

MISSION BAY
109



MISSION BAY

109

MICROFILMED
JAN 8 1965

8:50 1.7
9:30 2.4

MB 109

THIS BOOK INDEXED 2/7/62

PAGES

INDEX

DATE

AS BUILT RIP-RAP SECTIONS
QUIVIRA BASIN MISSION BAY

STA. 14+00 N.W. 0+00 = TOP OF RIP-RAP

Dist	Sound	Elev	Dist	Sound	Elev
0+40	2.9	1.2	0+70	18.3	16.6
50	3.1	1.4	1+00	21.8	20.1
(1.7)	6.8	5.1			
	11.0	9.3			
	15.0	13.3	0+70		

STA. 14+50 N.W. 0+00 = TOP RIP-RAP

Dist	Sound	Elev	Dist	Sound	Elev
0+30	3.0	1.3	50	17.8	16.1
(1.7) (8)	8.0	6.3		20.7	18.0
	10.6	8.9	1+00	24.0	22.3
	12.6	10.9			
	15.0	13.3			

STA. 15+00; N.W. 0+00 = TOP RIP-RAP

Dist	Sound	Elev	Dist	Sound	Elev
0+30	1.7	+0.1			
50	6.8	5.0			
	9.0	7.2			
(1.8)	10.8	9.0			
	13.8	12.0			
	17.4	15.6			
	22.4	20.6			
1+00	24.1	22.3			

6-4-58

(1)

STA. 15+50; 0+00 = TOP RIP-RAP N.W.

Dist	Sound	Elev	Dist	Sound	Elev
0+30	0.7	+1.2		14.1	12.2
50	3.4	1.5	50	17.1	15.2
(1.9)	50	7.5		20.7	18.8
	11.0	9.1	1+00	23.8	21.9

STA. 16+00; N.W. 0+00 = TOP RIP-RAP

Dist	Sound	Elev	Dist	Sound	Elev
0+30	0.4	+1.6	50	16.0	14.0
	1.7	+0.3		18.7	16.7
50	4.0	2.0	1+00	19.6	17.6
(2.0)	7.3	5.0			
	12.2	10.2			

STA. 71+50 N.W. 0+00 = TOP RIP-RAP

Dist	Sound	Elev	Dist	Sound	Elev
0+10			Top 50	9.0	6.9
				13.3	11.2
(2.1)	0.2	+1.8	0+70	17.1	15.0
0+40	3.3	1.2			
Top 43	4.0	1.9			

(6)

STA. 72+00 NLY; 0+00 = TOP RIP-RAP

Dist Sound Elev Dist Sound Elev

0+10 Top 50 12.8 10.6

(22)

1.3 +0.9 0+70 16.8 14.6

0+40 19.8 17.6

0+40 9.0 6.8

Top 44 10.4 8.2

STA. 72+50 NLY; 0+00 = TOP RIP-RAP

Dist Sound Elev Dist Sound Elev

0+10 Top 50 14.1 11.8

(23)

2.6 0.3 Top 54 16.3 14.0

0+40 17.9 15.6

0+40 8.5 6.2 0+70 20.8 18.5

STA. 73+00; 0+00 = TOP RIP-RAP

Dist Sound Elev Dist Sound Elev

0+10 Top 50 15.9 13.5

(24)

2.6 +0.4 Top 53 17.0 14.6

0+40 19.0 16.6

0+40 9.0 6.6 0+70 20.5 18.1

STA. 73+50; 0+00 = RIP-RAP

Dist Sound Elev Dist Sound Elev

0+10 50 10.4 7.9

(25)

Top 1.2 +1.3 0+70 13.5 11.0

Top 0+36 4.5 2.0

40 5.8 3.3

40 5.8 3.3

(5)

6-4-58

(2)

STA. 74+00 NLY; 0+00 = TOP RIP-RAP

Dist Sound Elev Dist Sound Elev

0+10 40 8.9 6.3

(26)

50 11.3 8.7

Top 2.3 +0.3 11.3 8.7

0+32 5.6 3.0 0+70 15.0 12.4

STA. 74+50 NLY; 0+00 = TOP RIP-RAP

Dist Sound Elev Dist Sound Elev

0+10 Top 46 5.5 2.8

Top 50 7.0 4.3

(27)

2.3 +0.4 11.8 9.1

0+40 3.5 0.8 0+70 14.1 11.4

STA. 75+00 NLY; 0+00 = TOP RIP-RAP

Dist Sound Elev Dist Sound Elev

0+10

50 8.0 5.3

(27) 0.6 +2.1 11.9 9.2

0+40 5.0 2.3 0+70 14.1 11.4

STA. 75+50 NLY; 0+00 = TOP RIP-RAP

Dist Sound Elev Dist Sound Elev

0+10 13.0 10.3

0+70 13.4 10.7

(27) 5.5 2.8

Top 0+35 9.2 6.5

40 10.1 7.4

50 11.3 8.6

(2)

STA. 76+00 ONLY; 0+00=TOP RIP-RAP

DIST SOUND ELEV DIST SOUND ELEV

0+10 50 10.3 7.6

(2.7) 3.6 0.9 13.2 10.5

0+40 8.4 5.7 0+70 14.0 11.3

STA. 76+50 ONLY 0+00=TOP RIP-RAP

DIST SOUND ELEV DIST SOUND ELEV

0+10 50 10.8 8.1

(2.7) 2.0 +0.7 12.9 10.2

0+40 7.0 4.3 0+70 16.8 14.1

STA. 77+00 ONLY; 0+00=TOP RIP-RAP

DIST SOUND ELEV DIST SOUND ELEV

0+10 40 9.0 6.3

2:55 50 13.1 10.4

(2.7) 3.0 0.3 15.0 12.3

0+30 7.5 4.8 0+70 16.2 13.5

STA. 77+50 ONLY; 0+00=TOP RIP-RAP

DIST SOUND ELEV DIST SOUND ELEV

0+10 60 14.2 11.3

(2.9) 4.5 1.6 0+70

0+40 11.4 8.5

702 50 13.1 10.2

(2)

