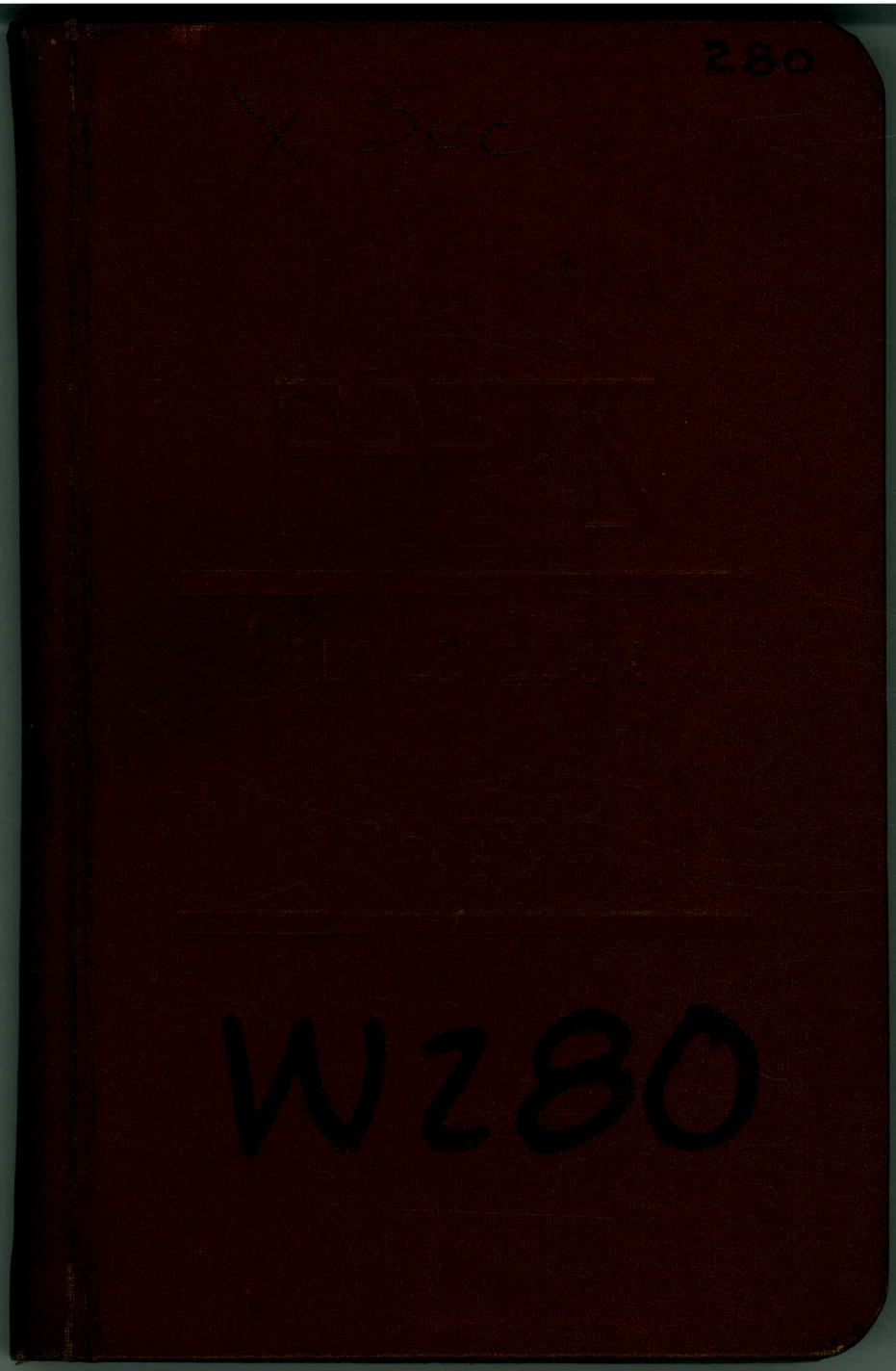
280
X Sec
W280

BM #71 SE Cor. Cap 3 Port #4 395.16
72 Top of A.V 391.35
3.81
3.27
.54

280
280

Our Leather Bound Engineers Note Books are carried in the following rulings:

No. 380 LEVEL BOOK. Left and Right Hand Page the same as Left Hand Page of this Book.

No. 382 FIELD BOOK. Left Hand Page as in this Book, Right Hand Page 4 x 4 to the inch, Center Line Red.

