

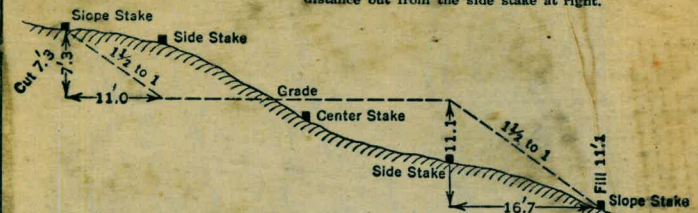
MISSION BAY

52

# 52

**DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING**  
 Roadway of any Width. Side Slopes 1½ to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	Distance out from Side or Shoulder Stake										Cut or Fill
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

31  
28

120  
15  
600  
120  
1800

430.4

30.4

19.7  
3.5  
2.2  
27.2

28.0  
31.0  
30.4  
30.9

112

The paper in this book No. 373A  
 is made of 50% high grade rag stock  
 with a WATER RESISTING surface sizing.

Top mark 1917 about  
 cut-off.

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M3272  
M-5622

NOTE ON ROAD SIDE OF ROAD ON I  
 STATE AND COUNTY ROAD 2000 N. 1000  
 WHICH SHOWS EXISTING PILES & DATA

Blows Last Foot	Tons	Blows Last foot	Tons.
11 = 12 1/2 20	21.50	120	75.00
25	25.25		
30	30.00		
40	37.50		
50	42.85		
60	50.00		
70	55.55		
80	60.00		
90	65.00		
100	68.20		
110	71.50		

## HAMMER DATA

VULCAN SINGLE ACTION #2

STEAM OPERATED

WT - 5000 LBS = W

STROKE 3 FT. = H

FT. LBS = 15000 #

BLOWS PER MIN 60

$$\text{FORMULA} = P = \frac{2WH}{S+0.1}$$

S = penetration per blow.

Average last 5 blows.

No. 1. Pile redriven

Follower L = 17' B = 14" T = 12"

29	12"	29	-46.41"	58,824	29.41
45	12"	16	-47.75"	35,294	17.65
72	12"	27	-48.44"	55,556	27.78

## TEST PILES.

No. 1. Length 46.4 Butt 14" Tip 8 1/2"

12-16-49

Location S. Abt. NW Cor.

Leads	Blows	Pen	No. Bls.	Tip Elev	Pen In/Bls	Bearing lbs	Bearing Tors
49				-8.0			
41	17	96	17	-16.0	5.66	5,217	2.61
36	38	60	21	-21.0	2.86	10,135	5.07
33	51	36	13	-24.0	2.77	10,453	5.23
31	60	24	9	-26.0	2.67	10,830	5.42
27	87	48	27	-30.0	1.78	15,957	7.98
26	93	12	6	-31.0	2.00	14,286	7.14
23	111	36	18	-34.0	2.00	14,286	7.14
22	121	12	10	-35.0	1.20	23,077	11.54
21	133	12	14	-36.0	1.86	31,250	15.63
19	155	24	20	-38.0	1.20	23,077	11.54
18	162	12	7	-39.0	1.71	16,575	8.29
16	180	24	18	-41.0	1.33	20,979	10.49
15	189	12	9	-42.0	1.33	20,979	10.49
14	200	12	11	-43.0	1.09	25,210	12.61
13	210	12	10	-44.0	1.20	23,077	11.54
12	219	12	9	-45.0	1.33	20,979	10.49

TEST PILE #2 Pier 9 12-16-49

Size L=40' Butt=15" Tip=8"

Leads	Blows	Pen No	TIP Pen	Pen	lbs Bearing	Tons Bearing
		Blow	Excl. inch	inch		
38	4	24	4	-10.5	4,918	2.46
36	10	60	6	-17.5	2,970	1.49
31	29	24	19	-19.5	22,059	11.03
29	53	24	24	-21.5	27,273	13.64
27	62	12	9	-22.5	20,979	10.49
26	71	12	9	-23.5	20,979	10.49
25	79	12	8	-24.5	18,750	9.38
24	90	12	11	-25.5	25,210	12.61
23	114	12	24	-26.5	50,000	25.00
22	135	12	21	-27.5	44,776	22.39
21	162	12	27	-28.5	55,556	27.78
20	183	12	21	-29.5	44,776	22.39
19	201	12	18	-30.5	38,961	19.48
18	215	12	14	-31.5	31,250	15.63
17	233	12	18	-32.5	38,961	19.48
16	250	12	17	-33.5	37,037	18.52
15	270	12	20	-34.7	42,857	21.43

14	289	12	19	-35.5	.63	41,096	20.55
13	307	12	18	-36.5	.67	38,961	19.48
12	328	12	21	-37.5	.57	44,776	22.39
11	359	12	31	-38.5	.39	61,224	30.61
10	378	12	19	-39.5	.63	41,096	20.55
9	400	12	22	-40.5	.55	46,154	23.08
8	419	12	19	-41.5	.63	41,096	20.55
7	446	12	27	-42.5	.44	55,556	27.78
6	469	12	23	-43.5	.52	48,387	24.19
5							

TEST PILE No 3 Pier 6 12-19-49

SIZE L = 39.8 B = 18" T = 9 1/2"

Leads	Total Pen Blows	Pen "	No of Tip Blo	Tip Elev "	Pen Blows	Bearing lbs	Tons
44	12	48	12	-9.35	400	7.317	3.66
40	19	12	7	-13.35	1.71	16575	8.29
39	27	12	8	-14.35	1.50	18750	9.38
38	32	12	5	-15.35	2.40	12000	6.00
37	58	48	26	-20.35	1.85	15385	7.69
33 stop	80	12	22	-21.35	.55	46154	23.08
32	112	12	32	-22.35	1.38	62500	31.25
31	150	12	38	-23.35	1.32	71249	35.71
30	181	12	31	-24.35	1.39	61224	30.61
29	213	12	32	-25.4	1.38	62500	31.25
28	247	12	34	-26.4	1.35	66666	33.33
27	287	12	40	-27.4	1.30	75000	37.50
26	327	12	40	-28.4	1.30	75000	37.50
25	362	12	35	-29.4	1.34	68182	34.09
24	387	12	25	-30.4	1.48	51724	25.86
23	413	12	26	-31.4	1.46	53571	26.79
22	438	12	25	-32.4	1.48	51724	25.86

21	465	12	27	-33.4	1.44	55556	27.78
20	495	12	30	-34.4	1.40	60000	30.00
19	529	12	34	-35.4	1.35	66666	33.33
18	562	12	33	-36.4	1.36	65217	32.61
17	592	12	30	-37.4	1.40	60000	30.00
16	626	12	34	-38.4	1.35	66666	33.33
15 stop	660	12	34	-39.4	1.35	66666	33.33
14	714	12	54	-40.4	1.22	93750	46.88
13							

TEST PILE No 4 PIER 3 12-19-49

SIZE L = 40' B = 16" T = 8"

Leads	Total Blow	Pen No "	Tip Blo	Pen El. <sup>in/ft</sup>	BEARING LBS	TONS
43	11	36	11	-11.7	327	8902 4.45
40	54	60	43	-19.7	140	20000 10.00
35	65	12	11	-20.7	1.09	25 210 12.61
34	79	12	14	-21.7	.86	31 250 15.63
33	96	12	17	-22.7	.71	37 037 18.52
32	117	12	21	-23.7	.57	44 776 22.39
31	141	12	24	-24.7	.50	50 000 25.00
30	176	12	35	-25.7	.34	68 182 34.09
29	214	12	38	-26.7	.32	71 429 35.71
28	254	12	40	-27.7	.30	75 000 37.50
27	292	12	38	-28.7	.32	71 429 35.71
26	328	12	36	-29.7	.33	69 767 34.88
25	362	12	34	-30.7	.35	66 666 33.33
24	390	12	28	-31.7	.43	56 604 28.30
23	421	12	31	-32.7	.39	61 224 30.61
22	450	12	29	-33.7	.41	58 824 29.41
21	484	12	34	-34.7	.35	66 666 33.33

20

528 12 44 -35.7 .27 81081 40.54

19

575 12 47 -36.7 .26 83333 41.66

18

631 12 56 -37.7 .21 96774 48.39

17

Refusal, -38.7

16

Note this pile used  
as 33.5 Pier 3 -  
cutoff 10.3  
pen 29.7



TEST PILE No 5 NABt 12-20-4

5

SIZE L = 40' B = 16" T = 8"

Leads	Total Blows	Pen " Blo	No Blo	Tip E/ Pen	Pen ins/Blo	BEARING lbs	TONS
45				- 9.1			
	12	60	12	- 14.1	5.0	5882	2.94
40							
	62	60	50	- 19.1	1.20	23077	11.54
35							
STOP	95	12	33	- 20.1	.36	65217	32.61
34							
	131	12	36	- 21.1	.33	69767	34.88
33							
	162	12	31	- 22.1	.39	61224	30.61
32							
	211	18	49	- 23.6	.37	63830	31.92
29							
	245	12	34	- 24.6	.35	66666	33.33
28							
	281	12	36	- 25.6	.33	69767	34.88
27							
	322	12	41	- 26.6	.29	76923	38.46
26							
	370	12	48	- 27.6	.25	85714	42.86
25							
	424	12	54	- 28.6	.22	93750	46.88
24							
	459	7.2	35	- 29.2	.21	96774	48.39
23.4							

TEST PILE 1-A S-ABT. 12-20-49

6

SIZE L=40' B=15" T=11"

Leads	Total Blows	Pen No " Blo	TIP EL. "	Pen Ins/Blo	BEARING LBS. TONS	
43			-7.5			
4 39	5	48 5	-11.6	9.60	3,092	1.55
4 34	18	60 13	-16.5	4.62	6,356	3.18
3 29	41	60 23	-21.2	2.61	11,070	5.54
5to 3 28	48	12 7	-22.2	1.71	16,575	8.29
3 27	52	12 4	-23.2	3.00	9,677	4.84
3 26	59	12 7	-24.2	1.71	16,575	8.29
2 25	64	12 5	-25.2	2.40	12,000	6.00
2 24	70	12 6	-26.2	2.00	14,286	7.14
2 23	75	12 5	-27.2	2.40	12,000	6.00
2 22	81	12 6	-28.2	2.00	14,286	7.14
2 21	91	12 10	-29.2	1.20	23,077	11.54
2 20	103	12 12	-30.2	1.00	27,273	13.64
23 19	112	12 9	-31.2	1.33	20,979	10.49
18	120	12 8	-32.2	1.50	18,750	9.38
17	127	12 7	-33.2	1.71	16,575	8.29
16	134	12 7	-34.2	1.71	16,575	8.29
	143	12 9	-35.2	1.33	20,979	10.49

15						
14	156	12 13	-36.2	.92	29,412	14.71
13	166	12 10	-37.2	1.20	23,077	11.54

TEST PILE #6 Pier 6 12-21-49

SIZE L=45'

Leads	Total Blows	Pen " Blo	No TIP Elev	Pen mm. Blo	BEARING lbs. TONS
	45		-11.9		22
		15	-16.9	4.5	4.5
4	40				32 - 35.9
		15	-19.9	6.0	6.0
4	37				33 - 36.9
		14	-20.3	15.6	15.6
3	36				31 - 37.9
5	35				34 - 38.9
3		16	-21.9	17.7	17.7
3	34				31 - 39.9
		20	-22.9	21.4	21.4
3	33				31 - 39.9
		21	-23.9	22.4	22.4
3	32				34 - 40.9
		24	-24.9	25.0	25.0
2	31				36 - 41.9
		23	-25.9	24.2	24.2
2	30				37 - 42.7
		19	-26.9	20.5	20.5
2	29				14.2
		28	-27.9	25.8	25.8
2	28				29.4
		29	-28.9	29.4	29.4
2	27				32.6
		33	-29.9	32.6	32.6
2	26				34.1
		35	-30.9	34.1	34.1
2	25				24.2
		23	-31.9	24.2	24.2
2	24				29.4
		29	-32.9	29.4	29.4
2	23				28.3
		28	-33.9	28.3	28.3
2	23				33.3
		34	-34.9	33.3	33.3

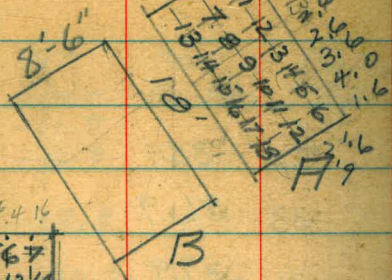
Note 1 Test PILE to 50'  
 Refusal @ 10' - paid for  
 as delivered pile only.  
 No Allowance for driving

Lea

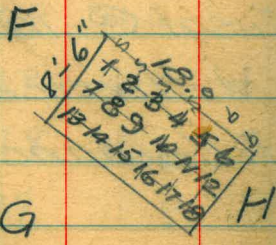
4  
4  
3  
5  
3  
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2  
2  
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2

19.0  
17.0

1	2	3	4	5	6
8	9	10	11	12	13
14	15	16	17	18	19
20	21	22	23	24	25
26	27	28	29	30	31
32	33	34	35	36	37
38	39	40	41	42	43
44	45	46	47	48	49
50	51	52	53	54	55
56	57	58	59	60	61
62	63	64	65	66	67
68	69	70	71	72	73
74	75	76	77	78	79
80	81	82	83	84	85
86	87	88	89	90	91
92	93	94	95	96	97
98	99	100	101	102	103
104	105	106	107	108	109
110	111	112	113	114	115
116	117	118	119	120	121
122	123	124	125	126	127
128	129	130	131	132	133



D N & S ABT.  
PILING LAYOUT



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128
129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160

WEST

EAST

PIER PILING LAYOUT.

PIERS 2-4-6-8 & 10

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128

WEST

EAST

PIERS 1-3-5-7 & 9

Pile Data		E.I. Cut.	cut off	Pen	Blows Per ft.
Unit.	Length	TOP			
2-3-50	beg 2 PM	31	3.4	-27.6	39/37
NA-A-1b	31:0	0.0			
2-3-50	beg 2 PM	31	6.0	-25.2	92/65
2b	31:2				
2-3-50	beg 2 PM	31	2.8	-28.2	50/42
7b	31:0				
2-7-50	beg 2 PM	28	1.3	-26.7	30/30
15 <sup>s</sup>	28:0	11-15			
2-7-50	beg 2 PM	28	7.0	-21.9	29/29
12 <sup>s</sup>	28:9	7:0	Brook used	22	
2-7-50	beg 2 PM	28	5.4	-24.0	80/60
6 <sup>s</sup>	29:4				
2-7-50	beg 2 PM	28	2.9	-21.6	50/43
17 <sup>s</sup>	30:5				
2-7-50	beg 2 PM	28	5.0	-25.6	60/50
11 <sup>s</sup>	30:6				
2-7-50	beg 2 PM	28	7.2	-22.1	65/53
5 <sup>s</sup>	29:3				
2-7-50	beg 2 PM	28	5.5	-23.7	90/65
16 <sup>s</sup>	29:2				
2-7-50	beg 2 PM	28	5.3	-25.3	40/38
15 <sup>s</sup>	30:6				
2-7-50	beg 2 PM	28	6.8	-22.2	58/48
3 <sup>s</sup>	29:0				
2-7-50	beg 2 PM	28	4.1	-26.7	32/32
4 <sup>s</sup>	30:0				
2-7-50	beg 2 PM	28	5.5	-24.5	45/40
10 <sup>s</sup>	30:0				
2-7-50	beg 2 PM	28	12.7	-17.3	nd./
9 <sup>s</sup>	30:0				
2-9-50	beg 2 PM	31	4.6	26.9	30/30
13b	31:5				
2-9-50	beg 2 PM	31	4.8	26.9	40/56
8b	31:7				
2-9-50	beg 2 PM	31	11.0	20.4	50/43
14b	31:4				
2-9-50	beg 2 PM	24	6.5	17.2	38/36
14.A.	23:7				
		564		449	
				439	

Length	E.I. Cutoff	Cutoff	Pen.	Blows Per ft.	Tons
NA-B-6	28-6	0.8	7.2	-21.4	70/56
2-9-50	5 <sup>s</sup> 29-6	29	0.5	-29.0	40/38
2-9-50	15 <sup>s</sup> 29-8	28	3.6	-26.2	33/32
2-9-50	9 <sup>s</sup> 28-8	28	5.8	-23.0	40/38
2-9-50	3 <sup>s</sup> 30-4	28	10.8	-19.6	60/50
2-9-50	16 <sup>s</sup> 30-8	31	1.0	29.8	29/29
2-9-50	10 <sup>s</sup> 28-4	28	6.2	-22.2	50/43
2-9-50	4 <sup>s</sup> 29-0	28	7.4	-21.6	50/43
2-9-50	17 <sup>s</sup> 30-8	31	0.9	-29.9	35/34
2-9-50	11 <sup>s</sup> 28-2	28	6.3	21.9	50/43
2-9-50	15 <sup>s</sup> 28-6	28	8.1	20.5	57/48
2-9-50	12 <sup>s</sup> 29-0	28	7.0	22.0	55/46
2-9-50	1 <sup>b</sup> 31-6	31	3.0	28.6	31/36
2-9-50	7 <sup>b</sup> 31-4	31	4.3	27.1	40/37.50
2-9-50	13 <sup>b</sup> 30-8	31	7.0	23.8	50/42.85
2-9-50	14 <sup>b</sup> 31-9	31	12.0	19.9	60/50
2-9-50	8 <sup>b</sup> 30-5	31	12.2	18.3	60/50
2-9-50	2 <sup>b</sup> 31-0	31	12.0	19.0	60/50
		525		425	

Unit.	length	El Cut Top	Cut off	Pen	Blow/ Perft	Unit	Length	El. Cut off.	Cut off.	Pen.	Blow Perft	10 Tons
NA-C-4 <sup>s</sup>	29-6	0.30	-1.6	29.6	25/24	NA-C	16	31.6	31	8.0	23.6	50/43
9	11 <sup>s</sup>	28	2.0	-28.3	40/38	12 <sup>b</sup>	29.4	29	7.0	22.4	40/38	
8	18 <sup>s</sup>	28	0.7	-27.9	40/38	13 <sup>b</sup>	28.8	29	7.7	21.1	60/50	
1	25 <sup>s</sup>	28	4.0	-25.1	ref/-	18 <sup>b</sup>	28.9	29	5.4	23.5	50/43	
5	5 <sup>s</sup>	28	6.3	-23.0	50/43	9 <sup>b</sup>	29.0	29	7.4	21.6	50/43	
	12 <sup>s</sup>	28	1.3	-27.3	42/40	10 <sup>b</sup>	31.1	31	11.0	20.1	60/50	
	19 <sup>s</sup>	29-0	9.7	-19.3	60/50	15 <sup>b</sup>	32.0	31	10.0	22.0	60/50	
	26 <sup>s</sup>	30-0	1.8	-28.2	30/30	16 <sup>b</sup>	29.0	29	8.0	21.0	36/35	
	6 <sup>s</sup>	29-7	6.3	-23.4	60/50	17 <sup>b</sup>	30.1	30	9.7	20.4	50/43	
	13 <sup>s</sup>	30-0	3.8	-26.2	40/38	22 <sup>b</sup>	33.7	31	10.8	22.1	40/38	
	20 <sup>s</sup>	29-6	9.7	-19.9	50/43	23 <sup>b</sup>	31.0	31	10.6	20.4	47/41	
	27 <sup>s</sup>	28	7.1	-20.9	45/42	24 <sup>b</sup>	31.3	31	11.0	20.3	50/43	
	7 <sup>s</sup>	28.5	1.3	-27.2	35/34			222		259		
	14 <sup>s</sup>	29.7	4.7	-25.0	40/38							
	21 <sup>s</sup>	29	9.7	-21.8	40/38							
√	28 <sup>s</sup>	29	10.2	-18.8	ref/-							

391

259  
391  
650

Unit	Length	El. cut off	Cut off	Pen.	Blows 1 ft	NA-D	Length	El. cut	Cut off	El. Trip. Pen.	Blows per ft	Tons
NA-D 25 <sup>s</sup>	29.4	6.0 <sup>29</sup>	0.7	-28.7	28	1 <sup>b</sup>	34.0	0.31	10.0	24.0 <sup>24</sup>	40	38
8-50 18 <sup>s</sup>	30.4	30	0.5	-29.9	25	2 <sup>b</sup>	31.0	31	7.8	23.2 <sup>23</sup>	40	38
11 <sup>s</sup>	30.5	28	3.3	-27.2	40	3 <sup>b</sup>	31.0	31	9.0	22.0 <sup>22</sup>	40	38
4 <sup>s</sup>	29.7	28	2.2	-27.5	50	4 <sup>b</sup>	30.9	31	5.8	25.1 <sup>25</sup>	40	38
26 <sup>s</sup>	30.0	28	2.4	-27.6	33	5 <sup>b</sup>	31.5	31	7.8	23.7 <sup>24</sup>	38	36
19 <sup>s</sup>	29.1	28	7.5	-21.6	50	6 <sup>b</sup>	31.0	31	8.6	22.4 <sup>22</sup>	40	38
12 <sup>s</sup>	29.1	28	8.3	-20.8	32	7 <sup>b</sup>	31.8	31	4.8	27.0 <sup>27</sup>	38	36
5 <sup>s</sup>	29.2	28	1.5	-27.7	20	8 <sup>b</sup>	30.2	31	8.0	22.2 <sup>22</sup>	50	43
27 <sup>s</sup>	29.4	28	1.5	-27.9	20	9 <sup>b</sup>	31.5	31	10.0	21.5 <sup>22</sup>	40	38
20 <sup>s</sup>	29.4	28	4.0	-25.4	40	10 <sup>b</sup>	32.4	31	9.3	23.1 <sup>23</sup>	40	38
13 <sup>s</sup>	29.5	28	5.0	-24.0	35	11 <sup>b</sup>	30.8	31	8.0	22.8 <sup>23</sup>	38	36
6 <sup>s</sup>	29.	28	8.0	-21.0	50	12 <sup>b</sup>	30.4	31	9.6	20.8 <sup>21</sup>	40	38
7 <sup>s</sup>	29.6	28	4.0	-25.6	38			823		666 <sup>✓</sup>		
14 <sup>s</sup>	30.	28	3.0	-27.0	35							
21 <sup>s</sup>	26.5	28	6.8	-19.7	50							
28 <sup>s</sup>	29.5	28	6.0	-23.5	60							