6-4-58

(3)

STA. 78+00 ONLY; 0+00=TOP RIP-RAP

DIST SOUND ELEV DIST SOUND ELEV

0+10 50 15.0 11.9

(3.1) 3.0 +0.1 20.0 16.9

0+40 7.6 4.5 0+70 21.0 17.9

STA. 78+50 ONLY 0+00=TOP RIP-RAP

DIST SOUND ELEV DIST SOUND ELEV

0+10 50 15.5 12.2

(3.3) 3.5 0.2 17.3 14.0

0+40 9.7 6.4 0+70 21.5 18.2

STA. 79+00 ONLY; 0+00=TOP RIP-RAP

DIST SOUND ELEV DIST SOUND ELEV

0+10 50 22.9 19.5

10:10 2.5 +0.9 22.9 19.5

0+40 10.0 6.6 50 23.3 19.9

50 12.5 9.1

702 52 13.0 9.6

60 15.1 11.7

16.1 12.7

(3.4) 17.1 13.7

19.4 16.0

1+00 20.8 17.4

21.5 18.1

① STA. -1+00; 0+00 = TOP RIP-RAP
SOUND WLY. ~~6-18-58~~

Dist	Sound	Elev	Dist	Sound	Elev
0+20	2.0	+1.8	50	12.0	8.2
R+5 27	6.1	2.3	60	12.6	8.8
233 30	7.7	3.9	70	13.2	9.4
0+40	11.5	7.7	80	15.1	11.3

STA-0+50; SOUND WLY

Dist	Sound	Elev	Dist	Sound	Elev
0+20	3.0	+0.7	50	13.5	9.8
31 30	10.3	6.6	60	14.0	10.3
240 R+5 35	12.7	9.0	70	14.0	10.3
0+40	13.1	9.4			

STA. 0+00; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+20	1.8	+1.9	60	13.9	10.2
R+5 30	9.8	6.1	70	14.5	10.8
233 40	12.6	8.9			
0+50	13.0	9.3			

STA. 0+50; SOUND WLY

Dist	Sound	Elev	Dist	Sound	Elev
0+20	2.4	+1.3			
R+5 30	5.9	2.2			
40	9.3	5.6			
235 50	10.8	7.1			
60	12.0	8.3			
70	14.7	11.0			

② STA. 1+00; 6-26-58, SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+20	2.4	+1.2	50	10.0	6.6
R+5 27	4.8	1.2	60	12.7	9.1
233 30	4.8	1.2	70	13.2	9.6
0+40	5.2	1.6			

③ STA. 1+50; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+20	1.5	+2.1	50	9.6	6.0
R+5 24	3.8	0.2	60	12.0	8.4
230 30	3.8	0.2	70	16.9	13.3
0+40	3.8	0.2			

④ STA. 2+00; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+20	1.7	+1.8	50	11.0	7.5
R+5 23	2.1	+1.4	60	12.3	8.8
231 30	4.3	0.8	70	14.2	10.7
0+40	6.8	3.1			

⑤ STA. 2+50; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+20	2.0	+1.5			
R+5 23	4.3	0.8			
30	5.0	1.5			
40	8.0	4.5			
50	9.1	5.6			
0+60	13.7	10.2			

OK

6-28-58

STA. 3+00; SOUND WLY.					
Dist	Sound	Elev	Dist	Sound	Elev
^{Rt 5} 0+26	3.0	+0.4	60	11.0	7.6
²²² 30	3.4	0.0	70	14.1	10.7
(32) 40	6.8	3.4			
0+50	9.8	6.4			

STA. 3+50; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+30	4.4	1.0	60	9.1	5.7
²¹⁹ Rt 5 32	4.7	1.3	70	10.4	7.0
(32) 40	4.6	1.2	80	14.5	11.1
0+50	4.6	1.2			

STA. 4+00; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+30	2.7	+0.7	60	8.3	4.9
^{Rt 5} 32	3.9	0.5	70	11.0	7.6
²¹⁶ 40	3.4	0.0	80	14.0	10.6
(32) 50	3.4	0.0			

STA. 4+57.18; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
^{Rt 5} 0+27	4.0	0.6	90	16.2	12.8
30	4.7	1.3			
²¹⁴ 40	4.1	0.7			
(32) 50	3.6	0.2			
60	5.0	1.4			
70	8.0	4.6			
80	10.5	7.1			

(5)

OK STA 0+342; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
^{Rt 5} 0+26	3.7	0.4	60	2.0	+1.3
²¹³ 30	4.0	0.7	70	5.0	1.7
(32) 40	2.9	+0.4	80	8.1	4.8
50	2.0	+1.3	0+90	14.0	10.7

STA. 1+00; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+10	(33)		40	5.4	2.1
²¹⁰⁸			50	4.3	1.0
30	3.5	0.2	60	6.0	2.7
0+32	4.8	1.5	0+70	8.7	5.4

STA. 1+50; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+10	(32)		40	5.0	1.8
²⁰⁶			50	5.3	2.1
30	3.2	0.0	60	6.1	2.9
^{Rt 5} 0+32	4.6	1.4	0+70	10.7	7.5

STA. 2+00; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+10	(32)				
²⁰⁹					
^{Rt 5} 30	4.3	1.1			
40	5.8	2.6			
50	4.8	1.6			
60	7.7	4.5			
0+70	12.8	9.6			

6-26-58

OK STA. 2+50; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+10			40	5.0	1.8
<u>202</u>	(31)		50	4.5	1.3
30	3.5	0.3	60	6.0	2.8
R+5			0+70	10.2	7.0
0+34	5.1	1.9			

STA. 3+00; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+10			50	5.0	1.8
<u>200</u>	(32)		60	10.0	6.8
R+5			0+70	14.8	11.6
30	4.5	1.3			
0+40	5.2	2.0			

STA. 3+50; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+10			50	7.0	3.8
<u>1158</u>	(33)		60	12.4	9.2
R+5			0+70	15.1	11.9
30	1.9	+1.3			
0+40	4.7	1.5			

