/MIN. DRIVEN 10-5-50
BATTER		3.39			

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SUMMIT COUNTY
 ROUTE 5 SEC. 12-31
 BR. NO. EXPRESSWAY PART I
 OVER AKRON

PILE DATA FOR SOUTH ABUTMENT FOOTING
 Type and Dia. of Pile 14" H 73
 Make and Size No. of Hammer MCKIERNAN-TERRY 9-B-3
 Formula: "R" = $\frac{2F}{S+D}$
 Pile Load Required 549.1 45 Tons & preferably ROCK Tons
 Remarks _____

File No.	Length Driven*	Cut Off	Bearing Power (Tons)	Pay Length	REMARKS
37	18.17			16.00	ROCK - 145 BLOWS/MIN. DRIVEN 10-5-50
		3.25			
38	17.98			13.72	ROCK - 145 BLOWS/MIN. DRIVEN 10-5-50
		1.89			
39	18.10			13.18	ROCK - 145 BLOWS/MIN. DRIVEN 10-5-50
		4.92	USED ON PILE No. 4		
40	43.16			43.03	ROCK - 140 BLOWS/FT. DRIVEN 12-1-50
		0.20			
41	41.03			40.92	ROCK - 138 BLOWS/FT. DRIVEN 12-1-50
		0.16			
42	41.01			40.95	ROCK DRIVEN 12-1-50
		0.09			
43	39.31			39.31	ROCK - 135 BLOWS/FT. DRIVEN 11-30-50
		NONE			
44	37.10			36.97	ROCK - 140 BLOWS/FT. DRIVEN 11-30-50
		0.19			
45	36.71			36.71	ROCK - 140 BLOWS/FT. DRIVEN 11-29-50
SA-3					
		NONE			

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SUMMIT COUNTY
 ROUTE 5 SEC. 12.31
 BR. NO. EXPRESSWAY PART I
 OVER AKRON

PILE DATA FOR SOUTH ABUTMENT FOOTING
 Type and Dia. of Pile 14" H 73
 Make and Size No. of Hammer MCKEERNAN-TERRY 9-8-3
 Formula: "R" = 2-F
 Pile Load Required 300.1 45 Tons & preferably ROCK Tons
 Remarks _____

File No.	Length Driven*	Cut Off	Bearing Power (Tons)	Pay Length	REMARKS
46	35.82			35.77	ROCK - 150 BLOWS/FT. DRIVEN 11-29-50
		0.08			
47	33.91			33.91	ROCK - 140 BLOWS/FT. 120 BLOWS FT. - 120/MIN. DRIVEN 11-29-50
		NONE			
48	31.95			31.95	ROCK DRIVEN 11-22-50
		NONE			
49	31.03			30.88	ROCK DRIVEN 11-22-50
		0.23			
50	22.28			15.70	ROCK DRIVEN 11-22-50
		6.54	USED ON FILE No. 46 SOUTH ABUTMENT		
		0.06	WASTED		
51	29.38			28.67	ROCK - 135 BLOWS/ FT. DRIVEN 12-5-50
		1.07			
52	26.39			25.46	ROCK - 136 BLOWS/FT. DRIVEN 12-5-50
		1.40			
53	29.99			28.26	ROCK - 145 BLOWS/FT. DRIVEN 12-5-50
		1.73	USED ON FILE No. 58 SOUTH ABUTMENT		
54	30.00			28.72	ROCK - 150 BLOWS/ FT. DRIVEN 12-5-50
		1.92			

*Total of all lengths placed in leads

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SUMMIT COUNTY
 ROUTE 5 v. SEC. 12.31
 BR. NO. EXPRESSWAY PART I
 OVER AKRON

PILE DATA FOR SOUTH ABUTMENT FOOTING
 Type and Dia. of Pile 14" H 734
 Make and Size No. of Hammer MCKIERNAN-TERRY 9-8-3
 Formula: "R" = $\frac{24}{X}$
 Pile Load Required 540.1 45 Tons & preferably ROCK Tons
 Remarks _____

Pile No.	Length Driven*	Cut Off	Bearing Power (Tons)	Pay Length	REMARKS
55	25.00			25.00	ROCK - 142 BLOWS/FT. DRIVEN - 12-5-50
		NONE			
56	29.98			28.81	ROCK - 160 BLOWS/FT. DRIVEN 12-5-50
		1.75			
57	25.07			24.80	ROCK - 152 BLOWS/FT. DRIVEN 12-5-50
		0.40			
58	26.76			26.76	ROCK - 150 BLOWS/FT. DRIVEN 12-5-50
		NONE			

