

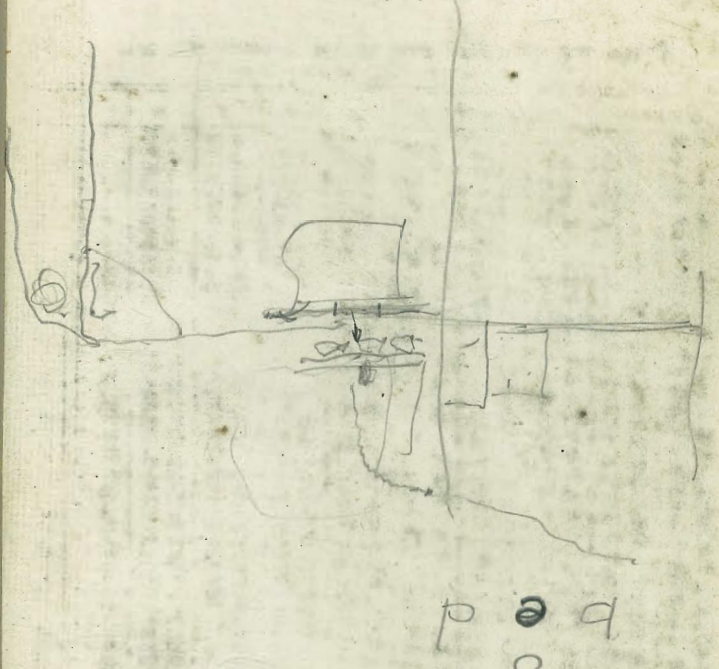
DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING  
SLOPE 1 TO 1. ROADWAY OF ANY WIDTH

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	0
1	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	1
2	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70	2.80	2.90	2
3	3.00	3.10	3.20	3.30	3.40	3.50	3.60	3.70	3.80	3.90	3
4	4.00	4.10	4.20	4.30	4.40	4.50	4.60	4.70	4.80	4.90	4
5	5.00	5.10	5.20	5.30	5.40	5.50	5.60	5.70	5.80	5.90	5
6	6.00	6.10	6.20	6.30	6.40	6.50	6.60	6.70	6.80	6.90	6
7	7.00	7.10	7.20	7.30	7.40	7.50	7.60	7.70	7.80	7.90	7
8	8.00	8.10	8.20	8.30	8.40	8.50	8.60	8.70	8.80	8.90	8
9	9.00	9.10	9.20	9.30	9.40	9.50	9.60	9.70	9.80	9.90	9
10	10.00	10.10	10.20	10.30	10.40	10.50	10.60	10.70	10.80	10.90	10
11	11.00	11.10	11.20	11.30	11.40	11.50	11.60	11.70	11.80	11.90	11
12	12.00	12.10	12.20	12.30	12.40	12.50	12.60	12.70	12.80	12.90	12
13	13.00	13.10	13.20	13.30	13.40	13.50	13.60	13.70	13.80	13.90	13
14	14.00	14.10	14.20	14.30	14.40	14.50	14.60	14.70	14.80	14.90	14
15	15.00	15.10	15.20	15.30	15.40	15.50	15.60	15.70	15.80	15.90	15
16	16.00	16.10	16.20	16.30	16.40	16.50	16.60	16.70	16.80	16.90	16
17	17.00	17.10	17.20	17.30	17.40	17.50	17.60	17.70	17.80	17.90	17
18	18.00	18.10	18.20	18.30	18.40	18.50	18.60	18.70	18.80	18.90	18
19	19.00	19.10	19.20	19.30	19.40	19.50	19.60	19.70	19.80	19.90	19
20	20.00	20.10	20.20	20.30	20.40	20.50	20.60	20.70	20.80	20.90	20
21	21.00	21.10	21.20	21.30	21.40	21.50	21.60	21.70	21.80	21.90	21
22	22.00	22.10	22.20	22.30	22.40	22.50	22.60	22.70	22.80	22.90	22
23	23.00	23.10	23.20	23.30	23.40	23.50	23.60	23.70	23.80	23.90	23
24	24.00	24.10	24.20	24.30	24.40	24.50	24.60	24.70	24.80	24.90	24
25	25.00	25.10	25.20	25.30	25.40	25.50	25.60	25.70	25.80	25.90	25
26	26.00	26.10	26.20	26.30	26.40	26.50	26.60	26.70	26.80	26.90	26
27	27.00	27.10	27.20	27.30	27.40	27.50	27.60	27.70	27.80	27.90	27
28	28.00	28.10	28.20	28.30	28.40	28.50	28.60	28.70	28.80	28.90	28
29	29.00	29.10	29.20	29.30	29.40	29.50	29.60	29.70	29.80	29.90	29
30	30.00	30.10	30.20	30.30	30.40	30.50	30.60	30.70	30.80	30.90	30
31	31.00	31.10	31.20	31.30	31.40	31.50	31.60	31.70	31.80	31.90	31
32	32.00	32.10	32.20	32.30	32.40	32.50	32.60	32.70	32.80	32.90	32
33	33.00	33.10	33.20	33.30	33.40	33.50	33.60	33.70	33.80	33.90	33
34	34.00	34.10	34.20	34.30	34.40	34.50	34.60	34.70	34.80	34.90	34
35	35.00	35.10	35.20	35.30	35.40	35.50	35.60	35.70	35.80	35.90	35
36	36.00	36.10	36.20	36.30	36.40	36.50	36.60	36.70	36.80	36.90	36
37	37.00	37.10	37.20	37.30	37.40	37.50	37.60	37.70	37.80	37.90	37
38	38.00	38.10	38.20	38.30	38.40	38.50	38.60	38.70	38.80	38.90	38
39	39.00	39.10	39.20	39.30	39.40	39.50	39.60	39.70	39.80	39.90	39
40	40.00	40.10	40.20	40.30	40.40	40.50	40.60	40.70	40.80	40.90	40
41	41.00	41.10	41.20	41.30	41.40	41.50	41.60	41.70	41.80	41.90	41
42	42.00	42.10	42.20	42.30	42.40	42.50	42.60	42.70	42.80	42.90	42
43	43.00	43.10	43.20	43.30	43.40	43.50	43.60	43.70	43.80	43.90	43
44	44.00	44.10	44.20	44.30	44.40	44.50	44.60	44.70	44.80	44.90	44
45	45.00	45.10	45.20	45.30	45.40	45.50	45.60	45.70	45.80	45.90	45
46	46.00	46.10	46.20	46.30	46.40	46.50	46.60	46.70	46.80	46.90	46
47	47.00	47.10	47.20	47.30	47.40	47.50	47.60	47.70	47.80	47.90	47
48	48.00	48.10	48.20	48.30	48.40	48.50	48.60	48.70	48.80	48.90	48
49	49.00	49.10	49.20	49.30	49.40	49.50	49.60	49.70	49.80	49.90	49
50	50.00	50.10	50.20	50.30	50.40	50.50	50.60	50.70	50.80	50.90	50

Distance of slope stake from side or shoulder stake for any width roadway, slope 1 to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

Book  
2247

Sunset Cliff Bridge  
Pile. Dev Record



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TABLE XIII—CORRECTIONS FOR TANGENTS AND EXTERNALS

These corrections are to be added to the approximate values, found by dividing the tangent, or external, for a 1° curve (Table VIII) by the degree of curve, in order to obtain the true tangents, or externals. Intermediate values may be obtained by interpolation.

FOR TANGENTS ADD

Central Angle	DEGREE OF CURVE													
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°
10°	.03	.06	.09	.13	.16	.19	.22	.25	.28	.31	.34	.38	.42	.46
15°	.04	.10	.14	.19	.24	.29	.34	.39	.45	.51	.53	.58	.63	.68
20°	.06	.13	.19	.26	.32	.39	.45	.51	.58	.65	.72	.79	.84	.90
25°	.08	.16	.24	.33	.40	.49	.58	.67	.75	.83	.90	.99	1.06	1.14
30°	.10	.19	.29	.39	.49	.59	.69	.79	.89	.99	1.09	1.20	1.29	1.39
35°	.11	.22	.34	.47	.58	.69	.79	.81	.92	1.04	1.29	1.42	1.54	1.66
40°	.13	.26	.40	.53	.67	.80	.93	1.06	1.20	1.34	1.49	1.64	1.79	1.91
45°	.15	.30	.44	.60	.76	.91	1.06	1.21	1.37	1.52	1.70	1.87	2.04	2.24
50°	.17	.34	.51	.68	.85	1.02	1.19	1.36	1.54	1.72	1.91	2.10	2.29	2.48
55°	.19	.38	.57	.76	.95	1.14	1.32	1.52	1.72	1.92	2.14	2.35	2.56	2.77
60°	.21	.42	.63	.84	1.05	1.27	1.49	1.71	1.94	2.17	2.38	2.60	2.83	3.07
65°	.23	.46	.69	.93	1.16	1.40	1.64	1.88	2.13	2.38	2.63	2.88	3.13	3.39
70°	.25	.51	.76	1.02	1.28	1.54	1.80	2.06	2.33	2.60	2.88	3.16	3.44	3.72
75°	.27	.56	.83	1.12	1.40	1.69	1.98	2.27	2.57	2.87	3.16	3.47	3.78	4.09
80°	.30	.61	.91	1.22	1.53	1.84	2.15	2.46	2.78	3.10	3.44	3.78	4.12	4.46
85°	.33	.66	1.00	1.33	1.68	2.02	2.36	2.70	3.05	3.40	3.77	4.14	4.55	4.89
90°	.36	.72	1.09	1.45	1.83	2.20	2.57	2.94	3.32	3.70	4.10	4.50	4.91	5.32
95°	.39	.79	1.19	1.55	2.00	2.40	2.80	3.20	3.61	4.02	4.40	4.98	5.38	5.83
100°	.43	.86	1.30	1.74	2.18	2.62	3.06	3.50	3.95	4.40	4.88	5.37	5.85	6.34
110°	.51	1.03	1.56	2.08	2.61	3.14	3.67	4.21	4.76	5.31	5.86	6.43	7.01	7.60
120°	.62	1.25	1.93	2.52	3.16	3.81	4.45	5.11	5.77	6.44	7.12	7.80	8.50	9.22

FOR EXTERNALS ADD

Central Angle	DEGREE OF CURVE													
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°
10°	.001	.003	.004	.006	.007	.008	.009	.011	.012	.014	.015	.017	.018	.020
15°	.003	.007	.010	.014	.018	.023	.027	.032	.037	.043	.049	.054	.061	.068
20°	.006	.011	.017	.022	.028	.034	.038	.045	.051	.057	.063	.070	.076	.083
25°	.009	.018	.027	.036	.046	.056	.065	.074	.083	.093	.106	.120	.127	.135
30°	.013	.025	.038	.051	.065	.078	.090	.103	.116	.129	.149	.170	.179	.188
35°	.018	.035	.054	.072	.086	.109	.131	.153	.175	.197	.213	.230	.247	.264
40°	.023	.046	.070	.093	.117	.141	.172	.203	.234	.265	.277	.290	.315	.341
45°	.030	.060	.093	.119	.153	.184	.216	.254	.289	.325	.351	.378	.411	.445
50°	.037	.075	.116	.151	.189	.227	.266	.305	.345	.384	.425	.467	.508	.550
55°	.046	.093	.142	.188	.236	.283	.332	.381	.420	.479	.530	.582	.641	.700
60°	.056	.112	.168	.225	.283	.340	.398	.457	.516	.575	.636	.697	.774	.851
65°	.067	.135	.204	.273	.343	.412	.483	.554	.625	.697	.771	.845	.922	1.01
70°	.080	.159	.240	.321	.403	.485	.568	.652	.735	.819	.906	.994	1.08	1.17
75°	.095	.182	.286	.383	.480	.578	.678	.777	.877	.977	1.07	1.18	1.29	1.39
80°	.110	.220	.332	.445	.558	.671	.787	.903	1.02	1.13	1.25	1.38	1.50	1.62
85°	.128	.259	.391	.524	.657	.790	.926	1.06	1.20	1.34	1.47	1.62	1.76	1.91
90°	.149	.299	.450	.603	.756	.910	1.07	1.22	1.38	1.54	1.70	1.87	2.03	2.20
95°	.174	.350	.522	.706	.885	1.06	1.25	1.43	1.62	1.80	1.99	2.18	2.38	2.58
100°	.200	.401	.604	.809	1.01	1.22	1.43	1.64	1.85	2.06	2.28	2.50	2.73	2.96
110°	.268	.536	.806	1.08	1.35	1.63	1.91	2.20	2.48	2.76	3.05	3.35	3.66	3.96
120°	.360	.721	1.08	1.45	1.82	2.19	2.57	2.95	3.33	3.72	4.11	4.50	4.91	5.32

WOOD PILE Receipts 65 to 67  
False work Piled 6/11/69  
Pier & ABUT Layout 2

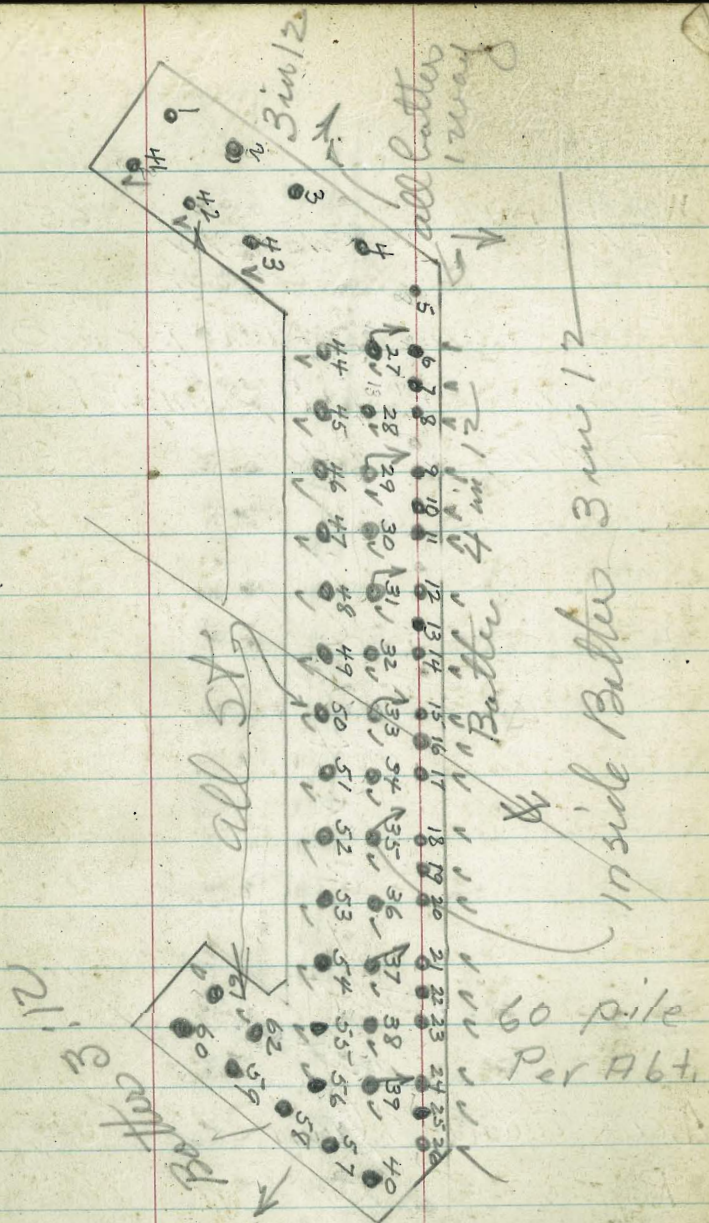
Pile from Midway Br 81  
Driving of Jet pump Pile 81  
Driving Pier 9 3 to 7