Unit	Length	Cutoff	cut off	Pen.	Blow 7/ft	Unit	Length	Cutoff	Cutoff	Pen.	Blow 7/ft	Tons
NA-E.		0.0						0.0				
28 <sup>s</sup>	29.0	28	6.4	22.6 <sup>23</sup>	52/4	3 <sup>b</sup>	34.4	31	5.1	29.3 <sup>29</sup>	40/38	
21 <sup>s</sup>	30.0	28	5.6	24.4 <sup>24</sup>	52/4	2 <sup>b</sup>	32.0	31	9.0	23.0 <sup>23</sup>	42/40	
7 <sup>s</sup>	31.0	28	10.2	20.8 <sup>21</sup>	40/38	1 <sup>b</sup>	32.0	31	10.5	21.5 <sup>22</sup>	42/40	
14 <sup>s</sup>	29.0	28	9.8	19.7 <sup>20</sup>	40/38	10 <sup>b</sup>	33.0	31	10.0	23.0 <sup>23</sup>	30/30	
6 <sup>s</sup>	29.0	28	8.8	20.2 <sup>20</sup>	40/38	9 <sup>b</sup>	33.4	31	12.0	21.4 <sup>21</sup>	60/50	
5 <sup>s</sup>	30.6	28	2.6	28.0 <sup>28</sup>	35/32	8 <sup>b</sup>	33.4	31	9.3	24.1 <sup>24</sup>	50/43	
4 <sup>s</sup>	30	28	5.6	24.4 <sup>24</sup>	38/36	17 <sup>b</sup>	32.2	31	5.8	26.4 <sup>26</sup>	50/43	
13 <sup>s</sup>	30.3	28	10.8	19.5 <sup>20</sup>	40/38	16 <sup>b</sup>	32.1	31	5.3	26.8 <sup>27</sup>	50/43	
12 <sup>s</sup>	30.8	28	10.5	20.3 <sup>20</sup>	40/38	15 <sup>b</sup>	32.4	31	3.6	28.8 <sup>29</sup>	35/34	
20 <sup>s</sup>	28.6	28	7.6	21.0 <sup>21</sup>	40/38	24 <sup>b</sup>	33.7	31	8.4	29.3 <sup>25</sup>	38/36	
27 <sup>s</sup>	30.8	28	10.6	20.2 <sup>20</sup>	45/40	23 <sup>b</sup>	33.0	31	5.9	27.1 <sup>27</sup>	40/38	
19 <sup>s</sup>	28.6	28	10.5	18.1 <sup>18</sup>	60/50	22 <sup>b</sup>	34.4	31	11.6	22.8 <sup>23</sup>	50/43	
11 <sup>s</sup>	27.8	28	9.5	18.3 <sup>18</sup>	40/38			820		648 <sup>v</sup>		
18 <sup>s</sup>	29.1	28	2.8	26.3 <sup>26</sup>	25/25							
26 <sup>s</sup>	30.0	28	10.0	20.0 <sup>20</sup>	60/50							
25 <sup>o</sup>	33.4	28	7.0	26.4 <sup>26</sup>	60/50							



Length EL Cutoff Pen. Blow  
 %ft / To

31.6

Length	EL	Cutoff	Pen.	Blow %ft / To
NH F	0.0			
7 <sup>s</sup>	30.0	28	2.8	27.2 <sup>27</sup> 38/
6 <sup>s</sup>	29.6	28	4.0	25.6 <sup>26</sup> 45/
14 <sup>s</sup>	30.0	28	2.8	27.2 <sup>27</sup> 50/
13 <sup>s</sup>	30.5	28	6.0	24.5 <sup>25</sup> 40/
21 <sup>s</sup>	30.6	28	4.5	26.1 <sup>26</sup> 40/
28 <sup>s</sup>	30.4	30	0.4	30.4 <sup>30</sup> 20/
20 <sup>s</sup>	30.6	28	3.6	27.0 <sup>27</sup> 40/
27 <sup>s</sup>	32.2	28	10.0	22.2 <sup>23</sup> 55/
5 <sup>s</sup>	29.6	28	7.0	22.6 <sup>23</sup> 41/
12 <sup>s</sup>	28.4	28	2.6	25.8 <sup>26</sup> 48/
19 <sup>s</sup>	32.0	28	6.8	25.2 <sup>25</sup> 50/
4 <sup>s</sup>	31.0	28	4.8	26.2 <sup>26</sup> 46/
26 <sup>s</sup>	32.2	28	9.0	23.2 <sup>23</sup> 50/
11 <sup>s</sup>	32.0	28	9.7	22.3 <sup>22</sup> 60/
18 <sup>s</sup>	30.6	28	6.0	24.6 <sup>25</sup> 40/
25 <sup>s</sup>	33.2	33	2.0	31.2 <sup>31</sup> 30/

2-13-50

3 <sup>b</sup>	31.9	31.6	4.5	27.4 <sup>27</sup> 45/
2 <sup>b</sup>	33.2	31	6.0	27.2 <sup>27</sup> 38/
1 <sup>b</sup>	33.7	31	10.5	23.2 <sup>23</sup> 35/
10 <sup>b</sup>	30.2	30	1.5	28.7 <sup>29</sup> 38/
9 <sup>b</sup>	33.0	31	8.1	24.9 <sup>25</sup> 45/
8 <sup>b</sup>	31.1	31	8.2	22.9 <sup>23</sup> 42/
17 <sup>b</sup>	28.0	28	4.5	23.5 <sup>24</sup> 44/
16 <sup>b</sup>	31.6	31	7.5	23.5 <sup>24</sup> 43/
15 <sup>b</sup>	31.6	31	9.0	22.6 <sup>23</sup> 60/
24 <sup>b</sup>	32.5	31	4.1	28.4 <sup>28</sup> 45/
23 <sup>b</sup>	30.9	31	7.0	23.9 <sup>24</sup> 50/
22 <sup>b</sup>	30.4	30	7.0	23.4 <sup>23</sup> 42/

825

711

31.7

Unit	Length	EI Cutoff	Length Cut off	Pen.	Blow ft.
NA-G		0.0			
7 <sup>s</sup>	35.4	32	3.5	31.9	37/
14 <sup>s</sup>	30.2	29	1.4	28.8	28/
21 <sup>s</sup>	32.2	29	3.1	29.1	37/
28 <sup>s</sup>	35.2	35	0.7	34.5	22/
6 <sup>s</sup>	27.2	28	2.1	25.1	20/
13 <sup>s</sup>	30.0	28	3.0	27.0	40/
20 <sup>s</sup>	33.8	28	7.0	26.8	40/
27 <sup>s</sup>	30.2	28	2.0	28.2	31/
26 <sup>s</sup>	32.2	28	6.0	26.2	40/
19 <sup>s</sup>	31.0	28	3.0	28.0	23/
12 <sup>s</sup>	30.2	28	7.5	22.7	50/
5 <sup>s</sup>	29.7	28	3.5	26.2	28/
4 <sup>s</sup>	30.3	28	3.2	27.1	30/
11 <sup>s</sup>	28.5	28	3.1	25.4	28/
18 <sup>s</sup>	31.8	28	7.5	24.3	36/
25 <sup>s</sup>	28.8	28	2.4	26.4	30/

unit	Length	EI Cutoff	Len Cut off	Pen.	Blow <sup>14</sup> per ft / tons
NA-G					
3 <sup>b</sup>	28.4	26	2.6	25.8	22/
2 <sup>b</sup>	30.1	30	3.5	26.6	20/
1 <sup>b</sup>	30.4	30	6.3	24.1	35/
10 <sup>b</sup>	30.0	30	3.4	26.6	25/
9 <sup>b</sup>	31.3	31	3.0	28.3	30/
8 <sup>b</sup>	31.0	31	3.2	27.8	25/
17 <sup>b</sup>	31.1	31	4.2	26.9	32/
16 <sup>b</sup>	30.5	31	6.3	24.2	40/
15 <sup>b</sup>	32.7	31	5.5	27.2	33/
24 <sup>b</sup>	31.4	31	8.0	23.4	53/
23 <sup>b</sup>	28.8	29	6.5	22.3	45/
22 <sup>b</sup>	30.0	30	7.4	22.6	55/
		<del>283</del>		243	

Unit	Length	EL Cutol	Length Cutoff	Per.	Blow Perft
NH. H6 <sup>b</sup>	29.7	31	Broke at 14' from top	2	25/26
6 <sup>b</sup>	31.6	31	2.6	29.0	40/38
5 <sup>b</sup>	30.4	30	3.6	26.8	36/30
12 <sup>b</sup>	31.0	31	0.5	30.5	30/30
11 <sup>b</sup>	31.0	31	6.3	24.7	50/42
18 <sup>b</sup>	33.0	31	4.5	28.5	45/40
17 <sup>b</sup>	32.6	31	5.0	27.6	50/40
4 <sup>s</sup>	31.6	28	4.1	27.5	60/60
3 <sup>s</sup>	33.2	28	7.7	25.5	60/60
2 <sup>s</sup>	31.8	31	0.5	31.3	30/30
1 <sup>s</sup>	31.3	31	0.8	30.5	30/30
10 <sup>s</sup>	31.1	29	2.1	29.0	45/45
9 <sup>s</sup>	31.6	28	4.5	27.1	45/45
8 <sup>s</sup>	31.3	28	6.0	25.3	45/45
7 <sup>s</sup>	30.8	30	1.0	29.8	38/38
16 <sup>s</sup>	30.6	28	5.0	25.6	40/40
15 <sup>s</sup>	31.2	28	5.0	26.2	38/38
14 <sup>s</sup>	31.2	29	2.0	29.2	35/35
13 <sup>s</sup>	31.3	28	6.5	24.8	35/35
Total		532		502	

Checked 6-26-50

Unit	Length	EI- -10	Length cutoff	Pen	Bleed Perf.	Pier 1	Len.	L Cut.	Pen	Bleed <sup>16</sup> to 15	
Pier #1						101 <sup>b</sup>	40.6	41	2.6	38.0 38	28/
1 <sup>b</sup>	31.9	31	5.6	26.3 26	1/12	69 <sup>s</sup>	43.0	43	5.6	37.4 37	32/
33 <sup>s</sup>	31.6	32	1.3	30.3 30	1/12	6 <sup>b</sup>	43.6	44	5.6	38.0 38	45/
97 <sup>b</sup>	41.0	41	6.7	34.3 34	40/30	7 <sup>b</sup>	42.7	43	5.1	37.6 38	24/
65 <sup>s</sup>	41.0	41	3.2	37.5 38	31/30	8 <sup>b</sup>	33.0	33	12.0	21.0 21	32/
2 <sup>b</sup>	34.9	35	6.6	28.3 28	22/20	38 <sup>s</sup>	43.3	43	5.6	37.7 38	30/
34 <sup>s</sup>	29.0	29	3.3	25.7 26	20/20	39 <sup>s</sup>	41.4	41	19.9	21.5 22	50/
98 <sup>b</sup>	32.0	32	3.1	28.9 29	25/20	40 <sup>s</sup>	31.	31	11.0	20.0 20	50/
66 <sup>s</sup>	30.0	30	2.3	27.7 28	15/17	102 <sup>b</sup>	40.7	41	3.0	27.7 28	25/
4 <sup>b</sup>	33.2	33	2.5	30.7 31	17/19	103 <sup>b</sup>	41.7	42	3.7	28.5 38	30/
3 <sup>b</sup>	32.6	33	13.3	19.3 19	10/6	104 <sup>b</sup>	43.0	43	10.7	32.3 32	44/
35 <sup>s</sup>	29.5	30	4.4	25.1 25	32/30	70 <sup>s</sup>	34.0	34	10.4	23.6 24	32/
36 <sup>s</sup>	30.2	30	2.5	27.7 28	22/20	71 <sup>s</sup>	32.3	32	4.9	27.4 27	31/
99 <sup>b</sup>	30.3	30	3.2	27.1 27	15/17	72 <sup>s</sup>	31.0	31	4.0	27.0 27	28/
67 <sup>s</sup>	30.3	30	2.2	28.1 28	17/19						
100 <sup>b</sup>	33.6	34	2.0	31.6 32	12/	32 <sup>b</sup>	30.8	31	4.5	26.3 26	25/25
68 <sup>s</sup>	33.6	34	3.0	30.6 31	16/	31 <sup>b</sup>	30.6	31	9.0	21.6 22	32/32
5 <sup>b</sup>	42.6	43	3.8	38.8 39	28/	30 <sup>b</sup>	31.4	31	9.3	22.1 22	25/25
37 <sup>s</sup>	42.2	42	2.9	39.3 39	25/	28 <sup>b</sup>	30.8	31	4.0	26.8 27	30/30
				54 ✓						515 ✓	

m 23

Pier	length	cut	Pen/Pay	Blow
27 <sup>b</sup>	30.6	31	3.9 26.7	27 25
29 <sup>b</sup>	30.6	31	10.7 19.9	20 50
63 <sup>s</sup>	29.6	<del>28</del>	2.7 26.9	<del>27 24</del>
64 <sup>s</sup>	29.0	28	0.7 28.3	28 23
95 <sup>s</sup>	29.4	29	0.9 28.5	29 18
96 <sup>s</sup>	30.6	29	2.1 28.5	29 15
61 <sup>s</sup>	29.6	30	0.5 29.1	29 18
62 <sup>s</sup>	31.4	30	1.0 30.4	30 28
94 <sup>s</sup>	31.2	31	0.0 31.2	31 20
93 <sup>s</sup>	30.8	31	1.0 29.8	30 18
60 <sup>s</sup>	31.4	31	0.6 30.8	31 18
59 <sup>s</sup>	31.3	31	1.2 30.1	30 22
91 <sup>s</sup>	30.4	30	0.8 29.6	30 14
92 <sup>s</sup>	35.9	36	2.7 33.2	33 34
28 <sup>b</sup>	30.5	31	5.0 25.5	26 25
25 <sup>b</sup>	36.6	31	1.0 29.6	30 20
57 <sup>s</sup>	30.6	31	1.4 29.2	29 13
58 <sup>s</sup>	35.4	35	1.9 33.5	34 20
90 <sup>s</sup>	35.9	35	1.5 34.4	34 20
89 <sup>s</sup>	30.4	28	9.3 21.1	21 60

1-31.4 Bynke moving to lead cedar

Pier l.	Length	cut	Pen/Ray	B/leaf									
3/9 23 <sup>b</sup>	30.6	31	1.6	29.0	29	20/	54 <sup>s</sup>	29.2	28	5.2	24.1	24	33/
↑ 127 <sup>b</sup>	30.6	31	3.0	27.6	28	18/	53 <sup>s</sup>	30.0	28	4.0	26.0	26	31/
0 126 <sup>b</sup>	33.3	31	12.0	21.3	21	45/	52 <sup>s</sup>	30.6	28	4.5	26.1	26	45/
5 128 <sup>b</sup>	30.6	31	4.0	26.6	27	25/	51 <sup>s</sup>	28.3	28	2.0	26.3	26	25/
0 125 <sup>b</sup>	30.6	31	13.0	17.5	18	ref/	47 <sup>s</sup>	29.9	30	1.2	28.7	29	19/
1 124 <sup>b</sup>	30.6	31	4.5	26.1	26	25/	48 <sup>s</sup>	30.0	30	0.3	29.7	30	15/
m 123 <sup>b</sup>	31.3	31	5.1	26.2	26	24/	49 <sup>s</sup>	29.0	28	1.3	21.7	29	17/
122 <sup>b</sup>	30.6	31	3.7	26.9	27	60/	50 <sup>s</sup>	31.0	31	1.2	29.8	30	18/
121 <sup>b</sup>	30.9	31	9.2	21.7	22	25/	79 <sup>s</sup>	30.0	30	0.2	29.8	30	13/
120 <sup>b</sup>	30.7	31	4.5	26.2	26	35/	80 <sup>s</sup>	31.3	28	6.8	24.5	25	ref/
119 <sup>b</sup>	31.5	31	1.5	30.0	30	12/	81 <sup>s</sup>	30.6	28	11.7	18.9	19	ref/
118 <sup>b</sup>	30.0	30	2.1	27.9	28	25/	82 <sup>s</sup>	30.6	31	1.0	29.6	30	26/
117 <sup>b</sup>	28.9	29	1.0	27.9	28	12/	87 <sup>s</sup>	28.0	28	2.7	25.3	25	25/
116 <sup>b</sup>	29.8	30	1.0	28.8	29	18/	55 <sup>s</sup>	28.0	29	1.3	21.7	28	14/
115 <sup>b</sup>	30.9	31	1.1	29.9	30	15/	88 <sup>s</sup>	28.2	28	7.6	20.6	21	32/
83 <sup>s</sup>	28.7	28	1.8	26.9	27	18/	24 <sup>b</sup>	31.6	31	13.7	17.9	18	69/
84 <sup>s</sup>	28.9	28	4.0	24.9	25	24/	56 <sup>s</sup>	30.0	28	7.5	22.5	23	50/
85 <sup>s</sup>	30.2	30	1.3	28.9	29	15/							
86 <sup>s</sup>	30.3	28	4.0	26.3	26	26/							

29.2

18

502 ✓

436 ✓

Pier. l.	Length	Pay	Cut	Pen/Pay	Blue/	Pier.						
107. B	29.8	31	0.9	289	29	10 <sup>b</sup>	31.1	31	2.4	28.7	29	18/
108 <sup>b</sup>	31.9	31	4.7	272	27	9 <sup>o</sup>	30.3	30	3.4	26.9	27	25/
109 <sup>b</sup>	30.9	31	0.8	30.1	30	42 <sup>s</sup>	30.5	30	1.3	29.2	29	19/
110 <sup>b</sup>	31.0	31	11.5	19.5	20	41 <sup>s</sup>	30.8	28	13.0	17.8	18	50/
46 <sup>s</sup>	28.3	28	1.5	268	27	108 <sup>b</sup>	30.2	30	5.0	25.2	25	30/
45 <sup>s</sup>	28.0	28	3.5	245	25	105 <sup>b</sup>	30.2	30	4.6	25.6	26	40/
78 <sup>s</sup>	28.0	28	0.9	27.1	27	73 <sup>s</sup>	30.7	31	1.7	29.0	29	21/
77 <sup>s</sup>	28.1	28	1.1	27.0	27	74 <sup>s</sup>	29.7	28	9.1	20.6	21	33/ 27
76 <sup>s</sup>	29.8	28	1.5	28.3	28	15 <sup>b</sup>	31.3	31	2.3	29.0	29	24/
75 <sup>s</sup>	28.9	28	1.8	27.1	27	16 <sup>b</sup>	30.6	31	1.6	29.0	29	14/
44 <sup>s</sup>	30.2	30	0.8	29.4	29	17 <sup>o</sup>	30.6	31	10.7	19.9	20	40/ 30
43 <sup>s</sup>	30.3	28	8.4	21.9	22	18 <sup>b</sup>	29.0	29	5.2	23.8	24	21/
14 <sup>b</sup>	31.2	31	1.5	29.7	30	19 <sup>b</sup>	31.1	31	12.2	18.9	19	49/
13 <sup>b</sup>	30.8	31	1.9	28.9	29	20 <sup>b</sup>	30.8	31	15.4	15.4	15	50/
12 <sup>b</sup>	30.8	31	1.5	29.3	29	21 <sup>b</sup>	30.0	30	13.9	16.1	16	50/
11 <sup>b</sup>	31.3	31	3.4	27.9	28	22 <sup>b</sup>	30.2	30	13.0	17.2	17	50/
44A <sup>s</sup>	30.7	28	15.0	15.7	16	111 <sup>b</sup>	30.6	31	3.8	26.8	27	26/
45A <sup>s</sup>	30.6	28	6.6	24.0	24	112 <sup>b</sup>	31.4	31	6.5	24.9	25	27/
46A <sup>s</sup>	30.7	28	7.3	23.4	23	113 <sup>b</sup>	34.5	31	17.6	16.9	17	60/

3-13-50

497 ✓

442 ✓

20						20					
Pier 1	Length	Pay	Cut	Pen/Pay	Blow/Ton	Pier 2	Length	Pay	Cut	Pen/Pay	Blow/Ton
114 <sup>b</sup>	17.6	18	1.5	16.16	30/	5 <sup>b</sup>	30.5	31	2.8	21.1	28/
23A <sup>s</sup>	34.7	35	3.0	31.7	32/	6 <sup>b</sup>	31.5	31	8.0	23.5	28/
30A <sup>s</sup>	35.3	Broke				7 <sup>b</sup>	29.0	29	6.4	20.6	32/
31A <sup>s</sup>	35.4	35	8.3	27.1	35/	8 <sup>b</sup>	30.6	31	10.8	19.8	50/
						136 <sup>b</sup>	30.8	31	11.2	19.6	40/
						135 <sup>b</sup>	30.3	31	6.7	23.6	45/
						134 <sup>b</sup>	32.0	31	5.6	26.4	42/
						133 <sup>b</sup>	30.5	31	10.4	20.1	38/
						130 <sup>b</sup>	30.7	31	7.4	23.3	31/
						126 <sup>b</sup>	30.0	30	8.5	21.5	40/
						125 <sup>b</sup>	30.9	31	14.0	16.9	40/
						124 <sup>b</sup>	31.3	31	8.5	22.8	33/
						97 <sup>s</sup>	30.6	31	0.5	30.1	14/
						94 <sup>s</sup>	28.9	28	11.0	17.9	50/
						99 <sup>s</sup>	28.0	28	11.0	17.0	50/
						100 <sup>s</sup>	28.0	28	10.8	17.2	35/
						65 <sup>s</sup>	28.6	28	10.5	18.1	45/
						66 <sup>s</sup>	28.2	28	9.7	18.5	30/
						67 <sup>s</sup>	28.6	28	13.2	15.4	42/

25-31-01

4181 ↑

Pen 1  
 3586 OK  
 Check 3606

76.2

403.