*Total of all lengths placed in leads

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DRIVING LOG OF PILE NO. 1 IN SOUTH PIER ABUT. SUMMIT COUNTY

Station 24+16.75 Offset 46.32 Ft. 11/11 L. S.R. NO. 5 SEC. 12.31

Date Driven 12-6-50 Hammer MCKIERHAN-TERRY Differential Acting

Type of Pile 14" BPT31 BR. NO. EXPRESSWAY PART 1

Ground El. _____ File Cap. El. 1035.50

~~OVER~~ AKRON SU-5-124

Formula: $R = \frac{x}{\frac{2-f}{s+0.1}}$

Little Cuyahoga River

Depth	Blows	S	H	F	R	Remarks
1						ORIGINAL LENGTH 24.98 +
2						20.00
3						
4						
5	16	.750				112 BLOWS PER MIN.
6						112 BLOWS PER MIN.
7						112 BLOWS PER MIN.
8						112 BLOWS PER MIN.
9						112 BLOWS PER MIN.
10	35	.343				115 BLOWS PER MIN.
11						115 BLOWS PER MIN.
12						115 BLOWS PER MIN.
13						115 BLOWS PER MIN.
14						115 BLOWS PER MIN.
15	30	.400				115 BLOWS PER MIN.
16						115 BLOWS PER MIN.
17						115 BLOWS PER MIN.
18						115 BLOWS PER MIN.
19						115 BLOWS PER MIN.
20	29	.414				115 BLOWS PER MIN.
21	35	.343				115 BLOWS PER MIN.
22	37	.324				115 BLOWS PER MIN.
23	45	.267				115 BLOWS PER MIN.
24	45	.267				115 BLOWS PER MIN.
25	48	.250				115 BLOWS PER MIN.
26				8350		142 BLOWS PER MIN. REFUSAL

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DRIVING LOG OF PILE NO. 2 IN SOUTH PIER ABUT. SUNMIT COUNTY

Station 24+21.75 Offset 46.32 Ft. 111 L. S.R. NO. 5 SEC. 12.31

Date Driven 12-6-50 Hammer MCKIERNAN-TERRY

BR. NO. EXPRESSWAY PART I

Type of Pile 14" H 73

Ground El. Pile Cap. El. 1035.50

OVER AKRON

Formula: R = $\frac{2F}{510.1}$

Depth	Blows	S	H	F	R	Remarks
1						ORIGINAL LENGTH <u>24.97</u> +
2						<u>19.71</u>
3						
4						
5	12	1.000				108 BLOWS PER MIN.
6						108 BLOWS PER MIN.
7						108 BLOWS PER MIN.
8						108 BLOWS PER MIN.
9						108 BLOWS PER MIN.
10	27	.444				108 BLOWS PER MIN.
11						108 BLOWS PER MIN.
12						108 BLOWS PER MIN.
13						108 BLOWS PER MIN.
14						108 BLOWS PER MIN.
15	27	.444				108 BLOWS PER MIN.
16						108 BLOWS PER MIN.
17						108 BLOWS PER MIN.
18						108 BLOWS PER MIN.
19						108 BLOWS PER MIN.
20	30	.400				108 BLOWS PER MIN.
21	32	.375				108 BLOWS PER MIN.
22	35	.343				108 BLOWS PER MIN.
23	41	.243				108 BLOWS PER MIN.
24	40	.300				108 BLOWS PER MIN.
25	52	.231				108 BLOWS PER MIN.
26	52	.231				108 BLOWS PER MIN.
27						156 BLOWS PER MIN. REFUSAL

See reverse side for EXPLANATORY NOTES AND INSTRUCTIONS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DRIVING LOG OF PILE NO. 17 IN SOUTH H/H ABUT. SUMMIT COUNTY

Station 24+21.75 Offset 46.32 Ft. R. H/H S.R. NO. 5 SEC. 12.31

Date Driven 11-22-50 Hammer McKIERNAN-TERRY Differential Acting

Type of Pile 14" BP734 BR. NO. EXPRESSWAY PART 1

Ground El. _____ File Cap. El. 1035.50

~~OVER~~ SU-5-124

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

Little Cuyahoga River

Depth	Blows	S	H	F	R	Remarks
1						
2						
3						
4						
5	15	.800				110 BLOVS PER MIN.
6						110 BLOVS PER MIN.
7						110 BLOVS PER MIN.
8						110 BLOVS PER MIN.
9						110 BLOVS PER MIN.
10	31	.387				115 BLOVS PER MIN.
11						115 BLOVS PER MIN.
12						115 BLOVS PER MIN.
13						115 BLOVS PER MIN.
14						115 BLOVS PER MIN.
15	29	.414				115 BLOVS PER MIN.
16	24	.500				115 BLOVS PER MIN.
17	22	.545		7500		135 BLOVS PER MIN-REFUDAL
18						