No. 384 MINING TRANSIT BOOK. Left Hand Page as in this Book, Right Hand Page 8x8 to the inch, Center Line Red.

No. 385 FIELD BOOK. Left Hand Page as in this Book, Right Hand Page 8 vertical and 4 horizontal lines to the inch, Center Line Red.

We also carry the Note Books listed above, bound in extra strong Fabri-Hide (otherwise the same quality of book), which can be furnished at a somewhat lower price.

In ordering Fabri-Hide covered books, add the letter *"F"* to catalog number.

THE FREDERICK POST CO.

ENGINEERING and DRAFTING SUPPLIES

IRVING PARK STATION

CHICAGO, ILL.

O.R.-S.D. 2nd. Main Pipe Line.

INDEX

Abandoned.

Xsec's 'A' Line
S. portal tunnel +4

7/13/29
Parker
Conners
Hill
Elliot
Simpson

B.M.#72		391.87
	0.27	392.14
281+05.42		
281+50		
282+00		
+40		
+70		
283+00		
+17		
+35		
B.M.#72	0.27	391.87

Lt. ℄ Rt.

Top of Air Valve Rt. Sta. 283+40
H.I. 391.62

	75.8	80.9	83.8	89.1	89.6	94.9	89.9	86.1	Top of pipe 89.1
15.8	10.7	7.8		2.5	2.0	+0.3	1.7	5.5	2.5
23	8	0		12	19	25	30	32	34
	75.0	86.5		88.9	88.7	90.6	89.4	86.0	Top Pipe 89.3
16.6	6.1			2.7	2.9	1.0	2.2	5.6	2.3
20	0			7	10	19	22	23	26
	73.0	81.8		86.0	88.7	87.3	84.3		Top Pipe 87.2
18.6	9.8			5.6	2.9	4.3	7.3	4.4	
20	0			9	16	20	21	23.5	
	73.1	76.1	81.6		85.4	88.9	86.1	81.9	Top Pipe 87.2
18.5	15.5	10.0		6.2	2.3	5.5	9.7	6.8	
20	10	0		7	14	19	20	23	
	71.9	74.8	77.4		85.1	81.7	84.1	Pipe 84.6	
19.7	16.8	14.2		6.5	9.9	7.5	7.0		
20	6	0		16	18	19	22		
	75.5	77.5	78.4		81.3	86.9	85.8	82.9	Pipe 84.7
16.1	14.1	13.2		10.3	4.7	5.8	8.7	5.7	
20	10	0		5	15	17	18	21.5	
16.2	75.4	79.5	82.8	83.7	84.8	87.4	87.4	84.8	Pipe 87.7
20	12.1	8.8	7.9	6.8	3.2	4.2	6.8	3.9	
	8	2	0	7	15	18	19	21.5	
15.5	76.1	81.2	85.4	87.3	88.0	90.1	88.6	86.1	Pipe 89.1
20	10.4	6.2	4.3	3.6	1.5	3.0	5.5	2.5	
	11	4	0	8	13	16	17	20	

B.M. #72			391.87
	4.45	396.32	
283+70			
284+00			
284+15	48	P.O.T.	
+40			
+75			
285+00			
+20			
+35			

X gone

X gone

Lt.	℄	Rt

395.8 HI

	77.7	84.5	88.6	91.5	89.8	89.6	86.6	Pipe	89.4
18.1	11.3	7.2	4.3	6.0	6.2	9.2	6.4		
40	8	0	7	11	15	16	19		

Brush + pool in bank

		80.5	88.6	92.2	90.0	86.5	Pipe	89.5	
10.1	12.3	7.2	3.6	5.8	9.3	6.3			
20	12	0	10	15	16	19			

79.5	86.8	86.5	89.1	92.5	89.9	86.7	Pipe	89.6	
11.3	9.0	10.3	6.7	3.3	5.9	9.1	6.2		
20	15	8	0	9	14	15	19		

85.6	87.1	89.0	90.1	93.1	89.6	86.4	Pipe	89.4	
10.3	10.7	6.8	5.7	2.7	6.2	9.4	6.4		
20	12	0	4	11	16	17	19.5		

87.1	87.3	90.7	92.2	91.8	93.5	90.7	86.4	Pipe	89.4
8.7	8.5	5.1	3.6	4.0	2.3	5.1	9.4	6.4	
20	8	0	2	5	11	16	17	19.5	

83.7	87.2	87.4	89.6	94.2	90.7	86.5	Pipe	89.4	
12.1	8.6	8.4	6.2	1.6	5.1	9.3	6.4		
20	16	7	0	11	17	17.5	20		

Some snow

82.7		90.4	90.6	93.6	90.8	86.3	Pipe	89.5	
13.1		5.4	5.2	2.2	5.0	9.2	6.3		
20		0	3	10	16	17	20		

82.8		91.1	92.7	93.4	91.1	86.7	Pipe	89.5	
13.0		4.7	3.1	2.4	4.7	9.1	6.3		
20		0	4	11	15	17	19.5		

396.32

285+55

+65

+75

+90

286+05

+25

T.P.