7

✓



Pier 2	length	Pay	Cut	Pen/Pay	Blow
33 <sup>s</sup>	30 <sup>0</sup>	28	11.8	18.2	38/
68 <sup>s</sup>	29 <sup>0</sup>	28	10.1	17.9	37/
34 <sup>s</sup>	28 <sup>0</sup>	Cedar 28	1.5	26.5	27/41
35 <sup>s</sup>	29 <sup>0</sup>	Cedar 28	8.3	20.7	24/
36 <sup>s</sup>	28 <sup>0</sup>	28	11.8	16.2	47/
129 <sup>b</sup>	30.6	31	12.4	18.2	37/
130 <sup>b</sup>	30.7	Cedar 31	14.0	16.7	50/
131 <sup>b</sup>	30.7	Cedar 31	13.2	17.5	45/
132 <sup>b</sup>	30.6	31	13.7	16.9	50/
101 <sup>s</sup>	27.6	Cedar 28	1.5	26.1	23/
102 <sup>s</sup>	29.6	28	1.7	27.9	30/
103 <sup>s</sup>	27.6	28	11.8	15.8	42/
104 <sup>s</sup>	28.4	28	1.1	27.3	22/
69 <sup>s</sup>	26.6	28	2.0	24.6	15/
70 <sup>s</sup>	29.6	broken 28			
	27.6	28	1.6	26.0	30/
71 <sup>s</sup>	28.4	28	10.0	18.4	29/
72 <sup>s</sup>	28.8	28	4.5	24.3	30/
37 <sup>s</sup>	29.9	Cedar 28	12.0	17.9	37/

376

Pier 2	Length	Pay	Cut	Pen/Pay	Blow Tons
38 <sup>s</sup>	30.9	28	13.4	17.5	50/
39 <sup>s</sup>	27.6	Cedar 28	9.0	18.6	42/
40 <sup>s</sup>	28.6	28	16.0	12.6	50/
37 <sup>b</sup>	30.7	31	12.8	17.9	45/
38 <sup>b</sup>	31.5	31	3.9	27.6	23/
39 <sup>b</sup>	31.7	31	10.0	21.7	25/
40 <sup>b</sup>	30.6	Cedar 31	12.5	18.1	50/
41 <sup>b</sup>	30.6	31	16.2	14.4	60/
42 <sup>b</sup>	31.4	Cedar 31	12.7	18.7	35/
43 <sup>b</sup>	30.6	Cedar 31	10.5	20.1	34/
44 <sup>b</sup>	31.9	31	5.8	26.1	38/
45 <sup>b</sup>	28.0	28	2.0	26.0	23/
46 <sup>b</sup>	29.6	28	9.5	20.1	50/
47 <sup>b</sup>	30.7	31	1.3	29.4	20/
48 <sup>b</sup>	29.0	28	11.5	17.5	36/
49 <sup>b</sup>	29.7	30	1.2	28.5	22/
50 <sup>b</sup>	28.7	28	12.0	16.7	25/
51 <sup>b</sup>	27.8	28	1.0	26.8	19/
52 <sup>b</sup>	29.2	28	11.7	17.5	30/
53 <sup>b</sup>	29.1	28	10.5	18.6	26/

419

Pier 2	Length	Pay	cut	Pen Pay	Blow Ton	Pier 2	Length	Pay	cut	Pen Pay	Blow Ton <sup>22</sup>
43 <sup>s</sup>	28.8	28	11.5	17.8 17	30/	94 <sup>s</sup>	29.4	28	1.8	27.6 28	20/
42 <sup>s</sup>	28.5	28	10.7	17.8 18	32/	93 <sup>s</sup>	29.6	28	9.3	20.3 20	26/
41 <sup>s</sup>	28.6	28	10.9	17.7 18	30/	92 <sup>s</sup>	30.3	28	7.8	22.5 23	24/
112 <sup>s</sup>	28.1	28	0.5	27.6 28	11/	91 <sup>s</sup>	27.9	28	10.1	17.8 18	45/
111 <sup>s</sup>	30.9	28	0.2	30.7 31	20/	53 <sup>s</sup>	27.8	28	1.4	26.4 26	15/
110 <sup>s</sup>	29.6	28	10.4	19.2 19	40/	51 <sup>s</sup>	31.0	31	0.6	30.4 30	13/
109 <sup>s</sup>	31.0	28	14.1	16.9 17	ref.	50 <sup>s</sup>	31.9	28	11.1	20.3 20	38/
80 <sup>s</sup>	28.1	28	7.8	20.3 20	35/	49 <sup>s</sup>	30.8	28	4.5	26.3 26	30/
77 <sup>s</sup>	30.6	28	12.2	18.4 18	35/	180 <sup>s</sup>	31.0	31	0.8	30.2 30	23/
78 <sup>s</sup>	29.6	28	11.9	17.7 18	35/	119 <sup>s</sup>	30.5	28	6.0	24.5 25	26/
79 <sup>s</sup>	28.3	28	9.1	19.2 19	32/	118 <sup>s</sup>	31.5	28	3.4	28.1 28	23/
48 <sup>s</sup>	29.0	29	1.5	27.5 28	10/	117 <sup>s</sup>	30.4	28	10.4	20.0 20	45/
47 <sup>s</sup>	30.0	28	12.0	18.0 18	30/	78 <sup>s</sup>	30.5	31	1.5	29.0 29	18/
46 <sup>s</sup>	30.5	28	12.8	17.7 18	45/	87 <sup>m</sup>	29.8	28	1.5	28.3 28	16/
45 <sup>s</sup>	30.4	28	11.8	18.6 19	27/	96	29.7	28	9.0	20.7 21	40/
116 <sup>s</sup>	30.8	31	0.9	29.9 30	14/	95	30.0	28	10.3	19.7 20	40/
115 <sup>s</sup>	30.4	28	11.5	18.9 19	30/	56	30.6	31	4.1	26.5 27	20/
114 <sup>s</sup>	22	22	1.0	21.0 21	23/	55	30.9	28	1.5	29.4 29	16/
113 <sup>s</sup>	29.4	28	5.5	23.9 24	24/	54	30.2	28	10.8	19.4 19	40/
				30.9 31	✓	53	30.3	28	.9	29.4 27	16/

Pier 2	Length	Pay	cut	Pen Pay	Blow 23	Pier 2	length	Pay	cut	Pen Pay	Blow 23
3-22-50 124 <sup>s</sup>	27.9	28	3.3	24.6 25	25/	63 <sup>s</sup>	30.5	28	5.3	25.2 25	22/
123 <sup>s</sup>	30.0	28	4.1	25.9 26	25/	94 <sup>s</sup>	30.3	28	12.2	18.1 18	45/
122 <sup>s</sup>	30.2	30	0.8	29.4 29	11/	62 <sup>s</sup>	30.8	28	9.8	21.0 21	35/
121 <sup>s</sup>	30.2	28	10.0	20.2 20	35/	93 <sup>s</sup>	29.7	28	12.2	17.5 18	45/
92 <sup>s</sup>	31.6	28	3.3	28.3 28	15/	61 <sup>s</sup>	29.8	28	12.5	17.0 17	25/
91 <sup>s</sup>	30.5	28	12.0	18.5 19	50/	41 <sup>b</sup>	32.0	31	4.8	27.2 27	15/
90 <sup>s</sup>	31.4	28	11.5	19.9 20	50/	42 <sup>b</sup>	34	31	14.5	19.5 20	60/
89 <sup>s</sup>	30.5	28	5.0	25.5 26	40/	43 <sup>b</sup>	34.8	31	16.4	17.9 18	50/
60 <sup>s</sup>	29.5	28	8.0	21.5 22	20/	44 <sup>b</sup>	34.1	31	13.4	20.7 21	45/
59 <sup>s</sup>	26.0	28	8.5	17.5 18	30/	45 <sup>b</sup>	31.8	31	16.0	15.8 16	50/
58 <sup>s</sup>	31.0	28	13.4	17.6 18	50/	46 <sup>b</sup>	32.1	31	11.7	20.4 20	31/
57 <sup>s</sup>	30.8	28	14.5	16.3 16	45/	47 <sup>b</sup>	32.3	31	7.7	24.6 25	30/
128 <sup>s</sup>	31.4	28	9.0	22.4 22	30/	48 <sup>b</sup>	33.5	31	17.0	16.5 17	56/
127 <sup>s</sup>	30.8	31	1.1	29.7 30	10/	49 <sup>b</sup>	33.7	31	15.5	18.2 18	50/
126 <sup>s</sup>	28.7	28	9.5	19.2 19	35/	49 <sup>b</sup>	32.1	31	9.8	22.3 22	47/
125 <sup>s</sup>	30.4	28	9.5	20.9 21	35/	50 <sup>b</sup>	34.4	31	20.5	13.9 14	45/
96 <sup>s</sup>	31.0	28	5.0	26.0 26	28/	17 <sup>b</sup>	32.0	31	14.5	17.5 18	40/
64 <sup>s</sup>	30.4	30	2.0	28.4 28	19/	45 <sup>b</sup>	32.3	31	13.4	18.9 19	45/
95 <sup>s</sup>	29.5	28	10.6	18.9 19	35/	46 <sup>b</sup>	32.2	31	18.0	14.2 14	50/
				352						366	

Pier 2	Length	Pay	cut	Pen Pay	Blew
147 <sup>b</sup>	32.6	31	14.0	18.6	46
148 <sup>b</sup>	32.4	31	6.0	26.4	30
149 <sup>b</sup>	30.8	31	11.6	19.2	30
150 <sup>b</sup>	28.0	28	9.0	19.0	47
151 <sup>b</sup>	31.3	31	8.2	23.1	36
152 <sup>b</sup>	28.0	28	9.3	18.7	35
24 <sup>b</sup>	30.6	cedar 31	13.0	17.6	40
23 <sup>b</sup>	26.7	27	10.3	16.4	40
22 <sup>b</sup>	31.3	31	13.5	17.8	50
21 <sup>b</sup>	34.0	31	15.2	18.8	50
28 <sup>b</sup>	33.8	31	12.2	21.6	50
27 <sup>b</sup>	30.6	31	11.1	19.5	50
26 <sup>b</sup>	28.0	28	7.8	20.2	34
25 <sup>b</sup>	30.6	31	10.5	20.1	39
153 <sup>b</sup>	30.6	31	10.0	20.6	33
154 <sup>b</sup>	32.3	31	16.1	16.2	50
155 <sup>b</sup>	34.3	31	14.5	19.8	50
156 <sup>b</sup>	20.0	20	5.5	14.5	30
157 <sup>b</sup>	33.9	31	13.6	20.3	45

369v

Pier 2	Length	Pay	cut	Pen Pay	Blew	Ton
158 <sup>b</sup>	32.0	31	14.0	18.0	50	
159 <sup>b</sup>	30.6	31	13.0	17.6	46	
160 <sup>b</sup>	30.6	31	13.2	17.4	50	
32 <sup>b</sup>	30.6	31	5.5	25.1	28	
31 <sup>b</sup>	28.0	28	8.7	19.3	50	
30 <sup>b</sup>	29.7	30	10.8	18.9	38	
29 <sup>b</sup>	30.6	cedar 31	13.5	17.1	50	

ck 3400  
153.  
ck - 4666  
bl #2  
3417  
3407

Northabt 4804 ✓  
Pier 1 3586 4290  
Pier 2 3407 3344  
bl 11801 3427

Pier 3	Length	Pay	cut	Pen/Pay	Blow
65 <sup>s</sup>	27.9	28	1.0	26.9	14/
66 <sup>s</sup>	30.7	28	7.0	23.7	38/
34 <sup>s</sup>	30.8	31	1.0	29.8	20/
33 <sup>s</sup>	See test pile No. 4				
67 <sup>s</sup>	28.5	28	1.2	27.3	27/
68 <sup>s</sup>	29.5	28	2.2	27.3	25/
35 <sup>s</sup>	30.9	31	1.0	29.9	20/
36 <sup>s</sup>	29.6	30	1.0	28.6	24/
69 <sup>s</sup>	31.0	31	1.0	30	25/
70 <sup>s</sup>	30.8	28	7.5	23.3	35/
71 <sup>s</sup>	29.8	30	2.0	27.8	25/
72 <sup>s</sup>	30.7	28	5.3	25.4	35/
37 <sup>s</sup>	30.5	31	1.9	28.6	27/
38 <sup>s</sup>	29.5	28	8.1	21.4	50/
40 <sup>s</sup>	28.3	28	4.0	24.3	33/
39 <sup>s</sup>	30.0	30	0.8	29.2	27/
76 <sup>s</sup>	30.0	30	2.5	27.5	26/
75 <sup>s</sup>	29.5	28	5.4	24.1	29/
93 <sup>s</sup>	31.1	28	5.5	25.6	ref/

481

Pier 3	Length	Pay	cut	Pen/Pay	Blow	25 Tons
74 <sup>s</sup>	30.0	28	8.7	21.3	33/	
44 <sup>s</sup>	29.2	29	1.1	28.1	23/	
43 <sup>s</sup>	29.3	29	0.7	28.6	14/	
41 <sup>s</sup>	29.5	29	1.1	28.4	24/	
42 <sup>s</sup>	30.0	28	12.6	17.4	39/	
80 <sup>s</sup>	31.0	31	0.9	30.1	22/	
19 <sup>s</sup>	30.8	31	0.8	30.0	24/	
78 <sup>s</sup>	30.7	28	4.1	26.6	27/	
77 <sup>s</sup>	30.5	28	3.5	27.0	31/	
48 <sup>s</sup>	30.2	28	8.2	22.0	37/	
47 <sup>s</sup>	31.4	31	1.8	29.6	25/	
46 <sup>s</sup>	31.7	32	1.5	30.2	26/	
45 <sup>s</sup>	27.6	29	10.1	26.5	ref/	
84 <sup>s</sup>	29.4	29	0.3	29.1	14/	
83 <sup>s</sup>	30.6	31	0.7	29.9	22/	
82 <sup>s</sup>	30.3	30	0.8	29.5	21/	
81 <sup>s</sup>	31.5	32	0.6	30.9	26/	
52 <sup>s</sup>	31.0	28	4.7	26.3	27/	
51 <sup>s</sup>	30.6	28	4.1	26.5	26/	

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Pier 3	Length	Pay	Cut	Pen/Pay	Blow/Tons
50 <sup>s</sup>	29.5	30	0.2	29.3	21
49 <sup>s</sup>	29.6	30	0.7	28.9	29
88 <sup>s</sup>	27.0	27	0.3	26.7	27
87 <sup>s</sup>	29.6	28	10.0	19.6	20
56 <sup>s</sup>	31.2	31	0.8	30.4	30
55 <sup>s</sup>	30.8	31	0.3	30.5	31
86 <sup>s</sup>	31.6	28	4.1	27.5	28
85 <sup>s</sup>	28.8	29	0.9	27.9	29
92 <sup>s</sup>	31.6	28	10.0	21.6	22
91 <sup>s</sup>	30.4	30	1.7	28.7	29
60 <sup>s</sup>	29.8	28	8.6	21.2	21
90 <sup>s</sup>	30.6	28	9.5	21.1	21
89 <sup>s</sup>	28.9	28	9.5	19.4	19
59 <sup>s</sup>	30.6	31	0.6	30.0	30
58 <sup>s</sup>	30.6	28	12.7	17.9	18
57 <sup>s</sup>	29.8	28	9.6	20.2	20
96 <sup>s</sup>	29.4	28	8.4	21.0	21
95 <sup>s</sup>	28.5	28	1.1	27.5	28
94 <sup>s</sup>	29.0	28	9.0	20.0	20

472

Pier 3	Length	Pay	Cut	Pen/Pay	Blow/Tons
64 <sup>s</sup>	27.8	28	8.6	19.2	19
63 <sup>s</sup>	28.1	28	0.5	27.6	28
93 <sup>s</sup>	30.1	28	11.1	19.0	29
62 <sup>s</sup>	29.8	28	10.3	19.5	20
61 <sup>s</sup>	29.6	28	8.1	21.5	22
53 <sup>s</sup>	28.5	28	8.4	20.1	20
54 <sup>s</sup>	29.2	28	8.3	20.9	21
1 <sup>b</sup>	32.2	31	8.6	23.6	24
2 <sup>b</sup>	29.2	29	13.4	15.8	16
3 <sup>b</sup>	30.5	31	9.4	21.1	21
97 <sup>b</sup>	30.2	30	9.5	20.7	21
98 <sup>b</sup>	31.0	31	14.0	17.0	17
99 <sup>b</sup>	31.4	31	11.0	20.4	20
100 <sup>b</sup>	31.4	31	13.5	17.9	18
4 <sup>b</sup>	32.3	31	14.9	17.3	17
5 <sup>b</sup>	31.5	31	14.4	17.1	17
6 <sup>b</sup>	30.4	30	13.2	17.2	17
7 <sup>b</sup>	31.4	31	12.6	18.8	19
8 <sup>b</sup>	30.0	30	10.5	19.5	20

376

26

Tons

Blow

42.1

25

39

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37

18

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31

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Pier 3	Length	Pay	cut	Pen/Pay	Blows/Ton
101 <sup>b</sup>	30.5	31	13.8	16.7 17	60/
102 <sup>b</sup>	31.4	31	9.2	22.2 22	30/
104 <sup>b</sup>	32.1	cedar 31	14.0	18.1 18	50/
103 <sup>b</sup>	31.0	31	13.5	17.5 18	50/
105 <sup>b</sup>	31.2	31	13.8	17.4 18	60/
106 <sup>b</sup>	31.4	31	13.7	17.7 20	50/
108 <sup>b</sup>	30.3	30	12.0	18.3 18	50/
107 <sup>b</sup>	29.8	30	13.5	16.3 16	50/
9 <sup>b</sup>	30.2	30	11.2	19.0 19	48/
10 <sup>b</sup>	30.5	31	11.8	18.7 19	53/
12 <sup>b</sup>	31.0	cedar 31	12.8	18.2 18	50/
11 <sup>b</sup>	30.3	30	10.9	19.4 19	49/
13 <sup>b</sup>	31.8	31	10.0	21.8 22	25/
14 <sup>b</sup>	31.4	31	13.7	17.7 18	58/
16 <sup>b</sup>	30.5	31	11.3	19.2 19	44/
15 <sup>b</sup>	31.5	31	7.6	23.9 24	30/
109 <sup>b</sup>	30.6	31	9.8	20.8 21	30/
110 <sup>b</sup>	30.1	30	10.7	19.4 19	35/
111 <sup>b</sup>	30.2	30	12.8	17.4 17	46/
				363	

Pier 3	Length	Pay	Pen/Pay	Blows/Ton	
118 <sup>b</sup>	31.6	31	15.4	16.2 16	70/
113 <sup>b</sup>	32.5	31	11.0	21.5 22	38/
114 <sup>b</sup>	30.9	31	11.6	19.8 19	42/
116 <sup>b</sup>	31.1	31	8.5	22.6 23	31/
115 <sup>b</sup>	30.0	cedar 30	12.0	18.0 18	42/
17 <sup>b</sup>	25.0	25	7.5	17.5 18	45/
18 <sup>b</sup>	31.6	31	11.8	19.8 20	46/
20 <sup>b</sup>	32.0	31	12.5	19.5 20	59/
17 <sup>b</sup>	30.5	31	11.8	19.3 19	45/
21 <sup>b</sup>	30.0	30	13.0	17.0 17	40/
22 <sup>b</sup>	31.4	cedar 31	8.4	23.0 23	20/
24 <sup>b</sup>	30.2	30	8.9	21.3 21	43/
23 <sup>b</sup>	29.2	29	13.5	15.9 16	31/
117 <sup>b</sup>	29.9	30	4.3	25.6 26	25/
118 <sup>b</sup>	31.2	31	13.7	17.5 18	42/
120 <sup>b</sup>	31.1	31	12.0	19.1 19	36/
119 <sup>b</sup>	31.0	31	10.2	20.8 21	33/
121 <sup>b</sup>	31.4	31	14.0	17.4 17	41/
122 <sup>b</sup>	29.1	30	13.6	15.9 16	32/
10				369	

Pier 3	Length	Pay	cut	Pen Pay	Blmo
124 <sup>b</sup>	29.5	30	8.0	21.5	31/
123 <sup>b</sup>	30.7	31	14.5	16.2	37/
25 <sup>b</sup>	30.1	30	11.6	18.5	49/
26 <sup>b</sup>	31.8	31	14.6	17.2	31/
27 <sup>b</sup>	31.8	31	9.5	22.3	40/
28 <sup>b</sup>	30.6	31	12.4	18.2	34/
29 <sup>b</sup>	31.6	31	17.0	14.6	60/
30 <sup>b</sup>	29.0	29	9.7	19.3	50/
31 <sup>b</sup>	30.6	31	15.1	15.5	50/
32 <sup>b</sup>	30.6	31	5.4	25.2	50/
125 <sup>b</sup>	30.8	31	9.5	21.3	32/
126 <sup>b</sup>	30.8	31	15.1	15.7	41/
127 <sup>b</sup>	30.6	31	17.4	13.2	60/
128 <sup>b</sup>	29.9	30	14.0	15.9	43/

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810



Pier 4	Length	Pay	cut	Pen/Pay	Blow/ <sup>29</sup> Tons	Pier 4	Length	Pay	cut	Pen/Pay	Blow/ <sup>29</sup> Tons
97 <sup>s</sup>	29.8	28	7.0	22.8	42	186 <sup>b</sup>	30.3	39	9.0	21.3	26
65 <sup>s</sup>	30.4	28	10.0	20.4	38	185 <sup>b</sup>	31.2	31	13.8	17.1	45
33 <sup>s</sup>	30.0	28	10.0	20.0	22	072 <sup>s</sup>	30.3	28	10.8	19.5	34
99 <sup>s</sup>	29.6	30	0.4	29.2	20	104 <sup>s</sup>	27.6	28	10.2	17.4	32
67 <sup>s</sup>	30.0	28	4.7	25.3	33	102 <sup>s</sup>	30.3	28	10.2	20.1	42
0935 <sup>s</sup>	29.6	30	0.5	29.1	14	70 <sup>s</sup>	30.4	28	12.1	18.3	50
103 <sup>s</sup>	29.8	30	0.3	29.5	15	38 <sup>s</sup>	29.8	28	11.8	18.0	50
2071 <sup>s</sup>	30.3	30	0.5	29.8	15	132 <sup>b</sup>	30.6	31	9.4	21.2	34
4140 <sup>s</sup>	30.7	31	0.6	30.1	15	131 <sup>b</sup>	29.8	30	12.8	17.0	45
39 <sup>s</sup>	35.6	30	7.8	27.8	37	129 <sup>b</sup>	30.0	30	13.9	16.1	50
101 <sup>s</sup>	33.5	34	1.0	32.5	18	130 <sup>b</sup>	30.9	31	12.0	18.0	49
69 <sup>s</sup>	31.3	31	1.4	29.9	25	98 <sup>s</sup>	31.0	28	14.7	16.8	50
37 <sup>s</sup>	27.6	28	6.7	20.9	40	66 <sup>s</sup>	31.0	28	12.5	18.5	50
133 <sup>b</sup>	27.0	27	7.0	20.0	38	100 <sup>s</sup>	30.3	28	12.0	18.3	33
134 <sup>b</sup>	30.6	31	9.8	20.8	34	34 <sup>s</sup>	31.0	28	4.5	26.5	25
105 <sup>s</sup>	28.0	28	1.0	27.0	19	68 <sup>s</sup>	30.6	28	12.1	18.5	35
106 <sup>s</sup>	30.8	31	1.0	29.8	22	36 <sup>s</sup>	29.0	28	11.0	18.0	34
107 <sup>s</sup>	30.5	31	2.0	28.5	28	137 <sup>b</sup>	34.0	31	15.4	18.2	50
108 <sup>s</sup>	30.1	30	1.1	29.0	22	138 <sup>b</sup>	30.3	31	14.4	15.9	47
	19	565		504						362	

	Pier 4	Length	Pay	Cut	Pen Pay	Blow Tons
	139 <sup>b</sup>	30.0	<del>28</del> cedar 30	14.0	16.0 16.0 20	41/
0	140 <sup>b</sup>	31.8	31	11.1	20.2	32/
1-20	76 <sup>s</sup>	30.0	30	2.0	28.0	26/
	75 <sup>s</sup>	30.3	28	13.4	16.9 17	45/
	74 <sup>s</sup>	30.0	28	7.4	22.6 23	33/
	73 <sup>s</sup>	31.8	28	13.6	17.2	41/
	41 <sup>s</sup>	30.6	28	8.5	22.1	35/
	42 <sup>s</sup>	30.0	28	9.0	21.0 19.4	39/
	43 <sup>s</sup>	30.4	<del>28</del>	11.0	21.7	25/
V	44 <sup>s</sup>	30.0	28	13.1	16.9 17	50/
	112 <sup>s</sup>	31.6	cedar 32	2.0	29.6	28/
	111 <sup>s</sup>	30.2	28	10.4	19.8	26/
	110 <sup>s</sup>	31.0	28	7.0	24.0	29/
	109 <sup>s</sup>	29.3	28	9.9	19.4	33/
50	80 <sup>s</sup>	30.1	28	7.9	22.2	30/
	79 <sup>s</sup>	30.2	28	10.3	19.9	31/
21	48 <sup>s</sup>	30.3	28	8.6	21.7	39/
	78 <sup>s</sup>	28.4	28	11.1	17.3	37/
4	47 <sup>s</sup>	29.7	28	9.3	20.4	40/
			54.5		42.9	

	Pier 4	Length	Pay	Cut	Pen Pay	Blow Tons
	46 <sup>s</sup>	31.0	28	1.8	28.2 28.2 28	18/
	77 <sup>s</sup>	31.3	28	14.0	17.3	47/
	45 <sup>s</sup>	30.9	28	12.0	18.9	40/
	148 <sup>b</sup>	30.0	30	9.3	20.7	32/
	147 <sup>b</sup>	28.7	29	9.5	19.2	33/
	146 <sup>b</sup>	28.0	28	7.2	20.8	20/
	116 <sup>s</sup>	30.0	28	10.9	19.1	41/
	115 <sup>s</sup>	30.3	28	9.3	21.0	26/
	84 <sup>s</sup>	25.6	26	6.5	19.1	46/
	114 <sup>s</sup>	31.7	28	10.8	20.9	39/
	52 <sup>s</sup>	29.8	28	11.1	18.7	40/
	83 <sup>s</sup>	28.5	28	11.9	16.6	43/
	145 <sup>b</sup>	30.3	30	9.6	20.7	35/
	82 <sup>s</sup>	30.8	31	1.5	29.3	20/
	51 <sup>s</sup>	30.0	28	9.8	20.2	42/
	113 <sup>s</sup>	29.0	cedar Protea			
	113 <sup>s</sup>	29.6	28	5.0	24.6 25	30/
	81 <sup>s</sup>	30.6	28	11.2	19.4	32/
	50 <sup>s</sup>	28.4	28	8.1	20.3	39/
			510		366	

