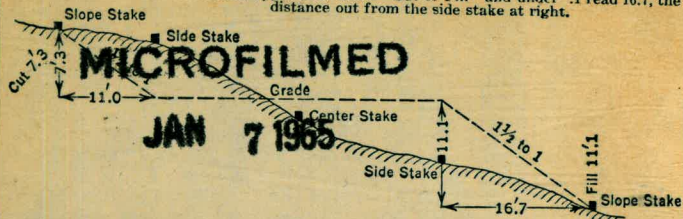


MISSION BAY

BOOK NO 23

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING
 Roadway of any Width. Side Slopes 1 1/2 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

KEUFFEL & ESSER CO., N. Y.

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

INDEX

Cross Sections of Fill Area Proj # 3-1

Page	Date
1 to 21	9-23-47
Stations N 107+00 to N 150+00	
21-64	SEPT. 5, 12, 16,
ORIGINAL SOUNDINGS - DEANZA PT &	
DEANZA COVE AREA PROJ # 3-1	
	23, -1947
64-79	10-7-47
FINAL X-SECTIONS PROJ. # 8	

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

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

7

- ORIGINAL -

X-SECTIONS OF FILL AREA PROJECT #3-

STA-106+00 W

BARRAGAN
SHERRY
STANLEY

9-2-47
CLEAR
C.A.M.
H.O.T.

SECTIONS TO STA-W35+00 ARE AT 75°37'15" TO B/L

PT. 1000' SOUTH OF STA-W106+00 ON B/L.

PX
T.R. 106+00
(900' SOUTH)

STA-107+00 W

PX

3.86 10.13 6.27

0+00 = PT. 1000' SOUTH OF STA-107+00 ON B/L

6.9 3.2

STA- + H.I. - ELEV

6.7 3.4

B.M. 2.60 10.97 8.37

TOP
WIDE
FACE OF
900' SOUTH
106+00

6.7 3.4

T.P 3.78 10.05 4.70 6.27

8+50

6.3 3.8

0+00 5.0 5.1

6.3 3.8

S-0+95 5.3 4.8

6.0 4.1

S-1+00 5.5 4.6

5.8 4.3

S-1+65 5.4 4.7

6.1 4.0

S-2+20 5.3 4.8

6.2 3.9

S-2+85 5.3 4.8

5.5 4.6

S-3+55 5.4 4.7

5.9 4.2

S-4+25 5.5 4.6

5.6 4.5

S-5+05 5.8 4.3

5.4 4.7

S-5+65 5.9 4.2

5.3 4.8

S-6+75 5.9 4.2

5.2 4.9

S-7+40 6.6 3.5

4.9 5.2

S-8+05 6.4 3.7

5.1 5.0

S-9+00 6.7 3.4

5.0 5.1

T.B.M.

3.61 6.44

6X6
LATH
STA-107+00
WEST
SHAUGH

5.1 5.0

Cut of

0
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

0
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

STA-105+00 W

0+00 = Pt. 1200' SOUTH OF W 105+00 ON B/L

9-2-

P

STA-104+00 W

0+00 = Pt. 1600' SOUTH STA-104+00 ON B/L

9-2-47 (2)

PX

1630' S/- (2)
W 105+00

STA-	+	H.I.	-	ELEV	STA	+	H.I.	-	ELEV
	2.09	8.36		6.27		3.46	7.97		4.51
0+00			5.0	3.4	0+00			4.8	3.2
S-0+53			5.7	2.7	0+40			4.4	3.6
S-0+85			6.5	2.9	0+95			3.7	4.3
S-1+40			5.5	2.9	1+55			3.8	1.2
S-1+45			4.1	4.3	2+10			3.5	1.5
S-2+20			3.9	4.5	2+80			3.6	4.4
S-3+05			3.8	1.6	3+55			3.5	4.5
S-3+95			3.9	4.5	3+90			4.1	3.9
			T. P.	STA				LATH	
S-4+30			3.85	4.51	5.43	10.58	2.82		5.15
S-4+90			LATH	4.0	4.4	4.96	12.29	3.25	7.33
S-5+95			4.1	1.3			3.91	8.38 =	TOP HUB
S-6+55			4.3	4.1				8.37	W 106+00
S-7+25			4.1	1.3					
S-7+80			X						

STA-101+00 W

9-2-47

0+00=STA-101+00 ON B/L.

STA.	+	H.I.	-	ELEV	Top Hub STA-W
B.M.	5.24	13.07		7.83	
0+00	PX		5.0	8.1	
S-0+40			5.4	7.7	
S-1+05			5.7	7.9	
S-1+70			6.3	6.8	
S-2+40			6.3	6.8	
S-3+20			7.0	6.1	
S-3+70			6.5	6.6	
S-4+40			7.0	6.1	
S-5+05			8.2	9.9	
S-5+20			8.4	9.7	

W 100+00

9-2-47 (3)

0+00=STA-100+00 ON B/L.

STA.	+	H.I.	-	ELEV	Top Hub W/101+00
B.M.	3.55	11.81		8.26	
0+00	PX		5.1	6.7	
0+55			5.0	6.8	
1+10			4.4	7.1	
1+70			3.9	7.9	
2+30			4.0	7.8	
3+00			4.2	7.1	
3+75			5.1	6.7	
4+55			6.1	5.7	
4+30			6.7	5.1	
5+05			7.2	4.6	

STA-W99+00

0+00=STA-W99+00 ON B/L.

STA	+	H.I.	-	ELEV
B.M.	5.31	12.98		7.67
S-5+87			9.1	3.9
S-5+30			8.6	4.4
S-5+00			8.4	4.6
S-4+50			6.9	6.1
S-4+10			6.0	7.0
S-3+60			5.9	7.1
S-3+00			6.2	6.8
S-2+50			5.9	7.1
S-1+90			6.6	6.4
S-1+40			5.5	7.5
S-0+80			5.3	7.7
0+00			5.1	7.9
T.B.M.			4.85	8.13

PX

9-2-97

0+00=STA-W98+00 ON B/L

STA	+	H.I.	-	ELEV
B.M.	4.85	12.81		7.96
0+00			5.2	7.6
0+55			5.1	7.7
1+05			5.5	7.3
1+80			5.4	7.4
2+65			5.7	7.1
3+45			5.4	7.4
4+05			6.4	6.4
4+65			7.7	5.1
5+25			8.6	4.2
6+00			8.8	4.0
6+90			9.1	3.7

PX

9-2-97 (4)

STA-98+00 W

RAIL ON 500' S (ON OLD)

LATH

W97+00

9-2-47

0+00=STA-W97+00 ON B/H:

STA-	+	H.I.	-	ELEV
B.M.	5.08	12.75	7.67	7.67
S-6+60			8.8	4.0
S-5+90			8.5	4.3
S-5+20			8.3	4.5
S-4+30			7.2	5.6
S-3+45			5.9	6.9
S-2+50			5.2	7.6
S-1+70			5.0	7.8
S-1+00			5.0	7.8
S-0+95			5.1	7.7
0+00			5.1	7.7

W96+00

9-2-47 ⑤

0+00=STA-W96+00 ON B/H:

STA-	+	H.I.	-	ELEV
B.M.	5.03	12.77	7.74	7.74
0+00			5.0	7.8
0+40			5.1	7.7
0+15			5.5	7.3
0+80			5.4	7.4
0+65			5.3	7.5
0+30			5.6	7.2
0+75			7.4	5.4
0+40			8.0	4.8
0+00			8.3	4.5
0+60			8.3	4.5
0+10			8.5	4.3
0+60			9.3	3.5

W 95+00

9-2-47

0+00 = STA-95+00 ON B/A

STA-	+	H.I.	-	ELEV	Top Hub
B.M.	5.04	12.91		7.87	W-96 +00
S-6+10			9.1	3.8	
S-5+60			8.8	4.1	
S-5+20			8.9	4.0	
S-4+55			8.6	4.3	
S-4+05			7.4	5.5	
S-3+75			6.1	6.8	
S-3+20			6.0	6.9	
S-2+65			5.7	7.2	
S-1+95			5.6	7.3	
S-1+35			5.6	7.3	
S-0+65			5.6	7.3	
0+00			5.0	7.9	

W 94+00

9-2-47

0+00 = STA-94+00 ON B/A; SECT. AT 80° 28' 45" TO B/A

STA-	+	H.I.	-	ELEV	Top Hub
B.M.	4.23	12.16		7.93	W 95+00
0+00			4.9	7.3	
S-0+95			5.0	7.2	
S-0+85			4.9	7.3	
S-1+50			5.6	6.6	
S-2+15			6.0	6.2	
S-3+05			6.5	5.7	
S-3+75			7.8	4.4	
S-4+50			8.6	3.6	
S-4+80			9.0	3.2	

W93+00

9-2-47

W92+00

9-2-47

(2)

0+00 = STA-W93+00 ON B/L

0+00 = STA-W92+00 ON B/L

S	STA	+	H.I.		Top HUB W92+00
B.	B.M.	4.50	11.50	7.00	

STA	+	H.I.	-	ELEV	Top HUB W93+00
B.M.	5.00	11.98		6.48	

S	STAGE		
S-	S-4+70	8.4	3.1

0+00	5.1	6.4
------	-----	-----

S-	S-4+10	8.0	3.5
----	--------	-----	-----

S-0+35	5.7	5.8
--------	-----	-----

S-	S-3+65	7.7	3.8
----	--------	-----	-----

S-1+10	5.2	6.3
--------	-----	-----

S-	S-3+00	6.1	5.9
----	--------	-----	-----

S-2+00	5.5	6.0
--------	-----	-----

S-	S-2+30	5.6	5.9
----	--------	-----	-----

S-2+75	6.2	5.3
--------	-----	-----

S-	S-1+65	5.0	6.5
----	--------	-----	-----

S-3+25	7.4	4.1
--------	-----	-----

S-	S-0+75	4.6	6.9
----	--------	-----	-----

S-3+75	7.9	3.6
--------	-----	-----

S-	0+00 ^{4.0}	4.7	6.8
----	---------------------	-----	-----

S-4+90	8.6	2.9
--------	-----	-----

S-	0+00	5.0	6.5
----	------	-----	-----

S-

S-

0-

/ /

/ /

/ /

/ /

/

/

/

/

/

/

W 91+00

2-2-4

W 90+00

BARBERGAN
SHERRY
STANLEY

9-3-47

Ⓢ

HAZY
CALM
HOT

0+00 = STA-W 91+00 ON 1/4

+00 = STA-90+00 ON 1/4

S	STA-	+	H.I.	-	ELEV
B	B.M.	1.19	10.72		6.53
	LATH				
S	S-4+00		2.7		3.0
S	S-3+50		2.2		3.5
S	S-3+05		6.6		4.1
S	S-2+50		5.0		5.7
S	S-1+90		4.7		6.0
S	S-1+30		4.7		6.0
S	S-0+65		4.7		6.0
S	0+00		5.0		5.7

Top of

W 91+00

S	STA-	+	H.I.	-	ELEV
	B.M.	5.12	11.11		5.99
	+00		5.0		6.1
	0+60		5.2		5.9
	1+50		5.2		5.9
	2+10		5.4		5.7
	2+30		6.5		4.6
	3+15		7.5		3.6
	3+75		7.7		3.4
	4+00		8.3		2.8

W. 89+00

9-3-47

W. 88+00

9-3-47

⑨

0+00 = Sta W 89+00 on B.L.

0+00 = Sta W 88+00 on B.L.

Sta + H.I. - Elev

Sta + H.I. - Elev

B.M. 4.77 10.91 6.14

B.M. 4.16 10.06 5.90

S. 3+95 PX 8.0 2.9 6.0 4.9

0+00 PX 4.9 5.2

S. 3+50 7.9 3.0

0+50 4.4 5.7

S. 3+20 7.5 3.4

0+90 4.3 5.8

S. 2+80 7.0 3.9

0+50 4.4 5.7

S. 2+25 CHECK 5.6 5.4

0+00 4.8 5.3

S. 1+75 5.2 5.7

0+55 6.2 3.9

S. 1+20 5.5 5.4

0+10 6.8 3.3

S. 0+75 5.4 5.5

0+50 7.2 2.9

S. 0+35 5.4 5.5

0+70 7.4 2.7

S. 0+00 5.0 5.9

Top of
Sta W 89Top of Peak
Sta W 89+00

W. 87+00

9-3-17

0+00 = STA 87+00 ON B.L.

STA	+	H.I.	-	EL.	Top of H.B.
B.M.		4.79	10.13	5.34	STA 88+
S. 3+30	PX		7.4	2.7	
S. 2+90			7.0	3.1	
S. 2+30			6.2	3.9	
S. 1+90			5.5	4.6	
S. 1+50			4.6	5.5	
S. 1+00			4.5	5.6	
S. 0+50			5.1	5.0	
S. 0+00			4.6	5.5	

W. 86+00

9-3-17

(10)

0+00 = 86+00 ON B.L.

STA	+	H.I.	-	EL.	Top of H.B.
B.M.		5.09	10.93	5.34	STA. 88+00
0+00	PX			4.8	5.6
2+45				4.9	5.5
1+20				4.8	5.6
1+80				5.6	4.8
2+30				7.1	3.3
2+70				7.3	3.1
3+10				7.6	2.8

W + 85+00

9-3-17

0+00 = Sta W + 85+00 on B.L.

Sta	+	H.I.	-	EL. on	Top of H. Sta W. 85
B.M.	4.73	10.33		5.60	
S. 2+45			2.5	2.8	
S. 2+15			6.9	3.7	
S. 1+90			6.4	3.9	
S. 1+60			5.5	4.8	
S. 1+30			5.2	5.1	
S. 0+85			5.0	5.3	
S. 0+35			4.9	5.7	
0+00			4.9	5.7	

PX

W + 84+00

9-3-17

0+00 = STA 84+00

STA	+	H.I.	-	EL.	Top of H. Sta W. 84
P.M.	5.00	10.70		5.70	
S. 0+00			4.9	5.5	
S. 0+45			5.3	5.1	
S. 0+90			5.3	5.1	
S. 1+70			5.8	4.6	
S. 1+70			6.5	3.9	
S. 2+10			7.2	3.2	

PX

TOP OF HUB.
STA 85+00

↙

297

W. 83+00

PX 0+00 = STA 83+00

STA	+	H.I.	-	EL.
B.M.	4.82	10.93		6.11
S 1+80			7.7	3.2
S 1+25			6.8	4.1
S 0+95			6.7	4.2
S 0+32			6.2	4.7
S 0+00			5.0	5.9

PX Sta W 82+00

0+00 Sta 82+00 on T.B.L.

Sta	+	H.I.	-	EL.
B.M.	5.03	11.00		5.97
0+00			4.9	6.1
S 0+6.5			6.5	4.5
S 0+95			7.1	3.9
S 1+35			7.3	3.7
S 1+55			8.0	3.0

9-3-47 (12)

Sta W 81+00 PX

TOP HUB

STA 82+00 Sta 81+00 on T.B.L.