8 8 to 12  
7  
6  
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2

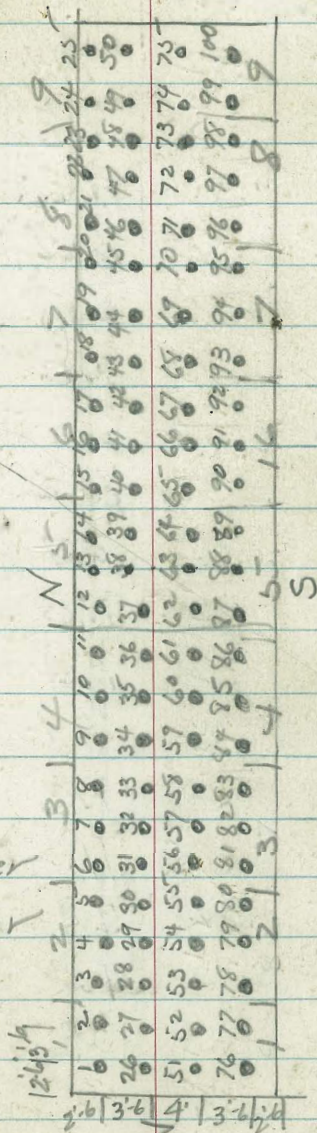
1  
Nabt  
Sabt

Recapitulation driving 79  
Rejected & Broken 68

ABUTMENT PILE LAYOUT



PIER PILE LAYOUT



Pier #9									DRIVING Data.		3
No	Length	Pay Deliv	Cutoff	Pay Drive	BLOWS Last Foot	Blows Ton's	El TIP				
✓12	35°	35	8.4	27	90	71	-34	5' set	6 ft @ 10'	3' @ 4 1/2 @ 80 finish 60 to 90	
✓37	33°	32	9.4	24	200	100	-33	7' set	8 ft @ 9'	5' @ 25 to 50 to 200	
✓14	35	35	7.8	27	85	68	-34	6' set	8 ft @ 10'	6 @ 20 to 50	
✓13	35	35	9.3	26	60	56	-33	7' set	8 ft @ 8 1/2 @ 40 @	40 to 60	
✓39	32	32	6.2	26	60	56	-35	7' set	8 @ 10 to 30	6 @ 20 to 60 4 @ 60	
✓38	33	32	8.3	25	54	53	-34	5' set	7 @ 90 to 12	13 @ 25 to 54	
✓11	35	35	7.0	28	160	90	-35	7' set	11' @ up to 25	6 @ 30/100 finish 160	
✓36	33	32	6.4	27	99	75	-36	6' set	7 @ up to 25	3 @ 25/50 5 @ 65	
9	35	35	6.2	29	85	68	-36	7' set	6 @ up to 35	Finish @ 85	
✓34	32.6	32	3.7	29	45	47	-38	5' set	10' up to 25	Finish @ 45	
✓10	35°	35	9.0	26	250	107	-33	6' set	10 up to 25	5 up to 150 <sup>large pile</sup> finish 250	
✓35	32.6	32	7.4	25	150	88	-34	5' set	8 up to 25	6 to 75 finish 150	
✓8	35°	35	9.4	26	360	118	-33	6' set	8 up to 25	8 to 80 finish 360	
✓33	33°	32	7.3	26	150	88	-35	6' set	8 up to 25	10 to 95 finish 150	
✓6	36°	35	11.2	25	ref	120	-32	5' set	7 to 25	5 to 100 <sup>refused</sup>	
✓31	33.4	32	7.4	26	76	66	-35	6' set	10 to 25	5 to 50 to 76	
✓7	35°	35	9.0	26	ref	120	-34	4' set	5 to 25	5 to 120 finish 250 to ref.	
✓32	32.6	32	13.0	20	ref	120	-29	5' set	8 to 25	5 to 100 finish <sup>500</sup> refused	
✓17	35°	35	7	28	170	93	-35	4' set	6 to 25	4 to 100 finish at 170	
✓42	32	32	5	27	55	54	-36	5' set	12 to 25	finish @ 55	

670

523  
2644

Pier 9													
No	Length	Deliv Pay	Cut	Driv Pay	Blows	100'	EI TIP						
15	35	35	8.0	27	250	107	-34	6 set 10 to 25.5	-100	Finish	250		
40	33	32	7.3	26	100	75	-34	5 set 11 to 25		Finish	100		
16	35	35	8.6	26	210	101	-33	4 set 8 to 25	6 to 80	finish	210		
41	33.0	32	8.3	25	350	118	-34	7 set 9 to 25	7 to 100	finish	350		
89	35.0	35	4.0	31	25	30	-38	4 set. <sup>First File to Jet.</sup> Jet to	-33	finish	25		
88	39.7	35	12.0	28	40	43	-35	7 set 15 to 25	20	jet finish	40		
87	39.4	35	12.0	27	45	47	-34	6 set 20 to 25	Jet	finish	45		
62	33.0	32	6.3	27	68	62	-36	6 set	Jet.		68		
63	33.4	32	6.3	27	53	53	-36	5 set	Jet		53		
64	32.0	32	8.0	24	95	73	-33	5 set	Jet		95		
86	35.0	35	9.0	26	160	89	-33		no jet		160		
61	32	32	9.0	23	150	88	-32	8 set 10 to 25	no jet		150		
20	35	35	5.0	30	43	45	-37	5 set	Jet		43		
45	32	32	6.4	26	42	44	-35		Jet				
19	35	35	2.4	33	45	47	-41		"				
44	32	32	3.4	29	75	65	-38		no jet				
18	35	35	3.0	32	115	77	-39		no jet				
43	33	32	5.0	28	72	64	-37		Jet				
21	35.4	35	5.4	30	22	27	-37		Jet				
46	34.5	32	1.3	33	30	35	-42		no jet	Jet above lowered			

670

558

382

4

Pier 9				91	Blow	TON	El
No	Length	Deliv Pay	Cut	Drive Pay	Per ft	S	Tip
22	37.6	35	7.0	31	55	54	-37
47	34.5	32	9.3	25	47	48	-34
95	35.0	35	10.0	25	50	50	-32
70	32	32	7.0	25	110	76	-34
94	35	35	5.4	30	42	44	-37
69	32	32	8.4	24	120	78	-33
1093	35.0	35	2.4	33	26	25	-40
68	33	32	6.0	27	28	33	-36
92	35	35	5.4	30	30	35	-37
67	32	32	7.0	25	48	48	-34
91	35.6	35	10	<del>27</del> <sup>26</sup>	75	65	-34
66	33.0	32	8	25	52	52	-33
90	35.0	35	8.4	27	50	50	-34
65	34.0	32	9.0	25	50	50	-34
85	35	35	5.3	30	23	28	-37
60	32	32	8.4	24	60	56	-33
84	36	35	4.4	32	23	28	-39
59	32	32	6.0	26	30	35	-35
83	35	35	9.0	<sup>411</sup> 26	47	47	-33
58	33	32	7.0	25	60	56	-35
		670		543			

379  
91  
470 Driving Data

5

no jet  
no jet  
no jet  
"  
jet to -30  
no jet  
jet to -32  
no jet  
jet to -28  
no jet  
no jet  
no jet  
jet to -28  
no jet  
jet to -29  
no jet  
jet to 29  
no jet  
no jet  
6' set Easy to -24 25 @ 40 55 @ -33 Plym  
blow to 28 60 @ -30 no jet

Pier 9							
No	Length	Delv Pay	Cut	Drive Pay	Blow	Feet	EI TIP
82	37°	35	11°	26	115	77	-33
57	32°	32	8.3	24	110	76	-33
81	36°	35	11°	25	200	100	-32
56	33°	32	7°	26	75	65	-33
100	37°	35	6°	31	32	37	-38
75	32	32	6°	26	63	58	-35
99	35	35	5.4	30	24	29	-37
74	32	32	5°	27	21	26	-36
98	37	35	6	31	30	35	-38
73	32	32	8.4	24	75	65	-33
97	36	35	11	25	200	100	-32
72	33	32	8°	25	80	66	-34
96	35°	35	7	28	42	45	-35
71	33	32	7.4	26	65	60	-35
23	37	35	10°	27	110	76	-34
48	33	32	10°	23	100	75	-32
25	35	35	8	27	60	56	-34
50	32	32	5.4	27	32	37	-36
24	32	32	8	24	120	78	-31
49	33	32	7	26	65	60	-35

Driving Data.

no jet  
 25@-24 80@30  
 5'set 60@-27 110@33 no jet Phud  
 no jet  
 6'set 25@-25 75-29 50@31 75@finish  
 50@-27 114-30 jet applied at 30  
 Jet to -27  
 no jet  
 no jet  
 no jet  
 jet to -29  
 no jet  
 no jet  
 no jet  
 Jet to -30  
 no jet  
 no jet  
 no jet  
 jet to 28  
 no jet  
 no jet  
 no jet

315  
 352  
 667

667

528



Pier 9							
No	Length	Deliv Pay	cut off	Driv Pay	Blows Per ft	Tons	EI Tip
✓ 2	35	35	6.4	29	25	30	-36
✓ 27	32	32	9.3	23	65	60	-31
✓ 1	35	35	6.4	29	27	32	-36
✓ 26	32	32	5.0	27	47	47	-36
✓ 30	35	35	9.4	26	72	64	-33
✓ 28	32	32	8.8	23	75	65	-32
✓ 4	35	35	6.8	28	40	43	-35
✓ 29	32	32	6.0	26	48	48	-35
✓ 5	35	35	9.0	26	62	57	-33
10 30	33	32	9.0	24	80	66	-33
✓ 78	35	35	5.0	30	40	43	-37
105 ✓ 53	34	32	6.4	28	120	78	-37
✓ 79	35	35	11.4	24	40	43	-31
✓ 54	32	32	6.2	26	150	88	-35
15 ✓ 80	35	35	8.0	27	40	43	-34
✓ 55	33	32	7.2	26	40	43	-35
✓ 76	35	35	6.3	29	30	35	-36
✓ 51	34	32	7.7	26	90	71	-35
✓ 77	35	35	5.0	30	35	39	-37
20 ✓ 52	32	32	6.4	26	50	50	-35

DRIVING DATA ?  
 First Pile broke @ 7 ft ch @ 10'  
 Jetted to -29 <sup>crawled</sup> <sub>most 12"</sub>

no jet.  
 jet to -28 670  
 no jet 670  
 no jet 670  
 no jet 667  
 no jet 670  
 jet to 29 3347  
 no jet  
 no jet  
 jet to -28  
 set to -16 25@-24 50@-29 120 at finish  
 no jet. 40@-28 60@-31  
 no jet  
 set to -14 25@-22 60@-27 finish 150  
 20@-21 50@-24 100@-28 no jet  
 no jet  
 set @ -14 25@-23 40@-30 finish @ 40 no jet  
 50@-25  
 jet to -29  
 25@-28 70-31 finish @ 90  
 set @ -17 40@-30 80-33 no jet  
 jet to -29  
 set to -16 25@-27 40@-31  
 50@-32

670 <sub>3347</sub>  
 533

No	Pier Length	Deliv PAM	θ	cut	Driv PAM	Blows	Totals	E/ TIP	Driving Data	
									set	set
95 <sup>↑</sup>	35	35	9°	26	26	64	59	-33	3 set	25@-25 50@-32 40@-30
70	33	32	9°	24	24	100	75	-33	6 set	25@-26 75@-28
94	35	35	10.4	25	25	120	78	-32	5 set	25@-25 50@-30 30@-27
69 <sup>↳</sup>	34	32	7.4	27	27	60	56	-36	7 set	25@-25 50@-30 35@-29 31@-32
93 <sup>↑</sup>	35	35	9°	26	26	100	75	-33	6 set	25@-25 50@-31 35@-29
68 <sup>↳</sup>	32	32	6°	26	26	30	35	-35	6 set	25@-27
17 <sup>↳</sup>	37	35	3	34	34	24	29	-41	7 set	25@-24 15@-30 66@-27 set to -31
42	33	32	7	26	26	60	56	-35	7 set	25@-28
16	35	35	9	26	26	40	43	-33	6 set	25@-30
41 <sup>↓</sup>	35	32	9	26	26	40	43	-35		
15 <sup>↑</sup>	35	35	7.4	28	28	30	35	-35		
40	33	32	9	24	24	60	56	-33		
23	35	35	5.3	30	30	25	30	-37		60@-30 broke thru to soft tightens 25
48 <sup>↳</sup>	33	32	7°	26	26	50	50	-35		hit soft spot @ 29. hit tightend
22 <sup>↳</sup>	35	35	4°	31	31	35	39	-38		150@-26 set to 30
47 <sup>↳</sup>	33	32	7°	26	26	50	50	-35		200 Jet Drore Regular
21	35	35	8	27	27	55	54	-34		Drore Regular
46	32	32	8	24	24	60	56	-33		" "
20	3.7	35	10°	27	27	85	68	-34		set to 30
45 <sup>↳</sup>	33	32	8°	25	25	54	53	-34		

10<sup>3</sup>  
10<sup>3</sup>  
10<sup>3</sup>

534

Loosenod  
Jet above  
by

No	Pick Length	Deliv Pay	Cut	Driv Pay	Bleas Perf	Tails	El TIP
18	35	35	9°	26	36	40	-33
43	33	32	9°	24	100	75	-33
19 <sup>h</sup>	35	35	12°	23	125	79	-30
44 <sup>h</sup>	35	32	8°	27	75	65	-36
15-25 <sup>h</sup>	36	35	10	26	72	64	-33
50 <sup>h</sup>	32	32	9	23	65	60	-32
24	35	35	10	25	100	75	-32
49	32	32	9	23	55	54	-32
12	35	35	6°	29	75	65	-36
20-37	32	32	9°	23	60	56	-32
13	38	35	5°	33	33	37	-39
38	30	30	8°	22	50	50	-31
14	36	35	8°	27	35	39	-34
39 <sup>h</sup>	33	32	9	24	90	71	-33
9	35	35	7°	28	50	50	-36
34	32	32	7 <sup>3</sup>	25	40	43	-34
10 <sup>h</sup>	35	35	9 <sup>7</sup>	25	100	75	-32
35 <sup>h</sup>	32	32	9 <sup>4</sup>	23	70	63	-32
11 <sup>h</sup>	35	35	9 <sup>6</sup>	25	60	56	-32
36 <sup>h</sup>	32	32	7.0	25	54	53	-35

set to 29

140@27 set to 29

100@26 set to 29

set to 30

100@25 broke then loosened to 30 then tightened

1-38  
9-32  
10-33  
668

506

No	Pier #	Deliv Pay	8 Cut	Driv Pay	Blow	Tons	EI TIP	DRIVING DATA	10
6	35	35	11°	24	150	88	-31		
31	30	30	7°	23	60	56	-32		
8	35	35	8°	27	55	54	-34		
10 33	30	30	9°	21	60	56	-30		
7	35	35	11°	24	100	75	-31		
32	32	32	8	24	65	60	-33		
100	35	35	10	25	60	56	-32		
75	32	32	9	23	60	56	-32		
15 99	38	35	12	26	85	68	-33		
74	32	32	9	23	75	65	-32		
98	35	35	9 <sup>3</sup>	26	55	54	-33		
73	32	32	5	27	40	43	-36		
96	35	35	9	26	100	75	-33		
20 71	32	32	9	23	100	75	-32		
97	32	32	9.4	23	220	102	-30		
72	33	32	8	25	65	60	-34		
92	35	35	11	24	100	75	-31		
67	30	30	8	22	100	75	-31		
91	35	35	10	25	72	64	-32		
66	32	32	8	24	55	54	-33		