Pier 4	Length	Pay	cut	Pen/Pay	Blow/Tons
49 <sup>s</sup>	30.5	28	12.9	17.6 18	36/
152 <sup>b</sup>	31.1	31	3.8	27.3 27	23/
151 <sup>b</sup>	30.8	30	9.5	20.5 21	40/
150 <sup>b</sup>	30.7	cedar 31	11.3	19.4 19	42/
149 <sup>b</sup>	31.4	31	2.1	29.3 29	18/
120 <sup>s</sup>	30.8	31	1.5	29.3 29	20/
119 <sup>s</sup>	31.2	28	4.0	27.2 27	25/
88 <sup>s</sup>	30.5	28	9.0	21.5 22	38/
118 <sup>s</sup>	28.0	28	8.5	19.5 20	31/
87 <sup>s</sup>	28.2	28	8.5	19.7 20	30/
56 <sup>s</sup>	30.5	28	2.1	28.4 28	17/
117 <sup>s</sup>	27.6	28	2.7	24.9 25	25/
86 <sup>s</sup>	29.1	28	11.0	18.1 18	34/
55 <sup>s</sup>	29.4	28	9.6	20.0 20	39/
85 <sup>s</sup>	29.2	28	10.8	18.4 18	37/
54 <sup>s</sup>	30.2	28	3.2	27.0 27	23/
53 <sup>s</sup>	30.1	28	9.5	20.6 21	30/
156 <sup>b</sup>	34.1	31	15.1	19.0 19	53/
155 <sup>b</sup>	31.5	31	9.4	22.1 22	29/

552

430

Pier 4	Length	Pay	Cut	Pen/Pay	Blow/Tons
154 <sup>b</sup>	29.0	29	10.4	18.6 19	29/
153 <sup>b</sup>	33.6	cedar 31	14.0	19.6 20	43/
92 <sup>s</sup>	32.0	32	2.2	29.8 30	19/
60 <sup>s</sup>	28.0	28	6.8	21.2 21	33/
124 <sup>s</sup>	30.9	28	8.4	21.6 22	30/
123 <sup>s</sup>	30.5	28	11.8	18.7 19	40/
122 <sup>s</sup>	32.0	28	11.9	20.1 20	29/
91 <sup>s</sup>	31.0	28	9.1	21.9 22	32/
59 <sup>s</sup>	32.5	28	12.0	20.5 21	30/
90 <sup>s</sup>	33.0	28	14.5	18.5 19	38/
58 <sup>s</sup>	28.4	28	11.5	16.9 17	40/
121 <sup>s</sup>	30.7	28	10.6	20.1 20	35/
89 <sup>s</sup>	33.0	28	13.0	20.0 20	37/
57 <sup>s</sup>	32.2	28	11.9	20.3 20	31/
160 <sup>b</sup>	33.6	31	15.7	17.9 18	40/
159 <sup>b</sup>	32.2	31	10.6	21.6 22	35/
158 <sup>b</sup>	34.1	31	19.4	14.7 15	60/
64 <sup>s</sup>	32.4	cedar 28	7.0	25.4 25	26/
96 <sup>s</sup>	32.3	28	11.4	20.9 21	30/

549

391

	Pier 4	length	Ray	Cut	Pen	Ray	Blow	Tons
	63 <sup>s</sup>	32.5	28	4.4	28.1	28	25/	
	157 <sup>b</sup>	31.6	31	17.0	14.6	15	37/	
	128 <sup>s</sup>	33.3	28	14.5	18.8	19	30/	
	127 <sup>s</sup>	32.8	28	5.0	27.8	28	26/	
	126 <sup>s</sup>	32.6	28	9.5	23.1	23	29/	
	95 <sup>s</sup>	32.8	28	7.4	25.4	25	25/	
50	125 <sup>s</sup>	32.2	28	12.8	19.4	19	27/	
1	94 <sup>s</sup>	33.1	28	8.9	24.2	24	25/	
2	62 <sup>s</sup>	33.7	28	13.4	20.3	20	40/	
2	144 <sup>b</sup>	32.2	31	3.8	28.4	28	25/	
1	143 <sup>b</sup>	33.2	31	16.0	17.0	17	25/	
4	141 <sup>b</sup>	32.4	31	14.6	17.8	18	33/	
	142 <sup>b</sup>	33.2	31	18.3	14.9	15	32/	
	16 <sup>b</sup>	33.3	31	15.8	17.5	18	37/	
	15 <sup>b</sup>	30.6	31	12.3	18.3	18	28/	
	14 <sup>b</sup>	31.6	31	16.0	15.6	16	40/	
	13 <sup>b</sup>	31.3	31	13.0	18.3	18	33/	
	12 <sup>b</sup>	33.0	31					
	12 <sup>b</sup>	30.6	31	12.7	17.9	18	33/	

534

367

	Pier 4	length	Ray	Cut	Pen	Ray	Blow	Tons
	11 <sup>b</sup>	31.2	31	12.1	19.1	19	35/	
	10 <sup>b</sup>	33.0	31	14.2	18.8	19	32/	
	9 <sup>b</sup>	31.8	31	15.0	16.0	17	33/	
	5 <sup>b</sup>	31.3	31	13.5	17.8	18	25/	
	6 <sup>b</sup>	33.0	31	15.1	17.9	18	35/	
	8 <sup>b</sup>	33.5	31	15.6	18.0	18	34/	
	7 <sup>b</sup>	31.8	31	7.5	24.3	24	25/	
	20 <sup>b</sup>	33.2	31	17.0	16.2	16	45/	
	19 <sup>b</sup>	33.0	31	13.7	19.3	19	36/	
	18 <sup>b</sup>	32.0	31	17.3	14.7	15	40/	
	17 <sup>b</sup>	32.7	31	12.7	20.0	20	28/	
	24 <sup>b</sup>	32.3	31	13.0	19.3	19	40/	
	23 <sup>b</sup>	33.2	31	15.3	17.9	18	33/	
	22 <sup>b</sup>	32.0	31	11.5	20.5	21	30/	
	21 <sup>b</sup>	34.2	31	15.5	18.7	19	37/	
	28 <sup>b</sup>	31.5	31	8.3	23.2	23	25/	
	27 <sup>b</sup>	32.0	31	18.0	14.0	14	50/	
	26 <sup>b</sup>	32.0	31	13.3	18.7	19	35/	
	25 <sup>b</sup>	33.2	31	13.5	19.7	20	37/	

589

355

Pier 4	Length	Pay	cut	Pen/Pay	Blow	Tons	Pier 5	Length	Pay	cut	Pen/Pay	Blow	33 Tons
32 <sup>b</sup>	30.6	31	1.5	29.1	20	29	96.5	28.3	28	7.2	21.4	32	32
31 <sup>b</sup>	33.5	31	12.0	21.5	28	22	95.5	33.1	33	1.0	32.1	20	20
030 <sup>b</sup>	33.1	31	16.1	17.0	33	17	64.5	35.6	28	9.8	25.8	42	42
529 <sup>b</sup>	31.9	31	15.3	16.6	40	17	94.5	35.0	28	14.5	20.5	40	40
193 <sup>s</sup>	28.9	28	13.3	15.6	30	16	63.5	35.7	28	14.6	21.1	45	45
261 <sup>s</sup>	30.9	28	16.6	14.3	37	14	62.5	35.9	28	19.6	16.3	60	60
11 <sup>b</sup>	34.1	31	12.2	21.9	23	22	92.5	35.3	28	8.7	26.6	82	82
42 <sup>b</sup>	33.2	31	8.7	24.5	25	25	91.5	32.5	28	5.5	21.0	30	30
4 <sup>b</sup>	32.8	31	13.6	19.2	35	19	60.5	33.5	28	19.6	13.9	41	41
3 <sup>b</sup>	32.8	31	12.7	20.1	30	20	59.5	19.6	20	1.8	17.8	25	25

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 Pier 4

7.5  
 12.2  
 21.8

90.5	35.0	28	19.9	15.1	40	15	40
89.5	19.9	20	2.3	17.6	27	18	27
58.5	32.5	28	17.8	14.7	50	15	50
57.0	17.8	18	1.8	16.0	60	16	60
88.5	32.0	28	14.0	18.0	50	18	50
87.5	30.6	28	10.0	20.6	50	21	50
56.5	31.4	28	17.5	23.9	32	24	32
86.5	36.0	28	20.9	15.1	30	15	30
55	30.5	28	12.2	18.3	46	18	46

Pier 5	Length	Ray	Cut	Pen Pay	Blow <sup>34</sup> / <sub>tons</sub>	Pier 5	Length	Ray	Cut	Pen Pay	Blow <sup>34</sup> / <sub>tons</sub>
85 <sup>s</sup>	31.2	28	13.5	17.7	18	73 <sup>s</sup>	27.5	28	6.8	20.7	21
54 <sup>s</sup>	36.4	28	17.6	18.8	19	74 <sup>s</sup>	31.3	31	2.0	29.3	29
53 <sup>s</sup>	17.6	18	2.8	14.8	15	75 <sup>s</sup>	33.9	28	17.2	16.7	17
84 <sup>s</sup>	36.2	28	13.5	22.7	23	41 <sup>s</sup>	29.6	30	1.6	28.1	28
83 <sup>s</sup>	34.8	34	1.5	33.3	33	42 <sup>s</sup>	35.1	28	12.5	22.6	23
52 <sup>s</sup>	35.8	35	1.5	34.3	34	76 <sup>s</sup>	32.6	33	1.6	31.0	31
82 <sup>s</sup>	36.2	28	17.4	18.8	19	43 <sup>s</sup>	32.7	28	6.9	25.8	26
51 <sup>s</sup>	36.4	28	15.5	20.9	21	44 <sup>s</sup>	32.7	28	12.0	20.7	21
81 <sup>s</sup>	36.3	28	9.2	21.3	21	69 <sup>s</sup>	34.7	35	1.3	33.4	33
50 <sup>s</sup>	32.4	28	9.0	23.1	23	70 <sup>s</sup>	30.5	28	4.8	25.7	26
49 <sup>s</sup>	20.9	21	3.0	17.9	18	71 <sup>s</sup>	30.6	28	11.0	29.6	20
77 <sup>s</sup>	35.4	30	7.0	28.6	29	37 <sup>s</sup>	29.8	30	1.7	28.1	28
78 <sup>s</sup>	28.1	28	8.7	19.4	19	38 <sup>s</sup>	36.5	37	1.1	35.4	35
45 <sup>s</sup>	28.2	28	2.0	26.2	26	39 <sup>s</sup>	36.7	37	5.6	31.1	31
79 <sup>s</sup>	35.4	28	17.0	18.4	18	72 <sup>s</sup>	35.6	36	1.5	34.1	34
46 <sup>s</sup>	42.2	28	22.0	20.2	20	40 <sup>s</sup>	35.7	36	2.0	33.7	34
						65 <sup>s</sup>	37.6	38	1.5	36.1	36
						66 <sup>s</sup>	33.0	28	16.5	16.5	17
						67 <sup>s</sup>	29.3	28	1.5	17.8	18

Pier 5	Length	Pay	cut	Pen Pay	Blow Foot
33 <sup>s</sup>	33.4	33	1.0	32.4	14
34 <sup>s</sup>	35.9	28	13.6	223	33
68 <sup>s</sup>	35.2	28	9.2	260	33
35 <sup>s</sup>	28.4	28	12.9	155	45
36 <sup>s</sup>	30.6	28	12.8	178	55
93 <sup>s</sup>	36.5	28	15.5	210	35
61 <sup>s</sup>	29.0	29	1.2	278	18
128 <sup>b</sup>	29.6	30	8.7	20.9	33
127 <sup>b</sup>	29.0	29	9.3	19.7	35
126 <sup>b</sup>	36.3	31	16.0	20.3	45
125 <sup>b</sup>	35.6	31	20.5	15.1	50
32 <sup>b</sup>	37.2	31	21.8	15.4	60
28 <sup>b</sup>	36.5	31	13.3	23.2	40
27 <sup>b</sup>	37.2	31	20.0	17.2	60
26 <sup>b</sup>	30.6	31	15.9	14.7	ref
25 <sup>b</sup>	27.6	28	10.9	16.7	45
31 <sup>b</sup>	20.0	20	7.6	12.4	ref
30 <sup>b</sup>	30.0	30	15.5	14.5	50
29 <sup>b</sup>	40.5	31	26	14.5	50

Pier 5	Length	Pay	cut	Pen Pay	Blow Ton's
124 <sup>b</sup>	30.1	30	7.5	22.0	23 35
123 <sup>b</sup>	35.9	31	17.5	18.4	18 40
122 <sup>b</sup>	30.0	30	7.2	22.8	23 40
121 <sup>b</sup>	31.3	31	16.6	14.7	15 45
120 <sup>b</sup>	37.0	31	16.0	21.0	21 35
119 <sup>b</sup>	27.9	28	10.7	17.2	17 40
118 <sup>b</sup>	31.8	26	8.6	17.4	17 45
117 <sup>b</sup>	30.3	30	15.2	15.1	15 60
116 <sup>b</sup>	31.3	31	9.1	22.2	22 45
115 <sup>b</sup>	37.3	31	19.3	18.0	18 Ref
114 <sup>b</sup>	30.3	30	15.3	15.0	15 Ref
113 <sup>b</sup>	36.0	31	11.0	25.0	25 30
112 <sup>b</sup>	36.3	31	15.8	20.5	21 Ref
111 <sup>b</sup>	37.3	31	15.7	21.6	22 60
110 <sup>b</sup>	37.3	31	16.6	20.7	21 50
109 <sup>b</sup>	35.1	31	15.4	19.7	20 45
48 <sup>s</sup>	37.6	28	20.0	17.6	18 Ref
47 <sup>s</sup>	35.8	28	15.4	20.4	20 60
24 <sup>b</sup>	35.9	31	19.3	16.6	17 60

Pier 5	Length	Pay	Cut	Per/Pay	Blows	Tons
23 b	35.0	31	16.5	18.5	19	45/
22 b	36.3	31	10.5	25.8	26	50/
21 b	34.3	31	12.4	21.9	22	45/
20 b	36.2	31	8.0	28.2	28	40/
19 b	33.4	31	14.5	18.9	19	45/
18 b	28.3	28	5.5	22.8	23	30/
17 b	31.0	31	16.0	15.0	15	30/
13 b	34.9	31	7.2	27.7	28	25/
14 b	36.2	31	8.3	27.9	28	30/
15 b	35.3 33.3	31	15.2	20.1	20	45/
16 b	36.6	31	15.6	21.0	21	60/
80 S	36.3	36	6.4 12.0	29.9	30	40/
12 b	37.3	31	12.0	25.3	25	35/
11 b	41.5	31	23.5 19.2	18.0	18	Ref/
10 b	35.0	31	19.2	15.8	16	Ref/
9 b	37.1	31	12.7	24.4	24	45/
5 b	36.3	36	2.2	34.1	34	25/
6 b	36.1	31	18.8	17.3	17	Ref/
7 b	35.3	31	17.3	18.0	18	50/

Pier 5	Length	Pay	CUT	Per Pay	Blows	Tons
9 b	35.1	31	21.8	13.3	13	61/
1 b	33.5	31	3.6	29.9	30	29/
2 b	37.5	31	18.5	19.0	19	40
3 b	36.2	31	15.8	20.4	20	10/
4 b	36.4	31	17.4	19.0	19	38/
97 b	36.5	31	18.0	18.5	19	55/
98 b	36.2	31	10.5	25.7	26	35/
99 b	37.1	31	19.0	18.1	18	52/
100 b	21.8	22	8.0	13.8	14	50/
101 b	23.5	24	6.7	16.8	17	42/
102 b	37.4	31	12.2	25.2	25	43/
103 b	34.7	31	9.6	25.1	25	35/
104 b	35.3	31	4.5	30.8	31	25/
105 b	19.0	19	7.0	12.7	12	50/
106 b	36.5	31	24.0	12.5	13	10/
107 b	24.0	24	12.0	12.0	12	60/
108 b	29.8	30	16.0	13.8	14	54/

Pier 5 ~~(2738)~~  
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Pier 6	Length	Pay	cut	Pen	Pay	Blow
128 <sup>s</sup>	40.0	40	1.5	38.5	39	24
127 <sup>s</sup>	37.5	38	1.2	36.3	36	20
96 <sup>s</sup>	42.3	40	4.0	35.5	38	40
126 <sup>s</sup>	36.6	37	1.5	35.1	35	18
95 <sup>s</sup>	36.3	28	16.2	20.1	20	40
64 <sup>s</sup>	36.9	37	2.0	34.9	35	20
125 <sup>s</sup>	31.0	28	12.1	18.9	19	50
94 <sup>s</sup>	36.9	28	17.5	19.4	19	37
63 <sup>s</sup>	34.2	28	20.8	13.4	13	60
62 <sup>s</sup>	35.9	28	17.6	18.3	18	35
61 <sup>s</sup>	36.0	28	11.0	25.0	25	34
124 <sup>s</sup>	35.5	36	1.5	34.0	34	12
123 <sup>s</sup>	35.7	36	1.3	34.4	34	15
92 <sup>s</sup>	36.0	36	1.1	34.9	35	19
122 <sup>s</sup>	35.6	36	1.0	34.6	35	15
91 <sup>s</sup>	36.4	36	1.4	34.6	35	25
60 <sup>s</sup>	37.0	37	1.3	35.7	36	13
121 <sup>s</sup>	35.0	35	0.6	34.4	34	15
90 <sup>s</sup>	35.8	28	16.5	19.3	19	45

Pier 6	Length	Pay	cut	Pen	Pay	Blow
89 <sup>s</sup>	34.8	35	1.7	33.1	33	20
89 <sup>s</sup>	35.4	35	1.2	34.2	34	15
59 <sup>s</sup>	32.3	32	1.5	30.8	31	25
57 <sup>s</sup>	30.6	28	3.2	21.4	27	18
120 <sup>s</sup>	36.6	37	1.0	35.6	36	12
119 <sup>s</sup>	36.7	37	0.5	36.2	36	15
88 <sup>s</sup>	36.2	36	1.3	34.9	35	10
118 <sup>s</sup>	34.4	34	1.5	32.9	33	20
87 <sup>s</sup>	36.7	37	1.5	35.2	35	15
56 <sup>s</sup>	30.6	31	1.5	29.1	29	12
117 <sup>s</sup>	36.5	37	1.5	35.0	35	15
86 <sup>s</sup>	35.4	35	1.5	33.9	34	10
55 <sup>s</sup>	33.8	28	14.2	19.6	20	50
85 <sup>s</sup>	34.7	35	1.7	33.0	33	8
54 <sup>s</sup>	36.7	37	1.4	35.1	35	8
53 <sup>s</sup>	35.7	36	3.0	32.7	33	8

Pier 6 - 26 = hard layer  
 - 48 = hard layer

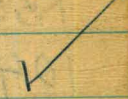
Pier 6	Length	Pay	cut	Pen	Pay	Bloo	Pay	Pen	Pay	cut	Pen	Pay	
116 <sup>s</sup>	33.0	33	0.7	32.3	32	4/	105 <sup>s</sup>	39.2	35	1.2	37.0	37	25/
115 <sup>s</sup>	36.0	36	0.8	35.2	35	17/	73 <sup>s</sup>	38.8	39	1.7	37.1	37	26/
84 <sup>s</sup>	36.3	36	1.5	34.8	35	8/	74 <sup>s</sup>	41.0	41	13.0	28.0	28	33/
83 <sup>s</sup>	49.0	49	1.5	47.5	48	16/	75 <sup>s</sup>	41.0	41	1.6	39.4	39	38/
114 <sup>s</sup>	48.0	48	0.8	47.2	47	16/	76 <sup>s</sup>	39.0	39	17.0	22.0	22	72/
52 <sup>s</sup>	37.3	37	3.0	34.3	34	17/	44 <sup>s</sup>	38.5	39	1.0	37.5	38	29/
113 <sup>s</sup>	43.1	43	6.0	37.1	37	50/	43 <sup>s</sup>	41.1	41	19.0	22.1	22	80/
82 <sup>s</sup>	46.8	47	7.7	39.1	39	35/	42 <sup>s</sup>	37.0	37	1.5	35.5	36	16/
51 <sup>s</sup>	41.8	42	1.5	40.3	41	12/	41 <sup>s</sup>	39.7	40	2.0	37.7	38	39/
50 <sup>s</sup>	46.7	48	12.5	34.2	34	50/	109 <sup>s</sup>	39.5	40	2.0	37.5	38	18/
81 <sup>s</sup>	41.0	49	1.4	39.6	40	24/	77 <sup>s</sup>	36.8	37	2.0	34.8	35	15/
116 <sup>A</sup>	37.9	39	1.9	36.0	36	20/	78 <sup>s</sup>	39.6	40	2.4	37.2	37	27/
49 <sup>s</sup>	44.3	44	1.1	43.2	43	30/	79 <sup>s</sup>	41.4	41	5.3	36.1	36	50/
112 <sup>s</sup>	43.3	43	5.8	37.5	38	35/	80 <sup>s</sup>	39.2	39	1.8	37.4	37	32/
111 <sup>s</sup>	41.9	42	1.6	40.3	40	25/	48 <sup>s</sup>	39.2	39	2.0	37.2	37	31/
110 <sup>s</sup>	40.8	41	3.7	37.1	37	35/	47 <sup>s</sup>	38.9	39	2.0	36.9	37	32/
108 <sup>s</sup>	41.3	41	3.0	38.3	38	31/	46 <sup>s</sup>	40.2	40	3.7	36.5	37	33/
107 <sup>s</sup>	42.0	42	2.5	39.5	40	26/	45 <sup>s</sup>	40.3	40	2.6	37.7	38	40/
106 <sup>s</sup>	40.6	41	1.1	39.5	40	22/	101 <sup>s</sup>	38.5	39	1.5	37.0	37	25/

