

MISSION BAY

No. 24

---

K. C.

LEVEL 500

1875

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**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.



BK-24

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  
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 with a WATER RESISTING surface sizing.



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X9



BRADLEY  
SWAMPY  
STANLEY  
9-10-97  
CLEAR  
CASH

SOUNDINGS OF PROJECT # 5

90+00 9-10-97 ①

DIST		SOUND		DIST		SOUND	
	+ 50	11.1	-7.8	6+50	11.0	-7.5	
0+00 = (R-100+00)	STA-90+00	SOUND	W 3.6	11.1	-7.5	3.5	10.8 -7.3
				11.1			10.6 -7.1
	+1+06	0.0	+3.6	2+70	11.2	-7.1	11.5 -7.9 10.9 -7.2
	1+10	0.1	+3.2	3.6	11.1	-7.1	11.5 -10.6 -7.1
11:00		1.1	+2.5	3+00	11.0	-7.1	11.5 -7+00 10.8 -7.3
3.6		2.9	+1.2		11.1	-7.1	11.0 -7.4 11.2 -7.7
		3.1	+0.5		11.1	-7.1	11.0 -13.0 -9.5
50	3.7	-0.1	11:08	10.8	-7.1	3.6	10.8 -7.2 13.0 -
	4.3	-0.7		11.0	-7.1	3.5	10.7 -7.2 12.8 -9.3
	5.0	-1.4	50	11.0	-	50	10.8 -7.3 50 12.8 -
	5.4	-1.8		11.0	-		10.8 -12.0 -8.5
	6.4	-2.8		11.0	-		10.8 -11.5 -8.0
2+00	6.7	-3.1		11.4	-7.1		10.7 -7.2 11.2 -7.7
	7.1	-3.5		11.7	-8.1		10.5 -7.0 11.4 -7.9
	7.3	-3.7	4+00	11.6	-8.1	4+00	11.1 -7.6 8+00 11.5 -8.0
11:05	7.8	-4.2		11.7	-8.1		11.1 -11.5 -
	9.9	-6.3		11.7	-		11.1 -11.5 -
50	10.4	-6.8		11.7	-		11.0 -7.5 11.8 -8.3
2+60	11.0	-7.4	4+40	11.5	-7+40	11.0	-8+40 12.0 -8.5



90+00  
 DIST SOUND

8+50 11.5 -8.0

(3.5) 11.5 —

11.3 -7.8

11.5 -8.0

11.5 —

9+00 11.5 —

~~10.5~~  
~~10.5~~ -7.0

11:15 10.0 —

10.0 —

10.3 -6.8

50 10.8 -7.3

DIST SOUND

PX

9-10-41

STA- 91+00

0+00 = {<sup>A-98+00</sup>  
 STA-91+00}

SOUND WEST

DIST SOUND

0+75 0.0 +3.5

+80 0.5 +3.0

12:13 1.3 +2.2

1+00 2.5 +1.0

(3.5) 3.5 0.0

3.7 -0.2

~~4.3~~  
~~4.3~~ -0.8

5.0 -1.5

50 5.6 -2.1

6.5 -3.0

7.1 -3.6

7.5 -4.0

8.0 -5.5

2+00 9.4 -5.9

10.2 -6.7

10.8 -7.3

11.4 -7.9

2+40 11.4 —

PX

9-10-41 (2)

DIST SOUND

2+50 11.4 —

(3.5) 11.3 -7.8

11.5 -8.0

11.4 -7.9

11.5 -8.0

3+00 11.1 -7.6

11.0 -7.5

10.8 -7.3

10.7 -7.2

10.5 -7.0

50 10.5 —

10.8 -7.3

10.8 —

10.7 -7.2

10.9 -7.4

4+00 11.0 -7.5

12:18 12.0 -8.5

4+20 12.5 -9.0



91+00			9-10-47			STA- 92+00			9-10-47		
DIST	SOUND		DIST	SOUND		DIST	SOUND		DIST	SOUND	
4+30	12.0	-8.5	6+30	11.5	-8.0	160 W 0+00 = (36+40 STA-32+00)			PX	SOUND WEST	
(3.5)	11.8	-8.3	(3.5)	12.5	-9.0						
PX 50	11.8	—	50	12.0	-8.5	0+00	0.0	+3.5	1+80	13.1	—
	12.0	-8.5		12.2	-8.5	+10	1.1	+2.4	(3.5)	13.5	-10.0
	12.0	—		11.8	-8.5	12:35	2.0	+1.5	2+00	13.0	-9.5
	12.0	—		11.8	—	(3.5)	3.1	+0.1		12.5	-9.0
	12.0	—		11.5	-8.5		4.0	-0.5	12:38	12.3	-8.8
5+00	12.2	-8.7	7+00	11.6	-8.5	50	4.5	-1.0		12.1	-8.6
	12.3	-8.8		11.5	-8.5		5.0	-1.5		12.0	-8.5
	12.3	—		11.5	—		5.0	—	50	11.8	-8.3
	12.3	—		10.5	-7.5		6.4	-2.9		12.0	-8.5
	12.3	—		10.5	—		7.1	-3.6		12.0	—
50	12.0	-8.5	50	11.0	-7.5	1+00	7.9	-4.4		12.1	-8.6
	12.0	—					8.9	-5.4		12.0	-8.5
	11.7	-8.2					10.0	-6.5	3+00	12.2	-8.7
	11.7	—					11.8	-8.3		12.5	-9.0
	11.9	-8.4					12.0	-8.5		13.6	-10.1
6+00	12.0	-8.5				50	12.1	-8.6		12.8	-9.3
12:20	12.0	—					13.1	-9.6		11.7	-8.2
6+20	11.8	-8.3				1+70	13.1	—	3+50	11.7	—



92+00		9-10-47		STA- 93+00		9-10-47			
DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND
3+60	12.0	-8.5	5+60	11.8	-8.3	0+00	0.0	0.0	0.0
	12.0	—		11.8	—				
(3.5)	12.0	—	(3.5)	12.0	-8.5	0+05	0.0	+3.5	1+80
12:40	12.0	—		11.8	-8.3	0+10	0.5	+3.0	(3.5)
4+00	12.0	—	6+00	11.5	-8.0	12:35	1.5	+2.0	2+00
	12.0	—		11.5	—	(3.5)	4.0	-0.5	
	11.8	-8.3		11.1	-7.6		4.3	-0.8	
	11.8	—		11.5	-8.0	50	5.1	-1.6	
	11.6	-8.1		11.5	—		5.4	-1.9	
50	11.6	—	50	12.0	-8.5		5.1	-1.6	50
	11.6	—	12:43				5.3	-1.8	
	11.6	—					5.4	-1.9	
	11.5	-8.0				1+00	8.5	-5.0	
	11.5	—					11.8	-8.3	
5+00	11.5	—					11.0	-7.5	3+00
	11.3	-7.8					11.3	-7.8	
	11.2	-7.7					12.1	-8.6	
	12.2	-8.7				50	13.5	-10.0	
	12.2	—					12.7	-9.2	
5+50	12.0	-8.5				1+70	12.6	-9.1	3+50



93+00		9-10-17	
DIST	SOUND	DIST	SOUND
3+60	11.7 -8.2	5+60	11.8 -8.3
(3.5)	12.0 -8.5	(3.5)	12.0 -8.5
	12.3 -8.8		12.4 -8.9
13:03	12.5 -9.0		12.4
4+00	12.5 —	6+00	12.0 -8.5
	12.5 —		11.5 -8.0
	12.3 -8.8		11.5 —
	12.3 —		11.8 -8.3
	12.3 —		12.0 -8.5
50	12.3 —	50	12.0 —
	12.5 -9.0		
	12.3 -8.8		
	12.1 -8.6		
	12.1 —		
5+00	12.8 -9.3		
13:05	12.6 -9.1		
	12.6 —		
	12.2 -8.7		
	12.0 -8.5		
5+50	12.0 —		

94+00		9-10-17	
DIST	SOUND	DIST	SOUND
			SOUND WEST
	0.0 +3.6	1+90	12.0 -8.3
	1.0 +2.6	2+00	12.0 —
	3.4 +0.2	(3.7)	11.8 -8.1
(3.6)	5.5 -1.9	Px	11.6 -7.9
50	6.0 -2.4		11.5 -7.8
	6.0 —		11.7 -8.0
	6.4 -2.8	50	11.8 -8.1
	6.8 -3.2	13:22	11.6 -7.9
	7.4 -3.8		12.0 -8.3
1+00	8.0 -4.4		12.0 —
	10.1 -6.5		14.2 -10.5
	10.8 -7.2	3+00	14.0 -10.3
	11.0 -7.4		14.0 —
	11.0 —		13.5 -9.8
50	11.2 -7.6		13.5 —
(3.6)	11.1 -7.8		13.3 -9.6
(3.7)	11.7 -8.0	50	12.7 -9.0
1+80	12.0 -8.3	3+60	12.5 -8.8















97+00			9-11			97+00			9-10-17		
DIST	SOUND		DIST	SOUND		DIST	SOUND		DIST	SOUND	
3+60	13.0	-8.7	5+60	12.6	-8.2	7+60	12.8	-8.4			
	13.0	—	(4.4)	12.6	—	(4.4)	13.0	-8.6	PX		
PX	13.1	-8.8		12.5	-8.1		13.0	—			
	13.0	-8.7		12.5	—		13.1	-8.7			
4+00	13.0	—	6+00	12.4	-8.6	8+00	13.0	-8.6			
	13.0	—		12.4	—						
	12.7	-8.4		12.4	—						
(4.3)	12.7	—		12.4	—						
<u>14:30</u>	12.5	-8.2		12.8	-8.1						
50	12.5	-8.1	50	12.6	-8.1						
(4.4)	12.1	-7.7		13.1	-8.1						
	12.0	-7.6		13.3	-8.1						
	12.2	-7.8		13.0	-8.1						
	12.4	-8.0		12.2	-7.7						
5 5+00	12.8	-8.4	7+00	12.4	-8.0						
	13.0	-8.6		12.6	-8.0						
	12.7	-8.3		13.0	-8.0						
	12.6	-8.2		13.0	—						
	12.6	—		13.0	—						
5+50	12.6	—	7+50	12.8	-8.0						



STA- 98+00			9-10-47			98+00			9-10-47		
240W 0+00 = { P-95+60 STA-98+00 )			SOUND WEST			DIST SOUND			DIST SOUND		
DIST	SOUND	Px	DIST	SOUND		DIST	SOUND		DIST	SOUND	(10)
			3+60	12.2	-7.6	5+60	12.9	-8.3			
				12.2			12.9				
0+05	0.0	+4.6	1+80	11.7	-7.1 (4.6)	12.3	-7.7	(4.6)	12.8	-8.2	
0+10	1.0	+3.6	(4.6)	11.7		12.5	-7.9	Px	12.6	-8.0	
<u>14:48</u>	2.8	+1.8	2+00	11.5	-6.9	4+00	12.5		6+00	12.6	
(4.6)	4.8	-0.2		11.4	-6.5		12.6	-8.0		12.6	
	6.5	-1.9	<u>14:52</u>	11.4			12.4	-7.8		12.4	-7.8
	<del>6.5</del>										
50	7.1	-2.5		11.4			12.2	-7.6		12.1	-7.5
	7.7	-3.1		11.2	-6.5		12.2			12.1	
	7.0	-2.4	50	11.5	-6.5	50	12.5	-7.9	50	12.3	-7.7
	8.0	-3.4		11.8	-7.5		12.9	-8.3		12.4	-7.8
	8.0			11.8			12.9			12.5	-7.9
1+00	8.5	-3.9		11.8			12.9			12.5	
	10.5	-5.9		11.0	-6.5		13.0	-8.4		12.3	-7.7
	11.6	-7.0	3+00	13.7	-9.5	5+00	13.4	-8.8	7+00	12.5	-7.9
	12.0	-7.4		13.8	-9.2	<u>14:55</u>	13.4			12.8	-8.2
	12.0			13.1	-8.5		13.2	-8.6		12.9	-8.3
50	12.1	-7.5		12.8	-8.5		12.7	-8.1		13.0	-8.4
	12.3	-7.7		12.4	-7.5		12.7		<u>14:58</u>	13.0	
1+70	12.3		3+50	12.2	-7.5	5+50	12.8	-8.2	7+50	13.0	



		98+00			
DIST	SOUND			DIST	SOUND
7+60	12.8	-8.2			
(4.6)	12.8	—			
	12.8	—	PX		
	12.8	—			
8+00	12.5	-7.9			
	12.4	-7.8			
	12.4	—			
	12.8	-8.2			
	13.4	-8.8			
50	13.6	-9.0			

15:00

		STA- 99+00			
DIST	SOUND			DIST	SOUND
$99+00 = \left( \begin{array}{l} A-96+30 \\ STA-99+00 \end{array} \right)$					
SOUND WEST					
			PX		
07	0.0	+4.8		1+00	12.4 -7.6
10	0.4	+4.4			12.4 —
	2.0	+2.8		2+00	12.4 —
(4.5)	2.9	+1.9		(4.8)	12.6 -7.8
	4.0	+0.8			12.8 -8.0
50	6.1	-1.3			13.0 -8.2
	6.9	-2.1			13.0 —
	7.8	-3.0		50	13.0 —
	8.4	-3.6			13.0 —
	9.5	-3.7			13.0 —
1+00	8.0	-3.2			13.0 —
	8.7	-3.9			13.2 -8.4
	10.0	-5.2		3+00	13.0 -8.2
	10.3	-5.5			13.2 -8.4
	10.9	-5.9			13.3 -8.5
50	11.0	-6.2		15:15	13.2 -8.4
	12.4	-7.6			14.4 -9.6
1+70	12.4	—		3+50	14.5 -9.7