315  
256  
90  
661

No Jetting

3.30  
8.32  
9.35  
661  
485

DRIVING DATA 11

* No	Pier Length	8 Deliv Pay	cut	Drive Pul	Blow	Tons	El. Tip
90	35	35	10	25	60	56	-32
65	32	32	6	26	50	50	-35
5-89	35	35	12	23	200	100	-30
10 64	32	32	9	23	75	65	-32
87	35	35	11°	24	60	56	-32
62	32	32	10°	22	120	78	-31
88	35	35	12°	23	150	88	-30
10 63	32	32	8	24	60	56	-33
86	35	35	10°	25	85	67	-32
61	32	32	8	24	55	54	-33
85	35	35	9	26	50	50	-33
60	32	32	10	22	95	73	-31
15 84	35	35	8	27	85	67	-34
2 59	32	32	7°	25	45	47	-34
83	35	35	10	25	125	79	-32
58	32	32	8	24	60	56	-33
81	35	35	12	23	75	65	-30
20 56	<del>32</del> 33	32	6	27	36	40	-36
82	35	35	17	24	75	65	-31
57	33	32	8	25	65	60	-34

No Jetting

10-32  
10-33  
670  
487

* No	Pier Length	8 Deliv Pay	Cut	Drw Blow Pay	Tons	E/Tip	(30)	(32)	(35)
80	35	35	11	24	150	88	-31	10	10
55	30	30	9	21	55	54	-30	9	10
25 78	35	35	11	24	120	78	-31	8	9
53	32	32	8	24	100	75	-33	10	10
79	35	35	11	24	150	88	-31	6	45 - 49
54	33	32	11	22	250	107	-31		
77	35	35	8	27	110	76	-34		
52	34	32	9	25	75	65	-34		
76	35	35	11	<del>24</del> 25	Refused	120	<del>-31</del> -32		
51	34	32	11	23	Refused	120	-32		
2	35	35	11	24	80	66	-31		
27	33	32	12	21	150		-30		
1	37	35	12	25	120		-32		
26	32	32	11	21	40		-30		
3	35	35	6	29	50		-36		120 @ 26
28	30	30	7	23	60		-32		
5	39	35	12	27	150		-34		Jet to 28
30	34	32	8	26	100		-35		
4	35	35	9 <sup>0</sup>	26	65		-33		
29	32	32	8 <sup>4</sup>	24	60		-33		

534 ✓  
 506 ✓  
 485 ✓  
 487 ✓  
 485  
2497. limit

350  
 256  
 666

Jet to 29.

Jet to 28

666  
 230  
 230  
 230  
 230  
 485

PIER No	PIER Length	Deliv Pay	Cut	Driv Pay	Tons	El TIP	DRIVING Data
✓ 100	35°	35	10	25	75 65	-32	
✓ 75	32	32	5	27	30 35	-36	
✓ 99	35	35	16.4	25	75 65	-32	
✓ 74	32	32	7.3	25	65 60	-34	
✓ 98	36	35	10°	26	125 79	-33	
✓ 73	33	32	8°	25	70 63	-34	
✓ 96	37	35	9°	28	65 60	-35	
✓ 71	32	32	8°	24	65 60	-33	
✓ 97	35°	35°	10.4	25	80 66	-32	
✓ 72	32.8	32	8°	25	60 56	-34	
✓ 95	35	35	9.8	25	80 66	-32	
✓ 70	32.6	32	9°	24	75 65	-33	
✓ 94	35.6	35	10.3	26	80 66	-33	
✓ 69	32	32	7.4	25	60 56	-34	
✓ 93	35	35	9.6	25	80 66	-32	
✓ 88	32	32	9°	23	85 68	-32	
✓ 92	35	35	10.2	25	80 66	-32	
✓ 67	32	32	7.3	25	60 56	-34	
✓ 91	35	35	11°	24	95 73	-31	
✓ 66	32	32	7.4	25	75 65	-34	

670

502

(X) No	Pier Length	Deliv Ply	Cut	Driv Ply	Blew Tons	EI TIP	Driving Data	14
✓ 78	35	35	11.0	24	60	56	-31	
✓ 53	32	32	9	23	60	56	-32	
✓ 80	36	35	13.0	23	150	88	-30	
✓ 55	32	32	10	22	80	66	-31	
✓ 79	35	35	13.4	22	300	113	-29	
✓ 54	32	32	9	23	75	65	-32	
✓ 81	35	35	11.0	24	180	94	-31	
✓ 56	32	32	9.0	23	125	79	-32	
✓ 82	36	35	11.0	25	90	71	-32	
✓ 57	32	32	7	25	55	54	-34	
✓ 83	36	35	12	24	90	71	-31	
✓ 58	32	32	9	23	80	66	-32	
✓ 9	35	35	10	25	150	88	-32	
✓ 34	32	32	8	24	60	56	-33	
✓ 10	32	35	10	25	125	79	-32	
✓ 35	32	32	8	24	75	65	-33	
✓ 11	36	35	19	17	ref	120	-24	
✓ 36	32	32	10	22	250	107	-31	
✓ 14	35	35	12	23	300	113	-30	
✓ 39	32	32 670	9	23 464	50	50	-32	



Pier #7

No	Length	Deliv Pay	Cut	Driv Pay	Blow	Tons	EI TIP
✓ 13 <sup>h</sup>	36	35	11.4	25	250	107	-32
✓ 38 <sup>h</sup>	32	32	12	20	250	107	-29
✓ 12 <sup>n</sup>	36	35	11	25	125	79	-32
✓ 37	32	32	9	23	150	88	-32
✓ 40	32	32	7	25	48	48	-34
one broke ✓ 25	36	35	9.3	27	72	64	-34
✓ 50	32	32	7.3	25	36	40	-34
✓ 24	35	35	9.8	25	75	65	-32
✓ 49	32	32	8.0	24	75	65	-33
✓ 23	35 <sup>6</sup>	35	12.2	23	80	66	-30
✓ 48 <sup>n</sup>	32	32	11.7	20	200	100	-29
✓ 22 <sup>n</sup>	37 <sup>6</sup>	35	11.0	27	60	56	-34
✓ 47	32	32	11.6	20	150	88	-29
✓ 21 <sup>n</sup>	35.7	35	12.0	24	96	74	-31
✓ 46	32	32	10.4	22	84	68	-31
✓ 20	35 <sup>6</sup>	35	11.6	24	110	76	-31
✓ 45	32	32	5.0	27	48	48	-36
✓ 19	35 <sup>6</sup>	35	13.0	23	ref.	120	-30
✓ 44	32	32	12	20	250	120	-29
✓ 18	35	35	11.4	24	150	88	-31

(one -35' broke.)

670

413

Pier 7									
No	Length	Deliv Pay	Cut	Driv Pay	Blow	Tons	E/ Tip		
✓43	32	32	10	22	150	88	-31		
✓17	35	35	13.4	22	300	113	-29		
✓42	32	32	12.4	20	200	100	-29		
20 ✓6	35 <sup>6</sup>	35	12	24	75	65	-31	Jetted to	-23
20 ✓41	32	32	9 <sup>0</sup>	23	60	56	-32	Jetted to	27
6 ✓15	35 <sup>0</sup>	35	11 <sup>0</sup>	24	75	65	-31		
✓6	36 <sup>0</sup>	35	11	-25	60	56	-32	Jetted to	28
✓31	33	32	9	24	90	71	-33		
✓7	35	35	12	23	200	100	-30		
✓32	32	32	9	23	200	100	-32		
✓8	35 <sup>6</sup>	35	11	25	175	94	-32	Jetted to	-23
✓33	32 <sup>6</sup>	32 <sup>5</sup>	10	24	170	92	-33		
✓2	35 <sup>0</sup>	35	8	27	60	56	-34		
27 ✓27	32	32	10	22	300	100	-31	<del>Jetted to 27</del>	100@28 no jet to 32
27 ✓1	36	35	8	28	75	65	-35	Jet to 27	200@28 jet to 32
6 ✓26	32	32	8	24	60	56	-33		
✓76	36.7	35	8	29	48	48	-36	Jet to	30
10 ✓51	32	32	7	25	45	47	-34		
✓77	35	35	10.4	25	160	90	-32	Jet to	28
✓52	32	32	8	24	80	66	-33		

670

4834

Pier 7

No	Length	Deliv Pay	Cut	Driv Pay	Blow Tons	E/ TIP	DRIVING Data
✓ <sup>13</sup> 5	35	35	8	27	60	56	-34 Jet to -29
✓ 30	32	32	8 <sup>4</sup>	24	50	50	-33
✓ <sup>12</sup> 4	36	35	11	25	206	100	-32 Jet to -28
✓ 29	32	32	8 <sup>4</sup>	24	75	65	-33 Jet to 29
✓ 3	35	35	11	24	125	79 +25	-31
✓ 30	32	32	10	22	48	48	-31 Broke 4' below grade to fill with conc.
✓ 90	36	35	9	27	60	56	-34 Jet to -30
✓ <sup>20</sup> 65	32	32	9	23	70	63	-32
✓ 89	35 <sup>6</sup>	35	10	26	50	50	-33 200@ -29 Jet to -33
✓ 64	32	32	9	23	55	54	-32
✓ 88	35	35	12	23	60	56	-30 33 <sup>50</sup>
✓ 63	33	32	8	25	60	56	-34 Jet to -30
✓ <sup>25</sup> 87	35	35	10	25	108	76	-32
✓ 62	32	32	9	23	65	60	-32 <del>Jet to 2 ft of bottom</del>
✓ 86	35	35	9	26	40	43	-33 Jet to 2 ft of bottom
✓ 61	32 <sup>6</sup>	32	9	24	50	50	-33
✓ 85	35	35	9	26	60	56	-33 Jet to -30
✓ <sup>30</sup> 60	32 <sup>8</sup>	32	9	24	60	56	-33
✓ 84	36 <sup>4</sup>	35	9	27	60	56	-34 Jet to -30
✓ <sup>32</sup> 59	32 <sup>6</sup>	32	8	25	50	50	-34 Jet to -30

670

493

Pier		10		Driv			EL TIP	DRIVING Data	
No	Length	Deliv Rate	Cut	Pay	Blow	Tons			
✓76 <sub>W</sub>	35.0	35.0	8	27	55	54	-34	60 @ -25	Jet to 30 Jet to 32
✓51 <sub>W</sub>	32.0	32.0	7	26	50	50	-35		Jet to -30 Jet to 32
✓77 <sub>N</sub>	35.7	35	7.4	28	35	39	-35		Jet to 32
✓52 <sub>N</sub>	32.4	32	5.5	27	28	33	-36		Jet to 33
✓78	36.0	35	8.0	28	35	39	-35		Jet to 32
✓53 <sub>W</sub>	32.0	32	4.4	28	25	30	-37		Jet to 33
✓79 <sub>N</sub>	35	35	7.4	28	60	56	-35		Jet to 30
✓54	32	32	9.0	23	75	65	-32		Jet to 28
✓80	35	35	10.0	25	70	63	-32		Jet to 28
✓55	35	32	7.7	27	40	43	-36	90 @ 2 feet above stop broke thru sand	Jet to 28
✓81 <sub>W</sub>	35	35	12.0	23	80	66	-30		Jet to 30 down on solid.
✓56 <sub>W</sub>	32	32	6.0	26	40	43	-35		Jet to 30
✓82 <sub>N</sub>	36	35	11.0	25	110	76	-32		Jet to 30
✓57 <sub>N</sub>	32	32	8.0	24	45	47	-33		Jet to 29
✓83	35	35	10.0	25	60	56	-32		Jet to 30
✓58	33	32	8.3	25	40	43	-35		Jet to 31
✓84	35	35	9.0	26	60	56	-33		Jet to 32
✓59	33	32	11.0	22	125	79	-31		Jet to 30
✓85	36	35	9.3	27	60	56	-34		Jet to 30
✓60	32	32	10.0	22	60	56	-31		Jet to 29
		670				512			

Pier No	Pier Length	10 Deliv Pay	Cut	Drive Pay	Blow	Tons	E/TIP
✓86	36	35	10.0	26	80	66	-33
✓61	32	32	8.8	23	35	39	-32
✓87	35	35	7.0	28	30	35	-35
✓62 <sup>1</sup>	32	32	7.6	24	50	50	-33
✓88 <sup>1</sup>	35	35	8.4	27	50	50	-34
<sup>20</sup> ✓63 <sup>U</sup>	33	32	9.3	24	65	60	-33
✓89 <sup>N</sup>	(32)	32	8.0	24	45	47	-33
✓64	33	32	4.4	29	50	50	-36
✓90	35	35	8	27	55	54	-34
✓65	33	32	8	25	50	50	-34
<sup>25</sup> ✓91	35	35	8.4	27	65	60	-34
✓66	32	32	7.7	24	55	54	-33
✓92	35	35	8.0	27	45	47	-34
<sup>28</sup> ✓67	32	32	6.4	26	40	43	-35
✓93	35.9	35	7.4	29	20	25	-36
✓68 <sup>N</sup>	32	32	9.4	23	100	75	-32
✓94 <sup>N</sup>	35	35	8.0	27	75	65	-34
✓69 <sup>N</sup>	32	32	8.4	24	60	56	-33
✓95	35	35	8.0	27	60	56	-34
✓70	32	32	3.4	29	20	25	-38

667

520

## DRIVING DATA

19

jet to 29  
 jet to 30  
 jet to 31  
 jet to 30 *hook thru sand.*  
 jet to 30  
 jet to 29  
 jet to 32  
 jet to 30  
 jet to 30  
 jet to 29  
 jet to 30  
 jet to 30  
 jet to 30  
 jet to 32  
 jet to 33  
 jet to 28  
 jet to 29  
 jet to 28  
 jet to 30  
 jet to 32 *went thru sand*