12.67 408.61

0.38 395.94

+50

Lt. ℄ Rt

395.80 HI.

89.8	83.2	88.7	93.9	90.8	86.7	Pipe	89.4
6.0	12.6	7.1	1.9	5.0	9.1	6.4	
20	12	0	12	17	17.5	20	

92.1	91.8	89.2	86.5	86.6	92.2	92.9	91.0	86.5	Pipe 89.3
3.7	4.0	6.6	9.3	9.2	3.6	2.9	4.8	9.3	6.5
20	14	9	6	0	9	14	17	17.5	20.5

94.2	92.1	92.0	89.8	89.9	92.8	93.8	89.8	86.1	Pipe 89.0
1.6	3.7	3.8	6.0	5.9	3.0	2.0	6.0	9.7	6.8
20	16	6	2	0	6	11	18	19	21.5

94.3	94.3	91.6	91.6	91.8	93.3	90.1	85.8		Pipe 88.8
1.5	1.5	4.2	4.2	4.0	2.5	5.7	10.0	7.0	
20	9	3	0	2	7	19	20	23	

93.3	93.4	92.9	93.0	94.0	90.6	86.0			Pipe 89.0
+0.5	2.4	2.9	2.8	1.8	5.2	9.8	6.8		
20	14	0	10	15	21	21.5	24.5		

92.2	400.2	392.8	93.2	92.8	93.8	90.2	86.2		Pipe 89.3
+6.4	+4.4	+1.0	2.6	3.0	2.0	5.6	9.6	6.5	
25	18	10	0	10	18	23	24	26	

408.09 HI

407.9	05.9	03.8	03.6	02.6	400.9	97.2	93.1	93.6	90.1	86.2	Pipe 89.3
0.2	2.2	4.3	4.5	5.5	7.2	10.9	15.0	14.5	18.0	21.9	18.8
30	22	16	9	5	0	7	13	21	27	28	30.0

		408.61			
286+70					
So. Portal 286+86.17	Portal				
T.P.			0.90	407.71	
	12.48	420.19			
287					
+33			Void		
+70.4	Exist Tunnel portal				
288					

Left ℄ Right

408.09 H.I.

410.1 07.1 06.0 05.4 07.6 400.8 93.6 90.1 86.2 Pipe 89.3
+2.0 1.0 2.1 2.7 3.5 7.3 14.6 18.0 21.9 18.8
30 14 10 3 0 6 20 30 30.5 33

412.7 08.0 07.2 04.7 01.0 93.4 90.3 Ground 90.3
+4.6 0.1 0.9 3.4 7.1 10.7 17.8 17.8
30 7 0 7 17 21 30 35

on hub at 286+86.17 H.I. 420.2

14.4 13.1 10.5 09.6 09.6 07.2 03.3 91.2 91.2
5.8 7.1 9.7 18.6 10.6 13.0 16.9 29.0 29.0
30 25 6 0 2 11 19 30 37

Void

18.9 15.0 12.5 12.8 09.0 92.4 92.8
1.3 5.2 7.7 7.4 11.2 27.8 27.4
30 7 0 6 17 35 42

24.5 20.5 18.4 17.5 15.7 95.4 95.19 Top of corner portal 89.8 Top of pipe 86.8 Bottom of pipe
+1.5 +0.3 1.8 2.7 4.5 24.8 25.03 30.4 33.4
30 10 0 7 16 36 47.6 47.6 47.6

29.2 26.2 25.4 23.2 22.2 20.7 02.8 03.2
+1.0 +6.0 +5.2 +3.0 +2.0 +0.5 18.0 17.0
30 20 10 0 5 17 43 50

7/13/29

Xsec's "W." Line

So. Portal Tunnel "4

23-1 398.45 395.94

284+15.78

+25

+50

+75

285

+25

+35 ℄ pipe

+50

Left ℄ Right

Same as "A" Line

H.I. 398.45

84.8 85.0 87.7 90.2 93.3 91.0 91.0 +0.8 90.0 pipe
13.6 13.5 10.7 8.2 5.1 7.5 11.1 8.7
25 17 9 0 10 16 16 19