STA. 4+00; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+10			0+70	13.8	10.7
<u>1156</u>	(34)				
30	2.6	+0.5			
R+5					
0+33	4.4	1.3			
40	4.9	1.8			
50	5.0	1.9			
60	9.6	6.5			

STA. 4+50; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+10			50	4.9	1.8
<u>1154</u>	(31)		60	10.7	7.6
R+5			0+70	15.8	12.7
30	3.1	0.0			
0+40	4.4	1.3			

STA. 5+00; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+10			50	6.3	3.3
<u>1152</u>	(30)		60	11.5	8.5
R+5			0+70	14.8	11.8
30	3.0	0.0			
0+40	4.2	1.2			

STA. 5+50; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+10			50	5.1	2.1
<u>1147</u>	(30)		60	9.1	6.1
R+5			0+70	13.9	10.9
30	2.2	+0.8			
0+40	5.0	2.0			

STA. 6+00; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+10			0+70	16.3	13.4
<u>1145</u>	(29)				
30	2.1	+0.8			
R+5					
33	5.1	2.2			
40	4.7	1.8			
50	8.0	5.1			
60	10.9	8.0			

6-26-58, (85)

STA. 6+50; SOUND WLY.

DIST	Sound	Elev	DIST	Sound	Elev
0+10			40	10.2	9.3
<u>1:40</u> (29)			50	12.7	9.8
30	5.5	2.6	60	14.2	11.3
R+S, 0+38	9.0	6.1	0+70	16.3	13.4

STA. 7+00; SOUND WLY.

DIST	Sound	Elev	DIST	Sound	Elev
0+10			40	8.0	5.1
<u>1:38</u>			50	11.1	8.2
30	4.5	1.6	60	15.1	12.2
R+S, 0+34	7.1	4.2	0+70	20.3	17.4

STA. 7+50; SOUND WLY.

DIST	Sound	Elev	DIST	Sound	Elev
0+10			40	12.3	9.5
<u>1:37</u> (20)			50	14.6	11.8
30	5.5	2.7	60	17.1	14.3
R+S, 0+33	7.2	4.4	0+70	19.3	16.5

STA. 8+00; SOUND WLY.

DIST	Sound	Elev	DIST	Sound	Elev
0+10			0+70	17.2	14.4
<u>1:33</u>					
30	2.5	+0.3			
R+S, 35	4.0	1.2			
40	5.0	2.2			
50	9.3	6.5			
60	12.1	9.3			

(86)

STA. 8+50; SOUND WLY.

DIST	Sound	Elev	DIST	Sound	Elev
0+10			50	11.2	8.4
R+S, 0+28	2.9	0.1	60	13.2	10.4
<u>1:30</u> (28)			0+70	16.8	14.0
30	3.1	0.3	0+40	4.9	2.1

STA. 9+00; SOUND WLY.

DIST	Sound	Elev	DIST	Sound	Elev
0+10			40	6.0	3.2
<u>1:28</u>			50	8.3	5.5
30	2.0	+0.8	60	12.9	10.1
R+S, 0+35	4.7	1.9	0+70	14.9	12.1

STA. 9+50; SOUND WLY.

DIST	Sound	Elev	DIST	Sound	Elev
0+10			40	4.0	1.3
<u>1:29</u> (21)			50	7.6	4.9
30	2.0	+0.7	60	13.3	10.6
R+S, 0+36	3.6	0.9	0+70	16.2	13.5

STA. 10+00; SOUND WLY.

DIST	Sound	Elev	DIST	Sound	Elev
0+10					
<u>1:22</u>					
30	3.2	0.5			
R+S, 40	5.9	3.2			
50	8.1	5.4			
	11.1	8.4			
0+70	15.8	13.1			

6-26-58

STA. 10+50; SOUND WLY.					
Dist	Sound	Elev	Dist	Sound	Elev
0+10			R+5 0+43	10.6	7.9
			50	11.2	8.5
	3.3	0.6		15.1	12.4
0+40	8.0	5.3	0+70	17.2	14.5

STA. 11+00; SOUND WLY.					
Dist	Sound	Elev	Dist	Sound	Elev
0+10			R+5 0+43	8.5	5.9
			50	11.0	8.4
	3.0	0.4		14.1	11.5
0+40	6.0	3.4	0+70	16.9	14.3

STA. 11+50; SOUND WLY.					
Dist	Sound	Elev	Dist	Sound	Elev
0+10			50	11.1	8.5
			R+5 52	12.0	9.4
	3.0	0.4	60	14.3	11.7
0+40	7.0	4.4	0+70	17.2	14.6

STA. 12+00; SOUND WLY.					
Dist	Sound	Elev	Dist	Sound	Elev
0+10			0+70	18.0	15.4
	2.4	+0.2			
40	7.0	4.4			
50	10.2	7.6			
R+5 53	12.2	9.6			
	13.1	10.5			

OK STA. 12+50; SOUND WLY.					
Dist	Sound	Elev	Dist	Sound	Elev
0+10			R+5 0+32	6.2	3.6
			40	9.1	6.5
	3.0	0.4	50	11.8	9.2
0+31	5.0	2.4	0+60	13.9	11.3

STA. 13+00; SOUND WLY.					
Dist	Sound	Elev	Dist	Sound	Elev
0+10			40	7.5	4.9
			R+5 47	13.0	10.4
	4.2	1.6	50	13.9	11.3
0+38	5.5	2.9		16.1	13.5

STA. 13+50; SOUND WLY.					
Dist	Sound	Elev	Dist	Sound	Elev
0+10			40	5.5	3.0
			50	9.6	7.1
	1.2	+1.3		13.0	10.5
R+5 0+33	2.3	+0.2	0+70	16.0	13.5

STA. 14+00; SOUND WLY.					
Dist	Sound	Elev	Dist	Sound	Elev
0+10				12.5	10.3
			0+70	14.1	12.5
	2.1	+0.1			
40	4.0	1.8			
47	5.5	3.3			
0+50	4.8	7.6			
R+5 55	12.0	9.8			

OK
STA. 14+50; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+10			0+50	10.0	7.8
			R+3 0+54	11.3	9.1
	2.4	0.2	0+60	12.3	10.1
0+40	6.0	3.8	0+70	14.0	11.8

STA. 15+00; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+10			0+50	9.1	6.9
<u>11:53</u>				13.2	11.0
	0.0	+2.2	0+70	16.3	14.1
R+5 0+40	4.6	2.4			

STA. 15+50; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+10			Rock+5 0+45	6.8	4.6
<u>11:50</u>			50	8.5	6.3
	0.6	+1.6		12.0	9.8
0+40	4.0	1.4	0+70	14.8	12.6

STA. 15+68.33; SOUND WLY.