1  
 5  
 2  
 1  
 3  
 3  
 5  
 2  
 6

Pier 10							
N	Length	Deliv Pay	Cut	Driv Pay	Blow	Tons	El Tip
✓96	35	35	7.4	28	55	54	-35
✓71	32	32	8.8	23	60	56	-32
✓97	32	32	4.0	28	20	25	-35
10 ✓72	32	32	8.3	24	55	54	-33
✓98	35	35	10.0	25	110	76	-32
✓73	32 <sup>6</sup>	32	10.0	23	65	60	-32
✓100 <sup>5</sup>	35 <sup>2</sup>	35	8.4	27	55	54	-34
✓75 <sup>1</sup>	33	32	3.4	30	25	30	-39
15 ✓99 <sup>2</sup>	35	35	9.4	26	20	25	-33
✓74 <sup>1</sup>	33	32	8.4	25	55	54	-34
5 ✓12 <sup>1</sup>	35	35	1.0	24	250	107	-31
✓37	33	32	7.6	26	60	56	-35
✓13	35	35	9	26	200	100	-33
20 ✓38	33	32	3.0	30	20	25	-39
✓14	35	35	8	27	60	56	-34
✓39	32	32	8.4	24	70	63	-33
✓9	36	35	8.0	28	55	54	-35
✓34	31	31	7.4	24	60	56	-33
25 ✓10	35	35	7.0	28	45	47	-35
✓35 <sup>v</sup>	32	32	8.4	24	80	66	-33

666

520

DRIVING Data

jet to 29  
 jet to 28  
 jet to 32 Break thru  
 jet to 29  
 jet to 27  
 jet to 28  
 jet to 27  
 jet to 30  
 jet to 29  
 jet to 27  
 no jet.  
 jet to 28  
 jet to 30  
 jet to 30  
 jet to 29  
 jet to 30  
 jet to 30  
 jet to 30  
 jet to 29  
 jet to 28

$\frac{315}{330}$   
 $\frac{330}{666}$

Pier No	IO Length	Deliv Pay	Cut	Driv Pay	Blow	Tons	EI TIP
✓17	36	35	10.8	25	70	63	-32
✓42	32	32	9.0	23	75	65	-32
✓16	35	35	10.0	25	60	56	-32
✓41	32.6	32	8.4	24	50	50	-33
✓15	36.7	35	9.0	26	55	54	-33
✓40	32.6	32	9.3	23	36	40	-31
✓20	35.4	35	12.0	23	72	63	-30
✓45	32.6	32	10.0	24	35	39	-33
✓19	35	35	9.0	26	40	43	-33
10 ✓44	32.4	32	4.0	28	24	29	-37
5 ✓18	36	35	9.0	27	125	79	-34
✓43	33	32	7.0	26	70	62	-35
✓21	35	35	9.4	26	60	56	-33
2 ✓46	32	32	10.0	22	50	50	-31
15 ✓22	35	35	8.0	27	70	62	-34
✓47	33	32	6.0	27	36	40	-36
✓23	34.8	35	7.1	24	55	54	-31
✓48	33	32	7.4	26	50	56	-35
✓24	35	35	10.2	25	160	89	-32
20 ✓49	33	32	3.4	30	20	25	-39

670 507

all Pile tested  
 -27 to -30.

Pier No	Pier Length	Deliv Pay	Cut %	Dist Pay	Dist	Tons	El. TIP
✓25	36	35	10.2	29	25	30	-36
✓50	33	32	3.4	30	20	25	-39
✓11	35 <sup>2</sup>	35 <sup>0</sup>	10.0	25	50	50	-32
✓36	32 <sup>1</sup>	32	7.34	26	35	39	-35
✓6	35	35	9.8	25	60	56	-35
✓31	31.6	32	9.2	23	50	50	-32
✓7	35	35	11.4	24	125	79	-35
✓32	32	32	7.2	25	60	56	-35
✓8	35	35	7.4	28	48	48	-36
✓33	32	32	9.3	23	80	66	-33
✓5	35 <sup>6</sup>	35	9.2	26	40	43	-35
✓30	32 <sup>3</sup>	32	8.3	24	40	43	-33
✓4	35 <sup>6</sup>	35	10.4	24	60	56	-33
✓29	32 <sup>0</sup>	32	8 <sup>3</sup>	24	45	47	-33
✓3	35 <sup>0</sup>	35	10	25	60	56	-36
✓28	32 <sup>3</sup>	32	9.8	22	55	54	-31
✓1	36.7	35	9.8	27	35	39	-36
✓26	32	32	9.83	24	45	47	-33
✓2	35 <sup>0</sup>	35	8.11 <sup>0</sup>	24	72	64	-33
✓27	31.7	32	10.4	22			-31
		670		500			

Driving Data

all out fitted to 30  
 8  
 2

46  
 92.2  
 93  
 259  
 99  
 1249

171



Pier		Top		Blow Tons		El Tip		Jet		ReJet		Remarks
No	Length	Deliv Pay	Cut	Driv Pay	Blow Tons	El Tip	Jet To	ReJet				
✓25	35.4	35	7.8	27	40	34.6	-					
✓50	33.3	32	6.6	27	60	35.7						
✓24	35.7	35	10.4	25	80	32.3						
✓49	33.0	32	8.4	25	75	33.6						
✓23	35.1	35	9	26	50	33.1						
✓48	33.8	32	3.4	30	150	39.4						
✓22	35.2	35	10	25	80	32.2						
✓47	32.4	32	3.6	29	55	37.8						
✓21	35.4	35	10	25	70	32.4						
10 ✓46	32.0	32	7	25	40	34.0						
✓20	35.7	35	4.3	32	15	38.4	34					Jetted too deep
✓45	32.0	32	8.2	24	40	32.8	30					
✓19	36.4	35	8.1	28	37	35.3	30					
✓44	32.4	32	8.9	23	75	32.5	30					
10 ✓18	34.9	35	9.2	26	55	32.7	32					
✓43	32.0	32	7.5	25	40	33.5	32					
✓17	35	35	9.4	26	60	32.6	30					
✓42	32.8	32	5.8	27	38	36.0	28					Jet to 20
✓16	36	35	10.2	26	52	32.8	27					Jet to 26
20 ✓41	32	32	6.3	26	30	34.7	27					27
		670		527								

PIER 6		Deliv	Cut	Deliv	Blow	Ek Tip	Jet	Relet	Remarks
No	Length	Pay		Pay	tons		TO		
✓15	35	35	9.8	25	50	32.2	28		
✓40	33	32	7.6	25	72	34.4	30		
✓14	35	35	9.5	26	65	32.5	28		
✓39	33	32	7.3	26	40	34.7	30		
25 ✓13	35	35	10.0	25	30	31.0	30		
✓38	32	32	6.0	26	42	35.0	31		
✓12	35	35	6.9	28	105	35.1	31		
✓37	33	32	7.1	26	46	34.9	32		
✓11	35	35	9.9	25	86	32.1	31		
30 ✓36	32.3	32	7.0	25	95	34.3	30		
✓10	36	35	10.0	26	125	33.0	26		
✓35	32.8	32	8.4	25	98	33.4	29		
✓9	37	35	8.3	29	33	35.7	33		
✓34	33	32	9.4	24	135	32.6	28		
35 ✓8	35.2	35	7.6	27	60	34.6	30		
✓33	32.5	32	7.5	25	54	34.0	30		
✓7	36	35	9.8	26	130	33.2	27		
✓32	32.6	32	7.5	25	70	34.1	29		
✓6	35.4	35	8.1	27	140	34.8	30		
40 ✓31	32.9	32	9.0	24	34	32.9	28		

PIER 6		Deliv	Cut	Driv	Blow	Tons	El TIP	Jet	Re	Remarks
No	Length	Pay		Pay				To	Jet	
✓5	36	35	11.2	25	130		31.8	30		REFUSAL
✓30	32.2	32	8.1	24	54		33.1	26		
✓4	35	35	8.5	27	42		32.5	31		
✓29	32	32	7.6	24	75		33.4	30		
✓3	35.3	35	10.2	25	115		32.1	29		
✓28	32	32	6.9	25	48		34.1	30		
✓2	35	35	9.1	26	90		32.9	30		
✓27	32.9	32	8.1	25	32		33.8	29		
✓1	35.4	35	10.1	25	75		32.3	30		
✓26	33	32	8.1	25	35		33.9	31		
✓100	35 <sup>0</sup>	35	8.2	27	35		33.8	30		
✓75	32 <sup>0</sup>	32 <sup>0</sup>	6.8	25	35		34.2	30		
✓99	36 <sup>3</sup>	35	10.4	26	90		32.9	30		
✓74	32 <sup>6</sup>	32	8.0	25	45		33.6	30		
✓98	35 <sup>8</sup>	35	9.0	27	35		33.8	30		
✓73	32 <sup>9</sup>	32	8.7	24	55		33.2	30		
✓97	35	35	10.4	25	45		31.6	30		
✓72	32	32	7.4	25	37		33.6	30		
✓96	36	35	9.4	27	50		33.6	30		
✓71	32	32	8.4	24	35		32.6	30		

PIER 6		Deliv	Cut	Driv	Blow	Tons	Ext. Tip	Jet	ReJet	Remarks
No	Length	Pay		Pay				To		
✓95	35.0	35	8.8	26	38		33.2	30		
✓70	32.3	32	9.0	23	45		32.3	30		
✓94	35.4	35	8.4	27	40		34.0	30		
✓69	32.7	32	9.3	23	40		33.4	30		
15 ✓93	35.9	35	10.3	26	60		32.6	30		
✓68	32.2	32	7	25	40		34.2	30		
✓92	37.0	35	7.8	29	38		38.2	30		
✓67	32.0	32	8.3	24	35		32.7	30		
✓91	35.0	35	11.2	24	60		30.8	30		
20 ✓66	32.3	32	11.3	21	60		30.0	30		
✓90	35.3	35	11.4	24	70		30.9	30		
✓65	32.0	32	8.4	24	50		32.6	30		
✓89	35.3	35	9.3	26	60		33.0	30		
✓64	32.8	32	8.6	24	55		33.2	30		
25 ✓88	35.7	35	9.4	26	40		33.3	30		
✓63	32.8	32	8.6	24	45		33.2	30		
✓87	35.4	35	9.8	25	55		32.5	30		
✓62	32.0	32	7.3	25	35		33.7	30		
✓86	35.6	35	10.8	25	45		31.8	30		
30 - 61	32.8	32	7.5	25	60		34.3	30		
		670		496						

26

10.3

2.8

7.5

PIER 6		Deliv	Cut	Driv	Blow	Tons	E/TIP	Jet	Re	Remarks
No	Length	Pay		Pay			To	Jet	Jet	27
✓85	35.3	35	9.0	27	35		34.3	30	27/32	
✓60	32.8	32	8.0	25	45		33.8	30		491
✓84	35.8	35	8.0	28	35		34.8	30		496
✓59	33.0	32	10.0	23	65		32.0	30		506
35 ✓83	36.0	35	10.0	26	50		33.0	30	27/32	515
✓58	32.0	32	7.0	25	45		34.0	30		527
✓82	35.0	35	9.0	26	35		33.0	30		2535
✓57	32.2	32	6.0	26	35		35.2	30		50
✓81	36.0	35	10.0	26	45		33.0	30		33
✓56	32.7	32	10.0	23	50		31.7	30		
✓80	35.0	35	10.8	24	60		31.2	30		
✓55	33.0	32	10.4	23	55		31.6	30		
✓79	35.3	35	10.3	24	48		31.0	30		
✓54	32.6	32	12.4	20	60		29.2	30		
✓78	35.3	35	11.0	24	84		32.3	30		
✓53	32.4	32	8.4	24	48		33.0	30		
✓77	35.0	35	10.2	25	72		33.8	30		
✓52	32.8	32	8.4	24	60		33.0	30		
✓76	35.0	35	9.6	25	72		32.4	30		
✓51	32.4	32	9.4	23	72		32.0	30		
		670		491						

32.6  
32.4

last 4  
21 20 1  
12 32 10 rough  
32 4

PIER # No	Length	5- Deliv Pay	Cut	Driv Pay	Blow Tons	El Tip Jet	Re Jet set at	Remarks
1 ✓	37°	35	9°	28	84	35	22/25	-22
26 ✓	33	32	7.4	26	48	33.6	27	-25
2 ✓	37	35	12.0	25	60	32	23	-22
27 ✓	32	32	7.8	24	62	38.2	25	-23
3 ✓	35	35	8.1	27	48	35.9	26	-25
28 ✓	33	32	6.2	27	30	35.8	27	27/32 -26
4 ✓	35	35	5.3	30	47	36.7	27	27
29 ✓	32	32	2.8	29	18	38.2	32	30
5 ✓	31	31	5.4	26	50	31.6	23	22
30 ✓	32	32	6.8	25	50	34.2	2.8	2.5
6 ✓	35	35	6.4	29	40	35.6	28	26
31 ✓	32	32	5.6	26	55	35.4	28	26
7 ✓	35	35	10.0	25	65	32	28	25
32 ✓	32	32	8.0	24	72	33	28	25
8 ✓	35	35	5.2	30	23	36.8	2.8	2.4
33 ✓	33	32	5.8	27	45	36.2	30	2.6
9 ✓	35	35	5.0	30	40	37	30	28
34 ✓	32	32	5.4	27	48	35.6	30	27
10 ✓	35	35	8.3	27	45	33.7	30	26
35 ✓	32	32	5.2	27	42	35.8	30	27
		666		539				

34.5  
320  
31  
666

PIER 5										Remarks
No	Length	Deliv Pay	cut	Drive Pay	Blow Tons	El	Tip	Jetts	Relet	Hammer set
11 ✓	35	35	5°	30	20	37	30			25
36 ✓	32	32	3°	29	45	38	30			28
12 ✓	35	35	5.0	30	32	37	30			27
37 ✓	32	32	6.4	26	60	34.6	30			25
25 13 ✓	35	35	2.8	32	55	39.2	30			25
38 ✓	32	32	5.8	26	45	35.2	30			27
14 ✓	35	35	5°	30	40	37	30			26
39 ✓	33	32	3.4	30	43	38.6	30			27
15 ✓	36	35	5.6	30	60	37.4	30			23
30 40 ✓	32	32	2.2	30	26	38.8	30			28
16 ✓	35	35	3.4	32	56	38.6	30			26
41 ✓	32	32	5.4	27	50	35.6	30			27
17 ✓	35	35	4.0	31	37	38.0	30			27
3 42 ✓	32	32	3.0	29	40	38.0	30			27
35 18 ✓	36	35	5.8	30	45	37.2	30			23
43 ✓	33	32	5.0	28	60	37.0	30			26
19	35	35	5.0	30	40	37	30			26
44 ✓	33	32	4.3	29	48	37.7	30			26
20 ✓	36	35	4.2	32	18	38.8	30			28
40 45 ✓	33	32	1.6	31	25	40.2	30			29
		670		5921						