4 or



Pier 6	Length	Pay	Cut	Pen. Pay	Blow/ Tons	Pier 6	Length	Pay	Cut	Pen. Pay	Blow <sup>39</sup> / Tons
102 <sup>s</sup>	38.3	38	1.0	37.3	23	32 <sup>b</sup>	36.7	37	1.0	35.7	25
103 <sup>s</sup>	41.0	41	1.5	39.5	29	31 <sup>b</sup>	35.4	35	14.0	21.4	50
72 <sup>s</sup>	39.3	39	0.8	38.5	25	30 <sup>b</sup>	31.9	32	12.0	19.9	50
71 <sup>s</sup>	41.0	41	24.5	16.5	40	29 <sup>b</sup>	35.7	36	9.4	26.3	50
70 <sup>s</sup>	35	35	20	15.0	ref	160 <sup>b</sup>	36.2	36	1.0	35.2	11
37 <sup>s</sup>	35.4	35	2.5	31.9	24	159 <sup>b</sup>	36.4	36	2.1	34.3	16
38 <sup>s</sup>	36.5	37	18.6	17.9	30	158 <sup>b</sup>	36.8	37	1.6	35.2	24
40 <sup>s</sup>	35.6	36	17.4	18.2	32	157 <sup>b</sup>	32.6	33	2.5	30.1	24
97 <sup>s</sup>	41.2	41	4.4	36.8	28	93 <sup>s</sup>	36.3	36	0.7	35.6	14
98 <sup>s</sup>	40.7	41	2.1	38.6	25	156 <sup>b</sup>	34.0	34	13.8	20.2	26
99 <sup>s</sup>	38.0	38	1.1	36.9	31	155 <sup>b</sup>	35.7	36	1.6	34.1	22
100 <sup>s</sup>	41.5	42	2.6	38.9	28	154 <sup>b</sup>	36.5	37	1.0	35.5	25
66 <sup>s</sup>	36.0	36	10.1	25.7	41	153 <sup>b</sup>	35.0	35	17.8	17.2	50
65 <sup>s</sup>	Test pile used.					28 <sup>b</sup>	32.6	33	3.2	29.4	25
67 <sup>s</sup>	37.1	37	4.9	32.2	25	27 <sup>b</sup>	35.9	36	14.8	21.1	50
68 <sup>s</sup>	35.8	36	1.5	34.3	22	(51) 26 <sup>b</sup>	30.0	30	2.5	27.5	26
33 <sup>s</sup>	36.7	37	19.5	17.2	40					15.6	26
34 <sup>s</sup>	35.5	36	16.1	19.4	35						
35 <sup>s</sup>	36.2	36	17.4	18.8	40						

3453



Perb	Length	Pay	cut	Pen Pay	Blow Tom
1 b	35.2	35	12.7	22.5	23 50/
2 b	38.0	38	2.1	36.9	37 20/
3 b	36.0	36	3.4	32.6	33 18/
4 b	37.2	37	18.7	19.5	19 60/
5 b	36.4	36	17.4	19.0	19 42/
6 b	41.2	41	19.2	22.0	22 42/
8 b	37.0	37	4.8	32.2	32 15/
7 b	36.1	36	18.3	17.8	18 60/
129 b	34.7	35	8.1	26.6	27 28/
130 b	37.0	37	20.0	17.0	17 45/
131 b	35.7	36	12.9	22.8	23 25/
132 b	37.3	37	2.6	34.7	35 16/
36 s	37.2	37	12.5	24.7	25 50/
133 b	37.3	37	8.8	28.5	29 30/
134 b	38.1	38	2.5	35.6	36 24/
136 b	36.3	36	4.5	31.8	32 22/
135 b	36.1	36	18.7	17.4	17 42/
104 s	32.5	33	16.6	15.9	16 40/
69 s	34.0	34	18.0	16.0	16 52/

Perb	Length	Pay	Cut	Pen Pay	Blow Tom
39 s	35.4	35	13.0	22.4	22 30/
144 b	35.2	35	2.0	33.2	33 14/
143 b	32.3	32	12.8	19.5	20 30/
142 b	37.4	37	17.8	19.6	20 38/
16 b	37.0	37	1.9	35.1	35 20/
15 b	37.9	38	19.7	18.2	18 60/
146	40.5	41	1.5	39.0	39 16/
136 b	38.9	39	12.5	26.4	26 26/
141 b	36.2	36	15.6	20.6	21 30/
140 b	36.6	37	17.2	17.4	17 40/ ✓
139 b	34.2	34	14.6	19.6	20 30/
138 b	36.6	37	1.6	35.0	35 15/
137 b	37.6	38	18.5	19.1	19 60/
12 b	34.0	34	1.5	32.5	33 19/
11 b	36.4	36	19.0	17.4	17 50/
10 b	36.5	37	17.6	18.9	19 30/
9 b	34.1	34	1.7	32.4	32 15/
20 b	37.6	38	1.8	35.8	36 14/
19 b	34.4	34	12.5	21.9	22 60/ ✓

Pier 6	Length	Pay	Cut	Pen Pay	Blow Tons
18 <sup>b</sup>	37.2	37	17.3	19.9	20 60/
(40) 17 <sup>b</sup>	35.2	35	2.3	32.9	33 10/
148 <sup>b</sup>	35.1	35	1.8	33.3	33 20/
147 <sup>b</sup>	35.3	35	16.1	19.2	19 32/
146 <sup>b</sup>	33.1	33	16.0	17.1	17 45/
145 <sup>b</sup>	34.2	34	15.6	18.4	18 35/
152 <sup>b</sup>	29.2	29	12.0	17.2	17 40/
131 <sup>b</sup>	33.0	33	1.5	31.5	32 14/
150 <sup>b</sup>	34.0	34	12.0	22.0	22 45/
149 <sup>b</sup>	37.1	37	2.0	35.1	35 12/
24 <sup>b</sup>	36.5	37	1.5	35.0	35 16/
23 <sup>b</sup>	35.0	35	1.5	33.5	34 10/
22 <sup>b</sup>	35.0	35	16.7	18.3	18 30/
21 <sup>b</sup>	35.5	36	17.1	18.4	18 45/
25 <sup>b</sup>	30.6	31	12.0	18.6	19 45/
				1337	

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Pier 7	length	pay	Cut	Pen/Pay	Blow Tons
96 <sup>s</sup>	38.2	38	7.4	30.6	31 20/
95 <sup>s</sup>	42.0	42	1.0	41.0	41 17/
94 <sup>s</sup>	41.3	41	1.0	40.3	40 18/
64 <sup>s</sup>	36.9	37	0.8	36.1	36 12/
63 <sup>s</sup>	36.5	37	1.0	35.5	36 13/
93 <sup>s</sup>	35.6	34	1.5	32.1	32 16/
62 <sup>s</sup>	37.0	37	19.6	17.4	17 Ref/
61 <sup>s</sup>	37.8	38	1.4	36.4	36 21/
92 <sup>s</sup>	36.5	37	0.8	35.7	36 19/
91 <sup>s</sup>	36.8	37	19.3	17.5	17 Ref/
90 <sup>s</sup>	36.2	36	1.0	35.2	35 11/
60 <sup>s</sup>	37.1	37	2.3	34.8	35 10/
59 <sup>s</sup>	38.5	39	9.3	28.2	28 36/
89 <sup>s</sup>	38.1	38	19.7	18.4	18 45/
58 <sup>s</sup>	34.1	34	7.3	26.8	27 37/
57 <sup>s</sup>	37.6	38	1.0	36.6	37 25/
88 <sup>s</sup>	36.7	37	3.5	33.2	33 15/
87 <sup>s</sup>	36.8	37	1.5	35.3	35 11/
86 <sup>s</sup>	36.7	37	2.0	34.7	35 30/
				616	

Pier	Length	Pay	Cut	Pen Pay	Blow Tons
56 <sup>s</sup>	37.0	37	18.3	18.7	32/
55 <sup>s</sup>	37.8	38	1.5	36.3	15/
85 <sup>s</sup>	35.9	36	18.0	17.9	33/
54 <sup>s</sup>	37.4	37	19.0	18.4	31/
53 <sup>s</sup>	36.7	37	5.0	31.7	25/
84 <sup>s</sup>	36.7	37	1.2	35.5	13/
83 <sup>s</sup>	31.6	32	14.8	16.8	40/
82 <sup>s</sup>	30.5	31	3.5	27.0	43/
52 <sup>s</sup>	35.5	36	1.0	34.5	14/
51 <sup>s</sup>	34.4	34	2.0	32.4	20/
81 <sup>s</sup>	40.0	40	3.3	36.7	30/
50 <sup>s</sup>	37.2	37	1.0	36.2	15/
49 <sup>s</sup>	36.1	36	1.6	34.5	20/
128 <sup>b</sup>	39.6	40	8.6	31.0	25/
127 <sup>b</sup>	39.8	40	16.8	23.0	42/
126 <sup>b</sup>	33.8	34	15.0	18.8	32/
125 <sup>b</sup>	37.5	38	12.0	25.5	28/
32 <sup>b</sup>	39.2	39	1.3	37.9	20/
31 <sup>b</sup>	33.0	33	13.7	19.3	32/

Pier	Length	Pay	Cut	Pen Pay	Blow Tons
30 <sup>b</sup>	35.6	36	1.4	34.2	25/
29 <sup>b</sup>	37.8	38	18.9	18.9	50/
28 <sup>b</sup>	37.8	38	19.8	18.0	40/
27 <sup>b</sup>	38.0	38	14.6	23.4	50
26 <sup>b</sup>	39.2	39	1.5	37.9	12/
25 <sup>b</sup>	35.9	36	18.1	17.8	60/
24 <sup>b</sup>	35.7	36	2.2	33.5	18/
23 <sup>b</sup>	35.0	35	2.0	33.0	14/
22 <sup>b</sup>	36.3	36	19.0	17.3	30/
21 <sup>b</sup>	35.0	35	20.0	15.0	ref/
124 <sup>b</sup>	36.0	36	2.0	34.0	14/
123 <sup>b</sup>	35.9	36	17.6	18.3	40/
122 <sup>b</sup>	36.0	36	18.3	17.7	10/
121 <sup>b</sup>	35.9	36	18.8	17.1	45/
77 <sup>s</sup>	32.7	33	0.8	31.9	24/
78 <sup>s</sup>	37.3	37	17.5	19.8	30/
79 <sup>s</sup>	30.8	31	13.5	17.3	50/
45 <sup>s</sup>	35.7	36	0.1	35.6	10/
46 <sup>s</sup>	32.0	32	0.7	31.3	22/

cedar

Pier 7	Length	Pay	Cut	Pen/Pay	Blow/Tons
80 <sup>s</sup>	36.3	36	1.1	35.2 35	20/
47 <sup>s</sup>	33.9	34	0.7	33.2 33	15/
48 <sup>s</sup>	33.6	34	1.0	32.6 33	20/
73 <sup>s</sup>	38.7	39	2.6	36.1 36	18/
74 <sup>s</sup>	39.7	40	1.2	38.5 39	22/
75 <sup>s</sup>	37.4	37	1.2	36.2 36	24/
41 <sup>s</sup>	30.0	30	10.4	19.6 20	27/
42 <sup>s</sup>	40 <sup>8</sup>	41	13.3	27.5 28	35/
76 <sup>sn</sup>	30.6	31	1.1	29.5 30	16/
43 <sup>s</sup>	35.1	35	15.2	19.9 20	32/
44 <sup>sn</sup>	39.5	40	1.5	38.0 38	24/
(50) 69 <sup>s</sup>	36.7	37	1.0	35.1 36	18/
70 <sup>s</sup>	40.8	41	12.6	28.2 28	30/
71 <sup>s</sup>	35.7	36	2.0	33.0 33	16/
37 <sup>s</sup>	39.0	39	11.0	28.0 28	45/
38 <sup>s</sup>	37.5	38	14.2	23.3 23	35/
72 <sup>s</sup>	40.5	41	8.4	32.1 32	34/
39 <sup>s</sup>	31.8	32	4.0	27.8 28	26/
40 <sup>s</sup>	36.8	37	18.0	18.8 19	50/

1571

Pier 7	Length	Pay	Cut	Pen/Pay	Blow <sup>43</sup> /Tons
120 <sup>b</sup>	39.2	39	4.2	35.0 35	15/
119 <sup>b</sup>	40.2	40	16.0	24.2 24	60/
118 <sup>b</sup>	40.2	40	12.2	28.0 28	27/
117 <sup>b</sup>	40.3	40	2.8	37.5 38	15/
116 <sup>b</sup>	39.9	40	3.8	36.1 36	26/
115 <sup>b</sup>	39.9	40	19.6	20.3 20	32/
114 <sup>b</sup>	39.6	40	20.6	19.0 19	33/
113 <sup>b</sup>	40.7	41	25.0	15.7 16	ref/
20 <sup>b</sup>	41.2	41	2.0	39.2 39	25/
19 <sup>b</sup>	41.6	42	5.7	35.9 36	27/
18 <sup>b</sup>	37.3	37	19.0	18.3 18	50/
17 <sup>b</sup>	35.0	35	6.1	28.9 29	37/
16 <sup>b</sup>	40.4	40	2.0	38.4 38	25/
15 <sup>b</sup>	41.7	42	24.2	17.5 18	60/
(15) 14 <sup>b</sup>	39.7	40	20.7	19.0 19	ref/
13 <sup>b</sup>	31.8	32	15.2	16.6 17	ref/
12 <sup>b</sup>	28.0	28	1.3	26.7 27	18/
11 <sup>b</sup>	39.3	39	11.0	28.0 28	28/
10 <sup>b</sup>	39.9	40	1.8	38.1 38	18/

✓

Pier 7	Length	Pay.	Pen Cut	Pen Pay	Blow ton
9 <sup>b</sup> ↑	40.1	40	22.5	17.6 18	50/
8 <sup>b</sup>	40.3	40	22.5	17.8 19	50/
7 <sup>b</sup>	39.6	40	22.3	17.3 17	55/
6 <sup>b</sup>	22.5	cutt off redriven	10.7	11.8 12	ref.
5 <sup>b</sup>	41.1	41	12.0	29.1 29	27/
4 <sup>b</sup>	38.2	38	22.0	16.0 16	35/
1 <sup>b</sup>	38.4	38	2.6	35.8 36	27/
2 <sup>b</sup> 0	38.0	38	4.0	34.0 34	25/
3 <sup>b</sup>	36.0	36	20.7	15.3 15	45/
112 <sup>b</sup> 5-25	42.1	42	22.8	19.3 19	50/
111 <sup>b</sup> 5	42.0	42	25.5	16.5 17	ref.
110 <sup>b</sup>	40.6	41	15.0	25.6 26	32/
109 <sup>b</sup>	40.3	40	21.8	18.5 19	35/
108 <sup>b</sup>	40.3	40	4.6	35.7 36	25/
107 <sup>b</sup>	40.3	40	21.8	18.5 19	35/
35 106 <sup>b</sup>	40.5	41	28.5	12.0 12	ref.
105 <sup>b</sup>	21.0	cutt off redriven	6.0	15.0 15	45/
104 <sup>b</sup>	41.0	41	13.1	27.9 28	34/
103 <sup>b</sup> ↓	39.6	40	7.0	32.6 33	25/

Pier 7	Length	Pay	Cut	Pen Pay	Blow 44 TONS
102 <sup>b</sup> ↑	28.5	cutt off redriven	17.0	18.5 12.4	ref.
101 <sup>b</sup>	21.8	cutt off redriven	9.5	12.3 12	ref.
100 <sup>b</sup>	38.3	38	19.9	18.4 18	33/
99 <sup>b</sup> 0	40.1	40	25.5	14.6 15	ref.
98 <sup>b</sup>	38.5	39	19.6	18.9 19	28/
97 <sup>b</sup>	37.5	38	23.7	13.8 14	ref.
33 <sup>b</sup> 5	38.5	39	8.0	32.5 30.5 33	40/
65 <sup>b</sup>	38.2	38	2.5	35.7 36	25/
66 <sup>b</sup>	38.5	39	19.8	18.7 19	31/
67 <sup>b</sup> 7	38.7	39	20.0	18.7 19	30/
68 <sup>b</sup>	38.0	38	20.2	17.8 18	32/
34 <sup>b</sup>	35.6	36	2.2	33.4 33	18/
35 <sup>b</sup>	38.9	39	26.5	12.4 12	50/
36 <sup>b</sup>	40.6	41	25.1	15.5 16	47/
				1325	
ck.	<u>4659</u>	ck	<u>3403</u>		



Pier 8	Length	Pay	cut	Pen/Pay	Blow/Ton
97. <sup>s</sup>	40.2	40	1.0	39. <sup>2</sup>	16/
98. <sup>s</sup>	42.3	42	0.3	42.0	22/
99. <sup>s</sup>	43.2	43	2.1	41.1	35/
65. <sup>s</sup>	41.8	42	13.2	28.6	30/
66. <sup>s</sup>	41.4	41	6.3	35.1	36/
33. <sup>s</sup>	41.6	42	1.5	40.1	31/
34. <sup>s</sup>	40.2	40	23.3	16.9	60/
100. <sup>s</sup>	39.6	40	1.0	38.6	34/
67. <sup>s</sup>	40.8	41	15.3	25.5	29/
68. <sup>s</sup>	40.3	40	21.2	19.1	42/
35. <sup>s</sup>	42.6	43	25.4	17.2	50/
36. <sup>s</sup>	40.7	41	21.3	19.4	28/
101. <sup>s</sup>	41.0	41	1.4	39.6	35/
102. <sup>s</sup>	41.3	41	5.0	36.3	50/
103. <sup>s</sup>	42.2	42	3.0	39.2	37/
104. <sup>s</sup>	41.4	41	2.0	39.4	39/
69. <sup>s</sup>	40.6	41	2.0	38.6	31/
70. <sup>s</sup>	41.9	42	2.2	39.7	33/
71. <sup>s</sup>	41.6	42	3.5	38.1	40/

Pier 8	Length	Pay	cut	Pen/Pay	Blow/Tons
37. <sup>s</sup>	40.4	40	10.0	36.4	37/
38. <sup>s</sup>	42.2	42	15.4	36.8	37/
105. <sup>s</sup>	42.8	43	3.0	39.8	30/
106. <sup>s</sup>	46.7	46	6.2	40.5	36/
107. <sup>s</sup>	40.5	41	3.4	37.1	38/
108. <sup>s</sup>	41.0	41	0.8	40.2	24/
73. <sup>s</sup>	43.8	44	22.7	21.1	33/
74. <sup>s</sup>	42.5	43	2.8	39.7	35/
75. <sup>s</sup>	40.2	40	21.2	19.0	60/
76. <sup>s</sup>	42.1	42	21.2	20.9	50/
41. <sup>s</sup>	44.1	44	6.4	37.7	39/
42. <sup>s</sup>	41.9	42	14.0	27.9	33/
43. <sup>s</sup>	42.7	43	15.8	26.9	33/
44. <sup>s</sup>	41.5	42	2.8	38.7	39/
109. <sup>s</sup>	42.6	43	3.4	39.2	32/
110. <sup>s</sup>	42.4	42	1.2	41.2	28/
111. <sup>s</sup>	42.3	42	3.2	39.1	39/
112. <sup>s</sup>	41.0	41	17.7	23.3	28/
80. <sup>s</sup>	42.8	42	11.2	41.1	25/

42.7 ✓

Pier 8	Length	Pay	cut	Pen <sup>a</sup> Pay	Blow T <sup>o</sup>	Pier 8	Length	Pay	cut	Pen <sup>a</sup> Pay	Blow T <sup>o</sup>	Tons
79 <sup>s</sup>	38.9	39	20.2	18.7 <sup>19</sup>	50/	1b	44.7	45	27.8	16.9 <sup>17</sup>	ref	
78 <sup>s</sup>	41.2	41	18.0	23.2 <sup>23</sup>	30/	2b	41.0	41	25.6	15.4 <sup>15</sup>	ref	
20 77 <sup>s</sup>	39.9	40	22.2	17.7 <sup>18</sup>	25/	3b	38.6	39	21.0	17.6 <sup>18</sup>	ref	
45 <sup>s</sup>	42.6	43	23.3	19.3 <sup>19</sup>	50/	4b	44.3	44	4.8	39.5 <sup>40</sup>	35/	
46 <sup>s</sup>	41.6	42	3.2	38.4 <sup>38</sup>	40/	6b	40.0	40	6.0	34.0 <sup>34</sup>	25/	
48 <sup>s</sup>	42.8	43	5.9	36.9 <sup>37</sup>	39/	7b	41.6	42	3.1	38.5 <sup>39</sup>	27/	
47 <sup>s</sup>	41.8	42	26.8	15.0 <sup>15</sup>	60/	8b	41.0	41	5.8	35.7 <sup>36</sup>	40/	
25 116 <sup>s</sup>	41.8	42	3.7	38.1 <sup>38</sup>	35/	4b	39.0	39	15.3	23.7 <sup>24</sup>	50/	
115 <sup>s</sup>	46.0	40	0.6	39.4 <sup>39</sup>	24/	129b	42.3	42	4.5	31.8 <sup>38</sup>	27/	
114 <sup>s</sup>	41.2	41	0.7	40.5 <sup>41</sup>	39/	130b	42.5	43	15.6	26.9 <sup>27</sup>	37/	
84 <sup>s</sup>	36.3	36	0.9	35.4 <sup>35</sup>	12/	131b	41.6	42	25.0	16.6 <sup>17</sup>	60/	
83 <sup>s</sup>	38.9	39	19.5	19.4 <sup>19</sup>	ref	132b	40.3	40	22.0	18.3 <sup>18</sup>	ref	
113 <sup>s</sup>	40.6	41	1.4	39.2 <sup>39</sup>	25/	133b	40.2	40	21.5	18.7 <sup>19</sup>	40/	
82 <sup>s</sup>	40.3	40	23.6	16.7 <sup>17</sup>	ref	50 134b	42.6	43	24.0	18.6 <sup>19</sup>	40/	1489.
52 <sup>s</sup>	41.7	42	1.3	40.4 <sup>40</sup>	25/	39 <sup>s</sup>	41.4	41	23.5	17.9 <sup>18</sup>	50/	
51 <sup>s</sup>	40.1	40	3.0	37.1 <sup>37</sup>	35/	135b	40.6	41	9.0	31.6 <sup>32</sup>	28/	
81 <sup>s</sup>	43.0	43	24.7	18.3 <sup>18</sup>	55/	136b	39.6	40	16.0	23.6 <sup>24</sup>	32/	
50 <sup>s</sup>	41.7	42	23.4	18.3 <sup>18</sup>	ref	72 <sup>s</sup>	37.8	38	19.9	17.9 <sup>18</sup>	35/	
36 49 <sup>s</sup>	40.7	41	19.7	21.0 <sup>21</sup>	40/	40 <sup>s</sup>	42.6	43	26.7	15.9 <sup>16</sup>	60/	✓

Pier	Length	Pay	cut	Pen Pay	Blow Tons	Pier	Length	Pay	cut	Pen Pay	Blow Tons
137 <sup>b</sup>	42.0	42	20.8	21.2	42	148 <sup>b</sup>	44.0	44	4.0	40.0	40
138 <sup>b</sup>	41.6	42	5.9	35.7	33	120 <sup>s</sup>	42.3	42	3.6	38.7	39
139 <sup>b</sup>	41.0	41	6.3	34.7	30	119 <sup>s</sup>	44.3	44	6.0	38.3	38
140 <sup>b</sup>	41.6	42	24.6	17.0	50	88 <sup>o</sup>	45.0	45	3.6	41.4	41
10 9 <sup>b</sup>	39.9	40	20.3	19.9	55	118 <sup>s</sup>	42.8	43	1.2	41.6	42
10 <sup>b</sup>	40.6	41	9.0	31.6	40	89 <sup>s</sup>	41.4	41	14.5	26.9	27
11 <sup>b</sup>	41.0	41	13.5	28.5	41	56 <sup>s</sup>	44.3	44	1.0	43.3	43
12 <sup>b</sup>	45.0	45	23.7	21.3	60	55 <sup>s</sup>	43.5	44	3.6	39.9	40
13 <sup>b</sup>	43.0	43	3.3	39.7	21	86 <sup>s</sup>	44.5	45	4.7	39.8	40
15 14 <sup>b</sup>	42.8	43	16.3	26.5	Ret.	117 <sup>s</sup>	41.8	42	3.6	38.2	38
16 <sup>b</sup>	40.8	41	2.0	38.8	18	85 <sup>s</sup>	42.9	43	2.0	40.9	41
15 <sup>b</sup>	42.2	42	15.4	26.8	40	54 <sup>s</sup>	42.7	43	1.6	41.1	41
141 <sup>b</sup>	44.3	44	6.7	37.6	45	53 <sup>s</sup>	43.5	44	4.6	38.9	39
142 <sup>b</sup>	42.4	42	5.6	36.9	36	124 <sup>s</sup>	44.6	45	3.6	41.0	41
20 143 <sup>b</sup>	43.6	44	15.2	28.4	31	123 <sup>s</sup>	43.7	44	1.1	42.6	43
144 <sup>b</sup>	42.0	42	20.3	21.7	35	92 <sup>s</sup>	44.0	44	0.7	43.3	43
145 <sup>b</sup>	40.0	40	1.5	38.5	30	122 <sup>s</sup>	43.3	43	0.9	42.4	42
146 <sup>b</sup>	42.0	42	23.4	18.6	ref.	91 <sup>s</sup>	41.9	42	1.7	40.2	40
147 <sup>b</sup>	43.2	43	5.2	38.0	60	60 <sup>s</sup>	44.9	45	3.4	41.5	42