Sta	+	H.I.	-	EL.
B.M.	5.94	12.05		6.11
1+15			8.7	3.3
0+90			8.2	3.8
0+65			7.9	4.1
0+40			7.4	4.6
0+25			6.6	5.4
0+00			5.2	6.8

Top of Hub
Sta W 82+00

Sta W 80+00 PX

Sta 80+00 on T.B.L.

Sta	+	H.I.	-	EL.
B.M.	3.64	15.48		6.84
0+00			5.1	10.4
0+20			4.8	10.7
0+26			9.3	6.2
0+48			10.7	4.8
0+85			11.4	4.1
1+13			11.9	3.6
1+35			12.0	3.5
1+50			12.2	3.3

Top Hub
Sta W 81+00

W. STA 79+00

0+00 = STA 79+00

STA	+	H.I.	-	EL
B.M.	5.20	17.00		11.80
S 1+70			12.8	4.2
S 1+45			12.5	4.5
S 1+05			11.9	5.1
S 0+72			10.6	6.4
S 0+64			9.0	8.0
S 0+64			6.5	10.5
S 0+35			5.8	11.2
S 0+00			5.2	11.8

0+00 = STA-W 78+00

SECTIONS AT 45° 54' 45" To 3/4

PX

9-347 (13)

STA	+	H.I.	-	ELEV
STA 78 B.M.	4.55	16.79		12.24
0+00			5.1	11.7
0+40			5.3	11.5
0+70			5.9	10.9
0+84			8.8	8.0
1+05			10.5	6.3
1+32			10.6	6.2
1+70			12.1	4.7
2+02			12.9	3.9

Δ STATE
CITY MIN.

0+00 = Sta. W. 77+00
 Sections at 45° 54' 45" to B.L.

Sta	+	H.I.	-	Elev.	Top. Herb Sta. W. 77+00
B.M.	5.52	17.95		11.93	
1+70	PX		14.3	3.2	
1+45			13.2	4.3	
1+00			11.6	5.9	
0+80			10.6	6.9	
0+70			8.3	9.2	
0+62			7.3	10.2	
0+40			6.6	10.9	
0+18			5.4	12.1	
0+00			5.1	12.1	

0+00 = Sta. W. 76+00
 Sections at 45° 54' 45" to B.L.

9-3-47 (13)

Sta	+	H.I.	-	Elev.	Top. Herb Sta. W. 77+00
B.M.	4.35	16.83		12.48	
2+00	PX		5.1	11.7	
2+32			5.6	11.2	
2+61			6.6	10.2	
2+95			6.6	10.2	
3+03			8.7	8.1	
3+70			11.5	5.3	
3+32			13.0	3.8	
3+46			13.7	3.1	

0+00 = Sta W 75+00

Sections at 45° 54' 45" to B.L.

Sta.	+	HI	-	Elev	Top. Hub
B.M.	4.41	16.34		11.93	Sta W 76
S. 1+50		PX	12.8	3.5	
S. 1+30			11.5	4.8	
S. 1+05			10.2	6.1	
S. 1+00			8.0	8.3	
S. 0+95			6.1	10.2	
S. 0+65			5.7	10.6	
S. 0+40			5.2	11.1	
S. 0+20			5.2	11.1	
0+00			5.0	11.3	

0+00 = Sta W 74+00

9-3-47

(15)

Sections at 45° 54' 45" to B.L.

Sta.	+	HI	-	Elev	Top. Hub
B.M.	5.21	15.83		10.62	Sta W 75+00
0+00			5.0	10.8	
S. 0+30		PX	6.3	9.5	
S. 0+55			6.3	9.5	
S. 0+75			6.3	9.5	
S. 0+70			8.5	7.3	
S. 0+85			10.7	5.4	
S. 0+95			12.1	3.7	
S. 1+00			12.7	3.1	

0+00 = Sta W 73+00

Sections at 36° 15' 00" to B.L

Sta	+	H.I.	-	Elev	Top Hubs
B.M.	4.46	16.43		11.97	Stav 74
S 0+67	PX		12.5	3.9	
S 0+42			12.0	4.9	
S 0+26			11.5	4.9	
S 0+20			10.3	6.1	
S 0+14			8.1	8.3	
S 0+11			6.2	10.2	
0+00			4.9	11.5	

0+00 = Sta N. 768+00

Sections at 53° 49' 15" to B.L

Sta	+	H.I.	-	Elev	Top Hubs
B.M.	3.71	15.40		11.69	W. 73+00
W 0+00	1	PX	4.8	10.6	
W 0+5	5.5		5.4	10.0	
W 0+10			8.0	7.4	
W 0+15			10.3	5.1	
W 0+41			11.4	4.0	
W 0+63			12.1	3.3	

0+00 = STAN. 167+00 9-3-17

Sections at 53° 49' 15" to B/L

(16)

STA	+	H.I.	-	ELEV	Top Hubs
B.M.	4.65	15.34		10.69	STA 168+00
W 0+90			12.5	2.8	
W 0+65			11.5	3.8	
W 0+40			10.9	4.4	
W 0+15			10.3	5.0	
W 0+8			7.1	8.2	
W 0+3			5.1	10.2	
W 0+00			5.0	10.3	

0+00 = STA N. 166+00
 Section 5 AT 53° 49' 15"

STA	+	H.I.	-	ELEV.	Top Hub STA 166
B.M.	4.95	15.33		10.38	←
W. 0+00		5.2		10.1	
W. 0+8		5.6		9.7	
W. 0+13		7.8		7.5	
W. 0+15		10.0		5.3	
W. 0+31		10.7		4.6	
W. 0+53		12.3		3.0	

PX

0+00 = STA N 165+0.0 9-3-47 (17)
 Sect. 1000 AT 62° 13' 15"

STA	+	H.I.	-	ELEV.	Top Hub STA 166+00
B.M.	4.71	19.85		10.14	←
W. 0+59		11.7		3.2	
W. 0+22		10.5		4.4	
W. 0+12		8.0		6.9	
W. 0+9		5.2		9.7	
W. 0+00		5.2		9.7	

PX

0+00 = STA N. 164+00

STA	+	H.I.	-	EL.	Top Hub N 165+00
B.M.	5.05	14.79		9.74	
W. 0+00		5.0		9.8	
W. 0+7		5.2		9.6	
W. 0+9		7.3		7.5	
W. 0+12		9.0		5.8	
W. 0+33		10.0		4.8	
W. 0+61		11.9		2.9	

PX

0+00 = STA N. 162+00
 Section at 62° 13' 15" to B/L

0+00 - Sta N. 161+00
 Sections at 69° 08' 15" to B/L

9-3-47 (18)

STA	+	H.I.	-	ELEV
B.M.	5.01	14.85		9.84
W 0+54			11.8	3.1
W 0+28			9.8	5.1
W 0+11			9.0	5.9
W 0+7			6.7	8.2
W 0+4			5.5	9.4
W 0+00			5.1	9.8

0+00 = STA-162+00-N

STA	+	H.I.	-	ELEV
B.M.	5.47	15.23		9.76
0+00			5.2	10.0
W 0+8			5.3	9.9
W 0+11			7.2	8.0
W 0+15			9.4	5.8
W 0+18			10.1	5.1
W 0+33			11.0	4.2
W 0+50			12.2	3.0

Sta	+	HI	-	Elev.
B.M.	5.10	15.15		10.05
W 0+43			12.2	3.0
W 0+31			11.6	3.7
W 0+20			10.6	4.7
W 0+13			9.7	5.5
W 0+10			8.8	6.4
W 0+8			7.3	7.9
W 0+5			4.9	10.3
W 0+00			5.0	10.2

0+00 - Sta N. 160+00
 Sections at 69° 08' 15"

Sta	+	HI	-	Elev
B.M.	5.16	15.39		10.23
0+00			5.1	10.3
W 0+8			5.2	10.2
W 0+10			6.7	8.7
W 0+13			8.9	6.5
W 0+17			10.6	4.8
W 0+30			11.7	3.7
W 0+43			12.5	2.9

0+00 = Sta. N. 158+00
 Sections at 69° 08' 15" to T.B.L.
 9-4-47

Sta.	+ H.I.	-	Elev.	Top Hub Sta. N. 160+00
B.M.	5.11	15.52	10.41	
0+00	PX	5.1	10.4	
W0+12		5.2	10.3	
W0+14		8.3	7.2	
W0+16		10.1	5.4	
W0+30		11.1	4.4	
—	—	—	—	

0+00 Sta. N. 158+00
 Sections at 69° 08' 15" to T.B.L.

Sta.	+ H.I.	-	Elev.	Top Hub Sta. N. 159+00
B.M.	5.46	15.93	10.47	
0+00	PX	5.2	10.7	
W0+15		5.2	10.7	
W0+18		8.8	7.1	
W0+21		10.7	5.2	
W0+31		11.5	4.4	
W0+				

0+00 = Sta. N. 157+00
 Sect. at 69° 08' 15" to T.B.L.
 9-4-47 (19)

Sta.	+ H.I.	-	Elev.	Top Hub Sta. N. 158+00
B.M.	5.57	16.34	10.77	
0+00	PX	5.1	11.2	
W0+9		5.3	11.0	
W0+15		9.0	7.3	
W0+19		10.4	5.9	
W0+38		11.9	4.4	

0+00 = Sta. N. 156+00
 Sections at 69° 08' 15" to T.B.L.

Sta.	+ H.I.	-	Elev.	Top Hub Sta. 157+00
B.M.	5.19	16.77	11.28	
0+00	PX	5.1	11.4	
W0+7		5.4	11.1	
W0+11		6.7	9.8	
W0+15		8.2	8.3	
W0+26		8.5	8.0	
W0+36		9.3	7.2	
W0+40		10.6	5.9	
W0+53		11.7	4.8	

0+00 = Sta N 153+00 9-4-47

Sections at 69° 08' 15" to T.B.L

Sta	+ HI	-	Elev	Top. Hub
B.M.	5.61	16.89	11.28	Sta N 157
0+00	PX	5.1	11.8	
W.O+14		7.6	12.3	
W.O+20		7.6	9.3	
W.O+31		9.0	7.9	
W.O+46		10.3	6.6	
W.O+61		12.3	4.6	

0+00 = Sta N 154+00

Sections at 69° 08' 15" to T.B.L

Sta	+ HI	-	Elev	Top. Hub
B.M.	5.20	17.27	12.07	Sta 155+00
0+00	PX	5.2	12.1	
W.O+12		5.5	11.8	
W.O+16		7.5	9.8	
W.O+26		8.6	8.7	
W.O+50		9.5	7.8	
W.O+68		12.4	4.9	

0+00 = Sta 153+00 9-4-47

Sections at 75° 28' 15" to T.B.L

Sta	+ HI	-	Elev	Top. Hub
B.M.	5.33	17.51	12.18	Sta 159+00
0+00	PX	5.0	12.5	
W.O+13		5.0	12.5	
W.O+18		7.0	10.5	
W.O+21		8.3	9.2	
W.O+37		9.4	8.1	
W.O+5E		9.6	7.9	
W.O+54		11.4	6.1	
W.O+70		12.5	5.0	

0+00 = Sta N 152+00

Sections at 75° 28' 15" to T.B.L

Sta	+ HI	-	Elev	Top. Hub
B.M.	5.49	18.08	12.59	Sta 153+00
0+00	PX	5.2	12.9	
W.O+7		5.2	12.9	
W.O+14		6.5	11.6	
W.O+23		8.7	9.4	
W.O+45		10.3	7.8	
W.O+47		11.4	6.7	
W.O+54		12.9	5.2	

0+00 = Sta N. 157+00 9-4-47
 Sections at 75° 28' 15" to B.L.
 Sta + HI - Elev. Top Hub

B.M.	+	HI	-	Elev.	Top Hub
B.M.	4.81	17.73		12.92	Sta 152+11
0+00				5.2	12.5
w0+7				5.1	12.6
w0+12				7.1	10.6
w0+30				8.6	9.1
w0+46				9.8	7.9
w0+47				11.8	5.9
w0+55				12.5	5.2

0+00 S = Sta 150+00

Sections at 75° 28' 15" to B.L.

Sta.	+	HI	-	Elev.	Top Hub
B.M.	5.44	18.02		12.58	Sta 151+10
0+00				4.9	13.1
w0+10				5.2	12.8
w0+14				6.8	11.2
w0+18				8.1	9.9
w0+35				9.7	8.3
w0+38				11.3	6.7
w0+50				12.9	5.1

ORIGINAL

BARRAGAN
 SHERRY
 STANLEY

9-5-47
 HAZY
 MOD. WIND
 WARM

SOUNDINGS PROJECT # 3-1

STA-94+00

{N-168+64.96} SOUND SOUTH AT 90°
 0+00 = {W94+00} N-768+64.96 LINE.