PIER 5											30
No	Length	Deliv Pay	Cut	Drive Pay	Blow	Tons	E/Tip	Jet to	Rc Jet	5/10	Remarks
3	21 ✓	35	5.0	30	35	2	37	30		26	
	46 ✓	32	1.2	31	25		39.8	30	28/low	24	
5	22 ✓	36	5.4	31	38		37.4	30		26	
	47 ✓	32	5.8	26	60		35.2	30		24	
	23 ✓	36	1.3	35	24		41.7	30		28	
	48 ✓	32	4.0	28	48		37	30		25	
	24 ✓	35	4.4	31	48		37.6	30		26	
10	49 ✓	32	4.0	28	32		37	30		24	
	25 ✓	35	4.4	31	60		37.6	30		25	
	50 ✓	32	2.2	30	20		38.8	30		27	
	99 ✓	35	6.3	29	40		35.7	30		23	
	74 ✓	32	3.2	29	24		37.8	30		26	
15	100 ✓	37	5.8	31	40		38.2	30		25	
	75 ✓	32	3.4	29	36		37.6	30		25	
	76 ✓	36	5.0	31	30		38.0	30		24	
	51 ✓	32	2.4	30	36		38.6	30		28	
	77 ✓	35	6.0	29	55		37.0	30		26	
20	52 ✓	32	6.0	26	28		35.0	30		27	
	78 ✓	35	2.3	33	35		39.7	30		29	
25	53 ✓	32	6.4	26	35		34.5	30		27	
		670		594							



PIER 5		Deliv	Cut	Drum	Blow	Tons	El	Jet	Rejet
No	Length	Pay		Pay			TIP	To	
3 23	79 ✓	35	35	9.4	26	65	32°	26	23
	54 ✓	32	32	5.3	27	48	35.7	30	27
5 25	80 ✗	35	35	5.8	29	30	36.2	30	26
	55 ✓	32	32	4.0	29	49	38.0	30	28
	81 ✓	35	35	6.0	29	50	36.0	30	25
	56 ✗	32	32	2.0	30	35	39.0	32	31
	82 ✓	35	35	3.2	32	33	38.8	30	28
10 30	57 ✓	32	32	4.0	28	25	37.0	30	28
	83 ✓	35	35	6.9	34	48	41.1	30	26
	58 ✓	33	32	1.4	32	50	41.6	30	28
	84 ✓	36	35	3.8	32	35	39.2	30	27
	59 ✓	32	32	5.4	27	40	35.6	30	26
1	85 ✓	35	35	4.7	30	49	37.3	30	27
	60 ✓	32	32	5.4	27	50	35.6	30	25
	86 ✓	35	35	5.0	30	36	37.0	30	26
	61 ✓	32	32	4.4	28	40	36.6	30	25
	87 ✓	35	35	6.4	29	37	35.6	30	26
2	62 ✓	32	32	1.4	31	25	39.6	30	29
	88 ✓	35	35	6.8	28	35	35.2	30	25
2	63 ✓	32	32	3.0	30	37	39.0	30	29
		670		588					

PIER 5 No	Length	Deliv Pay	Cut	Driv Pay	Blow Tons	El Tip	Jet to	ReJet.
89 ✓	35	35	3.4	32	25	38.6	30	27
64 ✓	33	32	4.4	<del>32</del> 28	40	37.6	30	25
90 ✓	35	35	1.8	33	20	40.2	30	30
65 ✓	32	32	8.3	24	65	31.7	30	23
91 ✓	35	35	5.2	30	30	39.0	30	24
66 ✓	33	32	1.0	32	15	41.0	<del>30</del>	29
92 ✓	35	35	7.0	28	45	35	30	27
67 ✓	32	32	2.0	30	35	39	30	30
93 ✓	35	35	0.8	34	40	41.0	30	28
68 ✓	33	32	0.7	32	45	41.3	30	28
94 ✓	35	35	2.3	33	30	39.7	30	27
69 ✓	32	32	1.0	31	60	40.0	30	25
95 ✓	35	35	6.4	29	55	35.6	30	24
70 ✓	32	32	1.8	30	37	39.2	30	28
96 ✓	35	35	4.4	31	35	37.6	30	27
71 ✓	32	32	5.3	27	50	35.7	30	26
97 ✓	36	35	2.0	34	25	41.0	30	26
72 ✓	33	32	3.0	30	25	39.0	30	27
98 ✓	35	35	2.4	33	30	39.6	30	28
73 ✓	33	32	1.0	32	50	41.0	30	24

3346  
670

2926  
614

PIER	4									
No	Length	Deliv Pay	cut	Driv Pay	Blow	Tons	El TIP	Jet TO	Re Jet	Hammer Set to
1	✓ 35	35	6.4	<del>28</del>	36		35.6	30		2.5
26	✓ 33	32	3.4	30	40		38.6	30		2.7
2	✓ 35	35	3.4	32	30		38.6	30		2.9
27	✓ 32	32	3.2	29	37		37.8	30		2.6
3	✓ 35	35	1.0	34	30		41.0	30		2.6
28	✓ 32	32	2.2	30	40		38.8	30		2.9
4	✓ 35	35	5.3	30	40		37.7	30		2.7
29	✓ 33	32	4.3	29	50		37.7	30		2.8
5	✓ 35	35	6.3	29	55		35.7	30		2.8
30	✓ 32	32	4.1	28	40		36.9	30		2.7
6	✓ 35	35	6.9	28	40		35.1	30		2.5
31	✓ 32	32	5.2	27	45		35.8	30		2.8
7	✓ 36	35	7.0	29	40		36.0	30		2.7
32	✓ 33	32	4.3	29	65		37.7	30		2.6
8	✓ 35	35	4.1	31	35		37.9	30		2.5
33	✓ 33	32	6.3	27	30		35.7	30		2.5
9	✓ 38	35	7.0	31	45		38.0	30		2.7
34	✓ 32	32	3.0	29	35		38.0	30		2.6
10	✓ 35	35	5.0	30	37		37.0	30		2.4
35	✓ 32	32	1.6	30	30		39.4	30		3.0
		670		591						

# PIER 4

No	Length	Deliv Pay	Cut	Drive Pay	Blow	Tons	El TIP	Jet to	Rejet	Set.
11 ✓	37	35	8.0	29	60		37.6	30		26
36 ✓	32	32	5.2	27	55		35.8	30		27
12 ✓	36	35	10.0	26	75		33.0	30		23
37 ✓	32	32	4.8	27	48		36.2	30		26
25 13 ✓	35	35	7.8	27	50		34.2	30		25
38 ✓	32	32	4.4	28	35		36.6	30		27
14 ✓	36	35	10.0	26	60		33.0	30		22
39 ✓	32	32	1.4	31	30		39.6	30		28
15 ✓	36	35	1.2	35	30		39.5	33		30
30 40 ✓	34	<del>32</del> 33	0.6	33	20		42.4	33		30
16 ✓	35	35	8.4	27	75		33.6	32		26
41 ✓	33	<del>32</del> 33	0.0	33	18		42.0	30		26
17 ✓	39	<del>35</del> 37	2.4	37	35		43.6	32		26
42 ✓	32	32	1.2	31	35		39.8	32		27
35 18 ✓	36	35	4.4	32	40		38.6	32		26
43 ✓	32	32	3.4	29	36		37.6	32		25
19 ✓	35	35	2.0	33	35		40.0	32		28
44 ✓	33	32	0.8	32	30		41.2	32		30
20 ✓	36	35	2.0	34	40		41.0	32		27
40 45 ✓	32	32	2.4	30	40		38.6	32		27

34

3 15  
2 25  
6 6  
3 7  
6 74

674

607

PIER 4

No	Length	Deliv Pay	Cut	Driv Pay	Blow	Tons	El TIP	Jet 50	Re Jet	Set
6	21	36	35	6.0	30	50	37.0	32		25
	46	32	32	4.2	28	50	36.8	32		26
	22	35	35	3.4	32	30	38.6	32		27
	47	32	32	3.4	29	75	37.6	32		30
10	23	36	35	7.3	29	60	35.7	32		26
	48	32	32	1.4	31	35	39.6	32		27
	24	35	35	7.7	27	75	34.3	32		27
	49	33	32	2.4	31	40	39.6	32		26
	25	35	35	4.8	31	50	37.7	32		27
15	50	32	32	1.8	30	30	39.2	32		28
	100	35	35	0.4	35	15	41.6	32		30
	75	32	32	3.3	29	50	37.7	32		29
	99	35	35	6.8	28	60	35.2	32		26
	74	32	32	3.3	29	50	37.7	32		30
20	76	35	35	7.1	28	75	34.9	32		24
	51	32	32	1.2	31	30	39.8	32		30
	77	35	35	3.4	32	35	38.6	32		28
	52	32	32	5.2	27	40	35.8	32		27
	78	36	35	5.0	31	35	38.0	32		27
25	53	32	32	8.4	24	60	31.4	32		24

670

592

PIER 4		Deliv	cut	Drive	Blow	Tons	EL	Jet	ReJet	Set
No	Length	Pay		Pay			TIP	To		
79	35	35	0.0	35	15		42	32		28
54	32	32	4.1	28	40		36.9	32		29
80	35	35	3.4	32	50		38.6	32		30
55	32	32	2.0	30	50		39.0	32		30
30 81	35	35	4.3	31	60		37.7	32		29
56	32	32	1.4	31	50		39.6	32		28
82	35	35	4.2	31	50		37.8	32		30
57	32	32	0.8	31	35		40.2	32		30
83	35	35	6.8	28	85		35.2	32		25
35 58	33	32	2.0	31	40		40.0	32		29
84	35	35	8.3	27	70		32.7	32		26
59	32	32	5.7	26	30		35.3	32		28
85	35	35	3.8	31	50		38.2	32		27
60	32	32	3.4	29	40		37.6	32		29
35 86	35	35	6.7	28	60		35.3	32		28
61	33	32	5.8	27	40		36.2	32		27
87	36	35	2.4	34	35		40.6	32		30
562	33	32	7.4	26	60		34.6	32		26
88	35	35	5.4	30	45		36.5	32		25
49 63	33	32	0.8	32	18		34.0	32		30

670

598

# PIER 4

No	Length	Deliv Pay	Cut	Drive Pay	Blow	Tons	El TIP	Jet T6	Re Jet	Set
89	✓ 36	35	2.4	34	35		40.6	32		27
64	✓ 32	32	4.0	28	48		37.0	32		28
10 90	✓ 35	35	1.0	34	25		41.0	32		30
65	✓ 33	32	6.0	27	50		36.0	32		28
91	✓ 35	35	1.4	34	25		40.6	32		30
66	✓ 32	32	0.3	32	30		40.7	32		29
92	✓ 35	35	0.0	35	25		42.0	32		28
15 67	✓ 32	32	4.2	28	60		36.8	32		27
95	✓ 35	35	6.0	27	50		36	32		28
70	✓ 32	32	0.0	32	35		41	32		32
94	✓ 35	35	7.0	28	45		35	32		26
69	✓ 34	32	0.0	34	20		43	32		28
20 93	✓ 35	35	0.0	35	20		42	32		30
68	✓ 32	32	3.3	29	38		37.7	32		30
96	✓ 36	35	7.2	29	50		35.8	32		27
71	✓ 32	32	7.4	25	75		33.6	32		28
97	✓ 35	35	5.0	30	45		37.0	32		26
25 72	✓ 34	32	5.8	28	60		37.2	32		27
98	✓ 35	35	5.4	30	70		37.6	32		24
27 73	✓ 32	32	2.8	29	55		38.2	32		28

670  
670  
670  
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670  

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54

608  
598  
592  
607  
591  

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2996

670      608 2995

South		A b t.		Blows	Tons	El TOP	Jet TO	Relet	Ham Set.	Head Crushed.
No	Length	cut	Drive Ply							
41	45	0	45	ref		35	27	-35	27	
42	45	0	45	18		35	28	-35	28	
43	45	0	45	120		35	28	-35	28	
28	45	0	45	48		35	29	-35	29	
46	45	0	45	36		35	31	-35	31	
47	45	0	45	18		35	28	-35	28	
30	45	0	45	18		35	29	-35	29	
48	45	0	45	72		35	25	-35	25	
49	45	0	45	36		35	29	-35	29	
32	45	0	45	24		35	29	-35	29	
50	45	0	45	24		35	31	-35	31	
51	45	0	45	120		35	27	-35	27	
34	45	0	45	25		35	31	-35	31	
44	45	0	45			35	to grade			
45	45	0	45			41.4	-35			
52	45	0	45	60		35	27	-35	27	
53	45	0	45	60		35	29	-35	29	
36	45	0	45	45		35	29	-35	29	
54	45	0	45	35		35	29	-35	29	
62	45	0	45	40		35	28	-35	28	

#1 Hammer 38  
 Length St = 45  
 Batter = 47  
 El Top = +10.00

Ref @ - 32 Rejet  
 to - 35

Settled to grade  
 Concrete placed 2x2'  
 to grade



South ABT

	Length	Cut	Drive Ray	Blox Ton	El TIP	Jet To	Re Jet	Hammel set	Hard Crush
61 <sup>1/2</sup>	45	0	45	30	35	28	35	28	
55	45	0	45	35	35	30	35	30	
38	45	0	45	36	35	29	35	29	
56	45	0	45	60	35	29	35	29	
40	47	0	47	75	35	31	35	31	
57	47	0	47	80	35	31	35	31	
58	47	0	47	120	35	31	35	31	
59	47	0	47	46	35	31	35	31	
60	47	0	47	120	35	31	35	31	
26	47	0	47	50	35	31	35	31	
25	47	0	47	120	35	30	35	30	
24	47	0	47	120	35	31	35	31	
39	47	0	47	120	35	30	35	30	
23	47	0	47	85	35	31	35	31	
22	47	0	47	90	35	29	35	29	
21	47	0	47	120	35	31	35	31	
37	47	2 <sup>o</sup>	45	Ref.	33	31	33	31	
20	47	0	47	30	35	31	35	31	
19	47	0	47	25	35	31	35	31	
18	47	0	47	40	35	30	35	30	

refused jet would  
not loosen.  
refused @ -32 Rejected  
heavy broke loose & drove  
jetted heavy

South A.B.T.

No	Length	Cut	DRIVE PAY	BLOW TON	FI TIP	Jet TO	Re Jet	Hammer Set	Head Crush
35	47	0	47	36	35	31	35	31	
17	47	0	47	75	35	31	35	31	
16	47	0	47	60	35	30	35	30	
15	47	0	47	40	35	29	35	29	
33	47	0	47	63	53	35	31	35	31
14	47	0	47	60	35	30	35	30	
13	47	0	47	40	35	29	35	29	
12	47	0	47	60	35	29	35	29	
31	47	2°	45	ref.	33	30	33	30	would not loosen with jet
11	47	0	47	30	35	30	35	30	
10	47	0	47	60	35	30	35	30	
9	47	2.4	45	ref.	32.6	30	33	30	would not loosen with jet
29	47	0	47	100	35	31	35	31	
8	47	0	47	75	35	30	35	30	
7	47	0	47	75	35	30	35	30	
27	47	0	47	30	35	31	35	31	
6	47	0	47	80	35	32	35	32	
5	47	0	47	46	35	29	35	29	
4	47	0	47	85	35	29	35	29	
3	47	0	47	45	35	30	35	30	

would not loosen  
with jet

would not loosen  
with jet

11-29

SOUTH ABT

N <sup>o</sup>	Length	Cut	Drive Pay	Blow ton	EI TIP	Jet To	Re Jet To	Hammer Set	Head Crushed
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2	47	0	47	50	35	30	35	30	
62 1	47	0	47	Jet to Place	35	30	35	30	
	2866		2860						

Jetted pile settled to place.