Pier	Length	Pay	Cut	Pen pay	Blow Tons
59 <sup>s</sup>	43.3	43	23.3	20.0	20
45 90 <sup>s</sup>	42.9	43	2.4	40.5	38
121 <sup>s</sup>	42.4	42	2.0	40.4	42
89 <sup>s</sup>	39.2	39	1.1	38.1	18
58 <sup>so</sup>	45.4	45	5.1	40.3	35
49 57 <sup>s</sup>	42.4	42	1.2	41.2	27
20 <sup>b</sup>	41.0	41	1.6	39.4	26
19 <sup>b</sup>	44.9	45	8.6	36.3	ref
18 <sup>b</sup>	41.0	41	19.7	21.3	40
17 <sup>b</sup>	46.2	46	22.6	23.6	50
21 <sup>b</sup>	42.8	43	3.7	39.1	33
22 <sup>b</sup>	40.0	40	14.3	25.7	49
24 <sup>b</sup>	45.0	45	1.8	43.2	29
23 <sup>b</sup>	38.6	39	7.3	31.3	41
96 <sup>so</sup>	42.5	43	6.0	36.5	28
128 <sup>s</sup>	42.0	42	15.0	27.0	50
127 <sup>s</sup>	41.5	42	1.8	39.7	12
126 <sup>s</sup>	42.3	42	5.8	36.5	33
95 <sup>s</sup>	39.8	40	1.9	37.9	15

Pier	Length	Pay	Cut	Pen Pay	Blow Tons
64 <sup>s</sup>	42.0	42	1.7	40.3	23
63 <sup>s</sup>	41.7	42	3.5	38.2	19
125 <sup>s</sup>	40.8	41	2.2	38.6	24
94 <sup>s</sup>	43.7	44	1.2	42.5	15
62 <sup>s</sup>	42.7	43	2.2	22.5	Ref
33 <sup>s</sup>	42.6	43	1.5	41.1	15
61 <sup>s</sup>	32.8	33	15.2	17.6	53
149 <sup>b</sup>	42.5	43	16.5	26.5	58
150 <sup>b</sup>	40.5	41	25.2	15.3	Ref
151 <sup>b</sup>	43.0	43	2.5	40.5	40
152 <sup>b</sup>	41.8	42	1.1	40.7	25
28 <sup>b</sup>	41.7	42	2.2	39.5	ref
27 <sup>b</sup>	42.3	42	14.3	29.0	46
26 <sup>b</sup>	41.9	42	2.8	39.1	4.5
25 <sup>b</sup>	43.2	43	6.0	37.2	47
32 <sup>b</sup>	42.4	42	2.5	39.9	50
31 <sup>b</sup>	43.7	44	27.2	16.5	Ref
30 <sup>b</sup>	43.6	44	24.8	18.8	Ref
29 <sup>b</sup>	45.6	46	24.6	21.0	Ref

Pier #	Length	Pay	cut	Pen Pay	Blow Ton
156 <sup>b</sup>	41.0	41	7.5	33.5	19
155 <sup>b</sup>	43.9	44	26.7	17.2	67
153 <sup>b</sup>	41.8	42	1.3	40.5	20
154 <sup>b</sup>	42.2	42	3.8	38.4	23
157 <sup>b</sup>	42.3	42	2.2	40.1	25
158 <sup>b</sup>	40.8	41	2.5	38.3	20
160 <sup>b</sup>	35.3	35	6.6	28.7	35
159 <sup>b</sup>	37.0	37	23.2	13.8	12

OK 6705 5138 Total Nos

OK 5106

ABT South	Pay	cut	Pen Pay	Blow Ton	Notes
4 <sup>s</sup> -G	64.7	65	9.0	55.7	40
11 <sup>s</sup> -G	68.0	68	1.30	55.5	42
25 <sup>s</sup> -E	68.0	68	5.17	51.5	43
15 <sup>s</sup> -G	71	71	5.0	22.0	49
10 <sup>s</sup> -G	73.4	73	2.13	21.7	51.7
26 <sup>s</sup> -G	70.8	71	5.5	2.34	8.5
27 <sup>s</sup> -G	72.0	72	1.0	29.0	43.0
18 <sup>s</sup> -G	78.8	75	3.1	28.5	50.3
19 <sup>s</sup> -G	73.0	73	2.5	2.15	51.5
20 <sup>s</sup> -G	75.0	75	16.4	37.9	37.6
21 <sup>s</sup> -G	68.7	68	0.7	15.4	53.3
12 <sup>s</sup> -G	79.7	75	5.8	3.3	48.4
13 <sup>s</sup> -G	75.5	75	19.3	40.8	34.7
5 <sup>s</sup> -G	78.6	75	2.4	29.0	49.6
6 <sup>s</sup> -G	68.0	68	3.9	17.9	50.1
14 <sup>s</sup> -G	75.0	75	0.7	23.7	51.3
7 <sup>s</sup> -G	71.2	71	3.6	20.8	50.4
28 <sup>s</sup> -F	72.0	72	2.2	22.2	49.8
21 <sup>s</sup> -F	62.0	62	1.3	19.3	42.7

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SABT

14 <sup>S</sup> F	57.0	3.0	1.0	4.0	53.0	25
7 <sup>S</sup> F	60.0	6.0	1.5	7.5	52.5	25
6 <sup>S</sup> F	67.5	13.5	1.5	15.0	52.5	32
13 <sup>S</sup> F	66.0	12.0	1.7	13.7	52.5	30
20 <sup>S</sup> F	67.0	13.0	1.0	14.0	53.0	28
27 <sup>S</sup> F	62.0	8.0	3.3	11.3	50.7	34
26 <sup>S</sup> F	60.6	6.6	1.2	7.8	52.8	20
25 <sup>S</sup> F	58.0	4.0	2.0	6.0	52.0	38
19 <sup>S</sup> F	71.0	17.0	1.1	18.1	52.9	27
18 <sup>S</sup> F	68.5	14.5	2.2	16.7	51.8	29
12 <sup>S</sup> F	69.0	15.0	1.5	30.0	39.0	47
11 <sup>S</sup> F	70.1	16.1	2.0	18.1	52.0	ref
5 <sup>S</sup> F	64.0	10.0	2.0	12.0	52.0	40
27 <sup>S</sup> E	72.0	18.0	2.2	20.2	51.8	37
4 <sup>S</sup> F	65.5	11.5	1.0	12.5	53.0	34
28 <sup>S</sup> E	64.4	10.4	2.5	12.9	51.5	45
26 <sup>S</sup> E	74.0	20.0	2.7	22.7	51.3	37
21 <sup>S</sup> E	75.0	21.0	2.2	23.2	51.8	39
20 <sup>S</sup> E	58.0	4.0	2.0	6.3	51.5	48

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SABT

12 <sup>S</sup> E	70.8	16.8	3.5	20.3	50.5	50
12 <sup>S</sup> E	73.6	19.6	3.1	22.3	50.3	40
10 <sup>S</sup> E	70.2	16.2	4.1	20.3	49.9	ref
10 <sup>S</sup> E	67.8	13.8	4.2	18.0	49.8	50
12 <sup>S</sup> E	76.0	22.1	8.0	30.1	46.0	50
11 <sup>S</sup> E	75.0	21.0	3.8	24.8	50.2	40
9 <sup>S</sup> E	58.6	4.6	4.4	9.0	49.6	35
10 <sup>S</sup> E	69.0	15.0	4.2	19.2	49.8	70
10 <sup>S</sup> E	75.0	21.0	2.8	23.8	51.2	40
10 <sup>S</sup> E	74.0	20.0	3.0	23.0	51.0	38
10 <sup>S</sup> F	70.0	16.0	10.0	26.2	43.8	35
10 <sup>S</sup> F	74.7	20.7	2.5	23.2	51.5	25
10 <sup>S</sup> F	70.7	16.7	2.9	19.1	51.6	27
10 <sup>S</sup> F	71.7	17.7	4.0	22.3	49.4	25
9 <sup>S</sup> F	78.0	24.0	16.0	40.6	37.4	35
8 <sup>S</sup> F	69.0	15.0	2.0	17.0	52.0	18
17 <sup>S</sup> F	62.5	8.5	3.0	11.5	51.0	28
16 <sup>S</sup> F	69.4	15.4	2.0	17.4	52.0	30
15 <sup>S</sup> F	71.0	17.0	2.0	19.0	52.0	20

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Abut South	Length	Pay	cut	Pen Pay	Blow Tons
24 <sup>b</sup> F	76.0	22 75	(16.7) 38.7	37.3 37	12.1
23 <sup>b</sup> F	76.8	22.3 75	(18.6) 40.9	35.4 35	5.0
22 <sup>b</sup> F	62.0	8.0 62	(2.5) 10.5	51.5 52	3.0
3 <sup>b</sup> G	66.0	12 66	(4.0) 16.0	50.50	3.8
2 <sup>b</sup> G	74.0	20 74	(3.8) 25.8	49.2 48	3.3
1 <sup>b</sup> G	70.0	16 70	(5.0) 21.0	49.0 49	3.0
10 <sup>b</sup> G	69.0	15 68	2.7 17.7	51.3 51	3.9
9 <sup>b</sup> G	75.0	21 75	2.7 23.7	51.3 51	3.0
8 <sup>b</sup> G	69.5	15.5 68	(4.0) 19.5	50.0 50	4.0
17 <sup>b</sup> G	76.8	22.8 75	(15.7) 38.5	38.3 38	4.5
16 <sup>b</sup> G	64.6	10.6 65	4.5 15.1	49.5 50	2.5
15 <sup>b</sup> G	68.8	14.8 68	2.8 17.6	51.2 51	3.2
24 <sup>b</sup> G	70.0	16.0 70	1.0 17.0	53.0 53	2.5
23 <sup>b</sup> G	58.0	4.0 58	18.4 22.4	35.6 36	4.5
22 <sup>b</sup> G	71.8	17.8 72	4.1 21.9	49.9 50	3.7
24 <sup>b</sup> E	66.4	12.4 66	(1.7) 14.1	52.3 52	3.0
23 <sup>b</sup> E	68.0	14.0 68	(1.9) 15.9	52.1 52	2.9
22 <sup>b</sup> E	67.0	13.0 67	(6.2) 19.2	47.8 48	3.5
17 <sup>b</sup> E	64.0	10.0 64	(4.8) 14.8	49.2 49	2.5

Abut South	Length	Pay	cut	Pen/pay	Blow Tons
16 <sup>b</sup> E	64.0	10.0 64	(3.8) 13.8	50.2 150	4.3
15 <sup>b</sup> E	69.0	15.0 68	(2.6) 17.6	51.4 51	2.9
10 <sup>b</sup> E	58.0	4.0 58	(5.0) 9.0	49.0 49	2.7
9 <sup>b</sup> E	59.0	5.0 59	(2.9) 7.0	52.0 52	1.8
8 <sup>b</sup> E	65.0	11.0 65	(2.4) 13.4	51.6 52	2.5
3 <sup>b</sup> E	68.4	14.4 68	(2.5) 16.9	51.5 52	3.0
2 <sup>b</sup> E	66.0	12.0 66	(6.6) 18.6	47.4 47	3.9
1 <sup>b</sup> E	66.0	12.0 66	(2.8) 14.8	51.2 51	3.1
25 <sup>b</sup> D	67.3	12.3 64	(14.8) 27.1	37.2 37	3.4
26 <sup>b</sup> D	61.4	9.4 61	2.0 11.4	50.0 50	4.5
27 <sup>b</sup> D	67.8	15.8 68	1.7 17.5	50.3 50	4.3
28 <sup>b</sup> D	61.4	9.7 63	1.0 10.7	51.0 51	2.0
18 <sup>b</sup> D	68.0	6.0 68	17.8 23.8	44.2 44	4.5
19 <sup>b</sup> D	58.0	6.9 59	1.7 8.6	50.3 50	5.0
20 <sup>b</sup> D	60.0	8.0 60	0.7 8.7	51.3 51	2.6
21 <sup>b</sup> D	56.8	4.8 57	1.4 6.2	50.6 51	3.2
11 <sup>b</sup> D	60.5	8.5 61	1.5 10.0	50.5 51	3.0
12 <sup>b</sup> D	59.2	7.2 59	2.5 9.7	49.5 50	4.5
13 <sup>b</sup> D	55.0	3.0 55	1.8 4.8	50.2 50	4.2
14 <sup>b</sup> D	78.0	26.0 75	3.0 29.0	49.0 49	2.0

South About	Length	Pay	Cut	Pen Pay	Blow Ton
4 <sup>s</sup> D	52° 66	14 66	(4.0) 18	48 46	50 632
5 <sup>s</sup> D	52° 58	11 58	(2.3) 103	47.1 50	60
6 <sup>s</sup> D	52° 63	11 63	(2.3) 133	49.7 50	55
7 <sup>s</sup> D	52° 62	10 62	(4.0) 140	48.0 48	50
2 <sup>b</sup> 1 <sup>b</sup> C	52° 63	11 63	(3.8) 14.8	48.2 48	45
9 <sup>b</sup> 8 <sup>b</sup> C	52° 75	23 75	(3.2) 26.2	48.8 49	47
16 <sup>b</sup> 15 <sup>b</sup> C	52° 67	15 <sup>12</sup> 67	(1.0) 16.2	51.0 51	13
23 <sup>b</sup> 22 <sup>b</sup> C	52° 55	3.2 55	(1.1) 4.3	50.9 51	15
24 <sup>b</sup> 23 <sup>b</sup> C <sup>h</sup>	52° 70	18.5 71	(1.1) 19.6	50.9 51	20
17 <sup>b</sup> 16 <sup>b</sup> C	52° 66	14.0 66	(2.4) 16.4	49.6 50	30
10 <sup>b</sup> 9 <sup>b</sup> C	52° 58	6.0 58	(1.6) 22.1	35.9 36	60
3 <sup>b</sup> 2 <sup>b</sup> C	52° 67	16.0 67	(6.1) 21.1	45.9 46	40
25 <sup>s</sup> C	52° 63	11.8 64	(0.8) 12.3	51.2 51	35
26 <sup>s</sup> C	52° 64	12.3 64	(0.8) 13.1	51.2 51	30
18 <sup>s</sup> C	52° 68	16.4 66	(1.5) 17.9	50.5 51	45
11 <sup>s</sup> C	54° 60	6.5 61	(2.2) 8.7	51.8 52	43
4 <sup>s</sup> C	52° 64	12.6 65	(15.0) 27.6	37.0 37	42
5 <sup>s</sup> C	52° 75	23.7 75	(2.4) 26.1	49.6 50	41
6 <sup>s</sup> C	54° 68	14.0 68	(2.2) 16.2	51.9 52	43

South About	Length	Pay	Cut	Pen Pay	Blow Ton
52° 62	10.8 63	(1.2) 12.0	50.8 51	42	
54° 62	12.8 66	(3.5) 16.3	50.5 51	43	
52° 66	15.0 67	(4.5) 19.5	47.5 48	50	
52° 65	13.1 65	(4.3) 17.4	47.7 48	64	
52° 64	12.0 64	(1.5) 13.5	50.5 51	35	
52° 65	13.0 65	(3.8) 16.8	48.2 48	50	
52° 65	13.0 65	(1.5) 14.5	50.5 51	37	
52° 65	13.9 66	(1.1) 15.0	50.9 51	41	
52° 70	18.1 70	(3.1) 21.2	48.9 50	52	
52° 68	16.4 66	(1.8) 18.2	50.2 50	12	
52° 60.5	8.5 61	(1.4) 9.9	50.6 51	50	
52° 58	6.0 58	(1.2) 7.2	50.8 51	28	
52° 62.5	10.5 62	(0.9) 11.4	51.1 51	25	
52° 59.5	7.5 60	(3.6) 11.6	47.9 20 45	45	
52° 62.5	10.5 62	(0.8) 11.3	51.2 20 28	28	
54° 64	10.3 64	(2.0) 12.3	52.0 52	37	
54° 66	12.0 66	(2.5) 14.5	51.5 52	60	
54° 64.2	10.2 68	4.5 14.7	49.5 50	55	
54° 64.2	10.2 64	3.2 13.4	50.8 51	38 ✓	



South	Abt	Length	Pay	Cut	Pen	Pay	Blow
102 <sup>b</sup>	D	54 65.4	11.4 65	2.0 13.4	52.0	52	48/
3 <sup>b</sup>	D	52 58.0	6.0 58	1.8 7.8	50.2	50	55
9 <sup>b</sup>	D	52 56.3	14.8 56	2.3 16.6	39.7	40	37/
10 <sup>b</sup>	D	54 64	10.0 64	17.4 27.4	36.6	37	ref/
16 <sup>b</sup>	D	52 60.2	8.2 60	15.3 23.5	36.7	37	ref/
15 17 <sup>b</sup>	D	52 65	13.2 65	2.0 15.2	50.0	50	42/
23 <sup>b</sup>	D	52 56.1	4.1 56	1.3 5.4	50.7	51	25/
17 24 <sup>b</sup>	D	52 65.1	13.1 65	2.0 15.1	50.0	50	60/
13 <sup>s</sup>	H	52 58.8	6.8 59	1.5 8.3	50.5	51	42/
7 <sup>s</sup>	H	52 59.5	7.5 60	2.9 10.4	49.1	49	48/
20 1 <sup>s</sup>	H	52 68.6	16.6 68	5.0 21.6	47.0	47	48/
14 <sup>s</sup>	H	52 57.5	5.5 58	3.4 8.9	48.6	49	45/
8 <sup>s</sup>	H <sup>s</sup>	52 77.5	25.5 75	16.6 42.1	35.4	35	60
2 <sup>s</sup>	H	52 60	8.0 60	4.0 12.0	48.0	48	55/
15 <sup>s</sup>	H	52 65.0	13.0 65	4.0 17.0	48.0	48	60/
25 9 <sup>s</sup>	H	52 66.0	14.0 66	4.5 18.5	47.5	48	60/
3 <sup>s</sup>	H	52 64.0	12.0 64	5.2 17.2	46.8	47	50/
16 <sup>s</sup>	H <sup>10</sup>	52 58	6.0 58	3.6 9.6	48.4	48	ref/
10 <sup>s</sup>	H	52 65	13.0 65	4.4 17.4	47.6	48	150/

South	Abt	Length	Pay	Cut	Pen	Pay	Blow	53
4 <sup>s</sup>	H	52.0 52.0	0.0 52	4.4 4.4	47.6	48	43/	
17 <sup>b</sup>	H	52 63.0	9.0 63	7.6 16.0	47	47	55/	
18 <sup>b</sup>	H	54 69	15.0 68	5.5 20.5	48.5	49	42/	
11 <sup>b</sup>	H	52 68.0	16.0 68	4.0 20.0	48.0	48	45/	
12 <sup>b</sup>	H	52 73.0	21.0 73	4.0 25.0	48	48	43/	
5 <sup>b</sup>	H	52 68.5	16.5 68	2.0 18.5	50	50	30/	
5 <sup>b</sup>	H	52 64.0	12.0 64	2.0 14.0	50	50	35/	
8 <sup>b</sup>	B	54 76.0	22.0 75	1.0 23.0	53	53	32/	
12 <sup>b</sup>	B	54 79	23.0 75	1.3 26.3	52.7	53	30/	
15 <sup>b</sup>	B	54 69	15.0 68	2.0 17.0	52.0	52	35/	
19 <sup>b</sup>	B	54 68	14.0 68	2.9 16.9	51.1	51	32/	
21 <sup>b</sup>	B	54 59.6	5.6 60	3.0 8.6	51.0	51	36/	
22 <sup>b</sup>	B	54 70.0	16.0 70	6.0 22.0	48.0	48	40/	
31 <sup>s</sup>	B	54 69.0	13.0 68	2.0 17.0	52.0	52	32/	
41 <sup>s</sup>	B	54 58.0	4.0 58	3.3 7.3	50.7	51	27/	
52 <sup>s</sup>	B	54 67.6	13.6 66	6.8 20.4	47.2	47	45/	
61 <sup>s</sup>	B	54 65.6	11.6 66	5.5 17.1	48.5	49	40/	
71 <sup>s</sup>	B	54 57.0	3.0 57	1.8 4.8	52.2	52	27/	
89 <sup>s</sup>	B	54 67.0	13.0 67	2.3 15.3	51.7	52	33/	

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S.B.	length	Pay	Cut	Pen Pay	Blow/Tons
11 <sup>s</sup> B	57	57	1.8 4.8	52.2	32/
12 <sup>s</sup> B	60	60	3.4 9.4	50.6	50/
15 <sup>s</sup> B	62	62	1.0 9.5	52.5	31/
16 <sup>s</sup> B	61	61	7.0 6.3	47.7	37/
17 <sup>s</sup> B	61	61	7.0 6.8	47.2	45/
18 <sup>s</sup> B	70	70	16.0 8.3	45.7	35/
13 <sup>s</sup> A	64	64	10.0 2.0	52	25/
7 <sup>s</sup> A	57	57	3.0 1.0	53	37/
1 <sup>s</sup> A	64	64	10.0 1.0	53	28/
2 <sup>s</sup> A	60	60	1.4 7.4	52.6	26/
8 <sup>s</sup> A	56	56	2.5 4.5	51.5	31/
14 <sup>s</sup> A	67	67	2.8 15.8	51.2	52/
3 <sup>s</sup> A	54	54	1.0 1.0	53.0	33/
9 <sup>s</sup> A	54	Broke. —			
	58	58	2.6 6.6	51.4	50/
15 <sup>s</sup> A	59	59	3.2 8.2	50.8	60/
4 <sup>s</sup> A	57	57	3.4 6.4	50.6	42/
10 <sup>s</sup> A	61	61	8.7 15.7	44.3	40/
16 <sup>s</sup> A	64	64	14.0 24.0	40.0	30/

S.A.B.T.	length	Pay	Cut	Pen Pay	Blow/Tons
5 <sup>s</sup> A	59	59	3.8 8.8	50.2	45/
18 <sup>s</sup> A	57	57	2.0 5.0	52.0	35/
14 <sup>s</sup> A	63	63	3.7 12.7	50.3	35/
6 <sup>s</sup> A	64	64	1.4 11.4	52.6	37/
14 <sup>s</sup> A	62	62	2.2 10.2	51.8	36/
8 <sup>s</sup> A	59	59	1.7 6.7	52.3	32/