See reverse side for EXPLANATORY NOTES AND INSTRUCTIONS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DRIVING LOG OF PILE NO. 18 IN SOUTH 7/11/11 ABUT. SUMMIT COUNTY

Station 24+16.75 Offset 46.32 Ft. R. H/H/H
 Date Driven 11-22-50 Hammer MCKIERNAN-TERRY
 Type of Pile 14" H 73
 Ground El. _____ File Cap. El. 1035.50

S.R. NO. 5 SEC. 12.31
 BR. NO. EXPRESSWAY PART 1
 OVER AKRON

Formula: R = $\frac{x}{s+0.1}$

Depth	Blows	S	H	F	R	Remarks
1						
2						
3						
4						
5	19	.632				125 BLOWS PER MIN.
6						
7						
8						
9						
10	48	.250				130 BLOWS PER MIN.
11						
12						
13						
14						
15	27	.444				104 BLOWS PER MIN.
16	34	.353				
17	101	.119		8100		140 BLOWS PER MIN. - REFUSAL
18						

STATE OF OHIO
 DEPARTMENT OF HIGHWAYS
 BUREAU OF BRIDGES

DRIVING LOG OF PILE NO. 37 IN SOUTH 1111 ABUT. SUNNIT COUNTY

Station 25+18.75 Offset 46.20 Ft. 1111 L. S.R. NO. 5 SEC. 12.31
 Date Driven 10-5-50 Hammer MCKIERNAN-TERRY Differential Acting
 Type of Pile 14" BPT34 BR. NO. EXPRESSWAY PART 1
 Ground El. _____ Pile Cap. El. 1005.75

OVER AKRON SU-5-124

Formula: $R = \frac{x}{\frac{2-f}{540.1}}$

Little Cuyahoga River

Depth	Blows	S	H	F	R	Remarks
1						
2						
3						
4						
5	7	1.714				110 BLOWS PER MIN.
6						
7						
8						
9						
10	11	1.091		8100		140 BLOWS PER MIN.
11	15	.800		8100		140 BLOWS PER MIN.
12	19	.632		8100		140 BLOWS PER MIN. REFUSAL
13						
14						

See reverse side for EXPLANATORY NOTES AND INSTRUCTIONS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DRIVING LOG OF PILE NO. 39 IN SOUTH 1/11/51 ABUT. SUMMIT COUNTY

Station 25+20.20 Offset 42.20 Ft. 1/11/51 L. S.R. NO. 5 SEC. 12.31
Date Driven 10-5-50 Hammer MCKIERNAN-TERRY
Type of Pile 14" H 73 BR. NO. EXPRESSWAY PART 1
Ground El. _____ File Cap. El. 1005.75

OVER ARRON

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

Depth	Blows	S	H	F	R	Remarks
1						ORIGINAL LENGTH 18.10
2						
3						
4						
5	3	4.00				120 BLOWS PER MIN.
6						120 BLOWS PER MIN.
7						120 BLOWS PER MIN.
8						120 BLOWS PER MIN.
9						120 BLOWS PER MIN.
10	20	.600				120 BLOWS PER MIN.
11				8.100		120 BLOWS PER MIN. EXHIBIT
12						140 BLOWS PER MIN.-REFUSAL

See reverse side for EXPLANATORY NOTES AND INSTRUCTIONS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DRIVING LOG OF PILE NO. 49 IN SOUTH 1111 ABUT. SUMMIT COUNTY

Station 25+18.75 Offset 33.57 Ft. R. 1111 S.R. NO. 5 SEC. 12.31
Date Driven 11-22-50 Hammer MCKIERNAN-TERRY Differential Acting
Type of Pile 14" BP73 BR. NO. EXPRESSWAY PART - 1
Ground El. _____ File Cap. El. 1035.20
OVER AKRON SU-5-124

Formula: $R = \frac{2 \cdot F}{S+0.1}$
Little Cuyahoga River

Depth	Blows	S	H	F	R	Remarks
1						ORIGINAL LENGTH 31.03
2						
3						
4						
5	8	1.50				
6						
7						
8						104 BLOWS PER MIN.
9						
10	19	.632				
11						
12						
13						
14						
15	28	.429				93 BLOWS PER MIN.
16	23	.522				94 BLOWS PER MIN.
17	38	.316				120 BLOWS PER MIN.
18	58	.207				120 BLOWS PER MIN.
19	80	.150				120 BLOWS PER MIN.
20						REFUSAL

See reverse side for EXPLANATORY NOTES AND INSTRUCTIONS