# 36 # 44

1 14 14 8

2 18 18 23

3 30 30 30

4 7 35

5 5

6 7

7

8

9

10

11 20

NORTH A6T  
 No Length cut Day

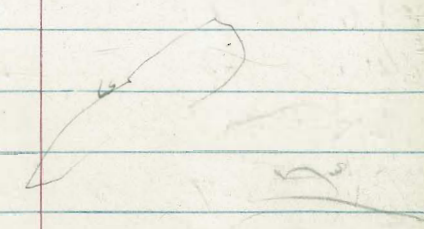
44	45	0	45	
28 <sup>5</sup>	45	0	43	39 4.8 30.2
46 <sup>5</sup>	45	0	43	40 3.5 31.5
30 <sup>4</sup>	45	0	45	41 3.0 28
48 <sup>5</sup>	45	0	45	42 6.8 28
32	45	0	43	43 6.9 28
50 <sup>2</sup>	45	0	45	44 0.0 35
34	45	0	43	45 0.0 30
52	45	0	45	46 4.0 31
36	45	0	45	47 7.0 28
34 <sup>5</sup>	45	0	43	48 0.5 25
38 <sup>5</sup>	45	0	45	49 4.0 28
56	45	0	45	50 4.0 31
55	45	0	45	51 7.6 24
53	45	0	45	52 7.1 23
57	45	0	45	53 6.0 20
49	45	0	45	54 5.4 28
47	45	0	45	55 5.1 24
45	45	0	45	56 5.6 24
39	47	0	47	57 3.6 31

Jetted to Grade

902

902

$\frac{450}{902}$



NORTH ABT.			
No	Length	Cut	Drive Pay
37 <sup>1</sup> ✓	47	0	47
35 <sup>1</sup> ✓	47	0	47
33 <sup>1</sup> ✓	47	0	47
31 <sup>1</sup> ✓	47	0	47
29 <sup>1</sup> ✓	47	0	47
27 <sup>1</sup> ✓	47	0	47
26 <sup>1</sup> ✓	47	0	47
25 <sup>1</sup> ✓	47	0	47
24 <sup>1</sup> ✓	47	0	47
23 <sup>1</sup> ✓	47	0	47
21 <sup>1</sup> ✓	47	0	47
20 <sup>1</sup> ✓	47	0	47
18 <sup>1</sup> ✓	47	0	47
17 <sup>1</sup> ✓	47	0	47
15 <sup>1</sup> ✓	47	0	47
14 <sup>1</sup> ✓	47	0	47
12 <sup>1</sup> ✓	47	0	47
11 <sup>1</sup> ✓	47	0	47
9 <sup>1</sup> ✓	47	0	47
8 <sup>1</sup> ✓	47	0	47
	940		940

Jetted to Grade

47  
20  
940  
43

NORTH ABT.				DRIVE
No	Length	Cut		PAY
6	12 <sup>4</sup>	47	0	47
61 <sup>4</sup>	45 <sup>v</sup>	0		45 <sup>v</sup>
62 <sup>v</sup>	45 <sup>v</sup>	0		45 <sup>v</sup>
22 <sup>v</sup>	47	0		47
19 <sup>v</sup>	47	0		47
16 <sup>v</sup>	47	0		47
13 <sup>v</sup>	47	0		47
10 <sup>v</sup>	47	0		47
7 <sup>v</sup>	47	0		47
43 <sup>v</sup>	45 <sup>v</sup>	0		45 <sup>v</sup>
42 <sup>v</sup>	45 <sup>v</sup>	0		45 <sup>v</sup>
41 <sup>v</sup>	45 <sup>v</sup>	0		45 <sup>v</sup>
40 <sup>v</sup>	47	0		47
57 <sup>v</sup>	47	0		47
58 <sup>v</sup>	47	0		47
59 <sup>v</sup>	47	0		47
60 <sup>v</sup>	47	0		47
5 <sup>v</sup>	47	0		47
4 <sup>v</sup>	47	0		47
3 <sup>v</sup>	47	0		47
	930			930

Jetted to Grade

44

45
24
62
24
38
47
266
152
1786

47
15
235
47
725
225
93

902	902
940	940
930	930
2772	2772
94	94
2866	

NORTH ABT  
 No Length Cut Drive  
 2 47 ✓ 0 47  
 1 47 ✓ 0 47  
 94 94  
 2866 2866

Jetted  
 to  
 Grade

Test on Jetted Pile

12-7-51 No. 1 Hammer.

# 46	# 34	# 56	# 44
Inches.	Blows	Blows	Blows
1	10	14	18
2	10	18	23
3	9	30	30
4	7	360 pcf	25
5	5	118 Ton	300 pcf
6	7		360 pcf
7	6		118 ton
8	8		
9	12		
10	13		
11	24		
12	30		
	360 pcf		
	118 ton.		

PIER 3

No	Length	Deliv Pay	Driv Cut	Drive Pay	Blow Tons	E/ TIP- TO	Jet TO	Relief	Hammers SET
1	35	35	3.0	32	60	41	27	27	27
26	33	32	2.0	31	85	40	27	27	27
2	35	35	3.4	32	75	40.6	28	28	28
27	32	32	4.0	28	45	37	23	23	23
3	35	35	3.9	31	ref.	40.1	28	28	28
28	32	32	3.4	29	50	37.6	30	30	30
4	35	35	1.0	34	15	43	28	28	28
29	33	32	5.3	28	75	36.7	28	28	28
5	35	35	2.4	32	50	41.4	30	30	30
30	32	32	1.7	30	45	39.3	29	29	29
6	35	35	4.0	31	60	40	27	27	27
31	32	32	5.0	27	40	36	28	28	28
7	33	33	2.8	30	45	39.2	27	27	27
32	35	34	6.8	34	40	43.2	28	28	28
8	36	35	5.0	31	55	40	27	27	27
33	32	32	4.4	28	75	36.6	27	27	27
9	36	35	3.2	33	35	41.8	28	28	28
34	32	32	3.2	29	50	37.8	27	27	27
10	36	35	1.0	35	30	44	28	28	28
35	32	32	2.4	30	45	38.6	30	30	30

31.5  
34.8  
37.6  
40.6

610

615



PIER 3										
No	Length	Deliv Pay	Cut	Driv Pay	Blow Tons	El TIP	Jet To	Relet	Hammer set	
11	35	35	3.9	31	60	40.1	29		29	
36	33	32	1.3	32	45	40.7	30		30	
12	35	35	0.0	35	25	44	30		30	
37	32	32	3.0	29	<del>48</del>	38	28		28	35 33
13	35	35	4.4	31	40	39.6	27		27	35 34
38	34	32	3.0	<del>31</del>	45	40	30		30	36 32
14	35	35	4.0	31	48	40	27		27	36 32
39	34	32	2.3	32	38	40.7	29		29	36 30
15	35	35	6.0	29	40	38	26		26	35 32
40	34	32	3.2	31	36	39.8	28		28	
5 16	37	35	4.3	33	40	41.7	28		28	
41	34	32	5.3	29	20	37.7	29		29	
17	36	35	5.4	30	50	39.4	27		27	
42	34	32	5.4	29	65	37.6	26		26	
18	35	35	4.4	31	40	39.6	28		28	
10 43	33	33	0.0	33	20	42.	27		27	
19	36	35	5.7	30	50	39.3	26		26	
44	32	32	4.4	28	40	36.6	27		27	
20	36	35	5.3	31	45	39.7	26		26	
14 45	34	34	0.0	34	15	43	31		31	
		67B		62B						

PIER 3

No	Length	Deliv Pay	Cut	Drive Pay	Blow Tons	El Tip	Jet To	Relet	Hammer Sol		
15 21	35	35	3.0	32	45	41	27		27	35	32
46	32	32	3.0	29	35	38	28		28	35	32
22	36	35	0.0	36	30	45	29		29	36	32
47	32	32	5.3	27	50	35.7	28		28	35	32
23	36	35	5.0	31	40	40	27		27	35	32
40 48	30	30	5.0	25	45	34	28		28	35	32
24	35	35	1.4	34	40	42.6	28		28	35	32
49	32	32	7.0	25	35	34	30		30	350	
25	35	35	5.4	30	35	38.6	27		27	317	
50	32	32	5.3	27	70	35.7	28		28		
20 100	35	35	5.0	30	45	39	27		27	10	
75	32	32	6.3	26	65	34.7	29		29	35	16
99	36	35	3.0	33	30	42	29		29	256	
74	32	32	6.0	26	50	34	26		26	261	
76	35	35	3.4	32	48	40.6	27		27	667	
30 51	32	32	0.0	32	35	41	27		27		
77	35	35	2.0	33	45	42	28		28		
52	31	31	0.0	31	45	40	28		28		
78	35	35	6.0	29	60	38	27		27		
53	32	32	2.0	30	40	39	28		28		

668

598v

10  
35  
256  
261  
667

PIER 3											49
No	Length	Deliv Pay	cut	Drive Pay	Blows	Tons	El T.P.	Jet to Jet	Re Jet	Hammer Set	
35 79	✓ 35	35	5.0	30	60		39	27		27	82 35
54	✓ 32	32	0.4	32	25		40 <sup>6</sup>	31		31	32 36
80	✓ 35	35	5.2	30	60		38 <sup>8</sup>	28		28	
55	✓ 32	32	1.4	31	45		39 <sup>6</sup>	29		29	33 37
81	✓ 35	35	0.0	35	25		44	30		30	32 35
40 56	✓ 32	32	5.4	27	60		35 <sup>6</sup>	27		27	32 35
82	✓ 35	35	3.0	32	36		41	29		29	32 36
57	✓ 32	32	2.7	29	48		38 <sup>3</sup>	28		28	33 35
83	✓ 36	35	6.3	30	60		38 <sup>7</sup>	26		26	33 37
58	✓ 32	32	0.0	32	24		41	28		28	35 <sup>0</sup> 3
84	✓ 35	35	4.3	31	48		39.7	30		30	
59	✓ 33	32	5.2	28	75		36 <sup>8</sup>	29		29	
5 85	✓ 37	37	6.0	37	12		46	32		32	over Jetted
60	✓ 32	32	3.4	29	40		37.6	30		30	
86	✓ 35	35	6.0	29	40		38	28		28	
61	✓ 32	32	3.4	29	48		37.6	27		27	
87	✓ 36	35	4.8	31	45		40 <sup>2</sup>	27		27	
10 62	✓ 32	32	4.4	28	40		36 <sup>6</sup>	29		29	
88	✓ 35	35	3.0	32	35		41	30		30	
63	✓ 33	32	4.7	28	45		37.3	28		28	
		672		610							

PIER 3		Deliv	Cut	Drive		Blows	Tons	El	Jet	Re	hammer	
No	Length	Pay		Pay				TIP	To	Jet	Set	
89	37	35	5.3	32	50	28	40.7	29		29		35 32
64	33	33	0.0	33	50	30	42	30		30		36 32 37 32
1590	35	35	4.7	30	48		39.3	26		26		
65	32	32	2.4	30	48		38.6	28		28		
91	35	35	4.0	31	60		40	27		27		
66	32	32	3.0	29	45		38	30		30		
92	35	35	3.0	32	35		41	29		29		
20 67	32	32	3.0	29	40		38	28		28		
93	35	35	3.3	32	35		40.7	29		29		10 35 26 33
68	32	32	2.3	30	45		38.7	28		28		670 615
94	37	35	6.4	31	40		39.6	30		30		675 620
69	32	32	2.3	30	40		38.7	29		29		668 598
25 95	36	35	1.8	34	40		43.2	30		30		672 610
70	32	32	4.3	28	37		36.7	28		28		674 609
96	35	35	6.4	29	45		37.6	29		29		3354 3052
71	33	32	1.4	32	45		40.6	27		27		
97	35	35	3.7	31	45		40.3	30		30		
30 72	32	32	4.4	28	50		36.6	29		29		
98	35	35	6.3	29	40		37.7	28		28		
73	32	32	3.0	29	45		37.0	29		29		

670

609

No.	PIER Length	R Deliv. Pay	2 Cut	Driving Pay	Blows Ton	Elev. TIP -	Jet to Jet	Re. Jet	Hammer Set
1	✓ 36	35	6 <sup>2</sup>	30	65	38.6	20		26
26	✓ 32	32	2 <sup>2</sup>	29	38	38.3	28		28
2	✓ 35	35	6 <sup>0</sup>	29	85	37.	24		24
27	✓ 31	31	0.5	30	15	39.5	28		28
3	✓ 36	35	0	36	12	45.0	29		29
28	✓ 32	32	0	32	25	41.0	30		30
4	✓ 35	35	4 <sup>6</sup>	30	80	39.4	25		25
29	✓ 33	32	0	33	20	42.0	30		30
5	✓ 35	35	2 <sup>7</sup>	32	45	40.3	25		25
30	✓ 32	32	5 <sup>0</sup>	27	60	36.0	24		24
6	✓ 36	35	5 <sup>3</sup>	31	56	39.7	26		26
31	✓ 32	32	0	32	18	41.0	26		26
7	✓ 35	35	3 <sup>3</sup>	32	70	40.7	25		25
32	✓ 32	32	4 <sup>5</sup>	28	100	36.5	23		23
8	✓ 35	35	6 <sup>0</sup>	29	92	38.0	24		24
33	✓ 34	32	4 <sup>2</sup>	29	95	38.1	26		26
9	✓ 35	35	3 <sup>0</sup>	32	40	32.0	27		27
34	✓ 32	32	4 <sup>7</sup>	27	80	36.3	20	24	20
10	✓ 36	35	6 <sup>0</sup>	30	75	39.0	26		26
35	✓ 32	32	1 <sup>2</sup>	31	30	39.8	27		27

671

609

320  
 351  
 ---  
 671

PIER 2

No.	Length	Deliv. Pay	Cut	Driving		Tons	Elev. TIP	Jet to	Re-Jet	Set hammer
				Pay	Blows					
11	✓35	35	5 <sup>5</sup>	29	110		38.5	25		25
36	✓32	32	1 <sup>0</sup>	31	32		40.0	28		28
12	✓35	35	4 <sup>4</sup>	31	40		39.6	25		25
37	✓32	32	5 <sup>4</sup>	27	48		35.6	26		26
13	✓35	35	4 <sup>2</sup>	31	36		39.8	27		27
38	✓32	32	2 <sup>2</sup>	30	48		38.8	26		26
14	✓36	35	4 <sup>1</sup>	32	36		40.9	25		25
39	✓32	32	4 <sup>2</sup>	28	60		36.8	28		28
15	✓35	35	6 <sup>2</sup>	29	48		37.8	26		26
40	✓33	32	5 <sup>3</sup>	28	36		36.7	26		26
16	✓35	35	4 <sup>0</sup>	31	36		40.0	27		27
41	✓33	32	1 <sup>2</sup>	32	24		40.8	28		28
17	✓36	35	2 <sup>2</sup>	33	34		42.1	27		27
42	✓32	32	2 <sup>1</sup>	30	40		38.9	27		27
18	✓35	35	7 <sup>0</sup>	28	120		37.0	20		20
43	✓32	32	1 <sup>0</sup>	31	32		40.0	30		30
19	✓35	35	1 <sup>5</sup>	34	45		42.5	29		29
44	✓33	32	2 <sup>2</sup>	30	60		39.3	26		26
20	✓36	35	2 <sup>6</sup>	33	30		42.4	27		27
45	✓32	32	0.9	31	40		40.1	29		29