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Pier 9	Length	Pay	Cut	Pen Pay	Blow
96 <sup>s</sup>	52.5	53	3.2	49.3	27
95 <sup>s</sup>	48.0	48	4.0	44.0	32
94 <sup>s</sup>	47.4	47	0.8	46.6	25
64 <sup>s</sup>	50.0	50	0.8	49.2	17
63 <sup>s</sup>	48.6	49	5.4	43.2	37
93 <sup>s</sup>	46.0	46	2.5	43.5	29
62 <sup>s</sup>	52.0	52	5.5	46.5	26
61 <sup>s</sup>	52.0	52	6.7	45.3	45
57 <sup>s</sup>	57.5	58	9.5	48.0	23
89 <sup>s</sup>	44.0	44	4.0	40.0	28
92 <sup>s</sup>	58.2	58	1.7	50.3	38
91 <sup>s</sup>	55.2	55	10.4	41.6	50
90 <sup>s</sup>	57	57	15.4	41.6	42
60 <sup>s</sup>	60	60	17.6	42.4	20
59 <sup>s</sup>	44	44	7.5	36.5	38
58 <sup>s</sup>	47.3	47	4.5	42.8	32
88 <sup>s</sup>	57.3	57	8.0	44.0	29
87 <sup>s</sup>	53.7	54	23.2	24.8	36
86 <sup>s</sup>	56.1	57	12.7	39.3	31

Length	Pay	Cut	Pen Pay	Blow	Tons
57	57	36.0	21.8	41	
40.3	40	0.3	40.0	20	
40.3	40	0.5	39.8	20	
47.0	47	6.5	40.5	41	35
47.3	47	27.6	19.7	20	100
40.6	41	0.5	40.1	40	18
46.7	47	5.0	41.7	42	29
40.0	40	0.3	39.7	40	17
63	63	23.2	39.8	40	31
47.6	48	5.3	42.3	42	30
43	43	0.3	42.7	43	18
43	43	0.5	42.5	43	25
44	44	6.0	38.0	38	32
46.5	47	2.4	44.1	44	29
45.0	45	0.3	44.7	45	18
43.0	43	17.5	25.5	26	40
45.0	45	5.4	39.6	40	35
45.5	46	2.2	43.3	43	30
56.0	56	18.3	27.7	28	37

Pier	Length	Pay	Cut	Pen Pay	Blow Tons
45 <sup>s</sup>	47.0	47	10.2	36.8	34/
20 46 <sup>s</sup>	40.9	41	17.6	33.3 23.3	45/
76 <sup>s</sup>	45.7	46	5.3	40.4	30/
75 <sup>s</sup>	46.0	46	12.0	34.0	30/
73 <sup>s</sup>	46.2	46	0.5	45.7	27/
74 <sup>s</sup>	46.8	47	7.0	39.8	40/
25 44 <sup>s</sup>	50.3	51	9.9	40.6	30/
43 <sup>s</sup>	48.0	48	7.9	40.1	32/
41 <sup>s</sup>	46.0	46	6.3	39.7	39/
42 <sup>s</sup>	50	50	31.0	19.0	ref
69 <sup>s</sup>	48.5	49	5.5	43.0	30/
30 70 <sup>s</sup>	49.3	49	19.0	30.3	32/
71 <sup>s</sup>	48.0	48	13.7	34.3	31/
72 <sup>s</sup>	49.4	49	12.0	37.4	30/
37 <sup>s</sup>	40.0	40	1.0	39.0	25/
38 <sup>s</sup>	46.0	46	9.4	36.6	40/
35 39 <sup>s</sup>	45.0	45	4.6	40.4	30/
40 <sup>s</sup>	48	48	9.0	39.0	30/
37 66 <sup>s</sup>	48.5	49	3.4	45.1	30/
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Pier	Length	Pay	Cut	Pen Pay	Blow Tons
67 <sup>s</sup>	48.8	49	9.6	39.2	50/
= Test Pile #2					
65 <sup>s</sup>					
42	54.8	55	28.3	26.5	50/
68 <sup>s</sup>					
42	53.0	53	33	20.0	60/
38 <sup>s</sup>					
42	48.0	48	9.7	38.3	39/
34 <sup>s</sup>					
42	50	50	23.8	26.2	48/
35 <sup>s</sup>					
42	56.7	57	12.2	44.5	39/
32 <sup>b</sup>					
50	64	64	36.8	27.2	ref
31 <sup>b</sup>					
50	63.4	63	43.7	19.7	ref
30 <sup>b</sup>					
35	59.0	59	38.2	20.8	60/
24 <sup>b</sup>					
40	60	60	32.4	27.6	40/
28 <sup>b</sup>					
40	60	60	34.3	25.7	ref
29 <sup>b</sup>					
40	62	62	34.0	28.0	50/
26 <sup>b</sup>					
40	59	59	32.0	27.0	65/
25 <sup>b</sup>					
40	60	60	21.0	39.0	13/
24 <sup>b</sup>					
40	57	57	36.6	20.4	66/
23 <sup>b</sup>					
40	60.6	61	41.6	19.0	ref
32 <sup>b</sup>					
40	58.0	58	38.5	19.5	ref
20 <sup>b</sup>					
40	30.6	31	14.0	16.6	17/
21 <sup>b</sup>					

Pier	Length	Pay	Cut	Pen	Pay	Blow		
19b	40	59	21.0	40.5	18.5	60		
18b	40	58	22.0	40.1	18.1	60		
17b	35	35	16	16.0	19.0	40		
16b	40	56	1.4	17.4	53.0	25		
15b	40	48	8	13.5	21.5	26.5	37	
14b	40	49.5	9.5	20.0	20.0	60		
13b	40	50	10.2	22.3	17.7	60		
128b	40	65	25.8	30	28.8	37	29	
127b	40	65	25.0	15.5	24.5	25	45	
126b	40	56	16.0	5.6	40.5	34.4	30	
125b	40	59	19	21.0	40.0	19.0	19	60
124b	40	54	14	18.9	21.1	21	32	
123b	40	56.5	16.5	18.0	32.9	29.5	27	40
122b	40	60	20.0	19.0	39.2	20.8	21	50
121b	40	60.3	20.3	12.5	32.8	27.5	28	42
120b	40	58	18.0	13.0	31.0	27.0	27	40
119b	40	57	17.6	15.0	32.6	25.0	25	50
118b	40	57.6	17.6	20.8	38.4	19.2	19	60
117b	40	57	17.0	21.3	38.9	18.7	19	ref

Pier	Length	Pay	Cut	Pen	Pay	Blow		
119	40	59	15	20.5	38.5	24		
116b	40	57.2	17.2	25.0	15.0	ref		
114b	40	55.5	15.5	42.2	18.3	15	60	
113b	40	59.0	19.0	21.7	37.2	18	50	
112b	40	46.2	6.2	19.0	39.7	19.3	19	47
111b	40	32.4	13.7	19.0	25.8	20.4	2.0	42
110b	40	53.7	13.7	13.3	19.1	19	42	
109b	40	46.8	6.8	24.6	15.4	15	60	
108b	40	55.8	15.8	20.5	38.3	19.7	20	ref
107b	40	54.6	14.6	27.1	18.5	19	50	
106b	40	40	9.0	21.5	37.3	18.5	19	50
105b	30	59	29	26	40.6	14.0	14	ref
104b	40	54	14	9.0	31.0	31	32	
103b	40	59	19	14.5	15.5	16	60	
102b	40	58.4	18.4	43.5	27	27	50	
101b	40	53.8	13.8	13	27.0	27	27	50
100b	40	52.5	12.5	19.5	38.5	20.5	21	60
99b	40	46	6	20.5	38.9	19.5	20	55
98b	40	54	14	4.3	38.9	35.1	36	27
				20.8	18.1	19.2	19	60
				33.3	17.4	17	60	
				22.6	28.6	20.2	20	55
				19.8	33.8			

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Pier 9	Length	Pay	Cut	Pen/Pay	Blow
97 <sup>b</sup>	40 46.6	6.6 47	(4.5) 28.1	18.5 19	60
36 <sup>s</sup>	40 45.0	5.0 45	(21.1) 26.1	18.9 19	63
9 <sup>b</sup>	40 46.0	6.0 46	(21.9) 27.9	18.1 18	66
15 10 <sup>b</sup>	40 59	13.0 59	(21.6) 40.6	18.4 18	81
11 <sup>b</sup>	40 59	21.2 59	(21.1) 43.3	15.9 16	62
12 <sup>b</sup>	40 50.5	10.5 51	(23.8) 34.3	16.2 16	60
5 <sup>b</sup>	40 58.7	18.7 59	(21.0) 20.7	38.0 38	18
6 <sup>b</sup>	40 48.8	8.8 49	(20.7) 29.5	18.3 18	57
20 7 <sup>b</sup>	40 50.2	10.0 50	(22.5) 32.5	17.5 18	R-27
8 <sup>b</sup>	41.6 45	3.4 45	(21.5) 5.9	39.6 40	40
1 <sup>b</sup>	42.0 47.5	5.5 48	(23.3) 28.8	18.7 19	52
2 <sup>b</sup>	40 46.0	6.0 46	(24.1) 30.1	15.9 16	62
3 <sup>b</sup>	40 49.4	9.4 49	(25.6) 35.0	14.4 14	52
23 4 <sup>b</sup>	40 50	10.3 51	(1.5) 11.8	38.5 39	22

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PV T x 9.9  
TOP P.E.

Total  
~~3921~~  
3902

Pier 10	Length	Pay	Cut	Pen/Pay	Blow	58
28 <sup>s</sup>	46 63.9	17.9 64	5.4 23.3	40.6 41	50	
27 <sup>s</sup>	46 56.0	10 56	4.0 14.0	42.0 42	33	
96 <sup>s</sup>	46 55.0	9 55	1.0 10.0	45.0 45	45	
94 <sup>s</sup>	46 63.0	17 63	5.2 22.2	40.8 41	60	
55 <sup>s</sup>	44 56	12 56	2.8 14.8	41.2 41	46	
96 <sup>s</sup>	44 60	16 60	5.4 21.4	38.6 39	47	
63 <sup>s</sup>	44 58	14 58	4.7 18.7	39.3 39	46	
44 <sup>s</sup>	44 54.0	10 54	4.9 14.9	39.1 39	52	
95 <sup>s</sup>	44 61.0	17 61	4.0 21.0	40.0 40	48	
93 <sup>s</sup>	44 62	18 62	3.2 21.2	40.8 41	32	
62 <sup>s</sup>	44 58	14 58	3.7 17.7	40.3 40	60	
61 <sup>s</sup>	44 67	23 67	3.8 26.8	40.2 40	37	
94 <sup>s</sup>	44 54	10 54	2.2 12.2	41.8 42	ref	
92 <sup>s</sup>	44 64	20 64	1.4 21.4	42.6 43	30	
92 <sup>s</sup>	44 60	16 60	3.1 19.1	40.9 41	45	
60 <sup>s</sup>	44 64	20 64	3.0 23	41.0 41	60	
91 <sup>s</sup>	44 65	21 65	3.0 24	41.0 41	47	
122 <sup>s</sup>	44 66	22 66	2.9 24.9	41.1 41	ref	
121 <sup>s</sup>	44 57	13 57	2.7 15.7	41.3 41	ref	✓

Pier	10	Length	Pay	Cut	Pen Pay	Blow		
20	90 <sup>s</sup>	68	64	4.5	28.5	39.5	40	38
59	59 <sup>s</sup>	58	58	4.5	18.5	39.5	40	42
89	89 <sup>s</sup>	69	68	3.0	28.0	41.0	41	58
58	58 <sup>s</sup>	68	64	3.0	27.0	41.0	41	50
57	57 <sup>s</sup>	63	63	4.8	23.1	39.2	39	65
25	26 <sup>s</sup>	60	60	1.7	17.1	42.3	42	56
119	119 <sup>s</sup>	60	60	2.0	18.0	42.0	42	48
88	88 <sup>s</sup>	64	64	3.9	23.9	40.1	40	60
56	56 <sup>s</sup>	70	70	3.4	29.1	40.6	41	46
116	116 <sup>s</sup>	65	65	0.3	21.5	43.5	44	55
115	115 <sup>s</sup>	65	65	3.3	24.3	40.7	41	42
87	87 <sup>s</sup>	58	58	2.2	16.2	41.8	42	35
118	118 <sup>s</sup>	64	64	1.8	21.8	42.2	42	46
117	117 <sup>s</sup>	62	62	3.8	21.8	40.2	40	40
86	86 <sup>s</sup>	64	64	2.6	22.6	41.7	41	39
85	85 <sup>s</sup>	60	60	2.0	18.0	42.0	42	35
55	55 <sup>s</sup>	60	60	3.2	19.2	40.8	41	42
54	54 <sup>s</sup>	62	62	3.8	21.8	40.2	40	36
84	84 <sup>s</sup>	68	64	4.9	28.9	39.1	39	43

Pier	10	Length	Pay	Cut	Pen Pay	Blow		
114	114 <sup>s</sup>	63	63	3.4	22.4	40.6	41	53
83	83 <sup>s</sup>	65	65	2.0	23.0	42.0	42	35
82	82 <sup>s</sup>	56	56	0.9	12.9	43.1	43	30
81	81 <sup>s</sup>	64	64	1.9	21.9	42.1	42	40
52	52 <sup>s</sup>	73	73	8.2	35.8	35.8	36	44
51	51 <sup>s</sup>	67	67	4.5	27.5	39.5	40	39
50	50 <sup>s</sup>	63	63	4.3	23.3	39.7	40	35
112	112 <sup>s</sup>	75	75	3.8	34.8	40.2	40	44
111	111 <sup>s</sup>	61	61	2.5	19.5	41.5	42	52
110	110 <sup>s</sup>	64	64	3.8	23.8	40.2	40	47
109	109 <sup>s</sup>	66	66	3.8	25.8	40.2	40	43
80	80 <sup>s</sup>	57	57	5.2	18.2	38.8	39	36
79	79 <sup>s</sup>	58	58	3.8	17.8	40.2	40	33
78	78 <sup>s</sup>	62	62	4.0	22.0	40.0	40	48
77	77 <sup>s</sup>	60	60	5.7	21.7	38.3	38	46
48	48 <sup>s</sup>	67	67	5.2	31.2	35.8	36	37
47	47 <sup>s</sup>	65	65	17.2	38.2	26.8	27	50
46	46 <sup>s</sup>	61	61	2.2	19.2	41.8	42	33
45	45 <sup>s</sup>	61	61	5.2	22.2	38.8	39	43

Pier	Length	Ray	Cut	Pen	Pay	Blow
108 <sup>s</sup>	<sup>44</sup> 61	17	1.9	18.9	42.1	37
107.5 <sup>s</sup>	<sup>44</sup> 56	12	4.1	16.1	39.9	42
30 106 <sup>s</sup>	<sup>44</sup> 52	8	4.1	12.1	39.9	36
105 <sup>s</sup>	<sup>44</sup> 61	17	4.5	21.5	39.5	50
76 <sup>s</sup>	<sup>44</sup> 62	18	2.7	20.7	41.3	48
75 <sup>s</sup>	<sup>44</sup> 60	16	5.9	21.9	38.1	40
74 <sup>s</sup>	<sup>44</sup> 63	19	6.3	25.3	37.7	54
35 73 <sup>s</sup>	<sup>36</sup> 69	33	1.0	34.0	35.0	25
44 <sup>s</sup>	<sup>42</sup> 58	16	2.2	18.2	39.8	35
43 <sup>s</sup>	<sup>42</sup> 58	16	1.2	17.2	40.8	37
42 <sup>s</sup>	<sup>42</sup> 62	20	15.9	26.1	26.1	12
104 <sup>s</sup>	<sup>42</sup> 65	23	3.7	26.7	38.3	48
40 103 <sup>s</sup>	<sup>44</sup> 72	28	6.8	34.8	27.2	54
102 <sup>s</sup>	<sup>44</sup> 62	18	3.7	21.7	40.8	47
72 <sup>s</sup>	<sup>42</sup> 63	21	2.0	23.0	40.0	35
71 <sup>s</sup>	<sup>42</sup> 56	14	1.4	15.4	40.6	29
70 <sup>s</sup>	<sup>44</sup> 61	17	3.9	20.9	40.1	45
45 69 <sup>s</sup>	<sup>44</sup> 55	11	2.7	13.7	41.3	34
40 <sup>s</sup>	<sup>44</sup> 55	11	2.0	13.0	42.0	42

Pier	Length	Ray	Cut	Pen	Pay	Blow	Tons
39 <sup>s</sup>	<sup>44</sup> 57	13	3.0	16.0	41.0	33	
38 <sup>s</sup>	<sup>44</sup> 60	16	6.9	22.2	37.1	40	
100 37 <sup>s</sup>	<sup>42</sup> 70	28	2.4	30.4	39.6	35	
99 <sup>s</sup>	<sup>42</sup> 59.5	17.5	2.1	19.6	39.9	49	
98 <sup>s</sup>	<sup>42</sup> 62	20	4.1	24.1	37.6	36	
97 <sup>s</sup>	<sup>42</sup> 49	7	1.6	8.6	40.4	40	
65 <sup>s</sup>	<sup>42</sup> 56	14	1.6	15.6	40.4	30	
66 <sup>s</sup>	<sup>42</sup> 59	17	4.0	21.0	38.0	60	
67 <sup>s</sup>	<sup>42</sup> 59	17	2.6	19.6	39.4	39	
68 <sup>s</sup>	<sup>42</sup> 67	25	3.8	28.8	38.2	42	
33 <sup>s</sup>	<sup>42</sup> 58	16	1.5	17.5	40.5	35	
34 <sup>s</sup>	<sup>42</sup> 58	16	2.1	18.1	39.9	37	
35 <sup>s</sup>	<sup>42</sup> 56	14	17.0	31.0	25.0	25	Ref.
36 <sup>s</sup>	<sup>42</sup> 64	22	2.1	24.1	39.9	45	
32 <sup>s</sup>	<sup>46</sup> 61.9	15.9	4.9	20.8	41.1	41	
31 <sup>s</sup>	<sup>46</sup> 61.1	15.1	2.5	17.9	43.5	44	
30 <sup>s</sup>	<sup>44</sup> 68	24	5.5	29.5	38.5	39	
29 <sup>s</sup>	<sup>44</sup> 68	24	18.5	43.1	25.5	26	69
28 <sup>s</sup>	<sup>44</sup> 72	28	2.4	30.4	41.6	59	



Pier 10	Length	Pay	Cut	Pen	Pay	Tons
27 <sup>b</sup>	<sup>44</sup> 60	<sup>16</sup> 60	6.2 22.2	37.8	38	50
26 <sup>b</sup>	<sup>44</sup> 65	21 65	4.6 25.6	39.4	39	45
25 <sup>b</sup>	<sup>44</sup> 64	20 64	5.3 25.3	38.7	39	51
24 <sup>b</sup>	<sup>44</sup> 58	14 58	1.2 15.2	32.8	33	26
23 <sup>b</sup>	<sup>44</sup> 67	23 67	4.7 27.7	39.3	39	38
25 22 <sup>b</sup>	<sup>44</sup> 60	16 60	6.0 22.0	38.0	38	40
21 <sup>b</sup>	<sup>44</sup> 59	15 59	17.3 32.3	26.7	27	55
20 <sup>b</sup>	<sup>44</sup> 59	15 59	6.9 21.9	37.1	37	45
19 <sup>b</sup>	<sup>44</sup> 55	11 55	1.8 12.8	42.2	42	47
18 <sup>b</sup>	<sup>44</sup> 53	9 53	1.7 10.7	42.3	42	35
30 17 <sup>b</sup>	<sup>44</sup> 59	15 59	3.5 18.5	40.5	41	35
113 <sup>s</sup>	<sup>44</sup> 58	14.5 59	1.7 16.2	42.3	42	16
16 <sup>b</sup>	<sup>44</sup> 59	15 59	2.2 17.2	41.8	42	37
15 <sup>b</sup>	<sup>44</sup> 57	13 57	15 28.0	29.0	29	53
13 <sup>b</sup>	<sup>44</sup> 56	12 56	19.2 31.2	24.8	25	64
35 12 <sup>b</sup>	<sup>44</sup> 57	13 57	2.9 15.9	41.1	41	35
11 <sup>b</sup>	<sup>44</sup> 64	20 64	4.3 24.3	39.7	40	50
10 <sup>b</sup>	<sup>44</sup> 65	21 65	19.5 40.5	24.5	25	46
9 <sup>b</sup>	<sup>44</sup> 60	16.4 60	2.3 18.7	41.7	42	35

Pier	Length	Pay	Cut	Pen	Pay	Tons
146 <sup>b</sup>	<sup>44</sup> 68	24 68	2.3 26.3	41.7	42	32
160 <sup>b</sup>	<sup>44</sup> 60	16 60	0.3 16.3	43.1	44	21
159 <sup>b</sup>	<sup>44</sup> 61	17 61	1.3 18.3	42.7	43	42
158 <sup>b</sup>	<sup>44</sup> 56	12 56	3.4 15.4	40.6	41	34
157 <sup>b</sup>	<sup>44</sup> 56	12 56	1.0 13.0	43.0	43	43
156 <sup>b</sup>	<sup>44</sup> 62	18 62	3.5 21.5	40.8	41	33
155 <sup>b</sup>	<sup>44</sup> 72	28 72	3.2 31.2	40.8	41	35
154 <sup>b</sup>	<sup>44</sup> 66	22 66	1.7 23.9	42.1	42	37
153 <sup>b</sup>	<sup>44</sup> 58	14 58	4.6 18.6	39.4	39	35
152 <sup>b</sup>	<sup>44</sup> 68	24 68	2.3 26.3	41.7	42	35
151 <sup>b</sup>	<sup>44</sup> 59	15 59	3.3 18.3	40.7	41	33
150 <sup>b</sup>	<sup>44</sup> 63	19 63	14.7 33.7	29.3	29	34
149 <sup>b</sup>	<sup>44</sup> 56	12 56	7.0 19.0	37.0	37	50
153 <sup>s</sup>	<sup>44</sup> 58	14 58	4.8 18.8	39.2	39	40
148 <sup>b</sup>	<sup>44</sup> 65	21 65	2.5 23.5	41.5	42	45
147 <sup>b</sup>	<sup>44</sup> 60	16 60	5.1 21.1	38.9	39	35
146 <sup>b</sup>	<sup>44</sup> 56	12 56	0.5 12.5	43.5	44	48
145 <sup>b</sup>	<sup>44</sup> 60	16 60	9.7 25.7	34.3	34	42
149 <sup>s</sup>	<sup>44</sup> 65	21 65	3.3 24.3	40.7	41	36

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Pier	10	Length	Pay	Cut	Pen Pay	Blow Tons
144 <sup>b</sup>	44	44.3	45	0.4	44.1	27
143 <sup>b</sup>	44	68.1	68	0.4	28.6	48
142 <sup>b</sup>	44	45.0	45	1.5	43.5	30
20 141 <sup>b</sup>	44	66.0	66	3.5	40.5	35
140 <sup>b</sup>	44	59	59	2.6	41.7	34
139 <sup>b</sup>	44	42.3	42	1.0	41.3	30
138 <sup>b</sup>	44	53.0	53	5.2	38.8	48
137 <sup>b</sup>	44	61	61	4.2	39.8	32
25 41 <sup>s</sup>	44	61	61	3.8	40.2	35
5 <sup>b</sup>	44	51	51	4	40.0	34
6 <sup>b</sup>	44	52	52	3	41.0	31
7 <sup>b</sup>	44	68	68	4	40.0	33
8 <sup>b</sup>	44	56	56	18.0	26.0	32
30 101 <sup>s</sup>	44	62	62	3.6	40.4	35
1 <sup>b</sup>	44	64	64	4	40.0	43
2 <sup>b</sup>	44	59	57	6.2	37.8	44
4 <sup>b</sup>	44	59	59	18.8	25.2	50
3 <sup>b</sup>	44	68.0	68	17.8	26.2	44
35 136 <sup>b</sup>	44	56	56	13.6	30.4	34

Pier	10	Length	Pay	Cut	Pen Pay	Blow Tons
135 <sup>b</sup>	44	59	59	4.0	19.0	40
134 <sup>b</sup>	44	56	56	6.4	18.4	37.6
133 <sup>b</sup>	44	65	65	8.5	29.5	35.5
37 <sup>s</sup>	44	60	60	4.8	20.8	39.2
132 <sup>b</sup>	44	80	75	5.8	41.3	38.7
131 <sup>b</sup>	44	58	58	5.0	19.0	39.0
130 <sup>b</sup>	44	54	54	1.6	11.6	42.4
129 <sup>b</sup>	44	61	61	4.9	21.9	39.1

do. 9761

do →

1672  
6254

56  
65  
60  
80  
54  
58  
61 packed

✓

# Totals Driven

Pier	
NABT	4825
1	3606
2	3400
3	2835
4	3374
5	2747
6	4778
7	3403
8	5106
9	3902
10	6254
SABT	<u>9573</u>
Total	53803 Pay Driven.