PX
 Indexed

DIST	SOUND		DIST	SOUND	
0+00	2.0	+2.8	1+70	2.4	+2.4
1+05				2.4	
+10	2.0			2.4	
(4.8)	2.0		(4.8)	2.5	+2.3
	2.0		2+00	2.5	
	2.0			2.7	+2.1
50	2.0			2.7	
	2.0			2.7	
	2.0			2.7	
	2.0		50	2.6	+2.2
	2.0			2.8	+2.0
1+00	(2.1)	+2.7		2.8	
	2.3	+2.5		2.8	
	2.3			2.9	+1.9
	2.4	+2.4	3+00	2.9	
	2.4			2.9	
50	2.4			2.9	
1+60	2.4		3+30	2.9	

W-94+00			9-5-47			W-94+00			9-5-47 (22)		
DIST	SOUND		DIST	SOUND		DIST	SOUND		DIST	SOUND	PX
3+40	2.9	+1.9	5+40	3.4	+1.5	7+40	3.8	+1.1	9+40	4.3	+0.6
PX 50	2.9	-	50	3.4	-	50	3.8	-	50	4.3	-
(4.8)	2.9	-	(4.9)	3.4	-	(4.9)	3.8	-	(4.9)	4.3	-
	2.9	-		3.5	+1.4		3.8	-		4.3	-
	2.9	-		3.5	-		3.8	-		4.3	-
	2.9	-		3.5	-	11:15	3.9	+1.0		4.3	-
4+00	2.9	-	6+00	3.5	-	8+00	4.0	+0.9	10+00	4.3	-
	2.9	-		3.6	+1.3		4.0	-		4.3	-
<u>11:10</u>	3.0	+1.9		3.6	-		4.0	-		4.3	-
(4.9)	3.1	+1.8	<u>11:13</u>	3.6	-		4.0	-	(4.9)	4.3	-
	3.1	-		3.6	-		4.0	-	<u>11:18</u>	4.3	-
50	3.2	+1.7	50	3.6	-	50	4.0	-	50	4.3	+0.7
	3.3	+1.6		3.7	+1.2		4.0	-	(5.0)	4.3	-
	3.3	-		3.8	+1.1		4.2	+0.7		4.3	-
	3.3	-		3.8	-		4.2	-		4.3	-
	3.4	+1.5		3.8	-		4.2	-		4.3	-
5+00	3.2	+1.7	7+00	3.8	-	3+00	4.2	-	11+00	4.3	-
	3.3	+1.6		3.8	-		4.2	-		4.3	-
	3.3	-		3.8	-		4.2	-		4.3	-
5+30	3.3	-	7+30	3.8	-	9+30	4.2	-	11+30	4.3	-

W-94+00			9-5-41			W 94+00			9-5-47		
DIST	SOUND		DIST	SOUND		DIST	SOUND		DIST	SOUND	(23) PX
11+40	4.3	+0.7	13+40	4.4	+0.6	15+40	4.4	+0.6	17+40	4.5	+0.5
PX 50	4.3	-	50	4.4	-	50	4.4	-	50	4.5	-
(5.0)	4.3	-	(5.0)	4.4	-	(5.0)	4.4	-	(5.0)	4.6	+0.4
	4.3	-		4.4	-		4.4	-		4.7	+0.3
	4.3	-		4.4	-		4.4	-		4.7	-
	4.3	-		4.4	-		4.4	-		4.7	-
12+00	4.3	-	14+00	4.4	-	16+00	4.4	-	18+00	4.8	+0.2
	4.3	-		4.4	-		4.4	-		4.8	-
	4.4	+0.6		4.4	-	11:25	4.4	-		4.8	-
	4.4	-		4.4	-		4.4	-		5.0	0.0
11:20	4.4	-		4.4	-		4.4	-		5.0	-
50	4.4	-	50	4.4	-	50	4.5	+0.5	50	5.0	-
	4.4	-		4.4	-		4.5	-		4.9	+0.1
	4.4	-		4.4	-		4.5	-		4.9	-
	4.4	-	11:23	4.4	-		4.5	-		5.0	0.0
	4.4	-		4.4	-		4.5	-		5.0	-
13+00	4.4	-	15+00	4.4	-	17+00	4.6	+0.4	19+00	4.9	+0.1
	4.4	-		4.4	-		4.7	+0.3	11:28		
	4.4	-		4.4	-		4.5	+0.5			
5 13+30	4.4	-	15+30	4.4	-	17+30	4.5	-			

W 94+00			W 93+00			W 93+00		
SOUND NORTH AT 90° To N-168+6496			SOUND SOUTH AT 90° To N-168+6496			SOUND SOUTH AT 90° To N-168+6496		
DIST	SOUND		DIST	SOUND		DIST	SOUND	PX
0+00	2.1	+3.0	0+00	2.5	+2.9	1+90	3.2	+2.2
11:35	2.1	-	12:48	2.5	-	2+00	3.2	-
	2.1	-	(5.4)	2.6	+2.8	(5.4)	3.2	-
(5.1)	2.1	-		2.7	+2.7		3.2	-
	2.2	+2.9		2.8	+2.6		3.4	+2.0
50	2.1	+3.0	50	2.8	-		3.4	-
	2.1	-		2.9	+2.5	50	3.4	-
	2.2	+2.9		2.9	-		3.4	-
	2.1	+3.0		2.9	-		3.4	-
	2.0	+3.1		2.9	-		3.4	-
1+00	1.9	+3.2	1+00	2.9	-	12:50	3.4	-
11:39				2.9	-	3+00	3.5	1.9
				3.0	+2.4		3.4	+2.0
				3.0	-		3.5	+1.9
				3.0	-		3.5	-
			50	3.0	-		3.8	+1.6
				3.1	+2.3	50	3.8	-
				3.1	-		3.8	-
			1+80	3.2	+2.2	3+70	3.8	-

W- 93+00			9-5-47			W 93+00			9-5-47		
DIST	SOUND		DIST	SOUND		DIST	SOUND		DIST	SOUND	(26)
3+80	3.8	+1.6	5+80	4.1	+1.3	7+80	4.4	+1.0	9+80	4.5	Px +0.9
Px	3.8	-		4.2	+1.2		4.4	-		4.5	-
1+00	3.8	-	6+00	4.2	-	8+00	4.5	+0.9	10+00	4.5	-
(5.4)	3.8	-	(5.4)	4.2	-	(5.4)	4.5	-	(5.4)	4.5	-
	3.8	-		4.2	-		4.5	-		4.5	-
	3.9	+1.5		4.2	-		4.5	-		4.5	-
	3.9	-		4.2	-		4.5	-		4.5	-
50	3.9	-	50	4.2	-	50	4.5	-	50	4.5	-
	3.9	-		4.3	+1.1		4.5	-		4.5	-
	3.9	-		4.3	-		4.5	-		4.5	-
<u>12:53</u>	4.0	+1.4	<u>12:55</u>	4.3	-	<u>12:58</u>	4.5	-		4.5	-
	4.0	-		4.3	-		4.5	-	<u>13:00</u>	4.5	-
5+00	4.1	+1.3	7+00	4.3	-	9+00	4.5	-	11+00	4.5	-
	4.1	-		4.3	-		4.6	+0.8		4.5	-
	4.1	-		4.3	-		4.6	-		4.5	-
	4.1	-		4.3	-		4.6	-		4.5	-
	4.1	-		4.3	-		4.6	-		4.5	-
50	4.1	-	50	4.4	+1.0	50	4.6	-	50	4.5	-
	4.1	-		4.4	-		4.6	-		4.5	+0.8
5+70	4.1	-	7+70	4.4	-	9+70	4.6	-	11+70	4.5	-

9-5-47					2-5-47				
W 93+00					W 9.3+00				
DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND
11+80	1.6 +0.8	13+80	4.7	+0.7	15+80	4.7	+0.7	17+80	1.9 +0.5
(5.4)	4.6	(5.4)	4.7	-		4.7	-		4.9
12+00	4.6	14+00	4.7	-	15+00	4.7	-	18+00	1.9
	4.6		4.7	-	(5.4)	4.7	-	(5.4)	1.9
	4.6		4.7	-		4.7	-		1.9
	4.6		4.7	-		4.7	-		1.9
	4.6		4.7	-		4.8 +0.6			5.0 +0.4
50	4.6	50	4.7	-	50	4.8	-	50	5.0
	4.6	<u>13:05</u>	4.7	-		4.8	-		5.0
	4.6		4.7	-		4.8	-		5.0
	4.7 +0.7		4.7	-		4.8	-		5.0
	4.7		4.7	-		4.8	-		5.0
13+00	4.7	15+00	4.7	-	17+00	4.8	-	19+00	5.0
<u>13:07</u>	4.7		4.7	-	<u>12:28</u>	4.8	-	<u>13:10</u>	
	4.7		4.7	-		4.9 +0.5			
	4.7		4.7	-		4.9	-		
	4.7		4.7	-		4.9	-		
50	4.7	50	4.7	-	50	4.9	-		
	4.7		4.7	-		4.9	-		
13+70	4.7	15+70	4.7	-	17+70	4.9	-		

(26)

PX

W 93+00

9-5-47

W 92+00

9-5-47

(27)

0+00 = $\begin{cases} W-93+00 \\ N-168+64.36 \end{cases}$ SOUND NORTH AT 90° TO N-168+64.36 LINE. $\begin{cases} W-92+00 \\ N-168+64.36 \end{cases}$ SOUND SOUTH AT 90° TO N-168+64.36 LINE.

DIST	SOUND		DIST	SOUND		DIST	SOUND	PX			
0+10	2.4	+2.8				0+00	2.5	2.7	1+90	3.0	+2.2
+20	2.4	—				13:26	2.5	—	2+00	3.0	—
13:20	2.4	—				(5.2)	2.5	—	(5.2)	3.0	—
(5.2)	2.4	—					2.5	—		3.0	—
50	2.4	—					2.5	—		3.0	—
	2.4	—				50	2.6	+2.6		3.0	—
	2.4	—					2.6	—	50	3.1	+2.1
	2.4	—					2.6	—		3.2	+2.0
	2.4	—					2.6	—		3.2	—
1+00							2.6	—		3.2	—
						1+00	2.7	+2.5		3.2	—
							2.8	+2.1	3+00	3.3	+1.9
							3.0	+2.2		3.3	—
							3.0	—		3.3	—
							3.0	—	13:50	3.3	—
						50	3.0	—		3.3	—
							3.0	—	50	3.4	+1.8
							3.0	—		3.4	—
						1+80	3.0	—	3+70	3.5	+1.7

PX				9-5-17				PX			
W-92+00		9-5-17		W-92+00		9-5-17		(28)			
DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND		
3+80	3.5	+1.7	5+80	4.0	+1.2	7+80	4.0	+1.1	9+80	4.3	+0.8
(5.2)	3.5	—	(5.2)	4.0	—	(5.1)	4.1	+1.0	(5.1)	4.3	—
4+00	3.5	—	6+00	4.0	—	8+00	4.1	—	10+00	4.3	—
	3.5	—		4.0	—		4.1	—		4.3	—
	3.5	—		4.0	—		4.1	—		4.3	—
	3.5	—		4.0	—		4.1	—		4.3	—
	3.7	+1.5		4.0	—		4.1	—		4.3	—
50	3.7	—	50	4.0	—	50	4.1	—	50	4.3	—
	3.7	—		4.0	—		4.1	—		4.3	—
	3.8	+1.4		4.0	—		4.1	—		4.3	—
	3.8	—		4.0	—		4.2	+0.9		4.3	—
	3.8	—	(5.2)	4.0	—		4.2	—		4.3	—
5+00	3.8	—	7+00	4.0	—	9+00	4.2	—	11+00	4.3	—
	3.8	—	13:35	4.0	—		4.3	+0.8		4.3	—
13:33	3.8	—	(5.1)	4.0	+1.1	13:38	4.3	—		4.3	—
	3.8	—		4.0	—		4.3	—		4.3	—
	3.8	—		4.0	—		4.3	—		4.3	—
50	3.9	+1.3	50	4.0	—	50	4.3	—	50	4.3	—
	3.9	—		4.0	—		4.3	—		4.3	—
5+70	4.0	+1.2	7+70	4.0	—	9+70	4.3	—	11+70	4.3	—

W-92+00				W-92+00				95-77			
DIST	SOUND		DIST	SOUND		DIST	SOUND	DIST	SOUND		(29)
11+80	4.3	+0.8	13+80	4.4	+0.7	15+80	4.7	+0.4	17+80	4.8	+0.3
(5.1)	4.3	—	(5.1)	4.4	—	(5.1)	4.7	—	(5.1)	4.8	—
12+00	4.3	—	14+00	4.5	+0.6	16+00	4.7	—	18+00	4.8	—
	4.3	—		4.5	—		4.7	—		4.8	—
	4.3	—		4.5	—		4.7	—		4.8	—
	4.3	—		4.5	—		4.7	—		4.9	+0.2
	4.4	+0.7		4.5	—		4.8	+0.3		4.9	—
50	4.4	—	50	4.5	—	50	4.8	—	50	4.9	—
	4.4	—		4.5	—		4.8	—		4.9	—
	4.4	—		4.5	—		4.8	—		4.9	—
	4.4	—		4.5	—		4.8	—		4.9	—
<u>13:43</u>	4.4	—		4.5	—		4.8	—		4.9	—
13+00	4.4	—	15+00	4.5	—	17+00	4.8	—	19+00	4.9	—
	4.4	—	<u>13:45</u>	4.5	—		4.8	—	<u>17:50</u>		
	4.4	—		4.5	—	<u>17:48</u>	4.8	—			
	4.4	—		4.6	+0.5		4.8	—			
	4.4	—		4.6	—		4.8	—			
50	4.4	—	50	4.6	—	50	4.8	—			
	4.4	—		4.6	—		4.8	—			
13+70	4.4	—	15+70	4.6	—	17+70	4.8	—			

W-92+00

9-5-11

SW-92+00
N-168+64.96) SOUND NORTH AT 90° TO N168+64.96 LINE

DIST	SOUND	DIST	SOUND
0+10	2.4 +2.5		
+20	2.4		
13:58	2.4		
(4.9)	2.4		
50	2.4		
	2.4		
	2.3 +2.6		
	2.2 +2.7		
	2.2		
1+00	2.2		
	2.2		
	2.2		
	2.0 +2.9		
	2.0		

50

13

W 91+00

9-5-11

(30)

SW-91+00
N-168+64.96) SOUND SOUTH AT 90° TO N168+64.96 LINE

DIST	SOUND	DIST	SOUND
0+00	2.4 +2.5	1+90	2.9 +2.0
14:05	2.5 +2.4	2+00	3.0 +1.9
(4.9)	2.5	(4.9)	3.0
	2.5	Px	3.0
	2.5		3.0
50	2.5		3.0
	2.5	50	3.0
	2.5		3.1 +1.8
	2.6 +2.3		3.1
	2.7 +2.2		3.1
1+00	2.7	(4.9)	3.1
	2.7	3+00	3.1
	2.8 +2.1	14:10	3.1
	2.8	(4.8)	3.2 +1.6
	2.8		3.2
50	2.8		3.2
	2.9 +2.0	50	3.2
1+00	2.9		3.3 +1.5
1+80	2.9	70	3.3
		3+50	3.3

DIST		SOUND		W 91+00		9-5-17	
DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND
3+80	3.3	+1.5	5+80	3.7	+1.1	7+80	4.0
PX	3.3	—	(4.8)	3.7	—	(4.8)	4.0
1+00	3.1	+1.4	6+00	3.8	+1.0	8+00	4.0
(4.8)	3.4	—	—	3.8	—	—	4.0
	3.4	—	14:15	3.8	—	—	4.0
	3.7	—	—	3.9	+0.9	—	4.0
	3.5	+1.3	—	3.9	—	—	4.0
	3.5	—	—	3.9	—	—	4.0
50	3.5	—	50	3.9	—	50	4.0
	3.5	—	—	3.9	—	—	4.0
	3.5	—	—	3.9	—	—	4.0
	3.5	—	—	3.9	—	—	4.0
	3.5	—	—	3.9	—	—	4.0
14:13	3.5	—	—	3.9	—	14:12	4.0
5+00	3.5	—	7+00	3.9	—	9+00	4.0
	3.5	—	—	3.9	—	—	4.0
	3.6	+1.2	—	3.9	—	—	4.0
	3.6	—	—	3.9	—	—	4.1
	3.6	—	—	4.0	+0.8	—	4.1
50	3.6	—	50	4.0	—	50	4.1
	3.7	+1.1	—	4.0	—	—	4.1
5+70	3.7	—	7+70	4.0	—	9+70	4.1

DIST		SOUND		W 91+00		9-5-17		(31)
DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND	
7+80	4.0	+0.8	9+80	4.1	+0.7	—	—	
(4.8)	4.0	—	(4.8)	4.1	—	—	—	
8+00	4.0	—	10+00	4.1	—	—	—	
—	4.0	—	PX	4.1	—	—	—	
—	4.0	—	—	4.1	—	—	—	
—	4.0	—	—	4.1	—	—	—	
50	4.0	—	50	4.1	—	50	4.1	
—	4.0	—	—	4.1	—	14:20	4.1	
—	4.0	—	—	4.1	—	(4.7)	4.1	+0.6
—	4.0	—	—	4.1	—	—	4.1	—
—	4.0	—	—	4.1	—	—	4.1	—
—	4.1	+0.7	—	4.1	—	—	4.1	—
50	4.1	—	50	4.1	—	50	4.1	—
—	4.1	—	—	4.1	—	—	4.1	—
—	4.1	—	—	4.1	—	—	4.1	—