99+00			9-10-77		
DIST	SOUND		DIST	SOUND	
3+60	<del>14.0</del>	-9.2	5+60	13.4	-8.6
(4.8)	13.5	-8.7	(4.8)	13.4	—
	13.2	-8.4	PX	13.2	-8.4
	13.2	—		13.2	—
4+00	13.1	-8.3	6+00	13.2	—
	13.0	-8.2		13.1	-8.3
	13.0	—		13.1	—
	13.0	—		13.1	—
	13.0	—		13.0	-8.2
50	13.0	—	50	13.0	—
	13.1	-8.3		13.0	—
	13.0	-8.2		12.8	-8.0
	13.0	—		12.6	-7.8
	12.8	-8.0		12.5	-7.7
5+00	12.8	—	7+00	12.3	-7.5
	12.8	—		12.4	-7.6
	13.0	-8.2		12.4	—
<u>15:18</u>	13.1	-8.3		12.3	-7.5
	13.0	-8.2		12.6	-7.8
5+50	13.1	-8.3	7+50	13.6	-8.8

99+00			9-10-77		
DIST	SOUND		DIST	SOUND	
7+60	13.8	-9.0			
(4.8)	13.5	-8.7			
	13.2	-8.4			
	13.0	-8.2			
8+00	13.0	—			
	13.0	—			
	13.0	—			
	13.0	—			
	13.1	-8.3			
50	13.3	-8.5			
	13.5	-8.7			
	13.5	—			
	13.5	—			
	13.5	—			
9+00	13.6	-8.8			
	14.4	-9.6			
	14.6	-9.8			
	14.5	-9.7			
	14.5	—			
9+50	14.7	-9.9			



900  
1300  
1170  
1130

STA- 89+00

BARRAGAN  
SHERRY  
STANLEY

9-11-47  
CLEAR  
DRAIN  
WARM

170 W  
0+002 {R-102+30  
STA-89+00

SOUND WEST

DIST SOUND

DIST SOUND

0+38 0.0 +4.0 2+10 6.8 -2.8

0+40 0.5 +3.5 4.0 6.7 -2.7

09:58 +50 2.0 +2.0 6.7

4.0 2.9 +1.1 10:02 6.5 -2.5

4.1 -0.1 50 7.5 -3.5

3.8 +0.2 7.3 -3.3

3.5 +0.5 6.0 -2.0

1+00 5.0 -1.0 6.0

5.1 -1.1 6.3 -2.3

5.0 -1.0 3+00 7.0 -3.0

4.4 -0.4 8.4 -4.4

4.8 -0.8 9.4 -5.4

50 5.1 -1.4 8.2 -4.2

5.8 -1.8 9.5 -5.5

6.7 -2.7 50 9.5

6.7 -2.7 10.1 -6.1

6.5 -2.5 10:05 11.1 -7.1

2+00 6.4 -2.4 3+80 12.0 -8.0

89+00

9-11-47

13

DIST SOUND

DIST SOUND

3+90 12.5 -8.5 5+90 11.8 -7.9

4+00 13.1 -9.1 6+00 11.8

4.0 13.5 -9.5 10:10 11.8

13.6 -9.6 3.9 11.8

10:08 13.2 -9.2 PX 11.6 -7.7

12.9 -8.9 11.5 -7.6

50 12.9 50 11.7 -7.8

12.2 -8.2 11.7

11.1 -7.4 11.9 -8.0

11.7 -7.7 12.0 -8.1

11.7 12.0

5+00 11.5 -7.5 7+00 11.8 -7.9

11.2 -7.2 11.7 -7.8

11.2 11.0 -7.1

11.0 -7.0 11.0

11.0 11.0

50 11.0 50 11.0

4.0 11.8 -7.8

3.9 11.5 -7.6 11.0

5+80 11.6 -7.7 7+80 11.0







88+00				9-11-47			
DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND
3+60	11.8	-8.1	5+60	11.8	-8.1	7+60	11.0
(3.7)	13.0	-9.3	(3.7)	12.0	-8.3	(3.7)	11.2
	13.0	—		11.8	-8.1		11.2
	13.1	-9.4		11.5	-7.8		11.0
4+00	13.2	-9.5	PX	11.5	—	8+00	11.0
	13.5	-9.8		11.8	-8.1		11.0
	13.8	-10.1		12.0	-8.5		10.8
	13.8	—		11.8	-8.1		11.0
	13.0	-9.3		11.7	-8.0		11.0
50	13.5	-9.8	50	11.7	—	50	11.4
	13.1	-9.4		11.7	—		11.4
<u>10:38</u>	11.5	-7.8	<u>10:40</u>	11.7	—		10.8
	11.3	-7.6		11.0	-7.3		10.5
	11.3	—		11.2	-7.3		10.5
5+00	11.5	-7.8	7+00	11.1	-7.3	9+00	10.5
	12.0	-8.3		11.7	-8.5		10.6
	12.5	-8.8		11.0	-7.5		11.0
	12.5	—		11.0	—		11.2
	12.2	-8.5		11.0	—	<u>10:43</u>	11.5
9	5+50	-8.3	7+50	11.0	—	8+50	11.5

88+00				9-11-47 (15)			
DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND
				9+60	11.5	-7.8	
				(3.7)	11.4	-7.7	
					11.4	—	
					11.4	—	
					11.4	—	
				10+00	11.4	—	
				PX	12.0	-8.3	
					12.0	—	
					12.0	—	
					12.0	—	
					12.0	—	
					12.2	-8.5	
					12.2	—	
					12.2	—	
					12.0	-8.3	
					11.5	-7.8	
					11.2	-7.5	
					11.1	-7.4	
					11.1	—	
					11.3	-7.6	
					11.5	-7.8	
				<u>10:45</u>	11.5	—	
				11+50	11.5	—	



120.0  
5.8  
11.20

87+00

9-11-47

104+00  
5.0  
10.3+2.0

BOW  
0+00 = { R-103+20  
STA-87+00 } )

SOUND WEST

DIST	SOUND		DIST	SOUND	
0+08	0.0	+ 3.5	1+90	10.4	-6.9
+20	1.8	+ 1.7	2+00	11.5	-8.0
10:58	3.0	+ 0.5	(3.5)	11.5	—
(3.5)	3.8	- 0.3		12.5	-9.0
50	5.0	- 1.5	11:00	12.5	—
	6.0	- 2.5		12.5	—
	6.4	- 2.9	50	12.5	—
	6.5	- 3.0		12.0	-8.5
	7.8	- 4.3		11.7	-8.2
1+00	8.1	- 4.6		11.5	-8.0
	8.1	—		11.5	—
	8.1	—	3+00	11.5	—
	8.5	- 5.0		11.4	-7.9
	9.8	- 6.3		11.4	—
50	10.2	- 6.7		11.5	-8.0
	10.2	—		11.4	-7.9
	10.3	- 6.8	50	11.0	-7.5
1+80	10.3	—	3+60	11.0	—

87+00

9-11-47 (16)

DIST SOUND

DIST	SOUND		DIST	SOUND	
3+70	11.0	-7.5	5+70	12.3	-8.8
(3.5)	11.0	—	(3.5)	12.3	—
	11.5	-8.0		12.3	—
4+00	11.8	-8.3	6+00	12.5	-9.0
	12.5	-9.0		12.8	-9.3
	12.5	—		13.0	-9.5
	12.0	-8.5	11:05	13.0	—
	11.5	-8.0		12.6	-9.1
50	11.0	-7.5	50	12.0	-8.5
	11.0	—		12.0	—
	11.9	-7.9		11.7	-8.2
	12.0	-8.5		11.6	-8.1
	12.0	—		11.5	-8.0
5+00	12.0	—	7+00	11.3	-7.8
	12.0	—		11.3	—
	11.4	-7.9		11.3	—
	11.4	—		11.1	-7.6
	11.5	-8.0		11.2	-7.7
50	12.0	-8.5	50	11.5	-8.0
5+60	12.0	—	7+60	11.6	-8.1



87+00			9-11-47		
DIST	SOUND		DIST	SOUND	
7+70	12.0	-8.5	9+70	11.4	-7.9
(3.5)	12.0	—	(3.5)	11.5	-8.0
	12.0	—		11.5	—
8+00	12.0	—	10+00	11.1	-7.6
	12.0	—		11.1	—
	12.0	—		11.1	—
	11.7	-8.2		11.3	-7.6
	11.5	-8.0		11.6	-8.1
50	11.0	-7.5	50	11.6	—
	11.0	—		11.1	-7.6
	11.0	—		11.0	-7.5
	11.6	-8.1		11.0	—
	12.0	-8.5		11.0	—
9+00	12.0	—	11+00	11.0	—
	12.0	—		11.0	—
	11.8	-8.3		11.0	—
	11.6	-8.1		11.0	—
<u>11.08</u>	11.5	-8.0		10.7	-7.2
50	11.3	-7.8	50	10.7	—
9+60	11.3	—	<u>11.70</u>		

STA - 86+00			9-11-47 (17)		
DIST	SOUND		DIST	SOUND	
0+00	0.0	+3.4	1+90	10.7	-7.3
1+20	2.0	+1.4	2+00	10.5	-7.1
1+52	3.9	-0.5		10.5	—
(3.4)	4.5	-1.1	(3.4)	10.8	-7.4
50	5.0	-1.6		11.0	-7.6
	6.0	-2.6		11.4	-8.0
	6.7	-3.0	50	11.4	—
	6.8	-3.4		11.4	—
	7.5	-4.1	<u>11.25</u>	11.4	—
1+20	8.0	-4.6		11.5	-8.1
	8.0	—		11.5	—
	8.1	-4.7	3+00	11.0	-7.6
	8.1	—		11.0	—
	8.7	-5.3		11.0	—
50	9.8	-6.4		11.3	-7.9
	10.5	-7.1		11.3	—
	10.1	-6.7	50	11.8	-8.4
1+80	10.3	-6.9	3+60	12.0	-8.6



1200

86+00

9-11-17

DIST	SOUND	DIST	SOUND
3+70	12.0	5+70	10.8
(3.4)	11.5	(3.4)	10.8
	11.2		11.0
4+00	11.2	6+00	12.0
	11.2		12.5
	11.4		12.7
	11.4		12.3
	11.5		11.7
50	11.5	50	11.1
<u>11:28</u>	11.5		11.1
	11.5		11.0
	11.5		11.0
	11.5		11.0
5+00	11.5	7+00	11.2
	11.1		11.5
	11.0	(3.4)	11.6
	11.0	(3.3)	11.5
	11.0	<u>11:30</u>	11.5
50	11.0	50	11.5
5+60	11.0	7+60	11.5

86+00

9-11-17

(18)

DIST	SOUND	DIST	SOUND
7+70	11.5	9+70	11.5
(3.3)	11.5	(3.3)	11.5
	11.5		11.0
	11.5		10.
8+00	11.5	10+00	10.8
	11.5		10.5
	11.0		10.0
	11.0		9.4
	10.8		9.4
50	10.8	50	9.4
	10.8		9.3
	11.0		9.2
	11.0		9.2
	11.2		9.0
9+00	11.2	11+00	9.0
	11.2	<u>11:33</u>	
	11.2		
	11.1		
	11.0		
50	11.2		
7+60	11.5		



1150 160 990			STA- 85+00			3-11-77			85+00			3-11-77		
160 W 0+00 =			N-102+70 (STA-85+00)			SOUND WEST			DIST SOUND			DIST SOUND		
DIST	SOUND		DIST	SOUND		DIST	SOUND		DIST	SOUND		DIST	SOUND	
						3+80	10.2	-7.3	5+80	10.7	-7.8			
							10.1	-7.2		10.7				
0+20	0.0	+2.9	2+00	10.2	-7.3	4+00	10.2	-7.3	6+00	10.5	-7.6			
+30	1.0	+1.9		10.5	-7.6	(2.9)	10.2		(2.9)	10.5				
13:40	PX 6	+1.3	(2.9)	10.8	-7.9		10.0	-7.1	PX	10.5				
50	3.8	-0.9		11.0	-8.1		10.0			10.5				
(2.9)	4.7	-1.8		11.0			10.2	-7.3		10.5				
	5.3	-2.4	50	11.0		50	10.2		50	10.8	-7.9			
	5.8	-2.9		11.0			10.2			10.8				
	6.0	-3.1		10.9	-8.0		10.4	-7.5		10.8				
1+00	6.5	-3.6		10.8	-7.9	(2.9)	10.4			10.8				
12:05	7.4	-4.5		10.8		12:50	10.5	-7.6		11.0	-8.1			
	7.8	-4.9	3+00	10.6	-7.7	5+00	10.1	-7.2	7+00	11.0				
	8.3	-5.4	12:48	10.3	-7.4		10.1			11.2	-8.3			
	8.8	-5.9		10.2	-7.3		11.6	-8.7	12:53	11.5	-8.6			
50	8.9	-6.0		10.0	-7.1		12.3	-9.4		11.3	-8.4			
	9.0	-6.1		10.0			12.2	-9.3		11.0	-8.1			
	9.3	-6.4	50	10.0		50	11.5	-8.6	50	10.5	-7.6			
	9.5	-6.6		10.0			11.0	-8.1		10.5				
1+90	10.0	-7.1	3+70	10.0		5+70	11.0		7+70	10.4	-7.5			