Dist	Sound	Elev	Dist	Sound	Elev
0+10					
<u>11:47</u>	1.5	+0.7			
Rock	2.6	0.4			
sand	4.5	2.3			
	9.7	7.5			
0+70	13.1	10.9			

6-26-58
STA. 77+50 ONLY 0+00 = TOP R-RAP. (9)

Dist	Sound	Elev	Dist	Sound	Elev
0+30	3.6	1.4	60	18.1	15.9
(22) 40	10.9	8.7	0+70	19.0	16.8
<u>11:40</u> ^{Toe} ₁₆	15.0	12.8			
50	16.8	14.6			

7-3-58
STA. 71+48; SLY; 0+00 = TOP RIP-RAP

Dist	Sound	Elev	Dist	Sound	Elev
0+30	3.4	+0.1	0+80	17.9	14.6
(15) 40	4.5	1.2			
50	6.0	2.7			
<u>9:53</u>	9.2	5.9			
0+70	13.8	10.5			

STA. 72+00; SOUND NLY 0+00 = TOP RIP-RAP

Dist	Sound	Elev	Dist	Sound	Elev
0+30	4.0	0.7		16.7	13.4
0+31	5.0	1.7	0+70	20.1	16.8
<u>9:55</u> 40	7.2	3.9			
50	12.4	9.1			

STA. 72+50; SOUND NLY; 0+00 = TOP RIP-RAP

Dist	Sound	Elev	Dist	Sound	Elev
0+20	0.0	+3.3	0+70	21.0	17.7
<u>9:57</u> ^{Toe}	5.8	2.5			
30	6.1	2.8			
	9.4	6.1			
9:57	12.8	9.5			
50	17.6	14.3			

7-3-58

STA. 73+00; SOUND N'ly					
DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	1.8	+1.6		17.5	14.1
⁷⁰⁰ 950 30	7.8	4.4	0+70	19.8	16.4
	10.0	6.6			
(B) 50	14.2	10.8			

STA. 73+50; SOUND N'ly.

DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	0.0	+3.4	50	10.1	6.7
⁷⁰⁰ 1000 28	4.8	1.4		12.8	9.4
30	4.9	1.5	0+70	17.6	14.2
40	6.0	2.6			

STA. 74+00; SOUND N'ly.

DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	0.0	+3.4		15.1	11.7
⁷⁰⁰ 1000 30	4.8	1.4	0+70	17.3	13.9
1003 50	6.0	2.6			
	8.5	5.1			

STA. 74+50; SOUND N'ly.

DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	0.0	+3.5			
⁷⁰⁰ 1000 25	3.4	+0.1			
(B) 30	4.2	0.7			
1005 50	5.7	2.2			
	9.4	5.9			
	15.2	11.7			
0+70	18.7	15.2			

STA. 75+00; SOUND N'ly.

DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	3.2	+0.4	50	9.8	6.2
⁷⁰⁰ 1000 24	4.1	0.5		14.4	10.8
1007 30	5.3	1.7	0+70	18.8	15.2
	5.9	2.3			

STA. 75+50; SOUND N'ly.

DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	2.3	+1.3	50	12.4	8.8
⁷⁰⁰ 1000 23	5.0	1.4		16.0	12.4
(B) 30	6.0	2.4	0+70	19.7	16.1
1010 50	8.9	5.3			

STA. 76+00; SOUND N'ly.

DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	2.8	+0.8	50	17.3	13.7
30	9.1	5.5		19.0	15.4
⁷⁰⁰ 1000 32	10.4	6.8	0+70	20.9	17.6
1012 50	12.1	8.5			

STA. 76+50; SOUND N'ly.

DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	2.1	+1.6			
⁷⁰⁰ 1000 27	6.6	2.9			
30	7.0	3.3			
1015 50	11.6	7.9			
(B) 50	13.1	9.4			
	16.8	13.1			
0+70	21.8	18.1			

7-3-58

STA. 77+00; Sound N'ly

DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	2.7	+1.1	50	14.7	10.9
Toe 26	7.0	3.2		16.8	13.0
$\frac{100}{30}$	8.2	4.4	0+70	19.1	15.3
(38)	11.4	7.6			

STA. 77+50; Sound N'ly

DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	2.3	+1.5	50	12.1	8.3
Toe 23	5.7	1.9		16.4	12.6
$\frac{100}{30}$	5.9	2.1	0+70	19.0	15.2
(35)	8.2	4.4			

STA. 78+00; Sound N'ly

DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	2.5	+1.3	0+70	16.1	12.3
Toe 30	8.3	4.5			
$\frac{100}{50}$	9.9	6.1			
	11.4	7.6			
	12.7	8.9			

STA. 78+50; Sound N'ly

DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	1.4	+2.5			
Toe 30	7.0	3.1			
$\frac{100}{50}$	9.5	5.6			
(39)	11.0	7.1			
	14.4	10.5			
	16.7	12.8			

STA. 79+00; Sound N'ly

DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	2.6	+1.3	50	12.0	8.1
Toe 25	4.9	1.0		13.6	9.7
$\frac{100}{30}$	6.0	2.1	0+70	14.8	10.9
(39)	8.6	4.7			

STA. 79+50; Sound N'ly

DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	1.0	+2.9	50	13.2	
Toe 28	6.0	2.1		17.0	
$\frac{100}{30}$	6.0	2.1	0+70	18.3	
(35)	9.7	5.8			