W-91+00			W-91+00			W-91+00			9-5-47		
DIST	SOUND		DIST	SOUND		DIST	SOUND		DIST	SOUND	
11+80	4.1	+0.6	13+80	4.2	+0.5	15+80	4.5	+0.2	17+80	4.6	+0.1
(4.7)	4.1	—	(4.7)	4.2	—	(4.7)	4.5	—	(4.7)	4.7	0.0
12+00	4.1	—	14+00	4.2	—	16+00	4.5	—	18+00	4.7	—
PX	4.1	—		4.2	—		4.5	—	PX	4.7	—
	4.1	—		4.2	—		4.5	—		4.7	—
	4.1	—		4.2	—		4.5	—		4.7	—
	4.1	—		4.2	—		4.5	—		4.7	—
50	4.1	—	50	4.3	+0.1	50	4.5	—	50	4.7	—
	4.1	—		4.3	—		4.6	+0.1	19:28		
	4.1	—		4.3	—		4.6	—			
	4.1	—		4.3	—		4.6	—			
	4.1	—		4.3	—		4.6	—			
13+00	4.1	—	15+00	4.3	—	17+00	4.6	—			
	4.1	—		4.3	—		4.6	—			
19:23	4.2	+0.5		4.3	—		4.6	—			
	4.2	—		4.3	—		4.6	—			
	4.2	—	19:25	4.3	—		4.6	—			
50	4.2	—	50	4.4	+0.1	50	4.6	—			
	4.2	—		4.5	+0.2		4.6	—			
13+70	4.2	—	15+70	4.5	—	17+70	4.6	—			

W-91+00
 (W-91+00) SOUND NORTH AT 90° TO N. 168+64.96

DIST	SOUND		DIST	SOUND
0+10	2.3	+2.3		
<u>1+36</u>	2.3	—		
	+20	2.3		
(4.6)	2.1	+2.5		
	2.1	—		
50	2.1	—		
	2.1	—		
	2.1	—		
	2.1	—		
	2.0	+2.6		
1+00	2.0	—		
	2.0	—		
	2.0	—		
	2.0	—		
	2.0	—		
50	1.9	+2.7		
	1.9	—		
1+70	1.8	+2.8		

PX

W-90+00 9-5-19
 (W-90+00) SOUND SOUTH AT 90° TO N. 168+64.96 LINE

DIST	SOUND		DIST	SOUND
1+00	2.1	+2.4	1+30	2.7 + 1.8
	2.1	—	2+00	2.7 —
(4.5)	2.1	—	(4.5)	2.7 —
	2.1	—		2.7 —
	2.1	—		2.7 —
50	2.2	+2.3	<u>11:18</u>	2.8 + 1.7
	2.2	+2.2	50	2.8 —
	2.5	+2.0		2.8 —
	2.5	—		2.9 + 1.6
	2.6	+1.9		2.9 —
	2.6	—		2.9 —
	2.5	+2.0	3+00	2.9 —
	2.6	+1.9		2.9 —
	2.6	—		3.0 + 1.5
	2.6	—		3.0 —
50	2.6	—		3.0 —
	2.6	—	50	3.0 —
	2.6	—		3.0 —
80	2.6	—	3+70	3.0 —

PX (33)

PX		W-90+00		9-5-17		W-90+00		9-5-17		PX (37)	
DIST	SOUND		DIST	SOUND		DIST	SOUND		DIST	SOUND	
3+80	3.0	+1.5	5+80	3.5	+1.0	7+80	3.7	+0.8	9+80	3.9	+0.5
<u>14:50</u>	3.0	—	(4.5)	3.5	—	(4.5)	3.7	—	(4.4)	3.9	—
4+00	3.0	—	6+00	3.5	—	8+00	3.7	—	10+00	3.9	—
(4.5)	3.0	—		3.5	—		3.8	+0.7		3.9	—
	3.0	—	<u>14:53</u>	3.5	—		3.8	—		3.9	—
	3.1	+1.4		3.6	+0.9		3.8	—		3.9	—
	3.1	—		3.6	—		3.8	—		3.9	—
50	3.1	—	50	3.6	—	50	3.8	—	50	3.9	—
	3.1	—		3.6	—		3.8	—		3.9	—
	3.1	—		3.6	—		3.8	—		3.9	—
	3.1	—		3.6	—		3.8	—		3.9	—
	3.2	+1.3		3.7	+0.8	(4.5)	3.8	—		3.9	—
5+00	3.2	—	7+00	3.7	—	9+00	3.8	—	11+00	3.9	—
	3.2	—		3.7	—	10:55	3.8	—		3.9	—
	3.3	+1.2		3.7	—	(4.4)	3.9	+0.5		3.9	—
	3.3	—		3.7	—		3.9	—		3.9	—
	3.3	—		3.7	—		3.9	—		3.9	—
50	3.4	+1.1	50	3.7	—	50	3.9	—	50	3.9	—
	3.5	+1.0		3.7	—		3.9	—		3.9	—
5+70	3.5	—	7+70	3.7	—	9+70	3.9	—	11+70	3.9	—

PX		W-90+00		9-5-47		W-90+00		9-5-47		PX (35)	
DIST	SOUND		DIST	SOUND		DIST	SOUND		DIST	SOUND	
11+80	3.9	+0.5	13+80	4.1	+0.3	15+80	4.2	+0.2	17+80	4.3	+0.1
(4.4)	3.9	—	(4.4)	4.1	—	(4.4)	4.2	—	(4.4)	4.3	—
12+00	3.9	—	14+00	4.1	—	16+00	4.2	—	18+00	4.3	—
	3.9	—		4.1	—		4.2	—		4.3	—
	4.0	+0.4		4.1	—		4.2	—		4.3	—
	4.0	—		4.1	—		4.2	—		4.3	—
	4.0	—		4.1	—		4.2	—	15:03	4.3	—
50	4.0	—	50	4.1	—	50	4.2	—	50	4.3	—
	4.0	—		4.1	—		4.2	—		4.3	—
14:58	4.0	—		4.1	—		4.3	+0.1		4.3	—
	4.0	—		4.1	—		4.3	—		4.3	—
	4.0	—		4.1	—		4.3	—		4.3	—
13+00	4.0	—	15+00	4.1	—	17+00	4.3	—	19+00	4.7	-0.3
	4.0	—		4.1	—		4.3	—		4.8	-0.4
	4.0	—		4.1	—		4.3	—		4.5	-0.1
	4.0	—		4.2	+0.2		4.3	—		4.5	—
	4.1	+0.3		4.2	—		4.3	—		4.5	—
50	4.1	—	50	4.2	—	50	4.3	—	50	4.5	—
	4.1	—		4.2	—		4.3	—		4.5	—
13+70	4.1	—	15+70	4.2	—	17+70	4.3	—	15:05		

W-90+00

9-5-47

0+00 (W-90+00
N-168+69.96) SOUND NORTH AT 90° To N-168+69.96 LINE

DIST SOUND

0+10 1.9 +2.4

15:13 +20 1.9 —

(4.3) 1.9 —

1.9 —

50 1.9 —

1.9 —

1.9 —

1.7 +2.6

1.7 —

1+00 1.7 —

1.7 —

1.7 —

1.7 —

1.7 —

50 1.6 +2.7

1.6 —

W-89+00

9-12-47 (36)

0+00 (W-89+00
N-168+69.96) SOUND SOUTH AT 90° To N-168+69.96 LINE

DIST SOUND

0+00 2.4 +2.1 1+90 3.0 +1.5

22:16 2.5 +2.0 2+00 3.0 —

(4.5) 2.5 — (4.5) 3.1 +1.4

2.6 +1.9 PX 3.1 —

2.6 — PX 3.1 —

50 2.7 +1.8 3.1 —

2.6 +1.9 50 3.1 —

2.6 — 3.2 +1.3

2.6 — 3.2 —

2.7 +1.8 3.2 —

1+00 2.7 — 3.2 —

2.8 +1.7 3+00 3.2 —

2.9 +1.6 00:20 3.3 +1.2

2.9 — 3.3 —

3.0 +1.5 3.3 —

50 3.0 — 3.3 —

3.0 — 50 3.3 —

3.0 — 3.4 +1.1

1+30 3.0 — 3+70 3.4 —

		89+00			
DIST	SOUND	DIST	SOUND		
3+80	3.4	+1.1	5+80	3.9	+0.6
(4.5)	3.4	—	(4.5)	3.9	—
4+00	3.4	—	6+00	3.9	—
PX	3.4	—		3.9	—
	3.5	+1.0		3.9	—
	3.5	—		3.9	—
	3.6	+0.9		3.9	—
50	3.6	—	50	3.9	—
	3.6	—		3.9	—
	3.6	—		3.9	—
	3.6	—		3.9	—
	3.6	—	09:23	3.9	—
5+00	3.6	—	7+00	3.9	—
	3.7	+0.8		3.9	—
	3.8	+0.7		3.9	—
	3.8	—		4.0	+0.5
	3.9	+0.6		4.0	—
50	3.9	—	50	4.0	—
	3.9	—		4.0	—
5+70	3.9	—	7+70	4.0	—

		89+00		9-12-47	
DIST	SOUND	DIST	SOUND	DIST	SOUND
7+80	4.0	+0.5	9+80	4.0	+0.5
(4.5)	4.0	—	(4.5)	4.1	+0.4
8+00	4.0	—	10+00	4.1	—
	4.0	—	PX	4.1	—
	4.0	—		4.1	—
	4.0	—		4.1	—
	4.0	—		4.1	—
50	4.0	—	50	4.1	—
	4.0	—		4.1	—
	4.0	—		4.1	—
	4.0	—		4.1	—
	4.0	—		4.1	—
9+00	4.0	—	11+00	4.1	—
	4.0	—		4.1	—
	4.0	—		4.1	—
09:25	4.0	—		4.1	—
	4.0	—		4.1	—
50	4.0	—	50	4.1	—
	4.0	—		4.1	—
9+70	4.0	—	11+70	4.2	+0.3

89+00			9-12-17			89+00			9-12-17		
DIST	SOUND		DIST	SOUND		DIST	SOUND		DIST	SOUND	
11+80	4.4	+0.1	13+80	4.2	+0.3	15+80	4.5	0.0	17+80	4.7	-0.2
(4.5)	4.3	+0.2	(4.5)	4.2	—	(4.5)	4.5	—	(4.5)	4.7	—
12+00	4.3	—	14+00	4.2	—	16+00	4.5	—	18+00	4.7	—
PX	4.3	—		4.2	—		4.5	—	PX	4.7	—
	4.3	—		4.2	—		4.5	—		4.7	—
	4.3	—		4.2	—		4.5	—		4.7	—
	4.3	—		4.2	—		4.5	—		4.7	—
	4.3	—		4.2	+0.1		4.5	—		4.7	—
50	4.3	—	50	4.3	+0.2	50	4.5	—	50	4.7	—
	4.3	—		4.4	+0.1		4.5	—		4.7	—
	4.4	+0.1		4.4	—		4.5	—		4.7	—
	4.4	—		4.4	—		4.6	-0.1		4.7	—
	4.4	—		4.4	—		4.6	—		4.7	—
13+00	4.4	—	15+00	4.4	—	17+00	4.6	—	19+00	4.7	—
	4.4	—		4.4	—		4.6	—		4.7	—
	4.4	—		4.4	—		4.7	-0.2		4.7	—
09:28	4.4	—		4.4	—		4.7	—		4.7	—
	4.3	+0.2	09:30	4.5	0.0		4.7	—		4.7	—
50	4.2	+0.3	50	4.5	—	50	4.7	—	50	4.8	-0.3
	4.2	—		4.5	—		4.7	—	09:35		—
13+70	4.2	—	15+70	4.5	—	17+70	4.7	—	20+00		—

W-89+00
 0+00 = {^{W-89+00}_{N-168+69.26}} SOUND NORTH AT 90° TO N-168+69.26

DIST	SOUND	DIST	SOUND
0+10	2.4 +2.0		
09:43 +20	2.1 +2.3		
(1.1)	2.1		
	2.2 +2.2		
50	2.1 +2.3		
	2.0 +2.4		
	2.0		
	2.0		
	2.0		
1+00	2.0		
	2.0		
	2.0		
	2.0		
	2.0		
50	2.0		
	2.0		
	2.0		
09:15	1.9 +2.5		
1+90	1.7 +2.7		

PX

W-88+00 9-12-47 (39)
 0+00 = {^{W-88+00}_{N-168+69.26}} SOUND SOUTH 90° TO N-168+69.26

DIST	SOUND	DIST	SOUND
0+00	2.4 +2.0	1+90	2.9 +1.5
09:51	2.4	2+00	2.9
	2.4		
(4.4)	2.4	09:53	2.9
	2.4	(4.4)	2.9
50	2.4		
	2.4		
	2.4	50	3.0
	2.5 +1.9		
	2.6 +1.8		
	2.6		
1+00	2.6		
	2.6		
	2.6	3+00	3.0
	2.6		
	2.6		
	2.6		
	2.7 +1.7		
50	2.7		
	2.8 +1.6	50	3.1
	2.9 +1.5		
1+80	2.9	3+70	3.1

PX

W-88+00				W-88+00				9-12-49			
DIST	SOUND		DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND	
3+80	3.1	+1.3	5+80	3.6	+0.8	7+80	3.8	+0.6	2+80	3.9	+0.4
	3.2	+1.2	PX	3.6	—		3.8	—	PX	3.9	—
4+00	3.2	—	6+00	3.6	—	8+00	3.8	—	10+00	3.9	—
09:55	3.2	—	(4.4)	3.6	—	(4.1)	3.8	—	(4.3)	4.0	+0.3
	3.3	+1.1		3.6	—		3.8	—		4.0	—
(4.4)	3.3	—		3.6	—	09:55	3.8	—		4.0	—
	3.4	+1.0		3.6	—		3.8	—		4.0	—
50	3.4	—	50	3.6	—	50	3.8	—	50	4.0	—
	3.4	—		3.7	+0.5	(4.1)	3.8	—		4.0	—
	3.4	—		3.7	—	(4.3)	3.8	+0.5		4.0	—
	3.4	—		3.7	—		3.8	—		4.0	—
	3.4	—		3.7	—		3.8	—	10:00	4.0	—
5+00	3.4	—	7+00	3.7	—	9+00	3.9	+0.4	11+00	4.0	—
	3.5	+0.9		3.7	—		3.9	—		4.0	—
	3.5	—		3.7	—		3.9	—		4.0	—
	3.5	—		3.7	—		3.9	—		4.0	—
	3.5	—		3.7	—		3.9	—		4.0	—
50	3.5	—	50	3.7	—	50	3.9	—	50	4.0	—
	3.5	—		3.8	+0.5		3.9	—		4.0	—
5+70	3.6	+0.8	7+70	3.8	—	9+70	3.9	—	11+70	4.0	—