85+00			9-11-17			STA- 84+00			9-11-17		
DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND
7+80	10.4	-7.5	9+80	9.0	-6.1	$\left\{ \begin{array}{l} R-101+80 \\ STA-84+00 \end{array} \right\}$			SOUND WEST		
	10.4	—		8.8	-5.9	DIST	SOUND		DIST	SOUND	
8+00	10.3	-7.4	10+00	8.5	-5.6	0+03	0.0	+2.9	14+80	9.7	-6.8
(2.9)	10.3	—	(2.9)	8.0	-5.1	+10	1.0	+1.9		9.7	—
	10.3	—		8.0	—	13:17	2.5	+0.4	2+00	9.7	—
<del>9+00</del>	10.5	-7.6		8.0	—	(2.9)	4.6	-1.7	(2.9)	10.3	-7.4
	10.5	—		8.0	—		5.8	-2.9		10.3	—
50	10.5	—	50	8.4	-5.5	50	6.1	-3.2		10.3	—
12:55	10.5	—		9.0	-6.1		6.7	-3.8		10.3	—
	10.5	—		9.1	-6.2		6.5	-3.6	50	10.3	—
	10.5	—		9.5	-6.6		6.5	—		10.4	-7.5
	10.8	-7.9		11.0	-8.1		7.5	-4.6		10.4	—
9+00	11.2	-8.3	11+00	11.3	-8.4	1+00	8.1	-5.2		10.3	-7.4
	11.2	—					8.8	-5.9		10.0	-7.1
	11.2	—					9.3	-6.4	3+00	9.5	-6.6
	11.0	-8.1					10.0	-7.1	13:20	9.5	—
	10.8	-7.9					10.0	—		9.5	—
50	10.0	-7.1				50	10.2	-7.3		9.5	—
	9.5	-6.6					10.0	-7.1		9.5	—
9+70	9.5	—				1+70	9.8	-6.9	3+50	9.5	—



84+00 9-11-17

DIST	SOUND		DIST	SOUND	
3 +60	9.5	-6.6	5+60	13.5	-10.6
(2.9)	9.6	-6.7	(2.9)	13.2	-10.3
PX	9.7	-6.8		12.7	-9.8
	9.8	-6.9		11.8	-8.9
4+00	10.0	-7.1	6+00	11.2	-8.3
	10.0	—		11.0	-8.1
	10.0	—		11.0	—
	10.2	-7.3	13:23	11.0	—
	10.2	—		11.0	—
50	10.3	-7.4	50	11.0	—
	10.5	-7.6		11.0	—
	10.5	—		11.0	—
	10.6	-7.7		11.0	—
	10.6	—		11.0	—
5+00	10.7	-7.8	7+00	11.0	—
	11.5	-8.6		11.2	-8.3
	12.2	-9.3		11.3	-8.4
	12.4	-9.5		11.3	—
	12.4	—		11.2	-8.3
5+50	12.4	—	7+50	11.2	—

84+00 9-11-17 (2)

DIST	SOUND		DIST	SOUND	
7+60	11.0	-8.1			
(2.9)	11.0	—			
PX	11.0	—			
	11.0	—			
8+00	10.9	-8.0			
	10.9	—			
	10.9	—			
	11.1	-8.2			
	11.3	-8.4			
50	11.0	-8.1			
	11.4	-8.5			
13:25	12.5	-9.6			
	14.6	-11.7			
	14.5	-11.6			
8+00	14.0	-11.1			



$\frac{1100}{250}$   
 $\frac{850}{250W}$   
 $0+00 = \left\{ \begin{array}{l} R-101+50 \\ STA-83+00 \end{array} \right\}$

SOUND WEST

DIST	SOUND	DIST	SOUND
0+12	0.0 +2.9	1+90	9.5 -6.6
0 +20	1.0 +1.9	2+00	9.2 -6.3
<u>13:40</u>	1.5 +1.4	<u>13:43</u>	9.1 -6.2
(2.9)	4.8 -	(2.9)	9.4 -6.5
50	5.3 -2.4		9.2 -6.3
	5.8 -2.9		9.0 -6.1
	7.0 -4.1	50	9.2 -6.3
	7.3 -4.4		9.0 -6.1
	8.0 -5.1		9.2 -6.3
1+00	8.9 -6.0		9.3 -6.4
	9.4 -6.5		9.3 -
	9.4 -	3+00	9.4 -6.5
	9.5 -6.6		9.4 -
	9.5 -		9.5 -6.6
50	10.0 -7.1		9.5 -
	9.7 -6.8		10.0 -7.1
	9.5 -6.6	50	10.0 -
1+80	9.5 -	3+60	10.0 -

9-11-47

104+00

2.0

101+50

83+00 9-11-47 (22)

DIST	SOUND	DIST	SOUND
3+70	10.0 -7.1	5+70	11.5 -8.6
<u>13:45</u>	10.0 -	<u>13:48</u>	12.0 -9.1
(2.9)	10.2 -7.3	(2.9)	12.2 -9.3
4+00	10.0 -7.1	6+00	12.2 -
	10.4 -7.5		12.2 -
	10.5 -7.6		12.5 -9.6
	10.5 -		12.8 -9.9
	10.7 -7.8		13.0 -10.1
50	10.7 -	50	13.0 -
	10.7 -		13.0 -
	11.0 -8.1		13.0 -
	11.5 -8.6		12.8 -9.9
	11.5 -		12.7 -9.8
5+00	11.5 -	7+00	12.5 -9.6
	11.2 -8.3		12.2 -9.3
	11.0 -8.1		12.1 -9.2
	10.8 -7.9	<u>13:50</u>	12.0 -9.1
	10.6 -7.7		12.5 -9.6
50	11.4 -8.5	50	12.5 -
5+60	11.0 -8.1	7+60	12.5 -



83+00  
 DIST SOUND DIST SOUND  
 7+70 12.5 -9.6  
 (2.9) 12.5 —  
 12.0 -9.1  
 8+00 11.5 -8.6  
 11.5 —  
 12.0 -9.1  
 13.0 -10.1  
 13.1 -10.2  
 50 13.0 -10.1

PX

9-11-47

1000  
 250  
 750

STA- 82+00

9-11-47

(23)

250  
 0+00 =

(11-101+50)  
 (STA-82+00)

SOUND WEST

104+00  
 2.50  
 101.50

DIST SOUND DIST SOUND  
 0+02 0.0 +3.0  
 0+10 0.0 +3.0 1790 10.4 -7.4  
 14:05 0.8 +2.2 2+00 10.3 -7.3  
 (3.0) 2.3 +0.7 (3.0) 10.3 —  
 4.0 -1.0 10.3 —  
 50 5.5 -2.5 10.2 -7.2  
 6.7 -3.7 10.2 —  
 7.8 -4.8 50 10.0 -7.0  
 8.8 -5.8 10.0 —  
 9.6 -6.6 10.0 —  
 14:00 9.8 -6.8 10.0 —  
 10.5 -7.5 10.1 -7.1  
 10.5 — 3+00 10.0 -7.0  
 10.5 — 10.0 —  
 10.7 -7.7 10.0 —  
 50 10.7 — (3.0) 10.0 —  
 10.5 -7.5 14:10 10.0 -6.9  
 14:08 10.5 — (3.1) 50 10.0 —  
 1+80 10.4 -7.4 3+60 10.1 -7.0

PX







		81+00		9-11-97	
DIST	SOUND	DIST	SOUND	DIST	SOUND
3+60	11.5	-8.2	5+60	12.5	-9.2
	11.5	—	14:35	12.8	-9.5
(3.3)	11.5	—		13.0	-9.7
	11.5	—	(3.3)	13.0	—
4+00	11.9	-8.6	6+00	13.0	—
	11.9	—		12.6	-9.3
	11.6	-8.3		12.4	-9.1
	11.4	-8.1		12.2	-8.9
	11.4	—		12.2	—
50	11.0	-7.7	50	11.7	-8.4
	12.5	-9.2		11.1	-7.8
	13.5	-10.2		11.1	—
	13.0	-9.7		11.3	-8.0
	12.1	-8.8		11.4	-8.1
5+00	12.0	-8.7	7+00	11.4	—
	11.5	-8.2		11.2	-7.9
	11.8	-8.5		11.0	-7.7
	11.8	—		11.0	—
	11.8	—	14:38	11.4	-8.1
			7+50	11.5	-8.2
			7+60	11.5	-8.3
5+50	12.0	-8.7	7+70	11.0	-7.7

BARRAGAN  
SWEENEY  
STANLEY

9-19-97  
CARR  
CALM  
COOL

(3.5)  
Indexed

SOUNDINGS OF -  
PROJECT # 3-1

STA-76+00 W

0+00 (SW-76+00  
N-168+64.96) SOUND SOUTH AT 90° TO N-168+64.96  
LINE.

DIST	SOUND	DIST	SOUND
0+00	2.1	+2.2	1+70 2.8 +1.5
+10	2.1	—	2.8
20:20	2.1	—	(4.3) 2.8
(4.3)	2.1	—	2+00 2.8
	2.1	—	2.8
50	2.2	+2.1	2.8
	2.1	+1.9	2.9 +1.4
	2.4	—	3.0 +1.3
	2.4	—	50 3.0
	2.4	—	3.0
1+00	2.4	—	3.1 +1.2
	2.5	+1.8	3.1
	2.6	+1.7	3.1
	2.6	—	3+00 3.1
20:30	2.7	+1.6	3.1
50	2.8	+1.5	3.1
1+60	2.8	—	3+30 3.1



W-76+00

9-19-17

DIST	SOUND		DIST	SOUND	
3+40	3.1	+1.2	5+40	3.3	+1.0
50	3.1	—	50	3.3	—
(4.3)	3.1	—	(4.3)	3.3	—
<del>3.1</del>	—	—		3.3	—
<del>3.2</del>	+1.1	09:33		3.4	+0.9
	—	—		3.4	—
4+00	3.2	—	6+00	3.4	—
	—	—		3.4	—
	—	—		3.4	—
	—	—		3.4	—
	—	—		3.4	—
	—	—		3.4	—
	—	—		3.4	—
50	3.2	—	50	3.4	—
	—	—		3.4	—
	—	—		3.4	—
	3.3	+1.0		3.4	—
	—	—		3.4	—
	—	—		3.4	—
	—	—		3.4	—
5+00	3.3	—	7+00	3.4	—
	—	—		3.4	—
	—	—		3.4	—
	—	—		3.4	—
5+30	3.3	—	7+30	3.4	—

W-76+00

9-19-17 (26)

DIST	SOUND		DIST	SOUND	
7+40	3.4	+0.9	9+40	3.6	+0.7
50	3.4	—	50	3.6	—
(4.3)	3.4	—		3.6	—
	3.5	+0.8	(4.3)	3.6	—
	3.5	—		3.7	+0.6
	3.5	—		3.7	—
8+00	3.5	—	10+00	3.7	—
	—	—		3.8	+0.5
	3.5	—		3.8	—
	3.6	+0.7		3.8	—
	3.6	—		3.8	—
50	3.6	—	50	3.8	—
09:25	3.6	—		3.8	—
	3.6	—		3.8	—
	3.6	—		3.8	—
	3.6	—		3.8	—
9+00	3.6	—	11+00	3.8	—
	—	—		3.8	—
	3.6	—		3.8	—
9+30	3.6	—	11+30	3.8	—



W-76+00					W-76+00					9-19-17 (22)	
DIST	SOUND		DIST	SOUND	DIST	SOUND		DIST	SOUND		
11+40	3.8	+0.5	13+40	4.0	+0.3	15+40	4.0	+0.3	17+40	4.1	+0.3
50	3.8	—	50	4.0	—	50	4.0	—	50	4.1	—
<del>4.3</del>	3.7	+0.4		4.0	—		4.0	—	(4.4)	4.1	—
(4.3)	3.9	—	(4.3)	4.0	—		4.0	—		4.1	—
	3.9	—		4.0	—	(4.3)	4.0	—		4.1	—
	3.9	—		4.0	—	09:40	4.0	—		4.1	—
12+00	3.9	—	14+00	4.0	—	16+00	4.0	+0.4	18+00	4.1	—
	3.9	—		4.0	—	(4.4)	4.1	+0.3	22:43		PX
	3.9	—		4.0	—		4.1	—			
	3.9	—		4.0	—		4.1	—			
	3.9	—		4.0	—		4.1	—			
50	3.9	—	50	4.0	—	50	4.1	—			
	3.9	—		4.0	—		4.1	—			
	4.0	+0.3		4.0	—		4.1	—			
	4.0	—		4.0	—		4.1	—			
09:38	4.0	—		4.0	—		4.1	—			
13+00	4.0	—	15+00	4.0	—	17+00	4.1	—			
	4.0	—		4.0	—		4.1	—			
	4.0	—		4.0	—		4.1	—			
13+30	4.0	—	15+30	4.0	—	17+30	4.1	—			



W-76+00

9-13-47

0+00 = {<sup>W-76+00</sup><sub>N-168+69.36</sub>} SOUND NORTH At 90° To N-168+69.36 LINE

DIST SOUND DIST SOUND

0+10 2.2 +2.3

2.1 +2.4

09:49 2.0 +2.5

(4.5) 2.0 —

50 2.0 —

2.0 —

2.0 —

1.9 +2.6

1.9 —

1+00 1.8 +2.7

1.8 —

1.8 —

1+30 1.6 +2.9

W-75+00

9-19-47

(28)

0+00 = {<sup>W-75+00</sup><sub>N-168+69.36</sub>} SOUND SOUTH At 90° To N-168+69.36 LINE