610

609

Refusal @

## PIER 2

53

No.	Length	Deliv. Pay	Cut	Driving Blows		Tons	Elev. Tip	Jet	Re- Jet	set hammer	
				Pay							
21	✓ 36	35	2 <sup>0</sup>	34	56		43.0	26		26	
46	✓ 32	32	2 <sup>0</sup>	30	85		39.0	29		29	
22	✓ 37	35	4 <sup>0</sup>	33	86		42.0	27		27	
47	✓ 32	32	1 <sup>1</sup>	31	36		39.9	25		25	
23	✓ 36	35	2 <sup>3</sup>	<del>33</del>	78		42.7	26		26	
48	✓ 34	32	2 <sup>4</sup>	32	60		40.6	28		28	
24	✓ 35	35	1 <sup>5</sup>	33	76		42.5	26		26	
49	✓ 34	32	8 <sup>0</sup>	26	200		35.0	22		22	Refusal
25	✓ 35 <sup>8</sup>	35	7 <sup>1</sup>	29	110		37.7	24		24	
50	✓ 32	32	3 <sup>2</sup>	28	65		37.1	28		28	
100	✓ 35	35	2 <sup>8</sup>	32	57		41.2	27		27	
75	✓ 33	33	2 <sup>7</sup>	30	90		39.3	27		27	
99	✓ 35	35	6 <sup>4</sup>	29	125		37.6	20		20	Refusal
74	✓ 32	32	2 <sup>6</sup>	29	60		38.4	25		25	
76	✓ 35	35	0.2	35	20		43.8	25		25	
51	✓ 33	32	1.7	31	50		40.3	26		26	
77	✓ 35	35	2.0	33	48		42.0	27		27	
52	✓ 32	32	0.3	32	22		40.7	27		27	
78	✓ 38	38	-0.7	38	18		47.2	26		26	
53	✓ 33	32	3.0	30	68		39.0	25		25	

614

629  
628

PIER 2

54

No	Length	Deliv. PAY	Cut	Driving Pay	Blows	Tons	Elev. TIP	Jet	Re-Jet	Set hammer		
79	✓36	33	6.2	30	60		38.8	20		20	35	32
54	✓32	32	0.0	32	32		41.0	30		30	36	33
80	✓35	35	7.0	29	48		37.6	28		28	35	30
55	✓32	32	1.3	31	24		39.7	29		29		
81	✓35	35	4.0	31	36		40.0	29		29		
56	✓33	32	4.7	28	40		37.3	30		30		
82	✓35	35	4.8	30	45		40.2	28		28		
57	✓32	32	4.3	28	55		36.7	31		31		
83	✓35	35	4.0	31	43		40.0	30		30		
58	✓32	32	5.4	27	40		35.6	28		28		
84	✓38	35	7.2	31	55		39.8	30		30		
59	✓33	32	2.4	31	48		41.6	28		28		
85	✓35	35	0.3	35	12		43.7	32		32		
60	✓33	32	4.7	29	100		37.6	31		31		
86	✓35	35	5.0	30	50		39.0	32		32		
61	✓33	32	1.4	32	45		40.6	31		31		
87	✓35	35	7.0	28	60		37.0	27		27		
62	✓32	32	6.0	26	45		35.0	12	18-30	-12		
88	✓36	35	1.3	35	55		43.7	32		32		
63	✓33	32	4.8	29	65		37.2	29		29		

670

603



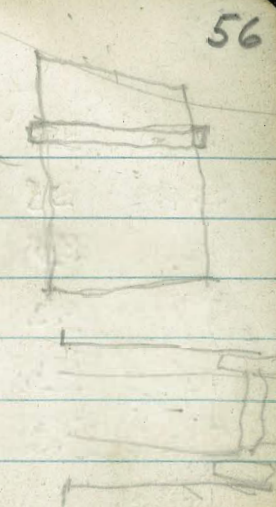
PIER 2

No	Length	Deliv. Pay	Cut	Driving Pay	Blows	Tons	Elev. Tip -	Jet	Re-Jet	Set hammer		
											35	32
89	35	35	4.3	31	55		40.7	30		30	35	33
64	30	30	6.0	24	50		33.0	27		27	36	33
90	36	35	6.8	29	36		38.2	29		29		
65	34	32	3.0	31	21		40.0	30		30	671	609
91	36	36	9.3	36	18		44.7	30		30	670	609
66	34	32	3.0	31	36		40.0	28		28	674	628
92	35	35	3.9	31	48		40.1	27		27	670	603
67	32	32	2.4	31 <sup>30</sup>	24		38.6	28		28	667	601
93	36	35	4.4	32	36		40.6	30		30	3352	3050
68	30	30	0.0	30	12		39.0	31		31		
94	35	35	4.2	31	48		39.8	30		30		
69	33	32	6.4	27	25		35.6	30		30		
95	36	35	6.8	29	40		38.2	28		28		
70	32	32	3.0	29	45		38.0	29		29		
96	36	35	3.2	33	40		41.8	29		29		
71	33	32	3.6	29	45		38.0	32		32		
97	35	35	3.4	32	48		40.6	30		30		
72	33	32	4.0	29	40		38.0	30		30		
98	35	35	4.0	31	45		40.0	29		29		
73	32	32 661	7.3	25 600	75		34.0					

# PIER 1.

56

No	Length	Deliv Pit	Cut	Driv Pit	Blow Tons	El TIP	Jet Redet Set Hammer
1	35	35	3.2	32	36	38.6	25
26	33	32	2.0	31	30	40.0	25
2	36	35	6.0	30	32	37	27
27	32	32	4.7	27	48	36.3	32
3	36	35	3.4	33	48	39.6	33
28	32	32	5.3	27	36	35.7	30
4	36	35	3.4	33	36	39.6	33
29	33	32	1.3	32	25	40.7	30
5	36	35	4.1	32	36	38.9	33
30	34	32	3.6	30	36	39.4	30
6	35	35	2.4	33	36	39.6	32
31	34	32	2.8	31	48	40.2	30
7	35	35	3.8	31	36	38.2	30
32	35	32	4.0	31	36	40.0	32
8	35	35	6.3	29	36	34.7	30
33	35	32	8.0	27	40	36.0	32
9	36	35	4.4	32	48	38.6	33
34	35	32	4.4	31	36	39.6	28
10	35	35	3.4	32	36	38.6	35
35	35	32 670	7.3	28 1012	36	36.7	30



No	Length	cut	blows	El TIP	
11	38	35	12.0 26	24	33.0 34
36	35	32	1.4 31	20	42.6 35
12	35	35	4.3 31	36	37.7 30
37	32	32	4.3 28	48	36.7 30
13	35	35	7.8 27	36	34.2 32
38	32	32	7.4 25	30	33.6 30
14	35	35	11.7 23	36	30.3 32
39	34	32	6.0 28	36	37.0 30
15	35	35	3.7 31	48	38.3 32
40	32	32	7.8 24	24	31.2 28
16	38	35	8.0 30	48	37.0 34
41	34	33	1.0 33	36	42.0 30
17	36	35	6.0 30	36	37.0 33
42	30	30	2.4 28	24	36.6 24
18	35	35	1.3 34	36	40.7 32
43	33	32	2.0 31	25	40.0 28
19	35	35	5.0 30	48	37.0 30
44	32	32	2.0 30	48	39.0 26
20	35	35	6.3 29	36	35.7 32
45	32	32	3.4 29	36	37.6 30
21	35	669	578	48	30

No	length	cut	Blows	Jet
21	✓ 35	35	3.2 32 48	38.8 30
46	✓ 33	32	5.0 28 36	37.0 28
22	✓ 38	38	0.2 38 20	44.8 33
47	✓ 32	32	5.4 27 36	35.6 20
23	✓ 35	35	3.0 32 30	39.0 32
48	✓ 32	32	0.4 32 25	40.6 28
24	✓ 35	35	3.4 32 30	38.6 30
49	✓ 36	36	0.0 36 25	45.0 30
25	✓ 37	35	3.0 34 25	41.0 32
50	✓ 36	36	0.0 36 30	45.0 32
100	✓ 35	35	4.7 30 30	37.3 28
75	✓ 35	34	0.8 34 15	43.2 33
99	✓ 35	35	2.7 32 36	39.3 30
74	✓ 35	33	2.4 33 36	41.6 30
76	✓ 35	35	6.4 29 36	37.6 29
51	✓ 32	32	3.2 29 40	37.8 27
77	✓ 35	35	3.4 32 50	38.6 30
52	✓ 34	32	2.4 32 30	40.6 29
78	✓ 36	35	5.6 30 40	37.4 31
53	✓ 32	32	7.8 24 50	33.2 20

684

632 ✓

No	Length	Cut	Blows	Jet	59
79	✓ 36	35	3.0 33 48	40.0	30
54	✓ 32	32	5.2 27 36	35.8	28
80	✓ 35	35	2.3 33 36	39.7	30
55	✓ 32	32	6.3 26 40	34.7	28
81	✓ 35	35	5.4 29 48	36.6	30
56	✓ 35	32	3.7 31 36	40.3	31
82	✓ 38	35	7.7 30 48	37.3	30
57	✓ 32	32	5.0 27 36	36.0	26
83	✓ 35	35	4.0 31 30	38.0	30
58	✓ 32	32	5.4 27 40	35.6	24
84	✓ 35	35	0.8 34 10	41.2	32
59	✓ 35	34	1.4 34 30	42.6	30
85	✓ 35	35	6.4 29 30	35.6	31
60	✓ 32	32	4.8 27 48	36.2	29
86	✓ 35	35	5.3 30 36	36.7	30
61	✓ 35	32	4.9 30 36	39.1	31
87	✓ 35	35	9.4 26 36	32.6	28
62	✓ 32	32	8.1 23 30	32.4	20
88	✓ 35	35	0.4 35 15	41.6	30
63	✓ 35	33	2.4 33 25	41.6	30
	673		59.5 ✓		

Mr	length	cut	blows	cut	blows	cut	blows
89	37	36	0.8	36	25	43.2	30
64	37	35	2.2	35	48	43.8	30
90	36	35	7.0	29	36	36.0	28
65	35	32	4.8	30	36	39.2	26
91	36	35	2.3	34	40	40.7	28
66	35	32	7.4	28	48	36.6	20
92	36	35	7.7	28	36	34.3	28
67	35	34	1.0	34	30	43.0	30
93	36	35	4.4	32	36	38.6	30
68	36	32	3.3	33	40	41.7	30
94	35	35	8.2	27	36	33.8	25
69	34	32	1.7	32	30	41.3	28
95	37	35	7.0	30	36	37.0	30
70	36	32	6.8	29	48	38.2	28
96	36	35	3.7	32	36	39.3	32
71	37	32	5.0	32	36	41.0	30
97	36	35	10.0	26	36	33.0	28
72	37	32	5.4	32	36	40.6	30
98	35	35	5.2	30	48	36.8	25
73	36	36	0.1	36	12	44.9	32

680

8.1  
625

625  
590  
632  
578  
612  
3042

670  
669 +6  
664  
684  
613  
680  
3376





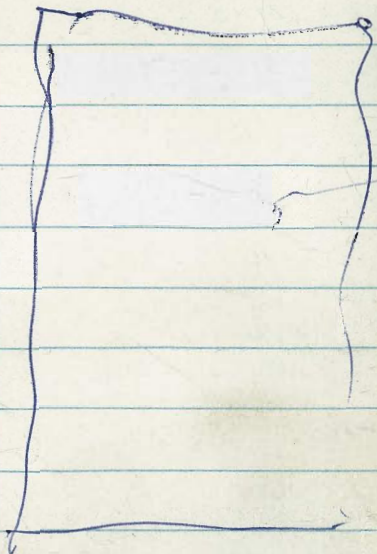


63

PILING RECORD  
Structure Delivery Drive.

64

S ABT	2866	2860	Concrete
Pier 1	3376	3042	Wood
" 2	3352	3050	"
" 3	3354	3052	"
" 4	3354	2995	"
" 5	3346	2926	"
" 6	3350	2530	"
" 7	3350	2415	"
" 8	3335	<del>2947</del>	"
" 9	3347	2684	"
" 10	3343	2557	"
N abt.	2866	2866	Concrete



# Pile Receipts

WOOD

65

	32	33	34	35	36	37	38	39	40	41	42	43	Total	Total To Date
4-9-51	3		1	6	3	4	"						17	17
4-11-51	1 <sup>4</sup>			7 <sup>13</sup>	2 <sup>5</sup>	3 <sup>7</sup>	1	2			2		18	35
4-14-51	1 <sup>5</sup>	1	3 <sup>4</sup>	8 <sup>21</sup>	3 <sup>8</sup>	1 <sup>8</sup>			1				18	53
4-16-51	3 <sup>8</sup>	1 <sup>2</sup> <i>Crake</i>		7 <sup>28</sup>	3 <sup>11</sup>	3 <sup>11</sup>			1 <sup>2</sup>				18	71

See Next  
Page ↗

PILE DELIVERY				Date	Load No	32' Total	35' No	66 Total
32' Load	32' Total	35' Load	35' TOTAL					
4-9-51 <sup>1</sup>	45	12	13	5-11	20	8	6	188
4-11-51 <sup>2</sup>	1	5	17	5-11	21	5	12	200
4-14-51 <sup>3</sup>	3	8	15	5-11	22	4	11	211
4-16-51 <sup>4</sup>	5	13	13	5-12	23	—	19	230
4-17-51 <sup>5</sup>	5	18	13	5-12	24	5	10	240
4-18-51 <sup>6</sup>	5	23	13	5-15	25	6	11	251
4-30-51 <sup>7</sup>	7	30	—	5-15	26	3	12	263
5-1-51 <sup>8</sup>	11	41	4	5-16	27	6	11	274
5-3-51 <sup>9</sup>	6	47	10	5-17	28	3	11	285
5-4-51 <sup>10</sup>	11	58	7	5-17	29	5	10	295
5-5-51 <sup>11</sup>	5	63	12	5-17	30	4	13	308
5-5-51 <sup>12</sup>	2	65	13	5-17	31	3	11	319
5-7-51 <sup>13</sup>	9	74	8	5-17	32	5	12	331
5-8-51 <sup>14</sup>	7	81	8	5-18	33	15	—	—
5-8-51 <sup>15</sup>	13	94	6	5-19	34	11	5	336
5-9-51 <sup>16</sup>	8	102	6	5-19	35	8	9	345
5-9-51 <sup>17</sup>	9	111	9	5-21	36	5	10	355
5-10-51 <sup>18</sup>	11	122	7	5-21	37	4	13	368
5-10-51 <sup>19</sup>	5	127	8	5-21	38	5	10	378
				5-22	39	3	12	390

ck to here

Pile Delivery

Date	Load No	Load 32'	Total (235)	Load 35'	Total (390)
5-23-51	40	4	239	11	401
5-23-51	41	6	245	11	412
5-24	42	4	249	11	423
5-24	43	8	257	10	433
5-24	44	15	272	3	436
5-24	45	12	284	3	439
5-25	46	12	296	3	442
5-25	47	11	307	7	449
5-25	48	9	316	5	454
5-26	49	11	327	6	460
5-26	50	11	338	4	464 <sup>2</sup>
5-28	51	11	349	1	465 <sup>✓</sup>
5-29	52	11	360	5	470
6-1	53	10	370	—	
6-2	54	8	378	3	473
6-4	55	11	389	6	479 <sup>✓</sup>
6-4	56	15	404 <sup>✓</sup>	—	
6-5	57	8	412	1	480
6-6	58	12	424	1	481
6-6	59	2	426	12	493