STA. 80+00; Sound N'ly

DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	1.0	+2.9		13.0	9.1
Toe 26	5.0	1.1	0+70	18.0	14.1
$\frac{100}{30}$	5.4	1.5			
	5.9	2.0			
	8.4	4.5			

STA. 80+50; Sound N'ly

DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	1.0	+3.0	0+70	16.1	12.1
Toe 27	5.3	1.3			
$\frac{100}{30}$	5.5	1.5			
	6.1	2.1			
(40)	10.3	6.3			
	13.5	9.5			

7-3-58

① STA. 81+00; SOUND N'14

	DIST	SOUND	ELEV.	DIST	SOUND	ELEV.
	0+20	0.5	+3.6	50	10.8	6.7
	Toe 26	6.1	2.0		14.1	10.0
1038	30	6.2	2.1	0+70	16.1	12.0
		6.2	2.1			

STA. 81+50; SOUND N'14

	DIST	SOUND	ELEV.	DIST	SOUND	ELEV.
	0+20	0.4	+3.7	50	7.6	3.5
	Toe 25	4.2	0.1		13.0	8.9
1030	30	4.8	0.7	0+70	16.8	12.7
		5.4	1.3			

① STA. 82+00; SOUND N'14

	DIST	SOUND	ELEV.	DIST	SOUND	ELEV.
	0+20	0.7	+3.4		13.3	9.2
	Toe 27	5.5	1.4	0+70	16.9	12.8
1022	30	6.0	1.9			
		6.3	2.2			
	50	8.8	4.7			

① STA. 82+50; SOUND N'14

	DIST.	SOUND	ELEV.	DIST	SOUND	ELEV.
	0+20	1.0	+3.1	0+70	17.5	13.4
	Toe 25	4.8	0.7			
1025	30	5.0	0.9			
		6.1	2.0			
①	50	10.1	10.0			
		14.9	10.8			

② STA. 83+00; SOUND N'14

	DIST	SOUND	ELEV.	DIST	SOUND	ELEV.
	0+20	0.5	+3.7	50	14.2	10.0
	Toe 25	4.1	+0.1		17.0	12.8
1027	30	4.5	0.3	0+70	17.9	13.7
		9.1	4.9			

② STA. 83+50; SOUND N'14

	DIST	SOUND	ELEV.	DIST	SOUND	ELEV.
	0+20	0.4	+3.8	50	12.2	8.0
	Toe 25	5.6	1.4		15.2	11.0
1028	30	7.0	2.8	0+70	18.3	14.1
		9.1	4.9			

② STA. 84+00; SOUND N'14

	DIST	SOUND	ELEV.	DIST	SOUND	ELEV.
	0+20	0.6	+3.6		14.7	10.5
	30	6.7	2.5	0+70	16.4	12.2
1025	Toe 31	7.2	3.0			
	40	10.9	6.7			
	50	13.0	8.8			

② STA. 84+50; SOUND N'14

	DIST	SOUND	ELEV.	DIST	SOUND	ELEV.
	0+20	0.3	+4.0	0+70	17.2	12.9
	Toe 26	4.3	0.0			
1029	30	4.8	0.5			
		9.0	4.7			
②	50	13.8	9.5			
		16.3	12.0			

7-3-58
⑧ STA. 85+00; SOUND N'ly

DIST	SOUND	ELEV.	DIST	SOUND	ELEV.
0+20	0.3	+4.0	17.0	12.7	
Toe 30	7.0	2.7	0+70	18.1	13.8
100 100 A3	12.1	7.8			
50	15.6	11.3			

STA 85+50; SOUND N'ly

DIST.	SOUND	ELEV.	DIST	SOUND	ELEV.
0+20	0.4	+3.9	50	12.1	7.8
Toe 26	4.0	+0.3		14.8	10.5
30	5.8	1.5	0+70	16.3	12.0
100 100 A3	10.3	6.0			

STA. 86+00; SOUND N'ly

DIST	SOUND	ELEV.	DIST	SOUND	ELEV.
0+20	0.8	+3.5	0+70	17.6	13.3
Toe 30	9.4	5.1			
100 100 A3	12.9	8.6			
50	14.0	9.7			
	15.3	11.0			

STA. 86+50; SOUND N'ly

DIST.	SOUND	ELEV.	DIST	SOUND	ELEV.
0+20	1.2	+3.2	0+70	18.0	13.6
30	9.0	4.6			
Toe 38	14.0	9.6			
100 100 A3	14.2	9.8			
50	16.0	11.6			
	17.3	12.9			

⑧ STA. 87+00; SOUND N'ly

DIST.	SOUND	ELEV.	DIST	SOUND	ELEV.
0+20	0.4	+4.1	50	13.2	8.7
Toe 28	5.7	1.2		16.4	11.9
100 100 A3	6.0	1.5	0+70	18.3	13.8
	10.9	6.4			

STA. 87+50; SOUND N'ly

DIST	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	2.0	+2.5	50	13.6	9.1
Toe 24	6.5	2.0		13.9	9.4
100 100 A3	10.0	5.5	0+70	17.0	12.5
	12.6	8.1			

STA 88+00; SOUND N'ly

DIST	SOUND	ELEV.	DIST	SOUND	ELEV.
0+20	2.0	+2.5		16.7	12.2
30	10.8	6.3	0+70	18.1	13.6
Toe 34	12.1	7.6			
100 100 A3	40	13.3	8.8		
	50	15.1	10.6		

STA. 88+50; SOUND N'ly

DIST	SOUND	ELEV.	DIST	SOUND	ELEV.
0+20	2.0	+2.5			
Toe 30	8.5	4.0			
100 100 A3	10.9	6.4			
50	13.8	9.3			
	15.0	10.5			
0+70	15.7	11.2			

7-3-58

STA. 89+00; SOUND N¹/₄

DIST.	SOUND	ELEV.	DIST.	SOUND	ELEV.
0+20	1.8	+2.8	50	10.9	6.3
Toe 25	6.3	1.7		13.1	8.5
30	8.0	3.4	0+70	16.1	11.5
4.6	10.2	5.6			