87.2 87.4 88.8 90.0 94.0 90.8 87.0 89.8 pipe
11.2 11.0 9.6 8.5 4.1 7.6 11.4 8.6
25 18 7 0 9 16 16 17.5

88.1 88.0 92.6 92.3 94.0 91.5 87.0 90.15 pipe
10.3 10.5 5.8 6.1 4.5 6.9 11.5 8.4
25 12 3 0 7 11 12 17.5

87.0 87.8 87.8 94.6 91.2 87.0 89.85 pipe
11.5 10.6 10.6 3.8 7.2 11.4 8.6
25 22 17 0 6 7 10

87.0 90.7 91.1 94.1 91.7 87.0 90.0 pipe 89.0 91.8 99.
11.4 7.7 7.3 4.3 7.2 11.4 8.4 11.5 6.6 +0.6
25 18 14 7 0 0.5 3 5.5 6.5 20

88.1 93.1 93.4 91.6 87.2 89.85 87.7 92.0 98.4 402.0
10.3 5.3 5.0 6.8 11.2 8.5 11.2 6.5 0.0 +3.5
25 16 9 4 3 0 3 3.5 14 25

89.0 94.8 91.4 87.3 90.0 87.7 91.8 93.0 97.1 402.6
9.5 3.6 7.0 11.1 8.5 10.7 6.6 5.5 1.3 +4.2
25 14 8 7.5 4.5 2 2 0 6 25

		398.45		
285+75				
286				
+25				
T.P.			1.68	396.77
	12.76	409.23		
+50				
+75				
T.P.			0.45	408.78
	11.88	420.66		
287				
287+08.32	Portal			
+25				

Left ℄ Right

H.I. 398.45

Pipe	89.5	86.2	90.7	92.1	95.3	97.1	03.0	
	8.9	12.2	7.7	6.3	3.1	1.3	+ 4.6	
	16	12.5	12	6	0	4	25	
Pipe	89.5	87.0	91.4	94.1	92.2	93.5	98.6	02.7
	8.9	11.5	7.0	9.3	6.2	4.9	0.3	+ 4.3
	28.5	25	24	18	11	0	11	25
Pipe	89.6	87.0	92.0	94.0	93.5	94.4	93.6	93.4	92.0	99.4
	8.8	11.3	6.5	4.5	5.0	3.0	7.8	5.1	6.7	+ 1.0
	49.5	41	40	34	30	19	7	0	9	25

H.I. 409.2

Pipe	89.7	91.3	94.0	94.9	00.2	02.6	02.6	02.0	00.1
	19.5	17.8	15.2	14.3	9.0	6.6	6.6	7.2	4.1
	51	46	40	35	25	14	0	7	30
Pipe	89.6	86.4	91.0	93.7	03.3	08.5	08.6	10.0	11.2
	19.6	22.8	18.2	15.5	5.9	0.7	0.6	+0.8	+2.0
	57	54	53	45	29	16	0	15	30

H.I. 420.7

Pipe covered	90.7	391.5	410.2	10.1	12.7	16.9			
	30.0	29.2	10.5	10.6	8.0	3.8			
	56	51	17	9	0	30			
	91.3	92.6	01.7	10.9	11.6	10.9	12.8	13.7	15.6	18.0
	29.4	29.1	19.0	9.8	9.1	9.8	7.9	7.0	5.1	2.7
	54	49	38	17	13	8	5	0	14	30
	92.9	95.7	08.3	13.7	14.9	13.5	16.5	18.2	21.1	
	27.8	25.0	12.4	7.0	5.8	7.2	7.2	2.5	+ 0.4	
	53	40	27	16	8	5	0	9	30	