W-88+00			W-88+00		
DIST	SOUND		DIST	SOUND	
11+80	4.0	+0.3	13+80	4.1	+0.2
	4.0	70 PX		4.1	—
12+00	4.0	—	14+00	4.2	+0.1
(4.3)	4.0	—	(4.3)	4.2	—
	4.1	+0.2		4.2	—
	4.1	—		4.2	—
	4.1	—		4.2	—
50	4.1	—	50	4.2	—
	4.1	—		4.2	—
	4.1	—		4.2	—
	4.1	—		4.2	—
	4.1	—		4.2	—
13+00	4.1	—	15+00	4.2	—
	4.1	—		4.3	0.1
	4.1	—		4.3	—
	4.1	—		4.3	—
	4.1	—	10:03	4.3	—
50	4.1	—	50	4.3	—
	4.1	—		4.3	—
13+70	4.1	—	15+70	4.3	—

W-88+00			W-88+00		
DIST	SOUND		DIST	SOUND	
15+80	4.3	0.0	17+80	4.3	0.0
	4.3	—		4.3	—
	4.3	—		4.3	—
16+00	4.3	—	18+00	4.3	—
(4.3)	4.3	—	10:05	4.3	—
	4.3	—	(4.3)	4.3	—
	4.3	—		4.4	-0.1
	4.3	—		4.4	—
50	4.3	—	50	4.4	—
	4.3	—		4.4	—
	4.3	—		4.4	—
	4.3	—		4.5	-0.2
	4.3	—		4.5	—
17+00	4.3	—	19+00	4.5	—
	4.3	—		4.5	—
	4.3	—		4.5	—
	4.3	—		4.5	—
	4.3	—		4.5	—
50	4.3	—	50	4.5	—
	4.3	—		4.5	—
17+70	4.3	—	19+70	4.5	—

W-88+00

9-12-17

0+00 = {^{W-88+00}
_{N-168+69.6}}

SOUND NORTH AT 90° TO 168+69.6 LINE

DIST	SOUND		DIST	SOUND
0+10	2.2	+2.0	2+10	1.5
+20	2.0	+2.2	<u>10:12</u>	
<u>10:14</u>	2.0	—		
(1.2)	2.0	—		
50	2.0	—		
	2.0	—		
	2.0	—		
	2.0	—		
	1.9	+2.3		
1+00	1.8	+2.4		
	1.8	—		
	1.7	+2.5		
	1.7	—		
	1.7	—		
50	1.7	—		
	1.7	—		
	1.7	—		
	1.6	+2.6		
+90	1.6	—		
2+00	1.6	—		

W87+00

9-12-17

0+00 = {^{W-87+00}
_{N-168+69.6}}

SOUND SOUTH AT 30° TO N-168+69.6 LINE

(92)

DIST	SOUND		DIST	SOUND
0+00	2.0	+2.1	1+90	2.6
<u>10:20</u>	2.0	—	2+00	2.7
(4.1)	2.0	—	(4.1)	2.7
	2.1	+2.0		2.7
	2.1	—		2.8
50	2.3	+1.8		2.8
	2.2	+1.9	50	2.8
	2.3	+1.8		2.8
	2.3	—		2.8
	2.3	—		2.8
4+00	2.4	+1.7		2.8
	2.4	—	3+00	2.8
	2.4	—		2.9
	2.4	—		2.9
	2.4	—		2.9
50	2.5	+1.6		2.9
	2.5	—	50	3.0
	2.6	+1.5	<u>10:28</u>	3.0
4+80	2.6	—	3+70	3.0

W-87+00

DIST	SOUND		DIST	SOUND
3+80	3.1	+1.0	5+80	3.3
	3.1	—		3.3
4+00	3.1	—	6+00	3.3
(4.1)	3.1	—		3.3
	3.1	—		3.3
	3.1	—		3.3
	3.1	—	(4.1)	3.3
50	3.1	—	50	3.3
	3.1	—	10+30	3.3
	3.2	+0.9	(4.0)	3.3
	3.2	—		3.3
	3.2	—		3.3
5+00	3.2	—	7+00	3.3
	3.2	—		3.4
	3.2	—		3.4
	3.2	—		3.4
	3.2	—		3.4
50	3.2	—	50	3.5
	3.2	—		3.5
5+70	3.3	+0.8	7+70	3.5

W-87+00

9-12-17

(93)

DIST	SOUND		DIST	SOUND
7+80	3.5	+0.5	9+80	3.6
	(4.0)	—	(4.0)	3.6
8+00	3.5	—	10+00	3.6
	3.5	—		3.6
	3.5	—		3.6
	3.5	—		3.6
	3.5	—		3.7
	3.5	—		3.8
50	3.5	—	50	3.8
	3.5	—		3.8
	3.5	—		3.8
	3.5	—		3.8
	3.5	—		3.8
	3.5	—	11+00	3.8
	3.5	—		3.8
	3.5	—		3.8
	3.6	+0.4		3.8
50	3.6	—	50	3.8
	3.6	—		3.8
	3.6	—	11+70	3.8

W-87+00				W-87+00				9-12-77			
DIST	SOUND		DIST	SOUND		DIST	SOUND		DIST	SOUND	
11+80	3.8	+0.2	13+80	3.8	+0.2	15+80	4.0	0.0	17+80	4.1	-0.1
	3.8	—		3.8	—		4.0	—		4.1	—
12+00	3.8	—	14+00	3.8	—	16+00	4.0	—	18+00	4.1	—
(4.0)	3.8	—	(4.0)	3.8	—	(4.0)	4.0	—	(4.0)	4.1	—
	3.8	—		3.9	+0.1		4.0	—		4.1	—
	3.8	—		3.9	—		4.0	—		4.1	—
	3.8	—		3.9	—		4.0	—		4.1	—
50	3.8	—	50	3.9	—	50	4.0	—	50	4.1	—
	3.8	—		3.9	—		4.0	—		4.1	—
10:35	3.8	—		3.9	—		4.0	—		4.1	—
	3.8	—		3.9	—		4.0	—		4.1	—
	3.8	—		3.9	—		4.0	—		4.1	—
13+00	3.8	—	15+00	4.0	0.2	17+00	4.0	—	19+00	4.1	—
	3.8	—		4.0	—		4.0	—		4.1	—
	3.8	—		4.0	—		4.0	—		4.1	—
	3.8	—		4.0	—		4.0	—		4.1	—
	3.8	—		4.0	—		4.0	—		4.1	—
50	3.8	—	50	4.0	—	50	4.0	—	(4.0) 50	4.1	-0.2
	3.8	—		4.0	—		4.0	—	10:40	4.1	—
	3.8	—		4.0	—		4.0	—		4.1	—
13+70	3.8	—	15+70	4.0	—	17+70	4.1	-0.1	19+80	4.1	—

W-87+00

9-12-17

0+00 = {^{SW-87+00}
N-128+64.36}

SOUND NORTH AT 30° T. N. 168+67.36 LINE

DIST	SOUND		DIST	SOUND	
0+10	1.9	+1.9	2+00	1.3	+2.5
	+20	1.8		+2.0	
<u>10:18</u>		1.8			
(3.8)		1.8			
	50	1.7		+2.1	
		1.7			
		1.7			
		1.7			
		1.7			
		1.7			
1+00		1.7			
		1.7			
		1.7			
		1.7			
		1.6		+2.2	
	50	1.5		+2.3	
		1.5			
<u>20:50</u>		1.5			
		1.4		+2.4	
1+90		1.4			

W-86+00

9-12-17

0+00 = {^{SW-86+00}
N-128+67.36}

SOUND SOUTH AT 30° T. N. 168+69.36 LINE

DIST	SOUND		DIST	SOUND	
0+00	2.0	+1.7	1+90	2.5	+1.2
		2.0		2.5	
<u>10:57</u>		2.0		2.5	
(3.7)		2.0		2.5	
		2.0		2.5	
	50	2.0		2.6	+1.1
		2.0		2.6	
		2.0		2.6	
		2.1		+1.6	2.6
		2.1			2.7
		2.1			+1.0
1+00		2.2		+1.5	2.7
		2.2			2.7
		2.3		+1.4	3+00
		2.4		+1.3	2.7
		2.4			2.7
	50	2.4			2.8
		2.5		+1.2	2.8
		2.5			50
		2.5			2.8
1+80		2.5			3+50
		2.5			2.8

86+00		9-12-17	
DIST	SOUND	DIST	SOUND
3+70	2.8 +0.9	5+70	3.0 +0.7
11:00	2.8		3.0
	2.8	(3.7)	3.0
4+00	2.8	6+00	3.0
(3.7)	2.8		3.0
	2.8		3.0
	2.9 +0.8	PX	3.0
	2.9		3.0
50	2.9	50	3.0
	2.9		3.0
	2.9		3.1 +0.6
	2.9		3.1
	3.0 +0.7		3.1
5+00	3.0	7+00	3.1
	3.0		3.2 +0.5
	3.0		3.2
	3.0		3.2
	3.0		3.2
50	3.0	50	3.2
5+60	3.0	7+60	3.2

86+00		9-12-17	
DIST	SOUND	DIST	SOUND
7+20	3.2 +0.5	9+70	3.3 +0.4
	3.2		3.3
(3.7)	3.2	(3.7)	3.4 +0.3
8+00	3.2	10+00	3.4
	3.2		3.4
	3.2	PX	3.4
	3.2		3.4
	3.2		3.4
50	3.2	50	3.4
	3.2		3.4
	3.2		3.4
	3.2		3.4
	3.2	11:05	3.4
9+00	3.3 +0.4	11+00	3.4
	3.3		3.4
	3.3		3.4
	3.3		3.4
	3.3		3.5 +0.2
50	3.3	50	3.5
9+60	3.3	11+60	3.5

86+00 9-12-47

DIST	SOUND		DIST	SOUND	
11+70	3.5	+0.2	13+70	3.5	+0.1
	3.5	—		3.6	—
(3.7)	3.5	—	(3.7)	3.6	—
12+00	3.5	—	14+00	3.6	—
	3.5	—		3.6	—
	3.5	—		3.6	—
	3.5	—		3.6	—
	3.5	—		3.6	—
50	3.5	—	50	3.6	—
	3.5	—		3.6	—
	3.5	—		3.6	—
	3.5	—		3.6	—
	3.5	—		3.6	—
13+00	3.5	—	15+00	3.6	—
	3.5	—		3.6	—
	3.5	—		3.7	0.0
	3.5	—	11+03	3.7	—
	3.6	+0.1		3.7	—
50	3.6	—	50	3.7	—
13+60	3.6	—	15+60	3.7	—

86+00 9-12-47 (72)

DIST	SOUND		DIST	SOUND	
15+70	3.7	0.0	17+70	3.9	-0.3
	3.8	-0.1		3.9	—
(3.7)	3.8	—	11+10	3.9	—
16+00	3.8	—	18+00	3.9	—
	3.8	—	(3.6)	3.9	—
	3.8	—		3.9	—
	3.8	—		3.9	—
	3.8	—		3.9	—
50	3.8	—	50	3.9	—
	3.8	—		3.9	—
	3.8	—		3.9	—
	3.8	—		3.9	—
	3.8	—		3.9	—
17+00	3.8	—	19+00	3.9	—
	3.8	—		3.9	—
	3.8	—		3.9	—
	3.9	-0.2		3.9	—
	3.9	—		3.9	—
50	3.9	—	50	3.9	—
17+60	3.9	—			

W-86+00 9-12-17
 0+00 = {^{SW-86+00} N-168+69.36 } SOUND NORTH AT 90° TO N-168+69.36 LINE

DIST	SOUND		DIST	SOUND	
0+10	1.8	+1.7	2+00	1.2	+2.3
-+20	1.7	+1.8		1.1	+2.4
<u>11:21</u>	1.5	+2.0		1.1	—
(3.5)	1.5	—	(3.5)	1.0	+2.5
50	1.5	PX		1.0	—
	1.5	PX	50	1.0	—
	1.5	—		1.0	—
	1.5	—		1.0	—
	1.5	—		1.0	—
	1.5	—	<u>11:25</u>		
1+00	1.5	—			
	1.4	+2.1	3+00		
	1.4	—			
	1.4	—			
	1.3	+2.2			
50	1.3	—			
	1.3	—			
	1.3	—			
	1.2	+2.3			
1+90	1.2	—			

W-85+00 9-12-17 (48)
 0+00 = {^{SW-85+00} N-168+69.36 } SOUND SOUTH AT 90° TO N-168+69.36 LINE

DIST	SOUND		DIST	SOUND	
0+00	1.0	+1.6	1+90	1.4	+1.2
<u>13:02</u>	1.0	—	2+00	1.4	—
	1.0	—		1.4	—
(2.6)	1.0	—	(2.6)	1.4	—
	0.9	+1.7		1.5	+1.1
50	0.9	—		1.5	—
	1.0	+1.6	50	1.5	—
	1.0	—		1.5	—
	1.1	+1.5		1.5	—
	1.1	—		1.5	—
1+00	1.2	+1.4		1.5	—
	1.2	—	3+00	1.5	—
	1.2	—		1.5	—
	1.3	+1.3		1.5	—
<u>13:00</u>	1.3	—		1.5	—
50	1.3	—	<u>13:03</u>	1.5	—
	1.3	—	50	1.5	—
	1.3	—		1.6	+1.0
1+80	1.4	+1.2	3+70	1.6	—

W 85+00

9-12-77

DIST	SOUND		DIST	SOUND
3+80	1.6	+1.0	5+80	1.9
PX	1.7	+0.9	<u>13:08</u>	1.9
4+00	1.7	—	6+00	1.9
(2.6)	1.7	—		1.9
	1.7	—	(2.6)	1.9
<u>13:05</u>	1.7	—		1.9
	1.7	—		1.9
50	1.7	—	50	1.9
	1.7	—		2.0
	1.7	—		2.0
	1.8	+0.8		2.0
	1.8	—		2.0
5+00	1.8	—	7+00	2.0
	1.8	—		2.0
	1.8	—		2.0
	1.8	—		2.0
	1.8	—		2.0
50	1.9	+0.7	50	2.0
	1.9	—	<u>13:10</u>	2.0
5+70	1.9	—	7+70	2.0

W-85+00

9-12-77

(29)

DIST	SOUND		DIST	SOUND
7+80	2.0	+0.6	9+80	2.1
	2.0	—	PX	2.1
8+00	2.0	—	10+00	2.1
	2.1	+0.5		2.1
(2.6)	2.1	—	(2.6)	2.1
	2.1	—		2.2
	2.1	—		2.2
50	2.1	—	50	2.2
	2.1	+0.6		2.2
	2.1	—		2.2
	2.1	—		2.2
	2.1	—		2.2
	2.1	—	<u>13:13</u>	2.2
9+00	2.1	—	11+00	2.3
	2.1	—		2.3
	2.1	—		2.3
	2.1	—		2.3
	2.1	—		2.3
50	2.1	—	50	2.3
	2.1	—		2.3
9+70	2.1	—	11+70	2.3