STA. 89+60; SOUND N¹/₄

DIST	SOUND	ELEV.	DIST	SOUND	ELEV.
0+20	0.8	+3.8		10.2	5.6
30	5.8	1.2	0+70	12.8	8.2
Toe 31	5.9	1.3		14.1	9.5
40	7.4	2.8		16.1	11.5
50	9.0	4.4	1+00	17.4	12.8

STA. -1+00; WLY. B/L 0+00 = TOP R-RAP

DIST	SOUND	ELEV	DIST	SOUND	ELEV
0+28	5.7	1.8	0+70	8.1	4.2
30	5.5	1.6		12.7	8.8
4.2	4.5	0.6		17.7	13.8
50	3.3	+0.6	1+00	21.3	17.4
	4.1	0.2			

STA. -0+50; SOUND ELY.

DIST	SOUND	ELEV	DIST	SOUND	ELEV
0+26	4.0	0.1		13.6	9.7
30	4.0	0.1		15.8	11.9
	3.0	+0.9		19.2	15.3
50	4.4	0.5	1+00		
	9.4	5.5			

STA. 0+00; SOUND ELY.

DIST	SOUND	ELEV	DIST	SOUND	ELEV
0+20	0.4	+3.5	50	7.0	3.1
Toe 26	4.0	0.1		9.9	6.0
30	4.1	0.2		12.9	9.0
4.3	4.3	0.4		15.3	
			0+90	17.8	11.4
					13.5

STA 0+50; SOUND ELY.

DIST	SOUND	ELEV	DIST	SOUND	ELEV
0+20	0.5	+3.4	50	6.1	2.7
Toe 27	5.0	1.1		10.1	6.2
30	5.2	1.3		12.8	8.9
	4.2	0.3		15.3	
			0+90	19.1	11.4
					15.2

STA 1+00; SOUND ELY.

DIST	SOUND	ELEV.	DIST	SOUND	ELEV
0+20	1.0	+2.8		9.3	5.5
Toe 24	6.1	1.3		11.8	8.0
30	5.1	1.3		15.0	11.2
4.2	4.2	0.4		20.4	16.6
50	5.8	2.0	1+00		

STA 1+50; SOUND ELY.

DIST	SOUND	ELEV.	DIST	SOUND	ELEV
0+20	2.0	+1.8		14.1	10.3
Toe 23	5.0	1.2		15.6	11.8
30	5.6	1.8	0+90	19.8	16.0
	7.1	3.3			
50	11.1	7.3			
	12.8	9.0			

7-3-58

OK STA 2+00; SOUND ELY.

DIST	SOUND	ELEV	DIST	SOUND	ELEV
0+20	1.0	+2.8	50	4.3	0.5
Toe 26	4.0	0.2		7.9	4.1
30	4.0	0.2		13.4	9.6
35	4.2	0.4	0+90	17.1	13.3
				22.3	18.5

STA 2+50; SOUND ELY.

DIST	SOUND	ELEV	DIST	SOUND	ELEV
0+20	0.5	+3.3	50	8.3	4.5
Toe 24	4.0	0.2		12.2	8.4
30	4.3	0.5		14.7	10.9
35	5.2	1.4	0+90	18.5	14.7
				22.6	18.8

STA 3+00; SOUND ELY.

DIST	SOUND	ELEV	DIST	SOUND	ELEV
0+20	0.0	+3.7		11.3	7.6
Toe 24	4.0	0.3		14.2	10.5
30	5.1	1.4		18.3	14.6
35	7.6	3.9	0+90	21.1	17.9
50	9.0	5.3			

STA 3+50; SOUND ELY.

DIST	SOUND	ELEV	DIST	SOUND	ELEV
0+20	0.0	+3.7		10.9	7.2
Toe 24	3.8	0.1		15.4	11.7
30	4.0	0.3	0+90	19.2	15.5
	4.6	0.9			
50	3.5	+0.2			
	7.9	6.2			

OK STA 4+00; SOUND ELY. (15)

DIST	SOUND	ELEV	DIST	SOUND	ELEV
0+20	0.0	+3.6	50	5.9	2.3
Toe 28	4.1	0.5		10.0	6.4
30	4.3	0.7		12.8	9.2
35	5.1	1.5	0+90	16.3	12.7
				21.4	17.8

STA 4+50; SOUND ELY.

DIST	SOUND	ELEV	DIST	SOUND	ELEV
0+20	0.2	+3.4	50	4.8	1.2
Toe 29	4.0	0.4		9.1	5.5
30	4.1	0.5		12.6	9.0
35	4.5	0.9	0+90	17.1	13.5
				21.2	17.6

STA 5+00; SOUND ELY.

DIST	SOUND	ELEV	DIST	SOUND	ELEV
0+26	3.4	+0.2		11.0	7.4
30	3.8	0.2		14.4	10.8
	4.4	0.8		18.1	14.5
50	5.0	1.4	1+00	23.6	20.0
35	8.8	5.2			

STA 5+50; SOUND ELY.

DIST	SOUND	ELEV	DIST	SOUND	ELEV
0+26	3.3	+0.3		15.5	11.9
30	3.9	0.3		17.8	14.2
	4.7	1.1	1+00	20.6	17.0
50	3.9	0.3			
	7.7	4.1			
	14.3	10.7			

7-3-58

(33)

STA. 6+00; SOUND ELY

Dist	Sound	Elev	Dist	Sound	Elev
0+30	3.1	+0.4		10.8	7.3
Toe 32	3.8	0.3		13.0	9.5
5/11 40	3.6	0.1		15.0	11.5
5/11 50	3.6	0.1	1+00	18.8	15.3
(35)	6.5	3.0		23.5	20.0

STA. 6+50; SOUND ELY

Dist	Sound	Elev	Dist	Sound	Elev
Toe 27	4.0	0.6		13.0	9.6
30	4.1	0.7		15.0	11.6
	4.7	1.3		16.1	12.7
5/11 50	6.6	3.2	1+00	18.9	15.5
(37)	10.4	7.0		22.7	19.3