Date	Load No	Load 32'	Total	Load 35'	Total
6-9-51	60	7	433	8	501
6-11	61	16	449	—	
6-12	62	15	464	—	
6-12	63	7	471	—	
6-13	65	3	474		
6-13	64	13	487		
6-14	66	12	499		

To be Replaced			
32'		35'	
Unit	Total	Unit	Total

Rejected as Too Small

2 @ 32 1 @ 29

as too Crooked 1 @ 35

5-21-51

Broke (Driving) 35' #2 Pier 9

Broke (Driving) 32' #56 Pier 8

Too Small (6-1-51) 4 @ 32

Broken Driving (6-26 #25 Pier 7

Broken in unloading

3

1

1 2

1 4

4 8

1 3

1 9

## False work Pile

40 Required

40 41 42 43 44 45

5-28	51	2				1
6-1	53	4		1		
6-2	54	1	1			1
6-4	55			1		
6-5	57					3
6-6	58			1		1
6-12	63					7
6-13	65					11
6-13	64					1
6-14	66					4
		7	1	3		29
						45
						45
						161
	280		42	129		305
						129
						42
						280
						756











74







PIER # 7

78

PIER # 6

4 DELIV.  $50 @ 35 = 1750$   
6 DRIVEN.  $50 @ 32 = 1600$  } 3350'  
2530

TOTAL PIER # 7 DRIVEN - 2415'

DELIV. 51 @ - 35 = 1785  
49 @ - 32 = 1568 } 3350'

PIER # 10

See  
DELIV. 48 @ 35' = 1680  
51 @ 32' = 1632  
1 @ 31' = 31 } 3343'  
DRIVEN. 2557'



Pier 9

	35	32'	LIN. FT.	TOTAL
5-2-51 ↑	3	3	155 <sup>153</sup>	
5-3-51	8	8	421 <sup>414</sup>	576 <sup>56</sup>
5-4-51	1	1	51	627
5-7-51	7	6	363	990
5-8-51	10	11	582	1572
5-9-51	10	12	580	2152
5-10-51 ↓	10	10	533	2685

Total Pier 9 Driven 2685

Deliv 51 @ 32 = 1632  
49 @ 35 = 1715 **3347**

✓ OK 2685

✓ OK 3347

See page 64

Pier 8

5-14-51	5	5	266	
5-15-51	12	12	623	889
5-16-51	12	12	587	1476
5-17-51	13	13	629	2105
5-18-51	8	8	392	2497

Total Pier 8 Driven 2497

6 @ 30 = 180  
45 @ 32 = 1440  
49 @ 35 = 1715  
**Total Deliv 3335**

✓ OK 2497

✓ OK 3335

**3335**

Jeff Hayes

Grissoms  
2 blks  
507  
Stall 48  
Garnett

	Blows Per ft.	Tons Bearing	Blows Per ft	Tons Bearing	80
Tons	15	17 <sup>v</sup>	200	94	100
21 <sup>5</sup>	20	21 <sup>5</sup>	250	100	107
23 <sup>7</sup>	25	26	300	107	113
30	30	30 <sup>v</sup>	350	111	118
	35	33 <sup>7</sup>	400	115	120
37 <sup>5</sup>	40	37 <sup>5</sup>			
	45	41			
44.1	50	44 <sup>50</sup>			15,000 2P
	55	47 <sup>54</sup>			5 + 0.1
50	60	50			3000
53	65	52			
55 <sup>5</sup>	70	55 <sup>5</sup>			
	75	58 <sup>5</sup>			
60	80	60			
65.2	90	65 <sup>2</sup>			
68	100	68			
	125	75			
	150	83 <sup>3</sup>			

Piling leftover from  
Midway Bridg brought  
to Job 4-17-51

1 - 25 ft, 1 - 30 ft <sup>2 1/2</sup> <sub>1 1/2</sub> <sup>Too</sup> <sub>small</sub>  
1 - 36 ft 1 - 37 ft  
1 - 38 ft <sup>reg dead</sup> 5 - 40 ft  
1 - 48 ft

4-25-51  
x 4 of Midway Pile used <sup>40 ft pile</sup> <sub>Broke to 26</sub>  

Length	40	37	30	26
Head	14"	15"	14"	14"
Tip	8"	8"	7"	8"
Mud	0-20	0-20	6-19	0-21
Sand	20-23	20-23	19-23	21-24
Blows per ft.	26	24	25	24
Tons				

$$\begin{array}{r} 40 \overline{) 124} \quad 4 \overline{) 30} \quad 675 \\ \underline{120} \quad \underline{30} \quad \underline{375} \\ 4 \quad 0 \quad 0 \end{array}$$

$$\begin{array}{r} 50 \overline{) 24} \quad 34 \overline{) 30000} \quad 882 \\ \underline{50} \quad \underline{272} \\ 0 \quad 27 \quad 20 \quad 11 \\ \underline{27} \quad \underline{20} \quad \underline{11} \end{array}$$

$$\begin{array}{r} 7 \overline{) 12} \quad 17 \quad 280 \\ \underline{7} \quad \underline{272} \\ 5 \quad 0 \quad 27 \quad 30 \quad 11 \\ \underline{50} \quad \underline{27} \quad \underline{30} \quad \underline{11} \end{array}$$

$$\begin{array}{r} 25 \overline{) 30} \quad 120 \\ \underline{25} \quad \underline{120} \\ 5 \quad 0 \quad 30 \\ 23 \overline{) 30} \quad 1304 \\ \underline{23} \quad \underline{22} \quad 30 \quad 136 \\ \underline{20} \quad \underline{22} \\ 69 \quad 80 \\ \underline{100} \quad \underline{66} \\ 140 \end{array}$$

1-40 ft pile broken to 26'

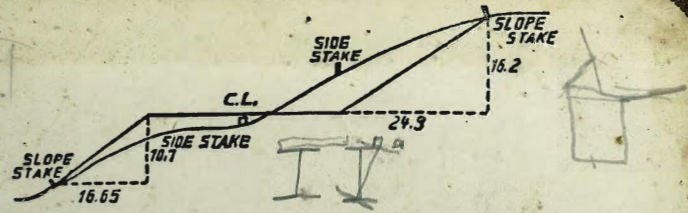
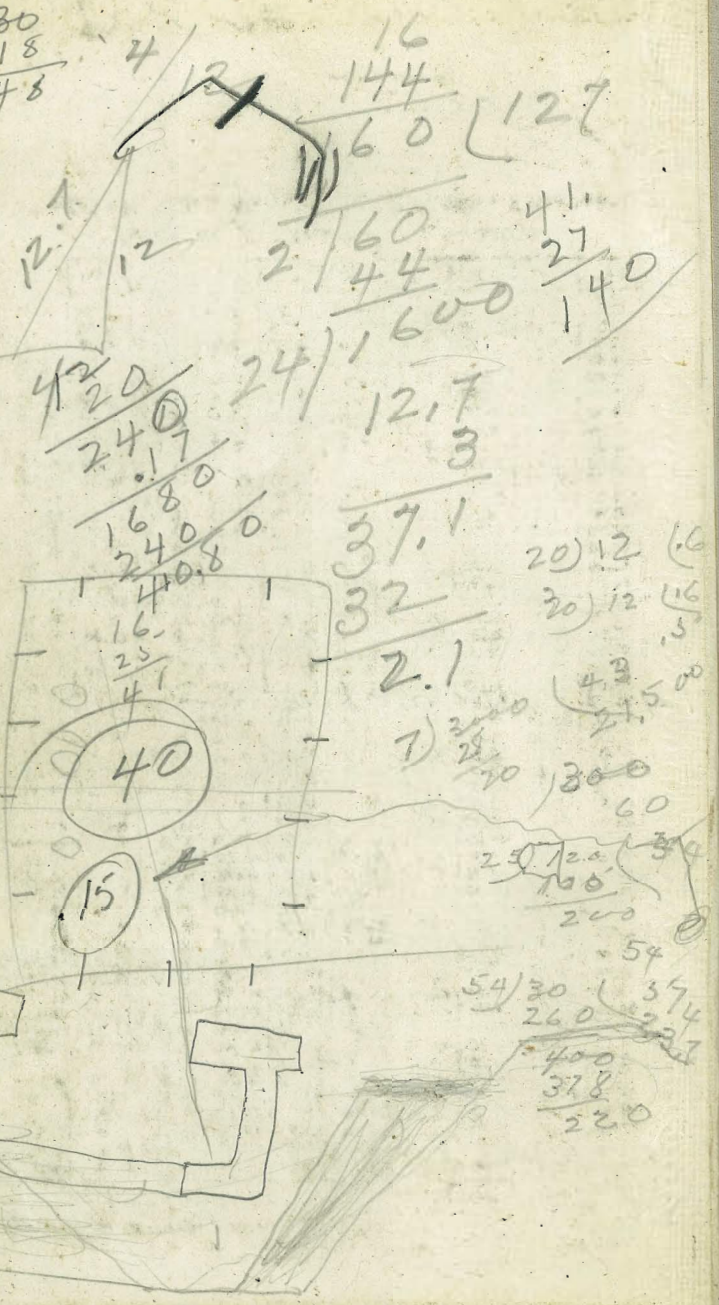
$$\begin{array}{r} 15 \overline{) 120} \quad .08 \quad 14 \overline{) 30} \quad 214 \\ \underline{150} \quad \underline{28} \quad 107 \\ 0 \quad 20 \quad 14 \\ \underline{20} \quad \underline{14} \\ 0 \end{array}$$

$$\begin{array}{r} 18 \overline{) 30} \quad 1666 \\ \underline{18} \quad \underline{83.3} \\ 120 \\ \underline{108} \\ 120 \end{array}$$

$$\begin{array}{r} 46 \overline{) 30} \quad 187 \\ \underline{46} \quad \underline{187} \\ 16 \quad 9.4 \\ \underline{140} \\ 128 \\ \underline{120} \end{array}$$

$$\begin{array}{r} 13 \overline{) 30} \quad 2 \\ \underline{26} \quad \underline{2} \\ 40 \quad 8 \\ \underline{39} \\ 10 \end{array}$$

30  
18  
48



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.  
SLOPE 1 1/2 TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3.45	3.60	3.75	3.90	4.05	4.20	4.35	2
3	4.50	4.65	4.80	4.95	5.10	5.25	5.40	5.55	5.70	5.85	3
4	6.00	6.15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7.50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9.00	9.15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10.65	10.80	10.95	11.10	11.25	11.40	11.55	11.70	11.85	7
8	12.00	12.15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13.50	13.65	13.80	13.95	14.10	14.25	14.40	14.55	14.70	14.85	9
10	15.00	15.15	15.30	15.45	15.60	15.75	15.90	16.05	16.20	16.35	10
11	16.50	16.65	16.80	16.95	17.10	17.25	17.40	17.55	17.70	17.85	11
12	18.00	18.15	18.30	18.45	18.60	18.75	18.90	19.05	19.20	19.35	12
13	19.50	19.65	19.80	19.95	20.10	20.25	20.40	20.55	20.70	20.85	13
14	21.00	21.15	21.30	21.45	21.60	21.75	21.90	22.05	22.20	22.35	14
15	22.50	22.65	22.80	22.95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24.15	24.30	24.45	24.60	24.75	24.90	25.05	25.20	25.35	16
17	25.50	25.65	25.80	25.95	26.10	26.25	26.40	26.55	26.70	26.85	17
18	27.00	27.15	27.30	27.45	27.60	27.75	27.90	28.05	28.20	28.35	18
19	28.50	28.65	28.80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30.00	30.15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31.50	31.65	31.80	31.95	32.10	32.25	32.40	32.55	32.70	32.85	21
22	33.00	33.15	33.30	33.45	33.60	33.75	33.90	34.05	34.20	34.35	22
23	34.50	34.65	34.80	34.95	35.10	35.25	35.40	35.55	35.70	35.85	23
24	36.00	36.15	36.30	36.45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37.80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39.00	39.15	39.30	39.45	39.60	39.75	39.90	40.05	40.20	40.35	26
27	40.50	40.65	40.80	40.95	41.10	41.25	41.40	41.55	41.70	41.85	27
28	42.00	42.15	42.30	42.45	42.60	42.75	42.90	43.05	43.20	43.35	28
29	43.50	43.65	43.80	43.95	44.10	44.25	44.40	44.55	44.70	44.85	29
30	45.00	45.15	45.30	45.45	45.60	45.75	45.90	46.05	46.20	46.35	30
31	46.50	46.65	46.80	46.95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48.00	48.15	48.30	48.45	48.60	48.75	48.90	49.05	49.20	49.35	32
33	49.50	49.65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51.00	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52.50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54.00	54.15	54.30	54.45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55.50	55.65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57.00	57.15	57.30	57.45	57.60	57.75	57.90	58.05	58.20	58.35	38
39	58.50	58.65	58.80	58.95	59.10	59.25	59.40	59.55	59.70	59.85	39
40	60.00	60.15	60.30	60.45	60.60	60.75	60.90	61.05	61.20	61.35	40
41	61.50	61.65	61.80	61.95	62.10	62.25	62.40	62.55	62.70	62.85	41
42	63.00	63.15	63.30	63.45	63.60	63.75	63.90	64.05	64.20	64.35	42
43	64.50	64.65	64.80	64.95	65.10	65.25	65.40	65.55	65.70	65.85	43
44	66.00	66.15	66.30	66.45	66.60	66.75	66.90	67.05	67.20	67.35	44
45	67.50	67.65	67.80	67.95	68.10	68.25	68.40	68.55	68.70	68.85	45
46	69.00	69.15	69.30	69.45	69.60	69.75	69.90	70.05	70.20	70.35	46
47	70.50	70.65	70.80	70.95	71.10	71.25	71.40	71.55	71.70	71.85	47
48	72.00	72.15	72.30	72.45	72.60	72.75	72.90	73.05	73.20	73.35	48
49	73.50	73.65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

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