W-85400 9-12-97

DIST	SOUND		DIST	SOUND	
11+80	2.3	+0.3	13+80	2.4	+0.1
	2.3	—		2.4	—
12+00	2.3	—	14+00	2.4	—
	2.3	—	(2.5)	2.5	0.0
	2.3	—		2.5	—
(2.6)	2.4	+0.2		2.5	—
	2.4	—		2.5	—
50	2.4	+0.1	50	2.5	—
(2.5)	2.4	—		2.5	—
	2.4	—		2.5	—
	2.4	—		2.5	—
	2.4	—		2.5	—
13+00	2.4	—	15+00	2.5	—
	2.4	—	13:16	2.5	—
	2.4	—		2.5	—
	2.4	—		2.5	—
	2.4	—		2.5	—
50	2.4	—	50	2.5	—
	2.4	—		2.5	—
13+70	2.4	—	15+70	2.5	—

W-85400 9-12-97 (50)

DIST	SOUND		DIST	SOUND	
15+80	2.6	-0.1	17+80	2.7	-0.2
	2.6	—		2.7	—
16+00	2.6	—	18+00	2.7	—
	2.6	—		2.7	—
(2.5)	2.6	—	(2.5)	2.8	-0.3
	2.6	—		2.8	—
	2.6	—		2.8	—
50	2.6	—	50	2.8	—
	2.6	—		2.8	—
	2.6	—		2.8	—
	2.6	—		2.8	—
	2.6	—		2.8	—
17+00	2.6	—	19+00	2.8	—
	2.6	—		2.8	—
	2.6	—		2.8	—
	2.6	—		2.8	—
	2.7	-0.2		2.8	—
50	2.7	—	50	2.8	—
	2.7	—		2.8	—
	2.7	—	13:20		
17+70	2.7	—			

W-85+00
 0+00 = {W-85+00} SOUND NORTH AT 90° To N. 168+61.36 LINE

BARRAGAN
 SENECA
 STAIRS
 9-16-17
 CLEAR
 CALM
 WARM

DIST	SOUND		DIST	SOUND	
0+10	3.7	+2.0	2+00	3.4	+2.3
<u>10:45</u>	3.7	+2.0		3.2	+2.1
(5.7)	3.6	+2.1	PX	3.3	+2.1
	3.6	—		3.3	—
50	3.7	+2.0		3.2	+2.1
	3.6	+2.1	50	3.2	—
	3.5			3.1	+2.1
	2.5	+2.2		3.0	+2.1
	3.5	—		3.0	+2.1
	2.5	—		3.0	—
	3.6	+2.1		3.0	—
	2.6	—		3.0	—
1+00	3.6	—		3.0	—
	2.6	—		3.0	—
	3.4	+2.3	3+00	3.9	+1.1
	2.7	—			
	3.4	—	<u>10:50</u>		
	3.4	—			
	3.4	—			
50	3.4	—			
	3.4	—			
	3.4	—			
	3.4	—			
1+90	3.4	—			

W-84+00
 0+00 = {W-84+00} SOUND SOUTH AT 90° To N. 168+61.36 LINE

DIST	SOUND		DIST	SOUND	
0+20	4.0	+1.0	1+90	4.5	+1.2
<u>11:00</u>	4.0	—	2+00	4.5	—
(5.7)	4.0	—	PX	4.5	—
	4.2	—		4.5	—
	4.2	+1.5		4.5	—
	4.1	+1.6	<u>11:05</u>	4.6	+1.1
50	4.1	—		4.6	—
	4.2	+1.5	50	4.6	—
	4.2	—		4.6	—
	4.3	+1.4	(5.7)	4.6	—
	4.3	—		4.6	—
1+00	4.3	—		4.6	—
	4.3	—		5.0	+0.7
	4.4	+1.3	3+00	4.9	+0.8
	4.4	—		4.7	+1.0
	4.4	—		4.7	—
	4.4	—		4.7	—
	4.4	—		4.7	—
50	4.4	—		4.7	—
	4.4	—		4.7	—
	4.4	—	50	4.8	+0.9
	4.4	—		4.8	—
1+80	4.5	+1.2	3+70	4.8	—

W-84+00			9-16-17			W-84+00			9-16-17		
DIST	SOUND		DIST	SOUND		DIST	SOUND		DIST	SOUND	
3+80	4.9	+0.8	5+80	5.0	+0.7	7+80	5.2	+0.5	9+80	5.3	+0.4
	4.9			5.0			5.2			5.3	
4+00	4.9		6+00	5.1	+0.5	8+00	5.1	+0.6	10+00	5.4	+0.3
	4.9			5.1			5.2	+0.5		5.3	+0.4
(5.7)	4.9			5.1			5.2			5.3	
	4.9		(5.7)	5.1		11.10	5.2			5.3	
	5.0	+0.7		5.1			5.2			5.3	
50	5.0		50	5.1		50	5.2		50	5.3	
	5.0			5.1		(5.7)	5.2			5.3	
	4.9	+0.8		5.1			5.2			5.3	
	4.9			5.1			5.2		(5.7)	5.3	
	4.9			5.1			5.2			5.3	
5+00	5.0	+0.7	7+00	5.1		9+00	5.2		11+00	5.3	
	5.0			5.1			5.2			5.3	
	5.0			5.1			5.2			5.3	
	5.0			5.1			5.2			5.3	
	5.0			5.1			5.2			5.3	
50	5.0		50	5.1		50	5.3	+0.4	50	5.3	
11.08	5.0			5.2	+0.5		5.3			5.3	
5+70	5.0		7+70	5.2		9+70	5.3		11+70	5.3	

(52)

W-84700

DIST	SOUND		DIST	SOUND
11+80	5.3	+0.4	13+80	5.6
PX 5.3	—		5.6	—
12+00	5.4	+0.3	14+00	5.6
5.4	—		5.6	—
<u>11:13</u>	5.4	—	5.6	—
(5.7) 5.4	—		5.6	—
5.4	—		(5.7) 5.6	—
50 5.4	—		50 5.6	—
5.4	—		5.6	—
5.4	—		5.6	—
5.4	—		5.6	—
5.4	—		<u>11:15</u> 5.6	—
13+00	5.4	—	15+00	5.6
5.5	+0.2		5.6	—
5.5	—		5.6	—
5.5	—		5.6	—
5.5	—		5.6	—
50 5.6	+0.1		50 5.7	00
5.6	—		5.7	—
13+70	5.6	—	15+70	5.7

W-84700

9-16-19 53

DIST	SOUND		DIST	SOUND
15+80	5.7	0.0	17+80	5.8
5.7	—		5.8	—
14+00	5.7	—	18+00	5.8
5.7	—		PX 5.9	-0.2
5.8	-0.1		5.9	—
(5.7) 5.8	—		5.9	—
5.8	—		(5.7) 6.0	-0.3
50 5.8	—		50 6.0	—
5.8	—		6.0	—
5.8	—		<u>11:18</u> 6.0	—
5.8	—		6.0	—
5.8	—		6.0	—
5.8	—		6.0	—
5.8	—		6.0	—
50 5.8	—		750 6.0	—
5.8	—		760 6.0	—
5.8	—		770 6.0	—
5.8	—		780 6.0	—
5.8	—		790 6.0	—
7+70	5.8	—	20+00 6.0	—

W-84+00

9-16-17

0+00 = {W-84+00
(N-168+69.96)} SOUND NORTH AT 90° TO N-168+69.96 LINE

DIST	SOUND		DIST	SOUND
0+10	3.9	+1.8	2+00	3.1
<u>11:28</u>	3.9	—	<u>11:36</u>	3.1
	3.9	—		3.1
	3.9	—		3.1
50	3.9	—		3.3
	3.9	—	50	3.3
(5.7)	3.9	—	(5.7)	3.2
	3.9	—		3.2
	3.7	+2.0		3.2
	3.7	—		3.2
1+00	3.7	—		3.1
	3.7	—	3+00	3.0
	3.5	+2.2		3.0
	3.5	—		3.0
	3.5	—		2.9
50	3.5	—		2.9
	3.4	+2.3	50	
	3.4	—		
	3.4	—		
1+90	3.4	—		

W-73+00

9-22-17

0+00 = {W-75+00
(N-168+69.96)} SOUND EAST ALONG N-168+69.96 LINE

DIST	SOUND		DIST	SOUND
0+10	2.4	+2.4		
<u>11:28</u>	2.3	+2.5		
	2.2	+2.6		
(4.8)	2.1	+2.7		
50	2.1	+2.7		
	2.0	+2.8		
	1.9	+2.9		
	1.8	+3.0		
	1.6	+3.2		
1+00	1.5	+3.3		
	1.2	+3.6		

PX

STA- 71+00

3-23-47

Sta 73+00

3-23-47

(55)

0+00 = W 71+00 De Anza B/L. Sect. At 135° 59' 45" to Bl.

0+00 = W 73+00 De Anza B/L. Sect. at 126° 10' 45" to Bl.

STA -	+	H.I.	-	ELEV
B.M.	5.21	15.83		10.62
0+00			5.0	10.8
0+30			5.9	9.9
0+75			6.2	9.6
1+01			6.8	9.0
1+05			9.2	6.6
1+13			11.0	4.8
1+45			12.7	3.1

Sta	+	H.I.	-	Elev
B.M.	4.68	16.65	11.97	11.97
0+00			5.1	11.5
0+10			5.9	10.7
0+11			7.6	9.0
0+18			10.8	5.8
0+20			11.5	5.1
0+45			11.7	4.9
0+75			12.8	3.8
0+80			13.0	3.6

N-168+00. 9-23-17
 0+00: {N-168+00 } SOUND EAST AT 90° To W-75+00 LINE

DIST SOUND

0+00 1.6 +2.2

+10 1.6 —

10:35 1.6 —

(3.8) 1.5 +2.3

1.5 —

50 1.5 —

1.1 +2.4

1.3 +2.5

1.3 —

1.2 +2.6

1+00 1.1 +2.7

1.0 +2.8

1.0 —

0.8 +3.0

1+10 0.5 +3.3

PX

N-167+00 9-23-17
 0+00: {N-167+00 } SOUND EAST AT 90° To W-75+00 LINE

DIST SOUND DIST SOUND

0+00 2.0 +1.8 1+90 1.1 +2.7

2.0 — 2+00 1.1 —

2.0 — 1.0 +2.8

(3.8) 2.0 — (3.8) 0.9 +2.9

2.0 — 2+30 0.8 +3.0

50 2.0 —

1.9 +1.9 50

1.9 —

1.9 —

10:45 1.7 +2.1

1+00 1.7 —

1.5 +2.3

1.5 —

1.5 —

1.5 —

50 1.5 —

1.5 —

1.4 +2.4

1+80 1.2 +2.6

PX

(50)

9-23-47
 N-166+00
 0+00 = {N-166+00 / W-75+60} SOUND EAST AT 90° To W-75+00 LINE.

DIST	SOUND		DIST	SOUND	
0+00	2.5	+1.3	1+30	1.8	+2.0
	2.5	—	2+00	1.8	—
10:55	2.5	—		1.7	+2.1
(3.8)	2.5	—	(3.8)	1.7	—
	2.5	—		1.6	+2.3
50	2.5	—		1.6	—
	2.5	—	50	1.5	+2.3
	2.4	+1.4		1.3	+2.5
	2.4	—		1.2	+2.6
	2.3	+1.5		1.1	+2.7
1+00	2.2	+1.6		1.0	+2.8
	2.2	—	3+00	1.0	—
	2.0	+1.8		1.0	—
	2.0	—	3+20	0.7	+3.1
	2.0	—	11:00		
50	2.0	—			
	2.0	—			
	2.0	—			
1+80	1.9	+1.9			

9-23-47
 N-165+00
 0+00 = {N-165+00 / W-75+00} SOUND EAST AT 90° To W-75+00 LINE. (37)

DIST	SOUND		DIST	SOUND	
0+00	2.7	+1.1	1+30	2.4	+1.4
	2.7	—	2+00	2.4	—
10:55	2.7	—		2.2	+1.6
(3.8)	2.7	—	(3.8)	2.1	+1.7
	2.7	—		2.0	+1.8
50	2.7	—		2.0	—
	2.6	+1.2	50	2.0	—
	2.6	—		2.0	—
	2.6	—		1.8	+2.0
	2.6	—		1.8	—
1+00	2.6	—		1.7	+2.1
	2.6	—	3+00	1.7	—
	2.6	—		1.6	+2.2
	2.5	+1.3		1.4	+2.4
	2.4	+1.4		1.3	+2.5
50	2.4	—		1.3	—
11:10	2.4	—			
	2.4	—	50	1.1	+2.7
	2.4	—	3+ 60	1.0	+2.8
	2.4	—	3+ 70	1.0	—
	2.4	—	3+ 80	1.0	—
1+80	2.4	—	3+ 90	0.9	+2.9

N-164+00 9-23-17
 0+00 = {N-164+00 / W-75+00} SOUND EAST AT 90° T. W. 75+00 LINE.

DIST	SOUND		DIST	SOUND	
0+00	2.7	+1.1	1+90	2.5	+1.3
+10	2.7	—	2+00	2.5	—
<u>11:20</u>	2.7	—		2.5	—
	2.7	—	<u>11:25</u>	2.5	—
<u>(3.8)</u>	2.7	—	<u>(3.8)</u>	2.4	+1.4
50	2.7	—		2.4	—
	2.7	—	50	2.4	—
	2.7	—		2.4	—
	2.7	—		2.4	—
	2.7	—		2.3	+1.5
1+00	2.7	—		2.2	+1.6
	2.7	—	3+00	2.1	+1.7
	2.7	—		2.0	+1.8
<u>11:23</u>	2.7	—	<u>11:28</u>	2.0	—
	2.7	—		1.8	+2.0
	2.7	—		1.8	—
50	2.6	+1.2	3+50	1.8	—
	2.6	—	+60	1.5	+2.3
	2.6	—	+70	1.5	—
	2.6	—	+80	1.4	+2.4
	2.6	—	+90	1.3	+2.5
	2.5	+1.3	4+00	1.2	+2.6
1+80	2.5	+1.3	<u>11:30</u>	1.0	+2.8
			4+30	0.9	+2.9
				0.9	+3.0

N-163+00 9-23-17 (58)
 0+00 = {N-163+00 / W-75+00} SOUND EAST AT 90° T. W. 75+00 LINE.