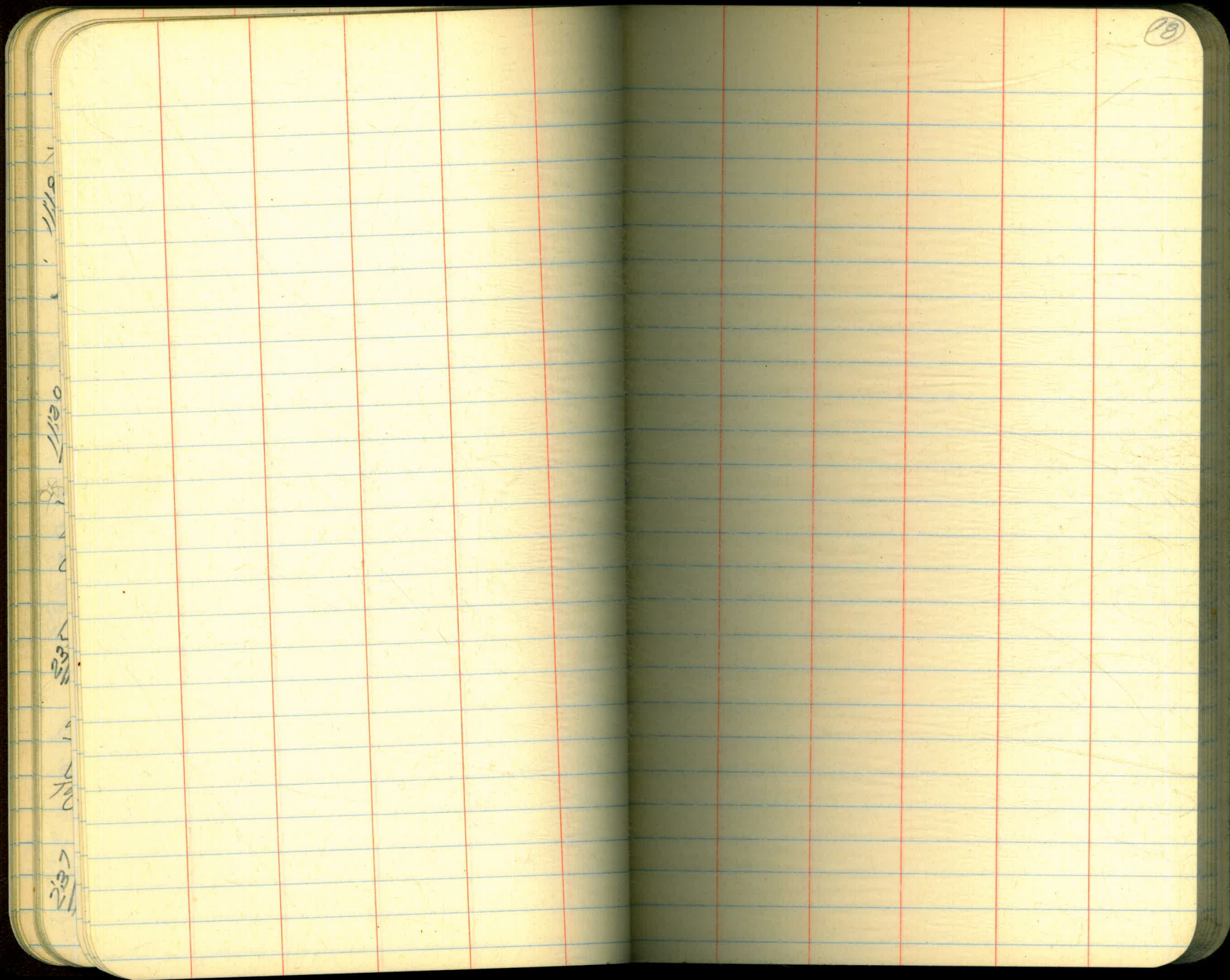
STA. 7+00; SOUND ELY

Dist	Sound	Elev	Dist	Sound	Elev
0+20	0.3	+3.1	50	4.5	1.0
Toe 27	4.6	1.2		9.5	6.1
30	4.8	1.4		13.1	9.7
5/11	4.5	1.1		13.2	9.8
				17.0	13.6
				19.0	15.6

STA. 7+60; SOUND ELY

Dist	Sound	Elev	Dist	Sound	Elev
0+30	3.2	+0.2		14.1	10.0
(34)	3.3	+0.1		16.7	13.3
5/11 50	3.9	0.5	1+00	20.9	17.5
	5.4	2.0			
	9.9	6.5			