DIST SOUND DIST SOUND

0+00 2.0 +2.5 1+80 2.9 +1.6

2.0 — 2.9 —

09:55 2.0 — 2+00 3.0 +1.5

2.0 — (4.5) 3.0 —

(4.5) 2.0 — 3.0 —

50 2.1 +2.4 3.0 —

2.2 +2.3 3.0 —

2.4 +2.1 50 3.1 +1.4

2.5 +2.0 3.1 —

2.5 — 3.2 +1.3

1+00 2.5 — 3.2 —

2.5 — 3.2 —

2.6 +1.9 3+00 3.3 +1.2

2.6 — 3.3 —

2.6 — 3.3 —

50 2.8 +1.7 3.4 +1.1

2.8 — 3.4 —

1+70 2.8 — 3+50 3.4 —



9-19-17

W-75+00		W-75+00	
DIST	SOUND	DIST	SOUND
3+60	3.4	+1.1	5+60 3.6 +0.9
	3.5	+1.0	3.6
(4.5)	3.5	—	(4.5) 3.6
<u>09:58</u>	3.5	—	3.7 +0.8
4+00	3.5	—	6+00 3.7
	3.5	—	3.7
	3.5	—	3.7
	3.5	—	3.7
	3.5	—	3.7
	3.5	—	(4.5) 3.8 +0.8
50	3.5	—	(4.6) 50 3.8 +0.8
	3.5	—	<u>10:00</u> 3.8
	3.5	—	3.8
	3.5	—	3.8
	3.5	—	3.8
5+00	3.5	—	7+00 3.8
	3.6	+0.9	3.8
	3.6	—	3.8
	3.6	—	3.8
	3.6	—	3.8
5+50	3.6	—	7+50 3.8

9-19-17 (29)

W-75+00		W-75+00	
DIST	SOUND	DIST	SOUND
7+60	3.8	+0.8	9+60 3.9 +0.7
	3.8	—	3.9
(4.6)	3.8	—	(4.6) 3.9
	3.8	—	3.9
8+00	3.8	—	10+00 3.9
	3.8	—	3.9
	3.8	—	3.9
	3.8	—	3.9
	3.8	—	3.9
	3.8	—	10:03 3.9
50	3.8	—	50 3.9
	3.9	+0.7	7.0 +0.6
	3.9	—	7.0
	3.9	—	7.0
	3.9	—	7.0
	3.9	—	7.0
9+00	3.9	—	11+00 7.0
	3.9	—	7.0
	3.9	—	7.1 +0.5
	3.9	—	7.1
	3.9	—	7.1
+50	3.9	—	11+50 7.1



DIST <del>PX</del> SOUND		W-75+00		9-19-17		DIST SOUND		W-75+00		9-19-17		(30)
DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND	<del>PX</del>
11+60	4.1	+0.5	13+60	4.2	+0.4	15+60	4.3	+0.3	17+60	4.5	+0.1	
(4.6)	4.1	—		4.2	—		4.3	—		4.5	—	
	4.1	—	(4.6)	4.2	—	(4.6)	4.3	—	(4.6)	4.5	—	
	4.1	—		4.2	—		4.3	—		4.5	—	
12+00	4.1	—	14+00	4.2	—	16+00	4.3	—	18+00	4.5	—	
	4.1	—		4.2	—		4.4	+0.2		4.5	—	
	4.1	—		4.2	—		4.5	+0.1		4.5	—	
	4.1	—		4.3	+0.3		4.5	—		4.5	—	
	4.1	—		4.3	—		4.5	—		4.5	—	
50	4.1	—	50	4.3	—	50	4.5	—	50	4.5	—	
	4.1	—		4.3	—		4.5	—		4.5	—	
	4.1	—		4.3	—		4.5	—		4.5	—	
	4.1	—		4.3	—		4.5	—		4.5	—	
	4.1	—		4.3	—		4.5	—		4.5	—	
13+00	4.1	—	15+00	4.3	—	17+00	4.5	—	19+00	4.5	—	
	4.2	+0.4		4.3	—		4.5	—	10:10			
	4.2	—		4.3	—		4.5	—				
10:05	4.2	—		4.3	—		4.5	—				
	4.2	—		4.3	—	10:10	4.5	—				
13+50	4.2	—	15+50	4.3	—	17+50	4.5	—				



W-75+00

9-19-17

PX (W-75+00) SOUND NORTH AT 90° TO N-1687 (9.26) LINE.

DIST SOUND DIST SOUND

0+10 2.1 +2.6

+20 2.1 —

10:17 2.0 +2.7

(4.7) 2.0 —

50 2.0 —

1.9  
2.7 +2.8

0+70 1.7 +3.0

W-95+00

9-19-17

PX (W-95+00) SOUND SOUTH AT 90° TO N-1687 (9.26) LINE. (31)

DIST SOUND DIST SOUND

0+00 1.1 +3.9 1+80 2.1 +2.9

1.2 +3.8 2.1 —

10:38 1.7 +3.3 2+00 2.3 +2.7

1.7 — 2.3 —

(5.0) 1.7 — (5.0) 2.3 —

50 1.9 +3.1 2.3 —

1.8 +3.2 10:43 2.3 —

1.9 +3.1 50 2.4 +2.6

1.9 — 2.4 —

1.9 — 2.4 —

10:56 2.0 +3.0 2.5 +2.5

2.0 — 2.5 —

2.0 — 3+00 2.6 +2.4

10:50 2.0 — 2.7 +2.3

2.0 — 2.7 —

50 2.1 +2.9 2.7 —

2.1 — 2.7 —

1+70 2.1 — 3+50 2.7 —



9-19-17

W-95+00		W-95+00	
DIST	SOUND	DIST	SOUND
3+60	2.7	+2.3	5+60 3.2
	2.7	—	3.3
(5.0)	2.8	+2.2	(5.0) 3.3
	2.9	+2.1	3.3
4+00	3.0	+2.0	6+00 3.4
	3.0	—	3.4
10:45	3.0	—	3.4
	3.0	—	3.5
	3.0	—	3.5
50	3.0	—	50 3.5
	3.0	—	3.5
	3.0	—	3.5
	3.0	—	3.5
	3.0	—	3.5
5+00	3.0	—	7+00 3.5
	3.1	+1.9	3.5
	3.1	—	3.5
	3.1	—	3.6
	3.1	—	3.6
5+50	3.1	—	7+50 3.6

9-19-17

W-95+00		W-95+00	
DIST	SOUND	DIST	SOUND
7+60	3.7	+1.3	9+60 4.0
	3.7	—	(5.0) 4.0
(5.0)	3.7	—	10:50 4.0
10:48	3.7	—	(5.1) 4.1
8+00	3.8	+1.2	10+00 4.1
	3.8	—	4.1
	3.8	—	4.1
	3.9	+1.1	4.1
	3.9	—	4.2
50	3.9	—	50 4.3
	3.9	—	4.3
	3.9	—	4.3
	3.9	—	4.3
	3.9	—	4.3
9+00	4.0	+1.0	11+00 4.3
	4.0	—	4.3
	4.0	—	4.3
	4.0	—	4.3
	4.0	—	4.3
5+50	4.0	—	11+50 4.3



9-19-17

W-95+00

W-95+00

9-19-17

DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND
11+60	1.1	+0.7 13+60	1.1	+0.7 15+60	1.1	+0.7 17+60	1.0
	1.1	—	1.1	—	1.1	<del>17+60</del>	1.0
(5.1)	1.1	—	1.1	(5.1)	1.1	(5.1)	1.0
	1.1	—	1.1	—	1.1	—	1.0
12+00	1.1	— 14+00	1.1	— 16+00	1.3	+0.8 18+00	1.0
	1.1	—	1.1	—	1.3	—	1.0
	1.1	—	1.1	—	1.3	—	1.0
	1.1	—	1.1	—	1.3	—	1.0
	1.1	—	1.1	—	1.3	—	1.0
	1.1	—	1.1	—	1.3	—	1.0
50	1.1	— 50	1.1	— 50	1.3	— 50	1.0
	1.1	—	1.1	—	1.3	—	1.0
	1.1	—	1.1	—	1.3	—	1.0
	1.1	—	1.1	—	1.3	—	1.0
10:53	1.1	—	1.1	—	1.3	—	1.0
	1.1	—	1.1	—	1.3	—	1.0
	1.1	— 10:55	1.1	—	1.3	— 11:00	1.0
13+00	1.1	— 15+00	1.1	— 17+00	1.3	— 19+00	1.0
	1.1	—	1.1	—	1.3	—	1.0
	1.1	—	1.1	—	1.2	+0.9	—
	1.1	—	1.1	—	1.2	—	—
	1.1	—	1.1	—	1.2	—	—
13+50	1.1	— 15+50	1.1	— 17+50	1.1	+1.0	—



PX W-96+00 9-19-17  
 0+00 = Pt. SOUTH OF STA-W-96+00 DE-AREA B-1: SOUND SOUND

DIST	SOUND	DIST	SOUND
0+00	1.6 +3.7	1+80	2.2 +3.1
<u>11:15</u>	1.6 —		2.5 +2.8
(5.3)	1.6 —	2+00	2.3 +3.0
	2.1 +3.2	(5.3)	2.3 —
	2.0 +3.3		2.5 +2.8
50	1.7 +3.6		2.6 +2.7
	1.7 —		2.6 —
	2.0 +3.3	50	2.8 +2.5
	2.0 —		2.8 —
	2.0 —		2.8 —
1+00	2.0 —		2.8 —
	2.3 +3.0		2.8 —
	2.1 +2.9	3+00	2.8 —
	2.0 +3.3		3.0 +2.3
	2.0 —		3.0 —
50	2.0 —		3.0 —
	2.0 —		3.0 —
1+20	2.1 +3.2	3+50	3.0 —

9-19-17 (39)

DIST	SOUND	DIST	SOUND
3+60	3.0 +2.3	5+60	3.2 +2.1
(5.3)	3.0 —	<u>11:20</u>	<span style="color: red; font-size: 2em; font-weight: bold;">PX</span> 3.2 —
<u>11:18</u>	3.0 —		3.3 +2.0
	3.0 —	(5.3)	3.3 —
4+00	3.0 —	6+00	3.3 —
	3.0 —		3.4 +1.9
	3.0 —		3.5 +1.8
	3.0 —		3.5 —
	3.0 —		3.5 —
50	3.0 —	50	3.6 +1.7
	3.0 —		3.6 —
	3.0 —		3.6 —
	3.0 —		3.6 —
	3.0 —		3.6 —
	3.0 —		3.6 —
	3.0 —		3.6 —
	3.0 —	7+00	3.6 —
	3.0 —		3.6 —
	3.1 +2.2		3.6 —
	3.1 —		3.7 +1.6
	3.2 +2.1		3.7 —
5+50	3.2 —	7+50	3.7 —



W-96+00			9-13-17			W-96+00			9-19-17		
DIST	SOUND		DIST	SOUND		DIST	SOUND		DIST	SOUND	
7+60	3.8	+1.5	9+60	4.1	+1.2	11+60	4.5	+0.9	13+60	4.5	+0.9
	3.8	—		4.1	—	(5.1)	4.5	—		4.5	—
(5.3)	3.8	—	(5.3)	4.1	—		4.5	—	(5.1)	4.5	—
	3.8	—		4.1	—		4.5	—		4.5	—
8+00	3.8	—	<del>10+00</del>	4.2	+1.1	12+00	4.5	—	14+00	4.5	—
	3.8	—		4.2	—		4.5	—		4.4	+1.0
	3.9	+1.4		4.2	—		4.5	—		4.4	—
	3.9	—		4.2	—		4.5	—		4.4	—
	4.0	+1.3		4.3	+1.6		4.5	—		4.4	—
50	4.0	—	50	4.3	—	50	4.5	—	50	4.4	—
	4.0	—		4.3	—		4.5	—		4.4	—
	4.0	—		4.4	+0.9		4.5	—		4.4	—
11:23	4.0	—	(5.3)	4.4	—		4.5	—		4.3	+1.1
	4.0	—		4.4	+1.0		4.5	—		4.3	—
9+00	4.0	—	11+00	4.4	—	13+00	4.5	—	15+00	4.3	—
	4.0	—	(5.1)	4.4	—		4.5	—		4.3	—
	4.0	—		4.4	—		4.5	—		4.2	+1.2
	4.2	+1.1		4.5	+0		4.5	—		4.1	+1.3
	4.0	+1.3		4.5	—	11:27	4.5	—		4.1	—
9+50	4.0	—	11+50	4.5	—	13+50	4.5	—	15+50	4.0	+1.4



W-96+00			9-19-17		
DIST	SOUND		DIST	SOUND	
15+60	4.0	+1.4	17+60	4.0	+1.4
	1.0	—		1.0	—
(5.1)	4.0	—	(5.4)	4.0	—
	4.0	—		4.0	—
16+00	4.0	—	18+00	4.0	—
	4.0	—		4.0	—
<u>11:30</u>	3.9	+1.5		4.0	—
	3.9	—		4.0	—
	3.9	—		4.0	—
50	3.9	—	50	4.0	—
	3.9	—		4.0	—
	3.9	—		4.0	—
	3.9	—		4.0	—
	3.9	—		4.0	—
17+00	3.9	—	19+00	4.0	—
	3.9	—		4.0	—
	3.9	—		4.0	—
	4.0	+1.4		4.0	—
	4.0	—	<u>11:35</u>	4.0	—
17+50	4.0	—	19+50	4.0	—

STA - W-99+00					9-19-17	
					(36)	
SOUTH OF STA-97+00 DE AREA					PX	
					3/4: SOUND SOUTH	
DIST	SOUND		DIST	SOUND		
0+00	1.8	+3.8	1+80	2.9	+2.7	
<u>12:54</u>	1.8	—		3.0	+2.6	
(5.6)	2.1	+3.2	2+00	3.0	—	
	2.5	+3.1	(5.6)	3.0	—	
	2.5	—		3.1	+2.5	
50	2.6	+3.0		3.1	—	
	2.0	+3.6		3.1	—	
	2.1	+3.5	50	3.1	—	
	2.1	—		3.1	—	
	2.0	+3.6		3.2	+2.4	
1+00	1.9	+3.7		3.2	—	
	2.2	+3.4		3.2	—	
	2.1	+3.2	3+00	3.2	—	
	2.5	+3.1		3.2	—	
	2.5	—		3.2	—	
50	2.5	—		3.2	—	
	2.5	—		3.2	—	
1+70	2.7	+2.9	3+50	3.2	—	