420.66

287+65

287+93.04 Exist Tunnel Portal

288+23

Left ℄ Right

H.I. 420.7

93.5 9.3? 11.0 17.2 16.3 19.2 21.0 22.6 25.7

27.2 27.0 9.7 3.5 4.7 1.5 +0.3 +1.9 +4.5

54 43 21 9 1 0 4 15 30

96.2 Top of Exist Portal

95.7 14.9 19.4 18.2 20.0 21.7 23.8 27.2

24.5 23.0 5.8 1.3 2.5 0.7 +1.0 +3.1 +6.5

50 37 18 8 4 0 2 12 30

03.3 02.7 11.8 19.8 20.2 22.8 24.7 27.2 29.7

17.4 18.0 8.9 0.3 0.5 +2.1 +4.0 +6.5 +9.0

50 40 32 14 6 0 4 18 30

Xsecs. N. from N. portal Tunnel "A" Line

B.M.	12.37	406.76		394.39
T.P.			0.70	406.06
	13.00	419.06		
297+30				
T.P.				
297+50				
T.P			13.00	406.06
	0.70	406.76		
297+74.17	Portal			
+94.7	Exist Tunnel Portal			
298+25				
+46				
+60				

Left & Right

S.E. cor. N. Portal Tunnel "A"

H.I. 419.1

14.1	14.9	15.1	16.8	17.1	19.6	
5.0	4.2	4.0	2.3	0.0	+0.5	
30	11	0	18	50	64.5	
10.1	10.7	11.9	13.0	14.3	13.3	11.4
9.0	8.4	7.2	6.1	4.8	5.8	7.7
30	16	0	2.5	49	57	65

H.I. 406.8

04.6	05.1	07.3	399.9	400.7			
2.2	1.7	+0.5	6.9	6.1	89.2	85.8	
30	0	43	60	65	17.6	21.0	
					65	65	
98.1	00.5	01.5	03.6	04.2	01.8	95.0	94.
8.7	6.3	5.3	3.2	2.6	5.9	11.8	12.4
30	0	12	19	32	47	54	65
93.8	90.3	92.7	93.8	96.9	96.8	91.2	85.8	88.8
13.0	16.5	14.1	13.0	9.9	10.0	14.6	21.0	18.0
30	18	0	10	24	47	52	60	62
97.0	93.3	88.4	90.5	93.4	89.8	88.8	85.7	88.6
9.8	13.5	18.4	16.3	13.4	17.0	18.0	21.1	18.2
30	16	0	15	46	51	54	56	57.5
99.7	95.9	93.6	86.4	89.7	88.6	85.7	88.6
7.1	10.9	13.2	20.4	17.1	18.2	21.1	18.2
30	16	0	16	41	50	53	56

406.76

298+85

299

B.M. C.I.P. 400.58 394.39

299+25

+50

+76.5

300

+25

+50

Left & Right

9

H.I. 406.8

401.0	394.4	91.7	85.6	85.0	88.8
5.8	12.4	15.1	21.2	21.8	18.0
30	0	15	32	51	51 pipe

402.0	394.4	92.0	87.8	84.8	88.8
4.8	11.4	14.8	19.0	22.3	18.0
30	0	15	31	40	45 pipe

H.I. 400.6

04.1	013	96.3	92.5	89.3	85.7	88.7
+3.5	+0.7	4.3	8.1	11.3	14.9	11.9 pipe
30	17	0	16	29	39	39

05.2	400.0	97.2	94.5	93.0	86.2	89.2
+4.6	0.6	3.4	6.1	7.6	14.4	11.4 pipe
30	11	0	9	20	28	31

05.6	400.6	97.2	94.9	92.1	86.3	89.1
+5.0	40.0	3.4	5.7	8.5	14.3	11.5 pipe
30	12	0	12	18	22	24.5

05.3	400.0	96.6	94.7	94.0	91.2	86.3	89.4
+4.7	0.6	4.0	5.9	6.6	9.4	14.3	11.2
30	11	0	6	11	14	18	20 pipe