# Delivered

	Est.
5706 ✓	
64@ 28 64@ 31	3776
4181 ✓	4768
4666 ✓	3776
3780 ✓	4768
4698 ✓	3776
3766 ✓	4768
5869 ✓	4684
4659 ✓	
6705 ✓	
6533 ✓	
9761 ✓	
<u>12747</u>	
73071	
Test pile 50	To be Paid as Deliv.
Total Pay Delivered	<u>73121</u> Pay Deliv.

	28	29	30	31	32	33	34	35	36	37	38
N. Abt.	101 <sup>✓</sup>	12 <sup>✓</sup>	12 <sup>✓</sup>	66 <sup>✓</sup>	1 <sup>✓</sup>	1 <sup>✓</sup>		1 <sup>✓</sup>			
1	28 <sup>✓</sup>	6 <sup>✓</sup>	21 <sup>✓</sup>	49 <sup>✓</sup>	3 <sup>✓</sup>	3 <sup>✓</sup>	3 <sup>✓</sup>	5 <sup>✓</sup>	1 <sup>✓</sup>		
2	87 <sup>✓</sup>	2 <sup>✓</sup>	5 <sup>✓</sup>	63 <sup>✓</sup>							
3	36 <sup>✓</sup>	8 <sup>✓</sup>	25 <sup>✓</sup>	54 <sup>✓</sup>	2 <sup>✓</sup>						
4	80 <sup>✓</sup>	2 <sup>✓</sup>	14 <sup>✓</sup>	59 <sup>✓</sup>	2 <sup>✓</sup>		1 <sup>✓</sup>				
5	45 <sup>✓</sup>	2 <sup>✓</sup>	10 <sup>✓</sup>	47 <sup>✓</sup>		3 <sup>✓</sup>	1 <sup>✓</sup>	2 <sup>✓</sup>	4 <sup>✓</sup>	2 <sup>✓</sup>	1 <sup>✓</sup>
6	9 <sup>✓</sup>	1 <sup>✓</sup>	1 <sup>✓</sup>	2 <sup>✓</sup>	3 <sup>✓</sup>	6 <sup>✓</sup>	9 <sup>✓</sup>	18 <sup>✓</sup>	29 <sup>✓</sup>	31 <sup>✓</sup>	10 <sup>✓</sup>
7	1 <sup>✓</sup>		1 <sup>✓</sup>	3 <sup>✓</sup>	4 <sup>✓</sup>	2 <sup>✓</sup>	6 <sup>✓</sup>	4 <sup>✓</sup>	17 <sup>✓</sup>	19 <sup>✓</sup>	17 <sup>✓</sup>
8						1 <sup>✓</sup>		1 <sup>✓</sup>	1 <sup>✓</sup>	1 <sup>✓</sup>	1 <sup>✓</sup>
9				1 <sup>✓</sup>	1 <sup>✓</sup>			1 <sup>✓</sup>			
10											

S. Abt.	3		1	4							
	387	33	89	344	16	16	20	32	52	53	29
	10836 <sup>✓</sup>	957 <sup>✓</sup>	2670 <sup>✓</sup>	10664 <sup>✓</sup>	512 <sup>✓</sup>	528 <sup>✓</sup>	680 <sup>✓</sup>	1120 <sup>✓</sup>	1872 <sup>✓</sup>	1961 <sup>✓</sup>	1102 <sup>✓</sup>

39 40 41 42 43 44 45 46 47 48 49

N A6T

1			5"	2"	5"	1"					
2											
3											
4											
5											
6	9"	7"	14"	4"	2"	1"			1"	2"	1"
7	12"	22"	11"	5"					1"	2"	2"
8	6"	18"	29"	46"	28"	16"	9"	3"			
9		5"	2"		3"	3"	5"	11"	10"	8"	8"
10				1"			2"				1"

S A6T

PS	27	52	61	58	38	21	16	14	11	10	10
----	----	----	----	----	----	----	----	----	----	----	----

	1053	2080	2501	2436	1634	924	720	644	517	480	490
--	------	------	------	------	------	-----	-----	-----	-----	-----	-----

50 51 52 53 54 55 56 57 58 59 60

N ABT

1000

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

9	6	3	2	3	6	3	5	8	9	11	6
10		1	2	2	3	4	15	6	13	11	17
SABT			1		1	2	3	7	12	8	9

6	4	5	5	10	9	23	21	34	30	32
---	---	---	---	----	---	----	----	----	----	----

300	204	260	265	540	495	1288	1197	1972	1770	1920
-----	-----	-----	-----	-----	-----	------	------	------	------	------

61 62 63 64 65 66 67 68 69 70 71

NABT

10/11

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

- 1
- 1
- 1
- 1
- 1
- 1
- 1
- 1

9 1<sup>✓</sup> 1<sup>✓</sup> 2<sup>✓</sup> 1<sup>✓</sup> 2<sup>✓</sup>

10 12<sup>✓</sup> 11<sup>✓</sup> 7<sup>✓</sup> 12<sup>✓</sup> 11<sup>✓</sup> 4<sup>✓</sup> 5<sup>✓</sup> 12<sup>✓</sup> 1 2<sup>✓</sup>

10

SABT 7<sup>✓</sup> 7<sup>✓</sup> 7<sup>✓</sup> 17<sup>✓</sup> 12<sup>✓</sup> 13<sup>✓</sup> 7<sup>✓</sup> 32<sup>✓</sup> 8 7<sup>✓</sup> 8<sup>✓</sup>

20 19 16 30 25 17 12 44 9 8

1220 1178 1068 1920 1625 1122 804 2992 592 630 568

Extra

72 73 74 75

N A b t

1

2

3

4

5

6

7

8

9

10

3<sup>v</sup>1<sup>v</sup>2<sup>v</sup>

S A b t.

5<sup>v</sup>3<sup>v</sup>4<sup>v</sup>22<sup>v</sup>

8

4

4

2.4

576

292

296

1800

Exp 60  
163  
Risks 54



17 18 19 20 21 22 23 24 25 26 27

Nabt

1

1<sup>✓</sup><sub>co</sub>

2

1<sup>✓</sup><sub>co</sub>1<sup>✓</sup><sub>co</sub>

3

1<sup>✓</sup>1<sup>✓</sup>

4

1<sup>✓</sup>1<sup>✓</sup>

5

2<sup>✓</sup><sub>co</sub>1<sup>✓</sup><sub>co</sub>3<sup>✓</sup><sub>co</sub>1<sup>✓</sup><sub>co</sub>1<sup>✓</sup><sub>co</sub>2<sup>✓</sup><sub>co</sub>1<sup>✓</sup>

6

7

8

9

10

SABT

③

①

④

①

2

3

1

2

3

①

②

54<sup>✓</sup>19<sup>✓</sup>80<sup>✓</sup>21<sup>✓</sup>44<sup>✓</sup>72<sup>✓</sup>25<sup>✓</sup>52<sup>✓</sup>81<sup>✓</sup>

Cut off reused

⑫

5706

Test Pile.

# 1	46°	South abt
# 2	40°	Pier 9
# 3	40°	Pier 6
# 4	40°	Pier 3
# 5	40°	N Abt.
1A	40°	S Abt
#6	45	291 Pier 6

291

Broken Pile.

Nabt	29.7	30
Pier 1.	31.4	31
	35.3	35
Pier 2	29.6	30
Pier 4	29.0	29
	33.0	33
Sabt.	54.0	54

242

EX

No Pay.

S Abt

59.5 60  
62.5 63/123

Drivers

for Short.

9@28 252  
9@31 279 531

Sold

2@35 70

Total Extra 1257. Delivered  
73121  
74,378 Total Deliv.

Total Piling Pay 1817

EXTRA 36  
1853

CHECK ON NORTH ABUTMENT FOR

SETTLEMENT

15.38  
4.29  
1.4

STA	+ H.I.	-	FLEV
T.B.M.	+9.715	29.825	20.11
"		8.635	21.19 21.194
G-7		2.565	27.26 27.23 <sup>(7-28-50)</sup>
G-6		2.785	27.04 27.06
G-5		3.000	26.823 26.85
G-4		3.210	26.615 26.641
G-3		3.445	26.38 26.411
G-2		3.68	26.143 26.191
G-1		3.91	25.915 25.956

CONC NAIL EAST END PIER NO 1

20.11  
2.215  
29.825  
8.635  
21.185

CONC NAIL EAST END PIER NO 2

TOP OF GIRDER DIRECTLY ABOVE & BEARING (ABUT)

" " " " " "  
" " " " " "  
" " " " " "  
" " " " " "  
" " " " " "

T.B.M.		3.31	26.515
"	29.825	1.595	28.230
T.P.	0.70	29.17	6.355 23.970
T.P.	1.40	17.01	8.56 15.61
T.B.M.	4.64	15.38	6.27 10.74
		15.38	4.29 11.14

FLEV =

CONC NAIL WEST WING WALL (TOP)

29.825  
3.310  
26.515  
29.825  
1.595  
28.230

" " EAST WING WALL (TOP)

T.P. 29.17 GRADE STAKE STA 31 +00 EAST SIDE

23.470  
0.70  
24.17  
8.56  
15.61  
11.40  
17.01  
6.27

" " " " 35 +00 EAST "

CONC NAIL S/W CORNER M.H. @ DETOUR # MUD.

10.74  
4.64  
15.38

CHIPPED "R" 15' NORTH OF PROJ. TO WEST CURB 11.14

EX =

CHECK ON SOUTH ABUTMENT FOR SETTLEMENT

21.002

STA. + H.I. - ELEV GRADE

T.B.M 11.965 32.967 21.002  
 32.97

CONC. MAIN EAST END TOP PIER N<sup>o</sup> 9

G-1		11.93	21.09	21.08
G-2		12.14	20.83	20.88
G-3		12.34	20.63	20.67
G-4		12.55	20.42	20.46
G-5		12.78	20.19	20.24
G-6		12.99	19.98	20.01
G-7		<del>13.23</del> 12	19.74	19.78

TOP OF CONC SEATS

G-1	32.97	5.78	27.19	27.20
G-2		5.99	26.98	27.00
G-3		6.20	26.77	26.79
G-4		6.41	26.56	26.58
G-5		6.61	26.33	26.36
G-6		6.85	26.17	26.13
G-7		7.09	25.88	25.90

(G-1)(G-7) 6.665 } P.IERS  
 (G-2)(G-6) 6.765 }

TOP OF GIRDERS DIRECTLY ABOVE & BEARING

## CHECK ON SOUTH ABUTMENT FOR SETTLEMENT

STA	+	H.I.	-	FLFY	
(SET T.B.M.)		32.967	13.220	19.75	CONC NAIL AT (EAST) END ABUTMENT.
"		11.928	21.039		" " " (WEST) " "
"		6.14	26.83		SOUTH END (EAST) WING WALL
"		4.615	28.352		" " (WEST) " "
CHECK T.B.M.		12.565	20.107		CONC NAIL ON CONC SEAT FOR G-4
"		12.84	20.13	20.15	GRADE NAIL AT G-2 PIER NO 10
"		11.20	21.77	21.784	CONC NAIL EAST END PIER NO 8
"		11.97	21.00	21.002	" " " " " NO 9
"		4.26	28.71	28.71	NG COR WEST WING WALL @ TOP
TEMP T.P.		12.75	20.22		CONC NAIL INSIDE ABUTMENT.
"	0.395	20.615		20.22	" " " " "
T.T.P.		5.025	15.59		STAKE ON FILL (APPROACH)
"	1.37	16.96		15.59	
T.B.M.		6.47	10.49		CONC NAIL IN CENTER OF M.H. 12" WATER.
"	4.67	15.16		10.49	" " " " " " "
T.P.		4.36	10.80		T.P. ON WEST CURB MIDWAY & ONLIE.
"	5.43	16.23		10.80	" " " " " " "
T.B.M.		5.05	(11.18)	11.16	CHISEL "E" @ P.I. & OF NASHVILLE & MIDWAY (WEST CURB)

→ SHOWS SETTLEMENT OF PIER NO 9 (0.02) AS OF 7-26-50  
(BOOK 19 PAGE 65)

82  
89  
19

CHECK FOR SETTLEMENT SOUTH ABUTMENT

C. BARRAGAN  
A. SHERMAN  
H. BROWN  
W. CARVER

9-26-50

(74)

21.002  
.02  
20.982  
9.962  
30.944  
11.028  
19.916  
10.350  
20.094  
3.692  
26.752

STA	+	H.L.	-	FLEV	
T.B.M	2.462	30.444		20.002	PRED.
				20.98	CONC NAIL EAST END PIER No 9
"		11.028		19.916	" " " " PIER No 10
GRADE NAIL		10.350		20.095	(LEANING ROD ACCOUNT OF STEEL)
T.B.M		2.141			GRADE NAIL AT G-2 PIER No 10
"		9.438			CONC NAIL TOP SOUTH END WEST WING WALL
"		10.039			" " WEST END ABUT (TOP OF BEAM)
"		10.741			" " ON CONC SEAT FOR G-4 (ABUT BEAM)
T.P.		3.692		26.752	" " EAST END ABUT (TOP OF BEAM)
"		0.661			" " TOP SOUTH END EAST WING WALL
T.P.					

CHECK ON GRADE FINISH

STA	+	H.I.	-	ELEV	
B.M.	5.458	16.198		<u>10.74</u>	CONC NAIL 3/4" DIA 12" L M.H. DETOUR
T.P. (N <sup>2</sup> )	9.372	23.548	2.022	14.176	T.P. 2" x 2" N <sup>2</sup> 1 TEMP
T.P. CHECK	7.775	30.184	1.139	22.409	T.P. TEMP
T.B.M.	1.354	29.573	1.965	28.219	CONC. NAIL FAST W. WALK FL=28.23
T.P.	2.148	23.430	8.291	21.282	
T.P. CHECK	2.030	16.431	9.029	14.401	CONC NAIL 3/4" T.P. 12" L M.H. DETOUR
T.B.M.			5.685	10.746	







1	4
2	3

East pad

	1	2
	4.91	4.91
4.925	3.4915	4.91
	5.105	5.10
5.115	1.105	5.10
	5.240	5.24
5.245	5.235	5.235
	5.38	5.375
5.395	5.38	5.385
	5.54	5.54
5.545	5.535	5.545
	5.70	5.695
5.705	5.70	5.70
	5.81	5.81
5.815	5.81	5.81

West Pad,

Extra shoring pile driven by  
Contractor

North abut west end 7 <sup>3 cables</sup>

East end 2 <sup>30.4</sup> <sub>30.9</sub>

Pier 1 west end 9 <sup>4 cables</sup>

Pile 4 31 to 28 settle

Pile 5 16 floss to 22

12 20 to 21

12 19 to 20

11

8

9

15 15 - 16

17 14 to 15

15 13 to 14

26 12 to 13

Pile 110

-10

-20

-28.3

2.5-40

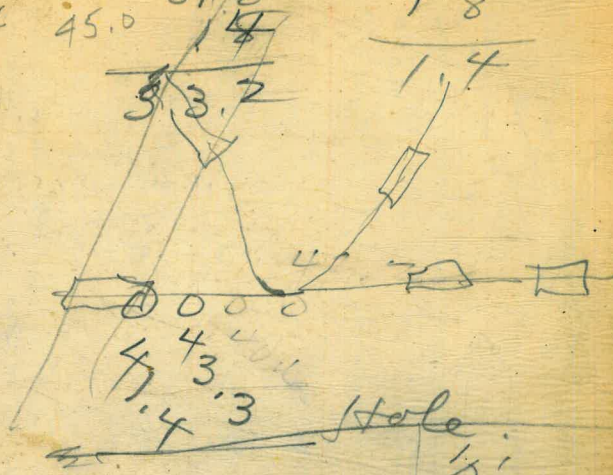
driving

Estimated

55818

Contract figure 65920.

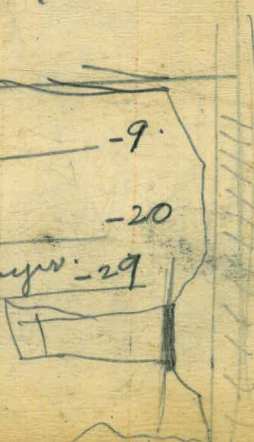
40.6  
30.6 41.7  
31.4 41.8 31.8 3.2  
29.4 45.0 1.4 1.8  
29.6 3.2 1.4  
30.8  
30.6  
29.0



32 64 96 128 8 180 (22 12  
0.25 0.23 0.15 0.25 16 31  
0.32 0.24 0.18 0.18 20 25  
30

8 under.

Pier 3  
Highway  
Civil Service  
-9  
-20  
-29



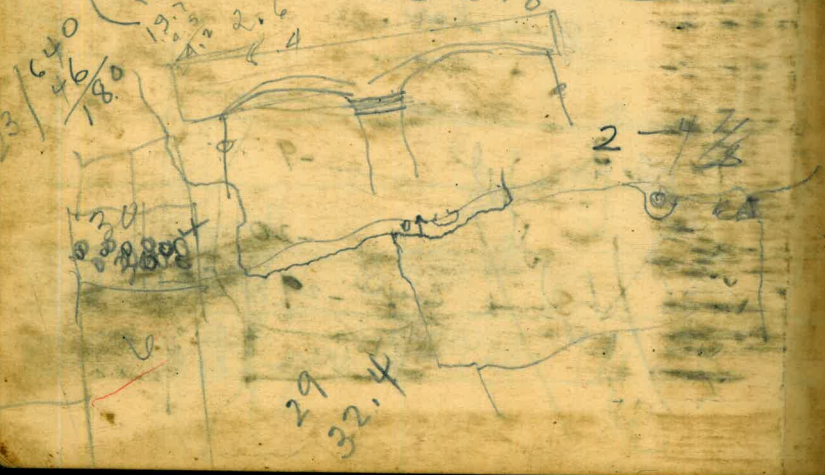
15-10 5/8 20 2 1/4 + 9.3  
 20 5 3/8 16 6 1/8

36-4 36 8 3/8 18 7 1/2  
 1.5 16 6 1/8  
 2.5  
 2.5  
 2.5  
 2.5  
 2.5

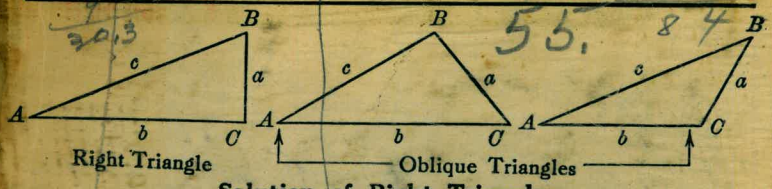
20 11 feet under  
 36'-4"  
 20 5 3/8 Nail 15-10 5/8

1800  
 1350  
 1850  
 7 below leads  
 Mc Crown  
 16-6 1/8

Nail 20 2 1/4 Nail  
 36-8 3/8



TRIGONOMETRIC FORMULÆ



**Solution of Right Triangles**  
 For Angle A.  $\sin = \frac{a}{c}$ ,  $\cos = \frac{b}{c}$ ,  $\tan = \frac{a}{b}$ ,  $\cot = \frac{b}{a}$ ,  $\sec = \frac{c}{a}$ ,  $\operatorname{cosec} = \frac{c}{b}$   
 Given Required  
 a, b A, B, c  $\tan A = \frac{a}{b} = \cot B$ ,  $c = \sqrt{a^2 + b^2} = a \sqrt{1 + \frac{b^2}{a^2}}$   
 a, c A, B, b  $\sin A = \frac{a}{c} = \cos B$ ,  $b = \sqrt{(c+a)(c-a)} = c \sqrt{1 - \frac{a^2}{c^2}}$   
 A, a B, b, c  $B = 90^\circ - A$ ,  $b = a \cot A$ ,  $c = \frac{a}{\sin A}$   
 A, b B, a, c  $B = 90^\circ - A$ ,  $a = b \tan A$ ,  $c = \frac{b}{\cos A}$   
 A, c B, a, b  $B = 90^\circ - A$ ,  $a = c \sin A$ ,  $b = c \cos A$

**Solution of Oblique Triangles**  
 Given Required  
 A, B, a b, c, C  $b = \frac{a \sin B}{\sin A}$ ,  $C = 180^\circ - (A + B)$ ,  $c = \frac{a \sin C}{\sin A}$   
 A, a, b B, c, C  $\sin B = \frac{b \sin A}{a}$ ,  $C = 180^\circ - (A + B)$ ,  $c = \frac{a \sin C}{\sin A}$   
 a, b, C A, B, c  $A + B = 180^\circ - C$ ,  $\tan \frac{1}{2}(A - B) = \frac{(a - b) \tan \frac{1}{2}(A + B)}{a + b}$   
 $c = \frac{a \sin C}{\sin A}$   
 a, b, c A, B, C  $s = \frac{a + b + c}{2}$ ,  $\sin \frac{1}{2}A = \sqrt{\frac{(s - b)(s - c)}{bc}}$   
 $\sin \frac{1}{2}B = \sqrt{\frac{(s - a)(s - c)}{ac}}$ ,  $C = 180^\circ - (A + B)$   
 a, b, c Area  $s = \frac{a + b + c}{2}$ ,  $\text{area} = \sqrt{s(s - a)(s - b)(s - c)}$   
 A, b, c Area  $\text{area} = \frac{bc \sin A}{2}$   
 A, B, C, a Area  $\text{area} = \frac{a^2 \sin B \sin C}{2 \sin A}$

REDUCTION TO HORIZONTAL

**Slope distance**  
**Vert. Angle**  
**Rise**  
**Horizontal distance**

Horizontal distance = Slope distance multiplied by the cosine of the vertical angle. Thus: slope distance = 319.4 ft. Vert. angle = 5° 10'. From Table, Page IX.  $\cos 5^\circ 10' = .9959$ . Horizontal distance =  $319.4 \times .9959 = 318.09$  ft.  
 Horizontal distance also = Slope distance minus slope distance times (1 - cosine of vertical angle). With the same figures as in the preceding example, the following result is obtained.  $\cos 5^\circ 10' = .9959$ .  $1 - .9959 = .0041$ .  $319.4 \times .0041 = 1.31$ .  $319.4 - 1.31 = 318.09$  ft.  
 When the rise is known, the horizontal distance is approximately: —the slope distance less the square of the rise divided by twice the slope distance. Thus: rise = 14 ft., slope distance = 302.6 ft. Horizontal distance =  $302.6 - \frac{14 \times 14}{2 \times 302.6} = 302.6 - 0.32 = 302.28$  ft.