PX		W-97+00		9-19-17		W-97+00		9-19-17		(37)	
DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND	PX	
3+60	3.2	+2.4	5+60	3.1	+2.4	7+60	3.9	+1.7	9+60	4.3	+1.3
(5.6)	3.3	+2.3	(5.6)	3.1	—		3.9	—		4.3	—
	3.1	+2.2		3.4	—	(5.6)	3.9	—	(5.6)	4.3	—
	3.1	—		3.4	—		4.0	+1.6		4.3	—
4+00	3.1	—	6+00	3.1	—	8+00	4.0	—	10+00	4.3	—
	3.1	—		3.1	—		4.0	—		4.4	+1.2
	3.4	—		3.5	+2.1		4.0	—		4.5	+1.1
	3.4	—		3.5	—		4.0	—		4.5	—
	3.4	—		3.5	—		4.0	—		4.5	—
50	3.4	—	50	3.5	—	50	4.0	—	50	4.5	—
	3.4	—		3.5	—		4.0	—		4.5	—
	3.4	—		3.7	+1.9		4.0	—		4.5	—
	3.4	—		3.7	—		4.0	—		4.5	—
<u>12:48</u>	3.4	—		3.7	—		4.0	—		4.6	+1.0
5+00	3.3	+2.3	7+00	3.7	—	9+00	4.1	+1.5	11+00	4.6	—
	3.3	—		3.7	—		4.2	+1.4		4.6	—
	3.3	—		3.7	—		4.2	—		4.6	—
	3.3	—		3.8	+1.8		4.3	+1.3		4.6	—
	3.3	—	<u>12:50</u>	3.8	—	<u>12:53</u>	4.3	—		4.6	—
5+50	3.3	—	7+50	4.0	+1.6	9+50	4.3	—	11+50	4.6	—



9-19-17

W-97+00		9-19-17	
DIST	SOUND	DIST	SOUND
11+60	4.6	+1.0	13+60 4.6
	4.6	—	4.6
(5.6)	4.6	—	(5.6) 4.6
12:55	4.6	—	4.6
12+00	4.6	—	14+00 4.6
	4.6	—	4.6
	4.6	—	4.6
	4.6	—	4.5 +1.1
	4.6	—	4.5
50	4.6	—	50 4.5
	4.6	—	4.5
	4.6	—	4.4 +1.2
	4.6	—	4.3 +1.1
	4.6	—	4.3
5	13+00 4.6	—	15+00 4.2 +1.1
	4.6	—	4.2
	4.6	—	4.1 +1.5
	4.6	—	4.0 +1.1
5	13+50 4.6	—	15+50 4.0

9-19-17

W-97+00		9-19-17	
DIST	SOUND	DIST	SOUND
15+60	4.0	+1.6	17+60 4.1
	4.0	—	4.1
(5.6)	4.0	—	(5.6) 4.1
	4.0	—	4.5 +1.1
	4.0	—	16+00 4.0
	4.0	—	18+00 4.2 +1.4
	4.0	—	4.2
	4.0	—	(X) 4.2
	4.0	—	4.3 +1.3
	4.0	—	4.3
50	4.0	—	50 4.1 +1.5
	4.0	—	4.1
	4.0	—	4.2 +1.4
	3.9 +1.7	—	4.0 +1.6
	3.9	—	4.0
	3.5 +2.1	—	19+00 4.0
	3.6 +2.0	—	4.0
	3.6	—	4.3 +1.3
	3.5 +2.1	—	4.3
	3.8 +1.8	—	13:01 4.5 +1.1
	3.8	—	19+50 4.5



PX W-98+00. 9-19-47  
 SOUTH OF STA-W-98+00 Dr. AREA 3/4: SOUND SOUTH

DIST	SOUND	DIST	SOUND
0+00	2.3 +3.2	1+80	2.9 +2.6
<u>13:18</u>	2.3		2.9
	2.2 +3.3	2+00	2.9
(5.5)	2.2	(5.5)	2.9
	2.2		2.9
50	2.3 +3.2		2.9
	2.3		3.0 +2.5
	2.3	50	2.9 +2.6
	2.4 +3.1		2.9
	2.5 +3.0		2.9
1+00	2.6 +2.9		2.9
<u>13:29</u>	2.6		2.9
	2.6	3+00	2.9
	2.7 +2.8		2.9
	2.7		2.9
50	2.8 +2.7		2.9
	2.8		2.9
1+70	2.9 +2.6	3+50	2.9

W-98+00 9-19-47 (33)

DIST	SOUND	DIST	SOUND
3+60	2.9 +2.6	5.60	3.1 +2.4
	2.9	PX	3.1
(5.5)	2.9	(5.5)	3.1
	2.9		3.1
4+00	2.9	6+00	3.2 +2.3
	2.9		3.2
5+00	2.8 +2.7		3.2
	2.8		3.2
	2.8		3.2
50	3.0 +2.5	50	3.3 +2.2
	3.0		3.3
	3.0		3.3
	3.0		3.3
	3.0		3.3
	3.0		3.3
5+00	3.0	7+00	3.2 +2.3
	3.0		3.2
	3.0	<u>13:30</u>	3.2
	3.1 +2.4		3.3 +2.2
	3.1		3.4 +2.1
5+50	3.1	7+50	3.7 +1.8



		W-98+00		9-19-17		W-98+00		9-19-17		(90)	
DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND	DIST	SOUND	PX	
7+60	3.5	+2.0	9+60	3.7	+1.8	11+60	4.0	+1.5	13+60	4.2	+1.2
	3.5	—		3.8	+1.7		4.0	—		4.2	—
(5.5)	3.5	—	(5.5)	3.8	—	(5.5)	4.0	—	(5.9)	4.2	—
	3.2	+2.3		3.8	—		4.0	—		4.1	+1.3
8+00	3.2	—	10+00	3.8	—	12+00	4.0	—	14+00	4.1	—
	3.2	—		3.8	—		4.1	+1.4		4.0	+1.4
	3.4	+2.1		3.8	—		4.1	—		4.0	—
	3.5	+2.0		3.9	+1.6		4.2	+1.3		4.0	—
	3.5	—		3.9	—		4.2	—		3.9	+1.5
50	3.4	+2.1	50	3.9	—	50	4.2	—	50	3.9	—
	3.4	—		3.9	—		4.2	—		3.8	+1.6
	3.4	—		3.9	—	(5.5)	4.2	—		3.8	—
	3.4	—	<u>11:33</u>	3.9	—		4.1	+1.4		3.8	—
	3.5	+2.0		4.0	+1.5	(5.9)	4.1	+1.3		3.8	—
9+00	3.5	—	11+00	4.0	—	13+00	4.1	—	15+00	3.8	—
	3.5	—		4.0	—		4.1	—		3.8	—
	3.5	—		4.0	—		4.1	—		3.8	—
	3.5	—		4.0	—		4.1	—		3.9	+1.7
	3.6	+1.9		4.0	—		4.1	—		3.7	—
9+50	3.7	+1.8	11+50	4.0	—	13+50	4.2	+1.2	15+50	3.7	—



W- 98+00 9-19-17

DIST	SOUND	DIST	SOUND
15+60	3.7 +1.7	17+60	3.6 +1.6
(5.4)	3.5 +1.9	(5.4)	3.8 +1.6
13:38	3.5 —	4.0	+1.5
	3.5 —	(X) 4.0	—
16+00	3.5 —	18+00	3.8 +1.5
	3.5 —	4.0	+1.5
	3.5 —	3.5	+1.5
	3.4 +2.0	3.5	—
	3.3 +2.1	3.8	+1.5
50	3.3 —	50	3.8 —
	3.3 —	3.8	—
	3.3 —	3.8	—
	3.3 —	4.0	+1.5
	3.3 —	4.0	—
17+00	3.3 —	19+00	4.1 +1.5
	3.1 +2.0	13:43	—
	3.4 —	—	—
13:40	3.4 —	—	—
	3.4 —	—	—
17+50	3.5 +1.9	—	—

STA-W 99+00 9-19-17 (91)

SOUTH OF STA-W 99+00 DE-ANZA 3/4; SOUND SOUTH

DIST	SOUND	DIST	SOUND
1.7	+3.7	1780	2.1 +3.0
1.5	+3.6	2.1	—
1.6	+3.5	2+00	2.2 +2.9
1.8	+3.3	(5.1)	2.2 —
1.8	—	2.2	—
2.0	+3.1	2.2	—
2.0	—	2.2	—
2.1	+3.0	50	2.3 +2.8
2.1	—	2.3	—
2.1	—	2.3	—
2.1	—	2.3	—
2.1	—	2.3	—
2.1	—	2.3	—
2.1	—	3+00	2.3 —
2.1	—	2.3	—
2.1	—	2.3	—
50	2.1	19:15	2.3 —
19:17	2.1	—	—
170	2.1	3+50	2.3 —



W 99+00			9-19-17			W 99+00			9-19-17			
DIST	SOUND		DIST	SOUND		DIST	SOUND		DIST	SOUND		Px (72)
3+60	2.3	+2.8	5+60	2.1	+3.0	7+60	2.4	+2.7	9+60	2.7	+2.4	
Px	2.2	+2.9		2.1	—		2.4	—	(5.1)	2.7	—	
(5.1)	2.1	+3.0	(5.1)	2.2	+2.9	(5.1)	2.5	+2.6	19:20	2.7	—	
	2.1	—		2.2	—		2.5	—	(5.0)	2.7	—	
4+00	2.1	—	6+00	2.2	—	8+00	2.5	—	10+00	2.7	—	
	2.1	—		2.2	—		2.5	—		2.6	+2.4	
	2.1	—		2.3	+2.8		2.5	—		2.6	—	
	2.0	+3.1		2.3	—		2.5	—		2.6	—	
	2.0	—		2.3	—		2.5	—		2.6	—	
50	2.1	+3.0	50	2.3	—	50	2.5	—	50	2.6	—	
	2.1	—		2.3	—		2.5	—		2.7	+2.3	
	2.0	+3.1		2.3	—		2.6	+2.5		2.7	—	
	2.0	—		2.3	—		2.6	—		2.7	—	
	2.0	—		2.4	+2.7		2.6	—		2.7	—	
5+00	2.0	—	7+00	2.4	—	9+00	2.6	—	11+00	2.7	—	
	2.0	—		2.4	—		2.7	+2.4		2.7	—	
	2.0	—		2.4	—		2.7	—		2.7	—	
	2.0	—		2.4	—		2.7	—		2.7	—	
	2.0	—	14:18	2.4	—		2.7	—		2.7	—	
	2.0	—		2.4	—		2.7	—		2.8	+2.2	
5+50	2.0	—	7+50	2.4	—	9+50	2.7	—	11+50	2.8	—	



W-99+00			9-19-47			W-99+00			9-19-47 #3-1		
DIST	SOUND		DIST	SOUND		DIST	SOUND		DIST	SOUND	
11+60	2.9	+2.1	13+60	3.1	+1.9	15+60	3.1	+1.9	17+60	2.7	+2.3
(5.0)	2.9	—	14.25	3.0	+2.0		3.0	+2.0		2.8	+2.2
14.23	2.8	+2.2	(5.0)	3.0	—	(5.0)	3.0	—	(5.0)	2.8	—
	2.8	—		3.0	—		3.0	—		2.8	—
12+00	2.8	—	14+00	3.0	—	16+00	3.0	—	18+00	2.8	—
	2.9	+2.1		3.0	—	14.28	3.0	—		2.9	+2.1
	3.0	+2.0		3.0	—		3.0	—	14.30	3.0	+2.0
	3.0	—		3.0	—		2.9	+2.1		3.0	—
	3.0	—		3.0	—		2.9	—		3.0	—
50	3.0	—	50	3.0	—	50	2.9	—	50	3.0	—
8.3+	3.0	—		3.0	—		2.9	—		2.8	+2.2
	3.1	+1.9		3.0	—		2.9	—		3.0	+2.0
	3.2	+1.8		3.0	—		2.9	—		3.0	—
	3.1	+1.9		3.0	—		2.8	+2.2		3.2	+1.8
13+00	3.1	—	15+00	3.0	—	17+00	2.8	—	19+00	3.0	+2.0
	3.1	—		3.0	—		2.8	—		2.5	+2.5
	3.1	—		3.1	+1.9		2.7	+2.3		2.7	+2.6
	3.1	—		3.1	—		2.7	—		2.7	—
8.3+	3.1	—		3.1	—		2.7	—		2.5	+2.5
13+50	3.1	—	15+50	3.1	—	17+50	2.7	—	19+50	2.5	+2.4
										2.6	+2.2



## PROJECT 3-1

BARRAGAN  
SHERRY  
STANLEY  
CLEAR  
MORNING  
WARM

59+00"0"

9-25-47

(44)

ORIGINAL SOUNDINGS OF PROPOSED EAST BAY CHANNEL

STA- 59+00

0+00=STA-59+00 ON 100' OFFSET LINE: SOUND SOUTH AT 30° TO 23

DIST	SOUND		DIST	SOUND	
0+00	6.0	-1.9	1+80	4.2	-0.1
	6.0	—		4.1	0.0
09:53	6.0	—	2+00	4.1	—
(4.1)	6.0	—	(4.1)	4.1	—
	6.0	—		4.1	—
50	6.0	—		4.1	—
	5.8	-1.7		4.0	+0.1
	5.8	—	50	4.0	—
	5.7	-1.6		4.0	—
	5.7	—		3.8	+0.2
1+00	5.6	-1.5		3.7	+0.2
	5.3	-1.2		3.6	+0.2
	5.1	-1.0	3+00	3.6	—
	5.0	-0.9		3.6	—
	4.9	-0.8		3.5	+0.1
50	4.7	-0.6		3.5	—
09:55	4.6	-0.5		3.5	—
1+20	4.3	-0.2	3+50	3.5	—