04.6		97.1	91.4	86.3	89.5
+4.0		3.5	9.2	14.3	11.1
30		0	12	14	17 pipe

05.9	99.1	98.1	91.8	86.6	89.3
+5.3	1.5	3.5	8.8	14.0	11.3 pipe
30	5	0	10	12	15

400.5-8

300+75

301

+25

+50

+75

302

+50

303

Yard

Left & Right

H.I. 400.6

08.6	399.9	97.2	92.4	86.4	89.4	
+5.1	0.7	3.4	8.2	14.2	11.2	Pipe
30	7	0	9	11	14	
05.2	99.8	96.8	91.8	85.2	89.2	
+4.6	0.5	3.8	3.0	14.4	11.4	"
25	8	0	9.0	11.5	14	
05.4	01	97.2	91.5	86.2	89.2	
+4.8	+0.5	3.4	9.1	14.4	11.4	"
25	10	0	9.0	11.5	14.5	
04.9	400.7	96.0	90.7	86.2	89.2	
+4.3	+0.1	4.6	9.9	14.4	11.4	"
25	10	0	10.5	12.0	14.5	
04.5	400.6	95.0	92.4	85.9	88.9	
+3.9	0.0	5.6	8.2	14.7	11.7	"
25	13	0	8	12	14.5	
04.4	01.1	95.3	93.2	85.9	88.9	
+3.8	+0.5	5.3	7.4	14.7	11.7	"
25	17	0	7	12	15	
04.2	99.9	95.9	92.5	88.6	85.7	88.7
+3.6	0.7	4.7	8.1	11.9	14.9	11.9 "
25	13	0	7	12	13.5	16
03.9	400.0	95.5		91.1	85.8	88.8
+3.3	0.0	5.1		9.5	14.8	11.8
25	11	0		9	14	17

Sta.				
		400.58		
303+50				
304				
T.P.			11.20	389.38
	9.51	398.89		
304+50				
+75				
305				
+58				
306				
B.M.#69			7.50	391.39
	0.41	391.80		
+25				

X Void

Left ℄ Right

H.I. 400.6

04.2 +3.6 30 | 01.0 +0.4 12 | 98.2 4.4 0 | 91.3 9.3 10 | 86.3 14.3 13 | 89.3 11.3 16.5 Pipe

03.7 +3.1 25 | 400.6 0.0 12 | 96.2 4.4 0 | 92.6 8.0 9 | 89.2 11.4 13 | 86.2 14.4 14.0 | 89.2 11.4 16.5 "

H.I. 398.9

03.2 +4.3 25 | 400.3 +1.4 11 | 96.8 2.1 0 | 90.6 8.3 12 | 86.6 12.3 13 | 89.3 9.6 16 "

X Void

03.2 +4.3 25 | 400.6 +1.7 10 | 97.9 1.0 0 | 94.6 4.3 8 | 90.3 8.6 12 | 86.7 12.2 13 | 89.4 9.5 16 "

02.1 +3.2 25 | 00.2 +1.3 12 | 97.1 1.8 | 93.8 5.0 8 | 86.9 12.0 12 | 89.3 9.6 15.5 "

98.2 0.7 25 | 96.3 2.6 0 | 92.0 6.9 10 | 86.0 12.9 13 | 88.9 10.0 15.5 "

94.0 4.9 25 | 93.0 5.9 | 93.0 5.9 6 | 90.8 8.1 9 | 85.7 13.2 12 | 88.5 10.4 15.5 "

Air valve — H.I. 391.8

91.2 0.6 25 | 91.6 0.2 8 | 90.9 0.9 0 | 90.7 1.1 3 | 91.1 0.7 7 | 87.5 4.3 12 | 83.6 7.2 13 | 87.5 4.3 16.5 "

		391.80		
306 +55				
307				
T.P.			12.32	379.48
	0.67	380.15		
+25				
+50				
T.P.			12.80	367.35
	0.14	367.49		
308				
T.P.			12.77	354.72
	0.31	355.03		
+50				
T.P.			12.84	342.19
	1.04	343.23		
308+95				
T.P.			12.99	330.24
	0.75	330.99		
309+40				

Left ℄ Right 12

H.I. 391.8

86.1	86.1	86.4	86.3	85.1	81.5	84.3
5.4	5.7	6.9	5.5	6.7	10.3	7.5 pip
25	0	5	9	11	14	17
78.5	79.2	79.4	80.1	78.2	74.8	77.8
13.3	12.6	12.4	11.7	13.6	17.0	14.0
20	0	8	12	16	16	20.5

H.I. 380.15

74.5	75.1	76.5	77.0	75.0	71.4	74.2
5.6	5.0	3.6	3.2	5.2	8.5	5.9
20	12	0	13	18	18.5	21.5
71.0	71.1	71.6	72.1	70.5	70.2	
9.2	9.0	8.5	8.0	9.6	9.8	
20	0	11	15	19	22.5	

H.I. 367.5

60.0	62.7	63.1	62.8	65.0	63.7	60.0	62.9
7.5	1.8	4.7	4.7	2.5	3.8	7.5	4.6
20	5	0	9	18	21	22	25.5

H.I 355.0

43.6	45.6	47.1	47.4	49.0	46.1	44.2
11.4	9.4	7.9	7.6	6.0	8.9	3.8
20	9	0	8	25	26	29