DIST	SOUND		DIST	SOUND	
0+00	3.0	+0.9	2+00	3.0	+0.9
<u>11:18</u>	3.0	—		3.0	—
	3.0	—		3.0	—
<u>(3.9)</u>	3.0	—	<u>(3.9)</u>	3.0	—
	3.0	—	<u>12:53</u>	3.0	—
50	3.0	—	50	3.0	—
	3.0	—		3.0	—
	3.0	—		3.0	—
	3.0	—		3.0	—
	3.0	—		3.0	—
	3.0	—		3.0	—
	3.0	—		3.0	—
1+00	3.0	—	3+00	2.7	+1.2
	3.0	—		2.7	—
	3.0	—		2.6	+1.3
	3.0	—		2.5	+1.4
	3.0	—	<u>12:55</u>	2.7	+1.5
50	3.0	—	50	2.3	+1.6
	3.0	—	60	2.2	+1.7
	3.0	—	70	2.2	—
	3.0	—	80	2.2	—
	3.0	—	90	2.0	+1.9
	3.0	—	4+00	2.0	—
	3.0	—	10	2.0	—
	3.0	—	20	1.9	+2.0
1+90	3.0	—	30	1.6	+2.3
			40	1.4	+2.5
			50	1.4	+2.5

N-163+00

DIST	SOUND	DIST	SOUND
4+60	1.3	+2.6	
	1.3	—	PX
(3.9)	1.3	—	
	1.1	+2.8	
5+00	1.0	+2.9	
	0.6	+3.3	

12:58

9-23-47

N-162+00

(N-162+00
W-75+00) SOUND EAST AT 90° TO W-75+00 LINE.

(59)

DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND
4+00	3.2	+0.8	1+90	3.1	+0.9		
4+10	3.2	—	2+00	3.1	—		
4+20	3.1	+0.9		3.0	+1.0		
	3.1	—		3.0	—		
(4.0)	3.1	—	(4.0)	3.0	—		
	3.1	—		3.0	—		
50	3.1	—		3.0	—		
	3.1	—		3.0	—		
	3.1	—	50	3.0	—		
	3.1	—		3.0	—		
	3.1	—		3.0	—		
	3.1	—		3.0	—		
	3.1	—		3.0	—		
1+00	3.1	—		3.0	—		
	3.1	—	3+00	3.0	—		
	3.1	—		3.0	—		
	3.1	—		2.9	+1.1		
	3.1	—		2.9	—		
50	3.1	—		2.9	—		
	3.1	—	50	2.9	—		
	3.1	—		2.9	—		
13:10	3.1	—		2.9	—		
1+30	3.1	—	3+70	2.8	+1.2		

N-161+00

9-23-77

DIST	SOUND		DIST	SOUND	
3+80	2.9	+1.1	5+80	1.3	+2.7
13:25	2.9	—	(4.0)	1.3	—
4+00	2.9	—	6+00	1.2	+2.8
PT	2.8	+1.2		1.1	+2.9
(4.0)	2.7	+1.3	6+20	1.0	+3.0
	2.6	+1.4	6+30	0.0	+4.0
	2.6	—	13:28		
50	2.5	+1.5			
	2.5	—			
	2.4	+1.6			
	2.2	+1.8			
	2.0	+2.0			
5+00	2.0	—			
	2.0	—			
	1.8	+2.2			
	1.7	+2.3			
	1.7	—			
50	1.5	+2.5			
	1.5	—			
5+20	1.3	+2.7			

N-160+00

9-23-77

(N-160+00
W-75+00) SOUND EAST AT 90° TO W-75+00 LINE.

DIST	SOUND		DIST	SOUND	
0+00	3.3	+0.8	1+90	3.3	+0.8
	3.3	—	2+00	3.3	—
13:35	3.3	—		3.3	—
	3.3	—	(4.1)	3.3	—
(4.1)	3.4	+0.7		3.2	+0.9
50	3.4	—		3.2	—
	3.4	—	50	3.1	+1.0
	3.4	—		3.1	—
	3.4	—		3.1	—
	3.4	—		3.1	—
1+00	3.4	—		3.1	—
	3.4	—	3+00	3.1	—
	3.4	—		3.1	—
	3.4	—		3.1	—
50	3.4	—		3.1	—
50	2.3	+0.8		3.0	+1.1
	3.3	—	50	3.0	—
	3.3	—		3.0	—
4+80	3.3	—	3+70	3.0	—

N-160+00

9-23-17

DIST	SOUND		DIST	SOUND	
3+80	3.0	+1.1	5+80	1.8	+2.3
PX	3.0	—		1.6	+2.5
4+00	3.0	—	6+00	1.5	+2.6
(4.1)	2.9	+1.2	(4.1)	1.4	+2.7
	2.9	—		1.3	+2.8
	2.9	—		1.2	+2.9
	2.8	+1.3		1.1	+3.0
50	2.8	—	50	1.0	+3.1
	2.7	+1.4	6+60	0.0	+4.1
	2.7	—	<u>13:40</u>		
	2.7	—			
	2.7	—			
5+00	2.5	+1.6			
	2.5	—			
	2.1	+2.0			
	2.1	—			
	2.0	+2.1			
50	2.0	—			
<u>13:38</u>	2.0	—			
5+70	1.8	+2.3			

N-159+00

9-23-17

(62)

SOUND EAST AT 90° TO W-75+00 LINE

DIST	SOUND		DIST	SOUND	
4+00	3.3	+0.8	1+90	3.6	+0.5
	3.3	—	2+00	3.5	+0.6
<u>13:40</u>	3.3	—		3.5	—
(4.1)	3.4	+0.7	(4.1)	3.5	—
	3.4	—		3.5	—
50	3.4	—		3.5	—
	3.4	—	50	3.5	—
	3.4	—		3.4	+0.7
	3.4	—		3.4	—
	3.5	+0.6		3.4	—
4+00	3.5	—		3.4	—
	3.5	—	3+00	3.7	—
	3.5	—		3.7	—
	3.5	—		3.3	+0.8
	3.5	—		3.3	—
50	3.5	—		3.3	—
	3.5	—	50	3.3	—
	3.5	—		3.2	+0.9
4+80	3.5	—	3+70	3.2	—

N-159+00			9-23-47		
DIST	SOUND		DIST	SOUND	
3+80	3.2	+0.9	5+80	2.0	+2.1
(4.1)	3.2	—		2.0	—
4+00	3.2	—	6+00	1.8	+2.3
OX	3.2	—	(4.1)	1.8	—
	3.2	—		1.7	+2.4
	3.2	—		1.7	—
	3.1	+1.0		1.6	+2.5
50	3.1	—	50	1.5	+2.6
	3.1	—		1.4	+2.7
	3.0	+1.1		1.2	+2.9
	3.0	—		1.0	+3.1
	3.0	—		0.5	+3.6
5+00	2.9	+1.2	⁰⁷ 7+00	0.0	+4.1
	2.8	+1.3	13:52		
	2.8	—			
	2.7	+1.4			
	2.6	+1.5			
50	2.5	+1.6			
13:50	2.4	+1.7			
5+70	2.2	+1.9			

N-158+00			9-23-47		
W-75+00			SOUND EAST AT 90° TO W-75+00 LINE, (63)		
DIST	SOUND		DIST	SOUND	
1+00	3.6	+0.6	1+90	3.7	+0.5
	3.6	—	2+00	3.7	—
12:59	3.6	—		3.7	—
(4.2)	3.7	+0.5	(4.2)	3.6	+0.6
	3.7	—		3.6	—
50	3.7	—		3.6	—
	3.7	—	50	3.6	—
	3.7	—		3.6	—
	3.7	—		3.6	—
	3.7	—		3.6	—
14:00	3.7	—		3.6	—
	3.7	—	3+00	3.6	—
	3.7	—		3.5	+0.7
	3.7	—		3.5	—
	3.7	—		3.5	—
50	3.7	—		3.3	+0.9
	3.7	—	50	3.3	—
	3.7	—		3.3	—
14:00	3.7	—	3+70	3.3	—

N-158+00 9-23-47

DIST	SOUND		DIST	SOUND
3+80	3.2	+1.0	5+80	2.6 +1.6
PX	3.2	—		2.5 +1.7
4+00	3.2	—	6+00	2.3 +1.9
(4.2)	3.2	—	(4.2)	2.3 —
	3.2	—		2.1 +2.1
	3.2	—		2.0 +2.2
	3.1	+1.1		1.9 +2.3
50	3.1	—	50	1.9 —
	3.1	—		1.7 +2.5
	3.1	—		1.7 —
	3.1	—		1.5 +2.7
<u>14:03</u>	3.1	—		1.7 +2.8
5+00	3.1	—	7+00	1.4 —
	3.0	+1.2		1.3 +2.9
	3.0	—		0.8 +3.4
	3.0	—		0.3 +3.9
	3.0	—	7+33	0.0 +4.2
50	2.9	+1.3		
	2.8	+1.4		
5+20	2.6	+1.6		

FINAL X-SECTIONS PROJECT #8

STA-102+00

{ STA-102+00
R-114+00 } SECTIONS AT 90° TO R/L.

STA	+	H.I.	-	ELEV
B.M.	5.16	17.71		12.25
			5.6	11.8
			5.7	11.7
			5.9	12.0
			5.9	12.0
			5.0	12.4
			9.6	12.8
			5.0	12.4
			6.8	10.6
			8.9	8.5
			10.6	6.8
			13.5	3.9

PX
Indexed

TOP CROSS IN CONC
STA-102+00
W/CAUSEWAY B/L

10-7-47
SHEPHERD STANLEY
(6)

10-7-41

10-7-47

65

Pt

101+00

100+00

PX

0+00 = P-114+00

0+00 = P-114+00

STA	+	H.I.	-	ELEV
-----	---	------	---	------

STA	+	H.I.	-	ELEV
-----	---	------	---	------

B.M.	4.90	17.15		12.25
------	------	-------	--	-------

B.M.	5.15	17.10		11.95
------	------	-------	--	-------

W 2+10			13.2	4.0
--------	--	--	------	-----

E 2+18			5.2	11.9
--------	--	--	-----	------

W 1+95			11.0	6.1
--------	--	--	------	-----

E 1+70			4.9	12.2
--------	--	--	-----	------

W 1+80			6.6	10.5
--------	--	--	-----	------

E 1+20			4.8	12.3
--------	--	--	-----	------

W 1+65			3.4	11.7
--------	--	--	-----	------

E 0+65			4.6	12.5
--------	--	--	-----	------

W 1+25			5.3	11.8
--------	--	--	-----	------

E 0+00			5.0	12.1
--------	--	--	-----	------

W 0+82			5.6	11.5
--------	--	--	-----	------

E 0+50			5.4	11.7
--------	--	--	-----	------

W 0+43			5.3	11.8
--------	--	--	-----	------

E 1+00			5.1	12.0
--------	--	--	-----	------

0+00			5.1	12.0
------	--	--	-----	------

E 1+42			4.4	12.7
--------	--	--	-----	------

E 0+45			5.0	12.1
--------	--	--	-----	------

E 1+71			8.2	8.9
--------	--	--	-----	-----

E 0+92			4.8	12.3
--------	--	--	-----	------

E 1+00			12.3	4.8
--------	--	--	------	-----

E 1+42			5.0	12.1
--------	--	--	-----	------

E

PX

99+00

0+00 = R-119+00

STA	+	H.I.	-	ELEV	Top Hub sta 99+00
B.M.	5.77	17.50		11.73	
W 1+70			12.5	5.0	
W 1+53			8.3	9.2	
W 1+91			7.9	12.6	
W 0+74			5.3	12.2	
0+00			5.1	12.4	
E 0+52			5.1	12.4	
E 1+05			5.2	12.3	
E 1+68			5.3	12.2	
E 2+23			5.6	11.9	
E 2+33			5.8	11.7	

Sta 98+00

10-7-47

(10)

0+00 = R-119+00

Sta	+	H.I.	-	Elev	Top Hub 98+00
B.M.	5.12	16.82		11.70	
E 2+47			5.1	11.7	
E 2+35			4.8	12.0	
E 1+97			4.6	12.2	
E 1+52			4.7	12.1	
E 1+02			4.8	12.0	
E 0+50			4.8	12.0	
0+00			5.0	11.8	
E 0+67			5.0	11.8	
E 1+19			4.1	12.7	
E 1+99			4.8	12.0	
E 1+68			9.7	7.1	
E 1+90			12.7	4.1	

PX

97+00

0+00=R. 114+00=B.L.

STA	+	H.I.	-	ELEV
B.M.	5.77 4.98	17.24		11.47 97+00
W 2+90			13.1	4.1
W 2+17			10.7	6.5
W 1+98			8.0	9.2
W 1+77			9.7	12.5
W 1+38			9.9	12.3
W 1+00			5.0	12.2
W 0+75			5.0	12.2
0+00			5.1	12.1
E 0+61			9.6	12.6
E 1+19			9.9	12.3
E 1+83			9.6	12.6
E 2+51			5.0	12.2
E 2+63			5.8	11.4

96+00

R. 114+00=B.L. = 0+00

STA	+	H.I.	-	ELEV
B.M.	5.71	17.06		11.35 96+00
E 2+76			5.7	11.4
E 2+65			5.3	11.8
E 2+09			5.1	12.0
E 1+96			5.2	11.9
E 0+75			5.1	12.0
0+00			5.0	12.1
W 0+62			5.1	12.1
W 1+20			5.3	11.8
W 1+90			5.9	11.7
W 2+09			5.1	12.0
W 3+35			8.8	8.3
W 4+15			10.3	6.8
W 4+20			10.3	6.8

(17)

PX

10-7-47

PX

Sta. 95+00

R. 114+00 = B.L. = 0+00

STA	+	H.I.	-	ELEV	Top. Hub
B.M	5.93	17.14		11.21	95+00
W 1+68			5.4	11.7	
W 1+21			4.9	12.2	
W 3+52			5.3	11.8	
W 2+90			4.9	12.2	
W 2+23			5.0	12.1	
W 1+60			5.1	12.0	
W 0+80			5.3	11.8	
0+00			5.0	12.1	
E 0+44			5.0	12.1	
E 1+08			5.1	12.0	
E 1+70			5.4	11.7	
E 2+20			5.1	12.0	
E 2+78			6.1	11.0	
E 2, 91			5.9	11.2	

Sta. 94+00

R. 114+00 = B.L. = 0+00

Sta	+	H.I.	-	Elev	Top Hub
B.M	7.31	18.12			Sta. 94+00 11.11
3+05			7.3	11.1	
2+88			7.7	10.7	
2+45			6.4	12.0	
1+87			6.2	12.2	
1+38			6.0	12.4	
0+94			5.8	12.6	
0+45			5.5	12.9	
0+00			5.2	13.2	
0+53			5.1	13.3	
1+17			5.1	13.3	
1+90			5.3	13.1	
2+65			5.5	12.9	
3+30			5.8	12.6	
3+84			6.3	12.1	
4+80			6.8	11.6	

(68)

PX

PX

Sta 93+00

R. 114+00 = B.L. = 0+00

Sta	T	HI	-	Elev
B.M.	8.01	19.0 18.98		10.97 93+00
W. 4+80			6.9	12.1
W 4+51			6.8	12.2
W 3+60			6.0	13.0
W 3+00			5.5	13.5
W 2+25			5.0	14.0
W 1+73			5.0	14.0
W 1+42			4.6	14.4
W 1+00			4.4	14.6
W. 0+43			4.9	14.1
0+00			5.0	14.0
E. 0+55			4.8	14.2
E 1+07			5.3	13.7
E 1+60			6.1	12.9
E 2+10			6.9	12.1
E 2+75			7.4	11.6
E 3+06			8.3	10.7
E 3+22			8.0	11.0

10.