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18

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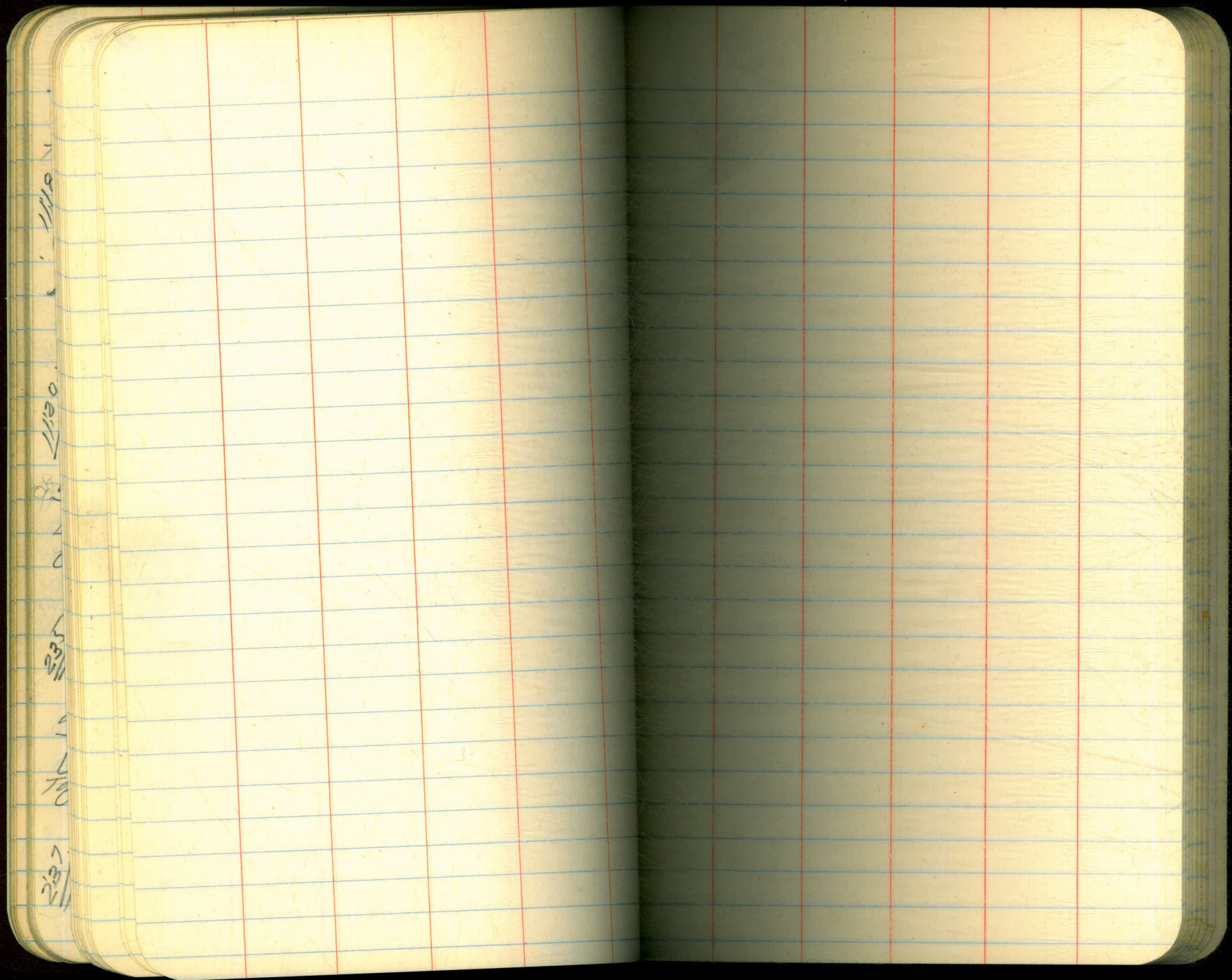
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11/18

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11/24

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11/26



CONSTANTS FOR THE STRENGTH OF STEEL

TABLE NO. 1

Yield Point	Tensile Strength	Elongation	Reduction of Area	Modulus of Elasticity
30,000	50,000	25	60	29,000,000
35,000	55,000	20	50	29,000,000
40,000	60,000	15	40	29,000,000
45,000	65,000	10	30	29,000,000
50,000	70,000	7	25	29,000,000
55,000	75,000	5	20	29,000,000
60,000	80,000	4	15	29,000,000
65,000	85,000	3	10	29,000,000
70,000	90,000	2	7	29,000,000
75,000	95,000	1	5	29,000,000
80,000	100,000	0.5	3	29,000,000
85,000	105,000	0.2	2	29,000,000
90,000	110,000	0.1	1	29,000,000
95,000	115,000	0.05	0.5	29,000,000
100,000	120,000	0.02	0.2	29,000,000
105,000	125,000	0.01	0.1	29,000,000
110,000	130,000	0.005	0.05	29,000,000
115,000	135,000	0.002	0.02	29,000,000
120,000	140,000	0.001	0.01	29,000,000
125,000	145,000	0.0005	0.005	29,000,000
130,000	150,000	0.0002	0.002	29,000,000
135,000	155,000	0.0001	0.001	29,000,000
140,000	160,000	0.00005	0.0005	29,000,000
145,000	165,000	0.00002	0.0002	29,000,000
150,000	170,000	0.00001	0.0001	29,000,000
155,000	175,000	0.000005	0.00005	29,000,000
160,000	180,000	0.000002	0.00002	29,000,000
165,000	185,000	0.000001	0.00001	29,000,000
170,000	190,000	0.0000005	0.000005	29,000,000
175,000	195,000	0.0000002	0.000002	29,000,000
180,000	200,000	0.0000001	0.000001	29,000,000
185,000	205,000	0.00000005	0.0000005	29,000,000
190,000	210,000	0.00000002	0.0000002	29,000,000
195,000	215,000	0.00000001	0.0000001	29,000,000
200,000	220,000	0.000000005	0.00000005	29,000,000
205,000	225,000	0.000000002	0.00000002	29,000,000
210,000	230,000	0.000000001	0.00000001	29,000,000
215,000	235,000	0.0000000005	0.000000005	29,000,000
220,000	240,000	0.0000000002	0.000000002	29,000,000
225,000	245,000	0.0000000001	0.000000001	29,000,000
230,000	250,000	0.00000000005	0.0000000005	29,000,000
235,000	255,000	0.00000000002	0.0000000002	29,000,000
240,000	260,000	0.00000000001	0.0000000001	29,000,000
245,000	265,000	0.000000000005	0.00000000005	29,000,000
250,000	270,000	0.000000000002	0.00000000002	29,000,000
255,000	275,000	0.000000000001	0.00000000001	29,000,000
260,000	280,000	0.0000000000005	0.000000000005	29,000,000
265,000	285,000	0.0000000000002	0.000000000002	29,000,000
270,000	290,000	0.0000000000001	0.000000000001	29,000,000
275,000	295,000	0.00000000000005	0.0000000000005	29,000,000
280,000	300,000	0.00000000000002	0.0000000000002	29,000,000
285,000	305,000	0.00000000000001	0.0000000000001	29,000,000
290,000	310,000	0.000000000000005	0.00000000000005	29,000,000
295,000	315,000	0.000000000000002	0.00000000000002	29,000,000
300,000	320,000	0.000000000000001	0.00000000000001	29,000,000

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