DIST

SOUND

DIST

SOUND

3+60

3.5 +0.6

3.5 —

3.5 —

3.5 —

3.5 —

3.5 —

3.5 —

3.5 —

3.5 —

3.5 —

3.5 —

3.6 +0.5

3.8 +0.3

4.1 0.0

5.5 -1.4

(4.1)

PX

Indexed



58+00 "D"

9-25-47

0+00 = STA 58+00 On 100' OFFSET LINE (R/L): SOUND SOUTH 30° E

DIST	SOUND		DIST	SOUND	
0+00	6.0	-1.9	1+80	5.7	-1.6
	6.0	—		5.6	-1.5
<u>10:03</u>	6.0	—	2+00	5.3	-1.2
	6.0	—		5.1	-1.0
(4.1)	6.1	-2.0	(4.1)	5.0	-0.9
50	6.1	—		4.9	-0.8
	6.2	-2.1	<u>10:05</u>	4.8	-0.7
	6.2	—	50	4.7	-0.6
	6.2	—		4.5	-0.4
	6.4	-2.3		4.3	-0.2
1+00	6.4	—		4.2	-0.1
	6.5	-2.4		4.2	—
	6.4	-2.3	3+00	4.2	—
	6.4	—		4.2	—
	6.2	-2.1		4.1	0.0
50	6.1	-2.0		4.1	—
	6.0	-1.9		4.1	—
1+70	5.8	-1.7	3+50	4.0	+0.1

58+00 "D"

9-25-47

(75)

DIST	SOUND		DIST	SOUND	
2+00	4.0	+0.1			
	4.0	—			
	4.0	—			
(4.1)	4.0	—			
4+00	3.9	+0.2			
	3.8	+0.3			
	3.8	—			
	3.8	—			
	3.8	—			
50	3.8	—			
	4.0	+0.1			
	4.1	0.0			
	4.5	-0.4			
	5.1	-1.3			
5+00	6.2	-2.1			
7+00					



57+00 "D"

9-25-77

57+00

9-25-77

(46)

0700 = STA 57+00 ON 100' OFFSET LINE (R/L). SOUND SOUTH AT 90° TO 7/4

DIST	SOUND		DIST	SOUND	
0700	5.4	-1.4	1780	6.8	-2.8
	8.1	—		6.7	-2.7
10:13	5.4	—	2400	6.6	-2.6
	5.4	—		6.7	-2.7
(4.0)	5.7	-1.7	(4.0)	7.0	-3.0
50	5.9	-1.9		7.1	-3.1
	5.8	-1.8		7.1	—
	5.5	-1.5	50	7.1	—
	5.5	—		7.1	—
	5.6	-1.6	0.0	7.0	-3.0
1700	5.9	-1.9	1500	7.0	—
	6.2	-2.2	10:15	6.5	-2.5
	6.5	-2.5	3400	6.4	-2.4
	7.0	-3.0		6.0	-2.0
	7.0	—		5.7	-1.7
50	7.0	—		5.4	-1.4
	7.0	—		5.0	-1.0
1770	6.9	-2.9	3450	4.7	-0.7

DIST SOUND DIST SOUND

2+00	9.1	-0.4
	9.3	-0.3
	9.1	-0.1
	9.1	—
4+00	9.1	—
	9.1	—
(4.0)	9.1	—
	9.1	—
	9.1	—
50	9.2	-0.2
	9.3	-0.3
	9.5	-0.5
	9.6	-0.6
	5.1	-1.1
5+00	5.7	-1.4
10:17		

PX



56+00 "D"

3-25-47

DIST SOUND

56+00 "D"

3-25-47

DIST SOUND

(77)

0+00 = STA. 56+00 ON 100' OFFSET LINE (3/4): SOUND SOUTH A + 90° TO B/4

DIST	SOUND		DIST	SOUND	
0+00	3.2	+0.8	1+80	5.5	-1.5
	3.2	—		5.5	—
<u>10:21</u>	3.2	—	2+00	5.8	-1.8
(4.0)	3.2	—	(4.0)	6.2	-2.2
	3.3	+0.7		6.5	-2.5
50	3.3	—	<u>10:25</u>	6.6	-2.6
	3.6	+0.4		6.9	-2.9
	3.7	+0.3	50	7.0	-3.0
	3.9	+0.1		7.0	—
	4.0	0.0		7.0	—
1+00	4.0	—		7.0	—
	4.0	—		7.0	—
	4.4	-0.4	3+00	7.0	—
	4.4	—		7.0	—
	4.4	—		7.0	—
50	4.4	—		7.0	—
	4.7	-0.7		6.8	-2.8
1+70	4.9	-0.9	3+50	6.8	—

7+60 6.5 -2.5

6.3 -2.3

6.3 —

6.1 -2.1

4+00 6.1 —

(4.0) 6.0 -2.0

5.6 -1.6

5.2 -1.2

4.7 -0.7

50 4.4 -0.4

4.5 -0.5

4.4 -0.4

10:25 4.3 -0.3

4.1 -0.1

5+00 4.5 -0.5



9-25-17

55+00 "D"

9-25-17

(78)

55+00 "D"

DIST SOUND

DIST SOUND

0 0+00 STA 55+00 ON 100 OFFSET LINE (8/4); SOUND SOUTH AT 90° TO T

3+60 6.8 -2.9

DIST SOUND DIST SOUND

0+00 2.0 +1.9 1+80 3.1 +0.9

2.0 — 3.1 —

10:30

2.0 — 2+00 3.8 +0.1

(3.9) 2.0 — (3.9) 3.6 +0.5

2.0 — 3.4 +0.5

50 2.1 +1.8 4.0 -0.1

2.1 — 4.4 -0.5

2.1 — 50 4.5 -0.4

2.3 +1.6 4.8 -0.5

2.3 — 5.1 -1.2

1+00 2.3 — 5.3 -1.5

2.3 — 5.4 -1.5

2.4 +1.5 3+00 5.8 -1.5

2.4 — 10:33 6.1 -2.2

2.5 +1.4 6.4 -2.3

50 2.6 +1.3 6.8 -2.4

2.8 +1.1 7.0 -3.1

1+70 3.0 +0.9 3+50 6.7 -2.5

6.8 —

6.8 —

6.7 -2.8

4+00 6.7 —

(3.9) 6.7 —

7.0 -3.1

7.2 -3.3

7.2 —

50 7.1 -3.2

7.0 -3.1

7.0 —

6.5 -2.6

6.0 -2.1

5-00 5.5 -1.4

10:35 6.1 -2.2

6.4 -2.3

6.8 -2.4

7.0 -3.1

6.7 -2.5

PX



9-25-17

54+00 "D"

0+00 = STA-54+00 ON 100' OFFSET LINE (3/4) SOUND BOWT A 30° TO 3/4

DIST	SOUND	DIST	SOUND
0+00	1.8 +2.1	1+80	2.2 +1.7
	1.8 —		2.3 +1.6
<u>10:40</u>	1.8 —	2+00	2.5 +1.4
(3.9)	1.9 +2.0	(3.9)	2.5 —
	1.9 —		2.6 +1.3
50	1.9 —		2.9 +1.0
	1.9 —		<del>3.1</del> +0.8
	1.8 +2.1	50	3.3 +0.6
	1.7 +2.2		3.4 +0.5
	1.7 —		3.8 +0.1
1+00	1.7 —		3.8 —
	1.7 —		4.0 -0.1
	1.7 —	3+00	4.1 -0.2
	1.8 +2.1		4.2 -0.3
	1.8 —		4.5 -0.1
50	1.9 +2.0		4.8 -0.9
	2.0 +1.9	<u>10:43</u>	5.0 -1.1
1+70	2.2 +1.7	3+50	5.0 —

PX

(3.9)

50

1+00

50

1+70

9-25-17

54+00 "D"

(99)

DIST SOUND DIST SOUND

DIST	SOUND
3+60	5.1 -1.2
	5.5 -1.6
	5.7 -1.8
	5.9 -2.0
4+00	6.0 -2.1
(3.9)	6.3 -2.4
	6.5 -2.6
	6.5 —
	6.5 —
50	6.5 —
	6.8 -2.9
	7.1 -3.2
	7.2 -3.3
	7.3 -3.4
5+00	7.7 -3.2

PX



9-25-17

66+00 "D"

DIST SOUND

66+00 "D"

9-25-17

(50)

DIST SOUND

64+00 = STA - 53+00 ON 100' OFFSET LINE (3/4) SOUND SOUTH AT 90° TO

2160 2.9 +0.7

DIST SOUND

DIST SOUND

0+00

3.1

+0.2

1+80

3.1

+0.5

2.9

—

~~3.1~~

—

3.1

—

2.9

—

11:15

3.1

—

2+00

3.1

—

4+00 2.9

—

(3.6)

3.3

+0.3

(3.6)

3.0

+0.6

(3.5) 2.9

—

3.3

—

3.0

—

3.0

+0.6

50

3.3

—

3.0

—

3.0

—

3.3

—

3.0

—

3.1

+0.5

3.3

—

50

3.0

—

50 3.0

+0.6

3.2

+0.4

3.0

—

3.0

—

3.2

—

3.0

—

3.1

+0.5

1+00

3.2

—

3.0

—

3.1

—

3.2

—

3.0

—

3.0

+0.6

3.2

—

3+00

2.9

+0.7

5+00 3.0

—

3.2

—

2.9

—

11:0

3.2

—

2.9

—

50

3.1

+0.5

2.9

—

3.1

—

2.9

—

1+70

3.1

—

3+50

2.9

—



9-25-17

65+00 "D"

DIST SOUND

65+00 "D" 9-25-17

DIST SOUND

(51)

0+00=STA-65+00 ON 100' OFFSET LINE (B/L); SOUND SOUTH AT 90° T.D.

DIST SOUND DIST SOUND

0+00 3.1 +0.4 1+80 3.0 +0.5

3.1 — 3.0 —

11:29

3.1 — 2+00 3.0 —

(3.5)

2.1 — (3.5) 3.0 —

3.2 +0.3 2.9 +0.6

50 3.2 — 2.9 —

3.2 — 2.9 —

3.1 +0.4 50 2.8 +0.7

3.1 — 2.8 —

3.0 +0.5 2.8 —

1+00 3.0 — 2.8 —

3.0 — 2.8 —

3.0 — 3+00 2.8 —

3.0 — 2.7 +0.8

3.0 — 2.7 —

50 3.0 — 2.7 —

3.0 — 2.7 —

1+70 3.0 — 3+50 2.7 —

3+60 2.7 +0.8

2.7 —

2.8 +0.7

2.8 —

4+00 2.8 —

(3.5) 2.8 —

2.8 —

2.8 —

2.8 —

50 2.8 —

2.8 —

2.7 +0.8

2.7 —

2.7 —

5+00 2.7 —

11:30



64+00 "D"

DIST SOUND

DIST SOUND

0400 = STA 64+00 ON 100' OFFSET LINE (R/L) SOUND SOUTH 1730

3+60 2.3 +0.9

DIST SOUND DIST SOUND

0+00 2.9 +0.3 1+80 2.5 +0.7

12:30 2.9 — 2.7 +0.8

2.9 — 2+00 2.9 —

(3.2) 2.8 +0.4 (3.2) 2.3 +0.9

2.8 — 2.4 +0.8

50 2.8 — 2.4 —

2.8 — 2.4 —

2.8 — 50 2.4 —

2.7 +0.5 2.4 —

2.7 — 2.4 —

1+00 2.7 — 2.4 —

2.7 — 2.4 —

2.6 +0.6 3+00 2.4 —

2.6 — 2.4 —

12:32 2.6 — 12:35 2.3 +0.9

50 2.5 +0.7 2.3 —

2.5 — 2.3 —

1+70 2.5 — 3+50 2.3 —

2.3 —

2.3 —

2.3 —

4+00 2.3 —

(3.2) 2.3 —

2.2 +1.0

2.2 —

2.2 —

50 2.2 —

2.4 +0.8

2.4 —

2.5 +0.7

2.4 +0.8

5+00 2.4 —

12:37

PX



9-25-47

63+00 "D"

0+00=STA 63+00 ON 100' OFFSET LINE (B/L) SOUND SOUTH AT 30° T.A.D.