PX

Sta 92+00

R. 114+00 = B.L. = 0+00

Sta	T	HI	-	Elev
B.M.	8.47	19.47		11.05 92+00
E 3+34			8.5	11.0
E 2+80			8.3	11.2
E 2+23			7.4	12.1
E 1+70			6.6	12.9
E 1+25			5.7	13.8
E 0+64			5.1	14.4
0+00			5.0	14.5
W 0+56			5.0	14.5
W 1+08			5.0	14.5
W 0+78			5.4	14.1
W 2+27			5.7	13.8
W 3+00			4.7	14.8
W 3+50			6.0	13.5
W 3+95			7.2	12.3
W 4+45			7.6	11.9

10-7-47

69

10-7-47

PX

STA 91+00

R. 114+00 = B.L. = 0+00

STA	+	H.I.	-	ELEV	Top. Hub Sta 90+00
B.M.	7.18	18.33		11.15	
W. 4+38			6.2	12.1	
W. 3+77			5.7	12.6	
W. 3+15			5.3	13.0	
W. 2+60			5.1	13.2	
W. 2+05			4.6	13.7	
W. 1+50			4.4	13.9	
W. 0+88			4.9	13.4	
W. 0+40			5.7	12.6	
0+00			5.2	13.1	
E. 0+55			5.0	13.3	
E. 1+10			5.2	13.1	
E. 1+98			5.6	12.7	
E. 2+90			6.7	11.6	
E. 3+42			7.6	10.7	

10-7-47

(20)

Sta 90+00

R. 114+00 = B.L. = 0+00

Sta	+	H.I.	-	Elev	Top Hub Sta
B.M.					

(Next Page)

PX

Sta. 90+00

R. 114+00 = B.L. = 0+00

Sta	+	HI	-	Elev	Top. Hub Sta 90+00
B.M.	6.55	17.70		11.15	
E 3+66			6.5	11.2	
E 3+52			6.7	11.0	
E 3+03			6.4	11.3	
E 2+61			6.2	11.5	
E 2+08			5.8	11.9	
E 1+70			5.4	12.3	
E 1+35			5.0	12.7	
E 0+94			5.4	12.3	
E 0+45			5.5	12.2	
L 0+00			5.1	12.6	
AW 0+40			5.2	12.5	
AW 0+93			5.0	12.7	
AW 1+63			5.0	12.7	
AW 2+25			4.7	13.0	
W 3+03			5.2	12.5	
W 3+80			5.2	12.5	
W 4+35			5.8	11.9	

10-7-47

20

Sta 89+00

PX

R. 114+00 = B.L. = 0+00

Sta	+	HI	-	Elev	Top. Hub Sta 89+00
B.M.	6.01	17.16		11.15	
W 4+37			5.3	11.9	
W 3+95			5.2	12.0	
W 3+32			5.4	11.8	
W 2+70			5.8	11.4	
W 2+20			5.7	11.5	
W 1+75			4.9	12.3	
W 1+23			5.5	11.7	
W 0+85			5.7	11.5	
W 0+46			5.8	11.4	
0+00			5.0	12.2	
W 0+70			5.6	11.6	
W 1+40			5.2	12.0	
E 2+05			5.0	12.2	
E 2+65			5.5	11.7	
E 3+25			6.0	11.2	
E 3+78			6.0	11.2	

Px

Sta 88+00

R. 114+00 = B.L. = 0+0.0

Sta	+	H.I.	-	Elev
B.M.	5.14	16.38		11.24
E. 3+85'			5.1	11.3
E. 3+35			4.9	11.5
E. 2+70			4.5	11.9
E. 2+15			4.2	12.2
E. 1+50			4.6	11.8
E. 0+95			4.5	11.9
E. 0+35			5.0	11.4
0+00			5.1	11.3
W. 0+55			5.1	11.3
W. 1+05			5.7	10.7
W. 1+55			5.1	11.3
W. 2+05			5.4	11.0
W. 2+55			5.4	11.0
T.P.			4.84	11.54
W. 3+05			5.3	11.1
W. 3+73			5.6	10.8
W. 4+15			5.5	10.9

10-7-47

88+00

10-7-47

Px

 $\left. \begin{matrix} R=106+00 \\ STA=88+00 \end{matrix} \right\} \text{SECTIONS AT } 90^\circ \text{ TO R/L.}$

STA	+	H.I.	-	ELEV
T.P.	4.73	16.27		11.54
T.P.	4.29	16.98	3.58	12.69
0+00			5.0	12.0
E. 0+46			5.0	12.0
E. 1+15			5.2	11.8
E. 1+80			5.4	11.6
E. 2+50			5.4	11.6
E. 3+05			6.2	10.8
E. 3+53			6.0	11.0

72

PX

Sta. 89+00

R. 106+00 - T.B.L. = 0+00

Sta.	I	HI	-	Elev
				T.B.M.
T.B.M.	4.29	16.98		12.69
E 3+50			4.8	12.2
E 3+08			5.0	12.0
E 2+62			5.2	11.8
E 2+20			5.1	11.9
E 1+70			4.7	12.3
E 1+25			5.2	11.8
E 0+85			5.3	11.7
E 0+40			5.1	11.9
0+00			5.0	12.0

Sta. 90+00

PX

R. 106+00 - T.B.L. = 0+00

Sta.	I	HI	-	Elev	T.B.M.
T.B.M.	5.01	17.70			12.69
0+00			5.0	12.7	
T.P.			4.89	12.81	
0+55			5.5	12.2	
1+15			5.7	12.0	
1+70			5.6	12.1	
2+33			5.6	12.1	
2+95			5.9	11.8	
3+60			5.8	11.9	

10-7-47

R

STA 91+00

R. 106+00 = B.L. = 0+00

STA	+	H.I.	-	ELEV.
T.B.M.	4.09	16.90		12.81 T.B.M.
E. 3+50			4.9	12.0
E. 2+85			4.3	12.6
E. 2+25			4.5	12.4
E. 1+68			5.6	11.3
E. 1+20			5.5	11.4
E. 0+65			5.5	11.4
0+00			5.0	11.9

10-7-47 (74)

Sta. 92+00

PX

R. 106+00 = T.B.L. = 0+00

Sta	+	H.I.	-	Elev.	T.B.M.
T.B.M.	4.15	16.96			12.81
0+00				5.0	12.0
0+32				5.1	11.9
0+80				5.3	11.7
1+25				5.0	12.0
1+75				5.0	12.0
2+19				5.3	11.7
2+65				5.1	11.9
3+48				5.3	11.7

10-7-47

PX

Sta. 93+00

R. 106+00 = B.L. = 0+00

Sta	+	HI	-	Elev	TRM
TRM	4.73	17.54			12.81
E 3+50			5.7	11.8	
E 3+10			5.6	11.9	
E 2+76			5.6	11.9	
E 2+10			5.5	12.0	
E 1+65			5.9	11.6	
E 1+20			5.9	11.6	
E 0+85			6.1	11.4	
E 0+32			5.0	12.5	
0+00			5.1	12.4	
W 0+47			5.3	12.2	
W 0+95			5.1	12.4	
W 1+45			4.1	13.4	
W 2+10			4.5	13.0	
W 2+72			4.2	13.3	
W 3+23			4.0	13.5	
W 3+65			3.0	14.5	
W 4+25			2.6	14.9	

~~7-10-47~~

75

Sta 95+00

10-7-47

PX

R. 106+00 = B.L. = 0+00

Sta	+	HI	-	Elev	TRM
TRM	4.13	17.97			13.84
E 3+15			6.3	11.7	
E 2+55			5.7	12.3	
E 1+95			5.3	12.7	
E 1+35			5.7	12.3	
E 0+70			5.2	12.8	
0+00			4.9	13.1	
W 0+53			4.7	13.1	
W 1+10			4.8	13.2	
W 1+70			4.8	13.2	
W 2+30			4.6	13.4	
W 2+92			4.5	13.5	
W 3+60			4.5	13.5	
W					

10-7-47

10-7-47 (76)

PX

Sta 94+00

R. 106+00 - B.L. = 0+00

Sta + HI - Elev

T.B.M.

4.95 17.76

T.B.M.

12.81

W4+40

3.1 14.7

W4+00

3.9 13.9

W3+62

4.4 13.4

W3+16

4.9 12.9

W2+55

4.9 12.9

W2+65

5.2 12.6

W1+45

5.0 12.8

W1+20

5.2 12.6

W0+75

5.5 12.3

W0+46

5.2 12.6

0+00

5.2 12.6

T.P.

3.92 13.84

E 0+60

5.3 12.5

E 1+85

5.1 12.7

E 2+52

5.5 12.3

E 3+26

6.0 11.8

Sta 96+00

R. 106+00 - B.L. = 0+00

Sta + HI - Elev

T.B.M.

4.93 18.77

T.B.M.

13.84

E 3+65

4.3 14.5

E 2+05

4.2 14.6

E 2+40

4.5 14.3

E 1+75

4.9 13.9

E 1+20

4.5 14.3

E 0+60

4.4 14.4

0+00

5.0 13.8

T.P.

2.58 16.19

E 0+40

5.6 13.2

E 0+85

6.5 12.3

E 1+35

6.8 12.0

E 1+85

6.9 11.9

E 2+38

7.0 11.8

E 2+68

8.3 10.5

E 2+95

10.6 8.2

E 3+29

12.1 6.7

10-7-47

PX

STA 97+00

R. 106+00 = B.L. = 0+00

STA	+	H.I.	-	ELEV.	T.B.M.
T.B.M.	2.62	18.81			16.19
E 1+60			12.7	6.1	
E 1+30			9.3	9.5	
E 0+95			6.0	12.8	
E 0+65			5.6	13.2	
E 0+33			5.9	12.9	
0+00			5.2	13.6	
W 0+55			4.0	14.8	
W 1+15			3.6	15.2	
W 1+67			3.9	14.9	
W 2+20			4.3	14.5	
W 2+65			4.2	14.6	
W 3+20			4.0	14.8	
W 3+70			3.9	14.9	
W					

10-7-47 (77)

PX

Sta 98+00

R. 106+00 = B.L. = 0+00

Sta	+	H.I.	-	Elev	T.B.M.
T.B.M.	2.31	18.50			16.19
W 3+82			3.1	15.4	
W 3+40			2.6	15.9	
W 2+95			2.7	15.8	
W 2+45			2.8	15.7	
W 2+00			3.4	15.1	
W 1+60			3.8	14.7	
W 1+20			4.0	14.5	
W 0+70			3.5	15.0	
W 0+35			4.0	14.5	
0+00			5.0	13.5	
E 0+33			5.5	13.0	
E 0+65			5.3	13.2	
E 0+87			6.7	11.8	
E 1+05			3.8	8.7	
E 1+20			13.0	5.5	

PX
 0+00 =
 R-106+00

STA	+	H.I.	-	ELEV.	T.B.M.
T.B.M.	2.14	18.33		16.19	
E 1+20			13.1	5.2	
E 1+02			9.1	9.2	
E 0+80			6.1	12.2	
E 0+60			4.8	13.5	
E 0+32			4.8	13.5	
0+00			5.0	13.3	
W 0+63			3.6	14.7	
W 1+20			2.5	15.8	
W 1+65			3.9	14.4	
W 2+20			2.9	15.4	
W 2+80			1.8	16.5	
W 3+30			1.8	16.5	
W 3+90			1.8	16.5	
T.P.			3.67	14.66	

10-7-47 1.P.3.47

100+00
 R. 106+00 = B.L. = 0+00

STA	+	H.I.	-	ELEV.	T.B.M.
T.B.M.	4.20	18.86			14.66
4+00			3.8	15.1	
3+35			3.6	15.3	
2+70			3.3	15.6	
2+14			3.5	15.4	
1+50			3.1	15.8	
1+00			3.3	15.6	
0+43			4.2	14.7	
0+00			5.1	13.8	
0+40			4.7	14.2	
0+72			5.7	13.2	
1+00			9.1	9.8	
1+10			11.9	7.0	

10-7-47 (78) PX

10-7-47

T.P. 4.71

(79)

101+00

PX

0+00 = 19-106+00

STA	+	H.I.	-	ELEV
T.B.M	4.44	19.10		14.66
E 1+10			12.3	6.8
E 0+85			8.6	10.5
E 0+55			5.7	13.4
0+00			5.1	14.0
W 0+10			5.6	13.5
W 1+00			5.3	13.8
W 1+65			5.3	13.8
W 2+22			5.2	13.9
W 2+90			5.4	13.7
W 3+60			5.9	13.2
T.P.			4.71	
T.B.M	3.74	18.90		14.66
T.P.	4.38	16.86	5.92	12.98
			5.76	11.10 =
				11.21 25+00

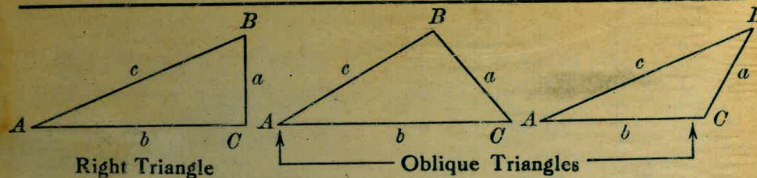
2.60
3.28
3.86

106 - +2.60

BM - - 3.61 6x6 EDGE OF SURVEY

STA-	FL	DIST	STA	EL.	DIST
101-	8.26	-520'	107-		1900'
100-	6.80	-505'	106-		2030'
99-	7.96	-583'	105-		1980'
98-	7.67	-630'	104-		1970'
97-	7.74	-660'	103-		1800'
96-	7.87	-660'	102-		2000'
95-	7.93	-610'			
94-	7.00	-180'			
93-	6.58	-470'			
92-		-440'			
91-		-400'			
90-					
89-					
88-					
87-					
86-					
85-					
84-					
83-					
82-					
81-					
80-					

TRIGONOMETRIC FORMULÆ



Solution of Right Triangles

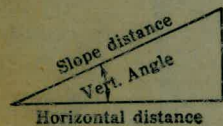
For Angle A. $\sin = \frac{a}{c}$, $\cos = \frac{b}{c}$, $\tan = \frac{a}{b}$, $\cot = \frac{b}{a}$, $\sec = \frac{c}{b}$, $\operatorname{cosec} = \frac{c}{a}$

Given	Required	Formula
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	Formula
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



Horizontal distance = Slope distance multiplied by the cosine of the vertical angle. Thus: slope distance = 319.4 ft. Vert. angle = $5^\circ 10'$. 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.