H.I. 343.2

31.3	32.7	34.0	31.1	34.2	
11.9	10.5	9.2	12.1	9.0	
20	0	2.8	29.5	32.5	

H.I. 331.0

24.5	24.2	25.7
6.5	6.8	5.3
20	0	20

		330.99		
309+72.07	Junction of "W" Line			
+84				
310				
+30				
T.P.			0.17	330.52
	11.45	341.97		
310 +60			11.1	30.9
311			6.7	35.3
+30			4.9	37.1
+70			1.4	40.6
312			1.0	41.0
+25			1.5	40.5
+50			3.4	37.6
313			12.5	29.5
B.M. #68			5.66	336.31

Left ℄

H.I 331.0

20.6	20.3	21.5	20.6
10.4	10.7	9.5	10.4
25	17	0	20
22.1	19.8		19.2
8.9	11.2		11.8
20	0		20
24.9	22.4		20.2
6.1	8.6		10.8
20	0		20
29.5	27.2		23.9
1.5	3.8		7.1
20			20

Air valve 50' R 312+14

Xsecs on "W" Line - North from N. Portal

B.M.	13.05	407.44		394.39
			0.60	406.84
	13.00	419.84		
297+70				
+85				
			13.00	406.84
	0.60	407.44		
298+03.42	North Portal			
298+18.42	Exist Tunnel Portal			
+50				
+70				
T.P.			12.49	394.95
	0.96	395.91		
+85				
299				

Left ℄ Right

H.I. 419.8

13.1 18.1 18.5 16.2 13.0
4.7 1.7 1.3 3.6 6.8
98 50 25 0 30

14.1 13.3 12.6 11.5 9.2
3.7 6.5 7.2 8.3 10.6
30 15 0 15 30

H.I. 407.4

top pipe 88.7

90.3	90.6	87.6	86.6		88.4		86.8	84.3	
7.1	6.8	+0.2	+1.2		+1.0		0.6	3.1	
99	89	80	50		16		0	30	
97.8		85.1	86.1		88.6		83.9	90.4	
Portal 9.6		2.3	1.3		1.8		3.5	7.0	
100	87	79	50		17		0	30	
90.0		98.8	97.5		94.6				
7.4		8.6	9.3		12.8				
30		20	0		30				
97.4		94.4	94.0		92.6		90.5		
10.0		13.0	13.4		14.8		16.9		
30		7	0		7		30		

H.I. 394.9

91.2		91.0	90.2		89.8		88.0		
4.7		4.9	5.7		8.1		7.9		
30		13	0		13		30		
84.6	88.2	89.1	88.2	90.0	90.1	87.8	87.6		86.5
11.3	7.7	6.2	7.7	5.9	5.8	8.1	8.3		9.7
103	95	77	53	47	10	4			30

					Left ℄ Right
		395.91			H.I 395.1
299+10					86.2 86.9 86.9 85.6 84.6 83.6 8.9 8.2 9.2 9.6 10.5 11.5 30 24 12 0 19 30
+25					84.2 83.4 83.0 81.8 10.9 11.7 12.1 13.3 30 0 17 30
+40					86.3 85.6 83.4 82.1 81.1 79.6 8.8 9.5 11.7 13.0 14.0 15.5 30 26 22 0 15 30
T.P.			13.00	382.91	H.I. 384.8
	1.91	384.82			
+50					84.8 83.6 79.6 80.5 80.1 78.0 0.0 1.2 5.2 4.3 4.7 6.8 30 20 10 0 17 30
+70					74.3 74.3 75.3 71.3 74.8 73.6 8.5 10.5 9.5 8.8 10.0 11.2 30 8 0 19 22 30
+80					80.0 73.9 73.8 73.3 72.3 4.8 10.9 11.0 11.5 12.5 25 6 0 17 25
+90					82.1 81.2 76.7 72.8 68.3 2.7 3.6 8.1 12.0 16.5 25 17 0 12 25
300				top pipe + 4.5	89.4 86.9 90.5 93.1 84.2 84.1 82.2 80.2 79.1 68.4 89 +1.1 +5.7 +8.3 0.6 0.7 2.6 4.6 5.1 16.7 86 85 80 55 40 24 0 3 25