DIST	SOUND		DIST	SOUND	
0+00	2.6	+0.6	1+80	2.1	+0.8
	2.6	—		2.3	+0.9
<u>12:45</u>	2.6	—	2+00	2.3	—
(3.2)	2.6	—	(3.2)	2.3	—
	2.5	—		2.2	+1.0
50	2.5	—		2.2	—
	2.5	—	<u>12:48</u>	2.2	—
	2.6	—	50	2.2	—
	2.6	—		2.1	+1.1
	2.6	—		2.1	—
1+00	2.5	—		2.1	—
	2.6	—		2.1	—
	2.6	—	3+00	2.1	—
	2.5	+0.7		2.1	—
	2.5	—		2.1	—
50	2.5	—		2.1	—
	2.4	+0.8		2.2	+1.0
1+70	2.1	—	3+50	2.2	—

63+00 9-25-47

(52)

DIST SOUND DIST SOUND

DIST	SOUND		DIST	SOUND	
3+60	2.1	+1.1			
	2.1	—			
	2.1	—			
	2.1	—			
4+00	2.0	+1.2			
(3.2)	2.0	—			
	2.1	+1.1			
	2.1	—			
	2.1	—			
50	2.1	—			
<u>12:50</u>	2.0	+1.2			
	2.0	—			
	2.0	—			
	2.0	—			
5+00	2.0	—			



9-25-17

62+00 "D" 9-25-17

(57)

PX

62+00 "D"

DIST SOUND

DIST SOUND

0+00=STA-62+00 ON 100' OFFSET LINE (3/4) SOUNDS SOUTH AT 30° TO

3+60 2.0 +1.2

DIST SOUND DIST SOUND

2.0 —

PX

0+00 2.7 +0.5 1+80 2.2 +1.0

2.0 —

2.7 — 2.1 +1.1

2.0 —

12:55

2.7 — 2+00 2.1 —

4+00 2.0 —

(3.2) 2.6 +0.6 (3.2) 2.1 —

(3.2) 2.0 —

2.6 — 2.1 —

2.0 —

50 2.6 — 2.1 —

2.0 —

2.6 — 2.1 —

2.0 —

2.5 +0.7 50 2.1 —

50 2.0 —

2.5 — 2.1 —

2.0 —

2.8 +0.4 2.1 —

2.0 —

1+00 2.5 +0.7 2.1 —

2.0 —

2.5 — 2.1 —

2.0 —

2.4 +0.8 3+00 2.0 +1.2

5+00 2.0 —

2.4 — 2.0 —

13:00

2.4 — 2.0 —

50 2.3 +0.9 2.0 —

2.3 — 2.0 —

1+20 2.3 — 3+50 2.0 —



9-25-47

61+00 "D" 9-25-47

(55)

61+00 "D"

DIST SOUND

DIST SOUND

~~0+00=STA-61+00 ON 100' OFFSET LINE (R/L): SOUND SOUTH AT 90° T.O.~~

3+60 2.0 +1.2

DIST SOUND

DIST SOUND

2.0

—

0+00 3.0 +0.2 1+80 2.2 +1.0

2.0

—

2.9 +0.3 2.2 —

(3.2) 2.0

13:05

2.9 — 2+00 2.2 —

1+00 2.0

(3.2) 2.9 — (3.2) 2.2 —

13:10 2.0

2.9 — 13:08 2.2 —

2.0

50 2.8 +0.4 2.2 —

1.9 +1.3

2.8 — 2.2 —

1.9 —

2.7 +0.5 50 2.2 —

50 1.9

2.6 +0.6 2.1 +1.1

1.9

2.5 +0.7 2.1 —

1.9

1+00 2.5 — 2.1 —

1.9

2.5 — 2.1 —

1.9

2.4 +0.8 3+00 2.1 —

5+00 1.9

2.3 +0.9 2.1 —

2.2 +1.0 2.1 —

50 2.1 +1.1 2.1 —

2.2 +1.0 2.1 —

1+70 2.2 — 3+50 2.0 +1.2



9-25-17

60+00

0+00 STA. 60+00 ON 100' OFFSET LINE (B/L) SOUND BOUNTY AT 20° 7' N

DIST	SOUND		DIST	SOUND	
0+00	4.0	-0.8	1+80	2.4	+0.2
	3.8	-0.6	<u>13:20</u>	2.4	—
<u>13:18</u>	3.7	-0.5	2+00	2.1	—
(3.2)	3.6	-0.4	(3.2)	2.4	—
	3.6	—		2.3	+0.9
50	3.3	-0.1		2.3	—
	3.1	+0.1		2.2	+1.0
	3.0	+0.2	50	2.2	—
	2.9	+0.3		2.2	—
	2.9	—		2.2	—
1+00	2.9	—		2.2	—
	2.8	+0.4		2.2	—
	2.8	—	3+00	2.2	—
	2.7	+0.5		2.2	—
	2.7	—		2.2	—
50	2.6	+0.6		2.2	—
	2.5	+0.7		2.2	—
1+70	2.5	—	3+50	2.2	—

60+00 9-25-17

(56)

DIST	SOUND		DIST	SOUND	
3+60	2.2	+1.0			
	2.2	—			
	2.2	—			
	2.1	+1.1			
	2.1	—			
	(3.2)	+1.0			
	2.2	—			
	2.2	—			
	2.2	—			
	2.1	+1.1			
50	2.1	—			
	2.0	+1.2			
	2.0	—			
	2.0	—			
	2.0	—			
	2.0	—			
5+00	2.0	—			







9-25-17

71+00 "D"

0+00=STA- 71+00 ON 180' OFFSET LINE (B/L) - SOUND SOUTH A. 8'

DIST	SOUND		DIST	SOUND	
0+00	1.6	+1.7	1+80	2.5	+0.8
	1.8	+1.5		2.5	—
<u>14:03</u>	1.8	—	2+00	2.6	+0.7
(3.3)	1.8	—	(3.3)	2.6	—
	1.8	—		2.6	—
50	1.9	+1.4		2.9	+0.6
	1.9	—		2.7	—
	2.0	+1.3	50	2.7	—
	2.0	—		2.8	+0.5
	2.0	—		2.8	—
1+00	2.1	+1.2		2.8	—
	2.2	+1.1		2.8	—
	2.3	+1.0	3+00	2.9	+0.4
	2.3	—		2.9	—
	2.4	+0.9		2.9	—
50	2.4	—		2.9	—
	2.4	—		2.9	—
<u>14:05</u>	2.4	—		2.9	—
1+70	2.5	+0.8	3+50	3.0	+0.3

71+00 "D"

9-25-17

(59)

DIST SOUND PX DIST SOUND

3+60	3.0	+0.3			
	3.0	—			
	3.0	—			
	3.0	—			
4+00	3.0	—			
(3.3)	3.0	—			
	3.0	—			
	3.0	—			
50	3.0	—			
	3.0	—			
50	3.0	—			
	3.3	0.0			
	3.3	—			
	3.1	+0.2			
	3.1	—			
5+00	3.1	—			

14:06



9-25-17

70+00 "D"

0+00 = STA 70+00 ON 100' OFFSET LINE (8/4) SOUND SOUTH AT 90° TO 2/4

DIST	SOUND		DIST	SOUND	
0+00	2.0	+1.4	1+80	2.8	+0.6
	2.0	—		2.8	—
14:13	2.0	—	2+00	2.9	+0.3
(3.4)	2.0	—	14:15	2.9	—
	2.0	—	(3.4)	2.9	—
50	2.0	—		2.9	—
	2.2	+1.2		2.9	—
	2.3	+1.1	50	2.9	—
	2.3	—		2.9	—
	2.4	+1.0		2.9	—
14:00	2.4	—		2.9	—
	2.5	+0.9		2.9	—
	2.5	—	3+00	2.9	—
	2.5	—		2.9	—
	2.5	—		2.9	—
50	2.5	—		3.0	+0.4
	2.6	+0.8		3.0	—
14:70	2.6	—	3+50	3.0	—

9-25-17

70+00

DIST SOUND

DIST SOUND

(59)

DIST	SOUND	
3+60	3.0	+0.4
	3.0	—
(3.4)	3.0	—
	3.0	—
4+00	3.2	+0.2
	3.2	—
14:18	3.1	+0.3
	3.1	—
	3.1	—
50	3.0	+0.4
	3.0	—
	3.0	—
	3.5	-0.1
	3.4	0.0
5+00	3.2	+0.2



9-25-47

69+00

9-25-47

(60)

69+00 "D"

DIST SOUND

DIST SOUND

0+00 = STA 69+00 ON 100' OFFSET LINE (8/4) SOUND SOUTH AT 30'

3+60 3.0 +0.4

PX

DIST SOUND

DIST SOUND

0+00 2.1 +1.3 1+80 2.9 +0.5 (3.4)

3.0 —

3.0 —

2.2 +1.2

2.9 —

3.0 —

14:24

2.2 —

2+00 2.9 —

4+00 3.0 —

(3.4) 2.3 +1.1 (3.4) 3.0 +0.4

2.9 +0.5

2.3 —

3.0 —

2.9 —

50 2.4 +1.0

2.9 +0.5

2.9 —

2.5 +0.9

2.9 —

3.0 +0.4

2.5 —

50 2.9 —

50 3.0 —

2.6 +0.8

2.9 —

3.0 —

2.6 —

2.9 —

3.0 —

1+00 2.7 +0.7

2.9 —

3.0 —

2.7 —

2.9 —

3.0 —

2.7 —

3+00 3.0 +0.4

5+00 3.0 —

2.7 —

3.0 —

14:30

2.8 +0.6

3.0 —

50 2.8 —

3.0 —

2.9 +0.5

3.0 —

1+70 2.9 —

3+50 3.0 —











FINAL X-SECTION OF PROJECT # 8

PX

STA 102+00

0+00 = STA-102+00 - R-106+00

STA + H.I. - ELEV

T.B.M. 2.90 13.07 10.17

E 0+70 8.7 4.4

E 0+50 8.0 5.1

E 0+32 7.1 6.0

0+00 7.9 8.2

W 0+47 1.8 8.3

W 0+90 1.9 8.7

W 1+98 3.8 9.3

W 2+07 4.1 9.0

W 2+68 3.5 9.6

W 3+40 4.4 8.7

W 4+00 4.1 9.0

W 4+63 5.3 7.8

W 5+26 6.1 6.7

W-5+70 7.4 5.7

W-6+93 9.5 3.6

BARRAGAN  
SHERP'S  
STANLEY  
10-8-47  
CLEAR  
WINDS  
WARM

PX

STA-92+00

10-8-47

63

0+00 = STA-92+00 - R-104+00

STA + H.I. - ELEV

T.B.M. 1.50 17.69 16.19 98+00 R-106+00

T.P. 5.08 18.27 4.50 13.19 97+00 R-104+00

E 1+70 6.2 12.1

E 1+90 6.1 12.2

E 1+95 5.9 12.4

E 1+40 5.6 12.7

0+00 5.1 13.2

W 0+55 5.1 13.2

W 1+00 4.6 13.7

W 1+60 3.6 14.7

W 2+10 4.0 14.3

W 2+60 4.2 14.1

W 3+04 4.3 14.0

W 3+55 4.7 13.6

Indexed



10-8-47

RX

Sta 91+00

R. 104+00 = 0+00

Sta	t	H1	-	Elev
TBM	5.62	18.81		TBM 13.19
W3+82			6.4	12.4
W3+50			6.5	12.3
W3+00			6.2	12.6
W2+62			6.0	12.8
W2+25			5.6	13.2
W1+80			5.9	12.9
W1+35			6.0	12.8
W0+82			5.8	13.0
W0+45			5.6	13.2
0+00			5.2	13.6
E0+73			6.4	12.4
E1+23			6.2	12.6
E1+80			6.9	11.9

10-8-47

RX

Sta 90+00

R. 104+00 = 0+00

Sta	t	H1	-	Elev	TBM
TBM	4.39	17.58			13.19
E1+70			5.0	12.6	
E1+35			5.4	12.2	
E1+00			5.5	12.1	
E0+70			5.8	11.8	
E0+35			5.8	11.8	
0+00			5.1	12.5	
W4+55			4.9	12.7	
W4+10			5.0	12.6	
W4+88			4.3	13.3	
W2+52			6.0	11.6	
W3+32			7.7	10.2	
W4+02			3.2	8.4	
W4+88			11.8	5.8	
W5+15			13.5	4.1	
W5+20 STAKE					
T.P.			5.45	12.13	

2x2 N/W Cor

YANT POOL



10-8-97

RX

Sta 89+00

R. 107+00 = 0+00

Sta	+	HI	-	Elev
TBM	5.52	17.65		12.13
W 1+90			12.8	4.8
W 1+97			9.0	8.6
W 0+85			5.2	12.4
W 0+00			5.0	12.6
E 0+60			5.1	12.5
E 1+20			5.2	12.4
E 1+70			5.9	12.2

RX

Sta 88+00

R 104+00 = 0+00

Sta	+	HI	-	Elev
TBM	4.52	16.65		12.13
W 1+90			4.7	11.9
E 1+20			4.9	11.7
E 0+65			5.0	11.6
W 0+00			4.9	11.7
W 0+90			5.0	11.6
W 0+80			2.5	9.1
W 1+22			11.9	4.7

10-8-97

(55)



10-8-47

PX.

87+00

0+00 = STA 87+00 ON W/CAUSEWAY B/L: Sect. At 81°40' To B/L

STA	+	H.I.	-	ELEV
B.M.	4.70	15.94		11.24
0+00			4.6	11.3
W 0+14			5.2	10.7
W 0+50			4.7	11.2
W 1+05			4.1	11.8
W 1+65			3.7	12.2
W 2+25			3.8	12.1
W 2+65			4.3	11.6
W 3+03			5.1	10.8
W 3+30			6.0	9.9
W 3+62			6.8	9.1
W 4+10			7.2	8.7
W				

STA-  
86+00

PX.

Sta 86+00

10-8-47

66

Sec. at 81°40' to B/L

0+00 Sta 86+00 on Causeway B/L

Sta	+	HI	-	Elev	Sta
B.M.	4.65	16.01		11.36	87+00
W 3+73				11.4	4.6
W 3+58				9.8	6.2
W 3+75				7.2	8.8
W 3+08				5.8	10.2
W 2+80				4.5	11.5
W 3+42				3.8	12.2
W 2+10				3.8	12.2
W 1+70				3.9	12.1
W 1+25				4.0	12.0
W 0+20				4.3	11.7
W 0+45				5.1	10.9
W 0+14				5.2	10.8
0+00				4.7	11.3



10-8-47

TX

85+00

0+00 = STA 85+00 CAUSEWAY R/L: SECT. AT 81°40' TO R/L

STA	+	H.I.	-	ELEV
T.B.M	4.50	15.84		11.34 86+00
0+00			4.6	11.2
W 0+12			4.7	11.1
W 0+60			4.5	11.3
W 1+25			4.0	11.8
W 1+85			3.6	12.2
W 2+30			3.9	11.9
W 2+95			4.3	11.5
W 3+45			6.3	9.5
W 3+80			9.0	6.8
W 3+95			11.2	4.6

10-8-47

67

TX

84+00

0+00 = STA 84+00 CAUSEWAY R/L: SECT. AT 81°40' TO R/L

STA	+	H.I.	-	ELEV
T.B.M	4.61	15.76		11.15 51 STN 85+00
W 6+82			3.6	12.2
W 6+25			3.3	12.5
W 5+62			3.2	12.6
W 5+93			3.0	12.8
W 7+40			2.9	12.9
W 3+80			3.4	12.4
W 3+20			3.3	12.5
W 3+50			3.2	12.6
W 4+35			2.9	12.9
W 1+35			3.3	12.5
W 0+70			4.0	11.8
W 0+15			4.2	11.6
0+00			4.8	11.0



10-8-47

PX

83+00

0+00 = 83+00 CAUSEWAY B/L. SECT. At 81° 40' To 2/L.

STA	T	H.I.	-	ELEV
T.B.M	4.49	15.54		11.05
W 0+00			4.5	11.0
W 0+15			4.0	11.5
W 0+65			3.8	11.7
W 1+20			3.2	12.3
W 1+65			3.0	12.5
W 2+15			2.8	12.7
W 2+65			2.2	13.3
W 3+05			2.5	13.0
W 3+50			2.7	12.8
W 4+00			2.6	12.9
W 4+45			2.5	13.0
W 4+83			2.3	13.2
W 5+35			1.9	12.6

10-8-47

(68)

PX

Sta 82+00

0+00 Sta 82+00 Causeway B.L. Sect at 81° 40' to B.L.

Sta	T	H.I.	-	Elev	T.B.M
T.B.M.	4.42	15.37		10.95	Sta 82+00
W 4+35			11.0	4.4	
W 4+70			7.8	7.6	
W 4+92			5.2	10.2	
W 4+10			3.2	12.2	
W 3+63			3.0	12.4	
W 3+20			3.2	12.2	
W 2+80			3.2	12.2	
W 2+35			3.0	12.4	
W 1+95			3.0	12.4	
W 1+50			3.3	12.1	
W 1+15			3.5	11.9	
W 0+75			3.7	11.7	
W 0+50			3.8	11.6	
W 0+15			7.0	11.4	
0+00			4.6	10.8	



10-8-47

PX

Sta. 81+00

0+00: Causeway B/L. Sect. at 81°40' to RL

Sta	+	H.I.	-	Elev	T.B.M.
T.B.M.	4.69	15.64		10.95	82+00
0+00			4.5	11.1	
W 0+40			3.7	11.9	
W 1+00			3.2	12.4	
W 1+63			2.9	12.7	
W 2+20			3.1	12.5	
W 2+75			2.9	12.7	
W 3+45			3.0	12.6	
W 3+78			3.2	12.4	
W 4+65			7.9	7.7	
W 4+70			10.0	5.6	

12.95

PX

80+00

0+00 STA-80+00 CAUSEWAY B/L. Sect AT 81°40' TO S/L

STA	+	H.I.	-	ELEV	T.B.M.
T.B.M.	8.80	19.83		11.03	81+00
W 4+60			13.4	6.4	
W 4+42			10.3	9.5	
W 4+10			7.4	12.4	
W 3+53			7.2	12.6	
W 3+20			7.7	12.1	
W 2+45			7.4	12.4	
W 1+80			7.2	12.6	
W 1+20			8.1	11.7	
W 0+72			8.9	10.9	
W 0+25			10.5	9.3	
W 0+05			14.8	5.0	
0+00			15.4	4.4	

10-8-47

(69)



BARRASAN  
SERRAS  
STANLEY  
10-9-47

FINAL SOUNDINGS OF SLOPES PROJECT # 8

PX

STA-102+00

(170' W R-114)

0+00 = R-112+30 - STA-102+00 : SOUND WEST.

DIST SOUND DIST SOUND

0+00 + ?

+10 0.0 +3.4

13:30

+20 1.0 +2.4

(3.4)

+30 1.8 +1.6

+40 3.0 +0.4

0+50 5.3 -1.9

+60 5.7 -2.3

+70 7.2 -3.8

+80 9.1 -5.7

+90 9.7 -6.3

1+00 10.5 -7.1

+10 10.5 -7.1

+20 10.5 -7.1

+30 11.5 -8.1

+40 11.8 -8.4

50 11.8 -8.4

PX.

101+00

210' W

101+00 = R-111+90 - STA-101+00

SOUND WEST.

(20)  
Indexed

DIST SOUND

DIST SOUND

0+00 + ?

+10 1.0 +2.5

13:40

+20 6.3 -2.8

+30 7.0 -3.5

(3.5)

+40 9.0 -5.5

0+50 9.0 -5.5

+60 9.0 -5.5

+70 9.8 -6.3

+80 11.0 -7.5

+90 11.3 -7.8

1+00 11.3 -7.8

+10 11.3 -7.8

+20 11.3 -7.8

+30 11.3 -7.8

+40 11.1 -7.6

1+50 11.1 -7.6

11.1 -7.6



10-9-17

PX.

100+00

(200' R-114)

0+00 = TR-112+00 - STA-100+00 SOUND WEST

DIST SOUND

DIST SOUND

0+12 0.0 +3.6

+20 1.2 +2.4

13:50 +30 5.2 -1.6

(3.6) +40 7.4 -3.8

0+50 9.0 -5.4

+60 9.1 -5.5

+70 10.1 -6.8

+80 10.5 -6.9

+90 10.8 -7.2

1+00 11.0 -7.4

+10 11.2 -7.6

+20 11.7 -8.1

+30 11.7 -8.1

+40 11.7 -8.1

1+50 11.8 -8.2

+60 11.8 -8.2

+70 11.7 -8.1

13:53 +80 11.7 -8.1

10-9-17

(21)

R

99+00

(180' W-R-114)

0+00 = R-112+20 - STA-99+00 : SOUND WEST

DIST SOUND

DIST SOUND

0+00 0.0 +3.7

+10 0.9 +2.8

+20 2.9 +0.8

(3.7) +30 7.0 -3.3

+40 10.3 -6.6

0+50 10.8 -7.1

+60 11.0 -7.3

+70 11.1 -7.7

+80 11.5 -7.8

+90 11.8 -8.1

1+00 11.5 -7.8

+10 11.5 -7.8

+20 11.4 -7.7

+30 11.8 -8.1

+40 12.0 -8.3

1+50 12.2 -8.5

+60 12.0 -8.3



10-9-47

Rx

98+00

(190° W. R-11A)

0+00 = R-112+10 - Sta 98+00 SOUND WEST

DIST SOUND DIST SOUND

0+02 0.0 +3.8

11:17 +10 0.5 +3.3

+20 1.3 -0.5

(3.8) +30 7.3 -3.5

+40 8.5 -4.7

0+50 9.1 -5.3

+60 9.7 -5.9

+70 10.4 -6.6

+80 11.1 -7.3

+90 11.8 -8.0

1+00 12.2 -8.4

+10 12.3 -8.5

+20 12.3 -8.5

+30 12.3 -8.5

+40 12.3 -8.5

1+50 12.4 -8.6

+60 12.5 -8.7

10-9-47

Rx.

97+00

(240° W. R-11A)

+00 = R-111+60 - Sta 97+00: SOUND WEST

DIST SOUND DIST SOUND

0+02 0.0 +4.0 1+80 11.2 -7.2

11:37 +10 1.0 +3.0 +90 11.0 -7.0

+20 3.0 +1.0 2+00 11.0 -7.0

(3.8) +30 7.1 -3.1 (4.0) +10 11.0 -

(4.0) +40 8.0 -4.0 +20 11.0 -

0+50 8.1 -4.1 +30 11.0 -7.0

+60 10.2 -6.2 +10 10.7 -6.7

+70 11.3 -7.3 2+50 10.4 -6.4

+80 11.5 -7.5 +60 10.2 -6.2

+90 12.0 -8.0 +70 10.1 -6.1

1+00 12.0 -8.0 +80 9.8 -5.8

+10 12.0 -8.0 +90 10.0 -6.0

+20 11.8 -7.8 3+00 9.7 -5.7

+30 11.4 -7.4 +10 9.3 -5.3

+40 12.0 -8.0 +20 8.5 -4.5

1+50 12.0 -8.0 +30 7.0 0.0

+60 11.6 -7.6 11:40 +40 7.0 0.0

3+50 2.9 +1.1

+60 1.5 +2.5

3+90 0.0 +4.0



Px.

98+00

(120' E - R-100)

0+00 P-107+20 - STA-98+00

SOUND EAST

DIST SOUND DIST SOUND

0+10 0.3 +4.1

+20 3.0 +3.4

15:10 +30 6.0 -1.6

(9.9)+40 9.8 -5.4

0+50 10.5 -6.1

+60 10.5 -6.1

+70 11.3 -6.9

+80 11.8 -7.4

+90 12.0 -7.6

1+00 12.3 -7.9

+10 12.6 -8.2

+20 12.8 -8.4

+30 13.0 -8.6

+40 13.0 -8.6

1+50 13.3 -8.9

+60

Px.

99+00

(120' E - R-100)

0+10 R-107+20 - STA-99+00 SOUND EAST

DIST SOUND DIST SOUND

0+10 0.6 +0.6

+20 4.1 +0.4

15:20

+30 8.2 -3.7

(4.5)+40 10.1 -5.6

0+50 11.0 -6.5

+60 11.5 -7.0

+70 12.3 -7.8

+80 13.0 -8.5

+90 13.1 -8.6

1+00 13.4 -8.9

+10 13.5 -9.0

+20 13.7 -9.2

+30 13.7 -9.2

+40 13.8 -9.3

1+50 14.0 -9.5



10-9-97

Px,

100+00

(120° E - R-106)

0+00 = R-107+20 - STA-100+00 SOUND EAST

DIST SOUND DIST SOUND

0+00 0.0 +4.6

+10 1.7 +2.9

15:28 +20 4.5 +0.1

(4.6)+30 9.0 -4.4

+40 10.3 -5.7

0+50 11.1 -6.5

+60 11.0 -6.4

+70 12.2 -7.6

+80 12.4 -7.8

+90 12.7 -8.1

1+00 12.5 -7.9

+10 12.9 -8.3

+20 12.9 -8.3

+30 12.7 -8.1

+40 12.7 -8.1

1+50 12.5 -7.9

10-9-97

Px,

101+00

(120° E - R-106)

0+00 = R-107+20 - STA-101+00 SOUND EAST

DIST SOUND DIST SOUND

0+00 0.0 +4.7

+10 1.0 +3.7

15:38 +20 4.0 +0.7

(4.7)+30 8.1 -3.4

+40 11.0 -6.3

0+50 11.8 -7.1

+60 12.6 -7.9

+70 13.0 -8.3

+80 13.0 -8.3

+90 13.0 -8.3

1+00 13.0 -8.3

+10 13.1 -8.4

+20 13.2 -8.5

+30 13.3 -8.6

+40 13.0 -8.3

1+50 13.0 -8.3

22



102400

0+000 R-

SOUND EAST

DIST SOUND

DIST SOUND



14.66 - T.P.  
14.39 - T.P.

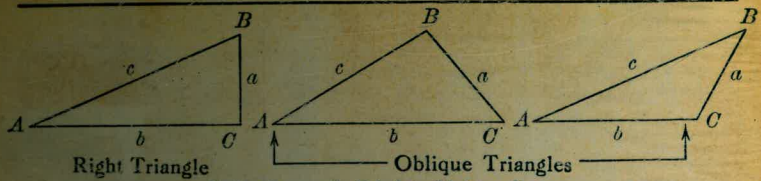
19.10  
4.71  
14.39 - T.P.

8.23

11.21 95100  
5.78 +  
16.99  
7.08 -  
12.91  
7.33 +  
12.27  
3.21 -  
14.00  
7.40 +  
18.40  
3.71 -  
14.69 T.B.M.

18.10  
8.23  
10.17 - T.P. (15' of 102100 R-106100)

TRIGONOMETRIC FORMULÆ



Solution of Right Triangles

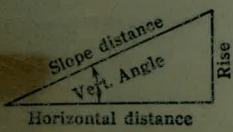
For Angle A.  $\sin = \frac{a}{c}$ ,  $\cos = \frac{b}{c}$ ,  $\tan = \frac{a}{b}$ ,  $\cot = \frac{b}{a}$ ,  $\sec = \frac{c}{a}$ ,  $\text{cosec} = \frac{c}{a}$

Given	Required	Formulas
$a, b$	$A, B, c$	$\tan A = \frac{a}{b} = \cot B, c = \sqrt{a^2 + b^2} = a \sqrt{1 + \frac{b^2}{a^2}}$
$a, c$	$A, B, b$	$\sin A = \frac{a}{c} = \cos B, b = \sqrt{(c+a)(c-a)} = c \sqrt{1 - \frac{a^2}{c^2}}$
$A, a$	$B, b, c$	$B = 90^\circ - A, b = a \cot A, c = \frac{a}{\sin A}$
$A, b$	$B, a, c$	$B = 90^\circ - A, a = b \tan A, c = \frac{b}{\cos A}$
$A, c$	$B, a, b$	$B = 90^\circ - A, a = c \sin A, b = c \cos A$

Solution of Oblique Triangles

Given	Required	Formulas
$A, B, a$	$b, c, C$	$b = \frac{a \sin B}{\sin A}, C = 180^\circ - (A + B), c = \frac{a \sin C}{\sin A}$
$A, a, b$	$B, c, C$	$\sin B = \frac{b \sin A}{a}, C = 180^\circ - (A + B), c = \frac{a \sin C}{\sin A}$
$a, b, C$	$A, B, c$	$A + B = 180^\circ - C, \tan \frac{1}{2}(A - B) = \frac{(a - b) \tan \frac{1}{2}(A + B)}{a + b}$ $c = \frac{a \sin C}{\sin A}$
$a, b, c$	$A, B, C$	$s = \frac{a + b + c}{2}, \sin \frac{1}{2}A = \sqrt{\frac{(s - b)(s - c)}{bc}}$ $\sin \frac{1}{2}B = \sqrt{\frac{(s - a)(s - c)}{ac}}, C = 180^\circ - (A + B)$
$a, b, c$	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.