Left ℄ Right

384.82

H.I. 384.8

300+15

83.8 82.2 79.9 77.3 67.5
1.0 2.6 4.9 7.5 17.3
25- 18 0 7 25-

+25

83.6 83.7 77.6 66.6 66.3
1.2 1.1 7.2 18.2 18.5
25- 13 0 22 25-

+40

82.3 83.9 83.3 76.8 65.5
2.5 0.9 1.5 6.0 19.3
25- 16 8 0 25-

+55

80.7 78.4 74.3 71.4 66.5
4.1 6.7 10.5 13.4 18.3
25- 17 0 12 25-

T.P. 9.41 375.41

Hub 300+56.16 H.I. 378.75

3.34 378.75

301

Pipe 89.0 84.9 90.2 92.6 87.1 88.4 80.7 75.3 71.8 68.0
+10.2 +7.2 +11.5 +13.3 +10.4 +9.7 +2.0 3.4 6.9 10.8
60 38 56 51 42 35 22 0 13 25-

+30

66.7 71.4 74.5 82.3
12.0 7.3 4.2 +3.6
25- 11 0 25-

302

Pipe 89.5 85.4 88.3 90.0 84.7 80.0 76.2 72.1 63.7
+18.8 +6.7 +9.6 +11.2 +6.0 +1.2 2.5 6.6 15.0
53 49 19 45 29 20 12 0 25-

+12

83.0 78.0 72.5 63.8
+1.3 0.8 6.2 14.9
25- 15- 0 25-

Left ℄ Right

H. I. 378.75

378.75

302+20

+27

+50

303

+5-0

+67

+72

+80

	Left		℄		Right
302+20	79.2	73.5	70.4	68.4	61.4
	+0.5	5-.2	8.3	10.3	17.3
	25-	11	8	0	25-
+27	82.8	77.2		72.2	63.8
	+4.1	1.5		6.5-	14.9
	25-	13		0	25-
+50	83.5	77.4		72.8	68.1 64.8
	+4.8	1.3		5.9	10.1 13.9
	25-	12		0	13 25-
303	Pipe 89.1	86.0	88.9 90.7	88.1 87.6	78.7 76.8 74.0 65.6
	+10.4	+7.3	+10.2 +12.0	+9.4 +8.8	0.0 1.9 4.8 13.1
	51	48.5	47 42	37 31	15- 10 0 25-
+5-0	84.9		78.7	75.0	67.5
	+6.2		0.0	3.8	11.2
	25		12	0	25-
+67	85.4	81.3	78.6	75.2	68.0
	+6.7	+2.6	0.7	3.5-	10.7
	25-	17	11	0	25-
+72	82.0	77.8	75.0	72.7	68.2 65.1
	+3.3	0.9	3.8	6.0	10.5 13.0
	12	10	3	0	10 25-
+80	81.2	85.1	78.0	75.4	68.2
	+7.5	+6.4	0.7	3.3	10.5-
	25-	17	6	0	25-

Station					Left	℄	Right
		378.75				H.I. 378.75	
304+00					Pipe 89.4 +10.7 51 · 86.3 +7.6 47 · 90.1 +11.4 46 · 92.9 +14.2 41 · 88.9 +10.2 34 · 89.1 +10.4 30 · 83.6 +4.9 19 · 82.1 +3.4 12 · 78.3 0.4 5	76.3 2.4 0	69.0 9.8 25
+20					87.3 +8.6 25 · 82.0 +3.8 12 · 79.4 +0.7 6	77.3 1.4 0	70.0 8.8 25
T.P.			0.99	377.76		H.I. 387.85	
	10.09	387.85					
+55					88.2 +0.5 25 · 81.8 6.0 10	78.4 9.4 0	71.4 16.4 25
+80					89.0 +1.2 25 · 88.1 +0.3 18 · 85.0 2.9 10	80.7 7.1 0	77.6 10.2 9 · 72.2 15.6 25
305					Pipe 89.2 +1.5 51 · 86.4 1.4 48 · 92.2 +4.4 45 · 93.9 +6.1 42 · 90.8 +2.9 33 · 89.4 +1.6 27 · 84.7 3.1 16 · 82.5 5.3 7	80.1 7.7 0	77.6 10.2 7 · 73.0 14.9 25
+50					90.7 +2.9 25 · 86.7 1.1 11	82.2 5.5 0	81.5 6.3 6 · 76.7 11.1 25
+75					88.4 +0.6 25 · 86.3 1.5 15 · 84.0 3.8 7	82.2 5.6 0	79.7 8.1 17 · 76.8 11.0 25
306					Pipe 88.3 +0.5 49 · 85.4 2.4 46 · 89.6 +1.8 44 · 90.7 +2.9 38 · 88.8 +1.0 30 · 87.4 0.4 17 · 84.5 3.3 8	83.0 4.8 0	81.1 6.7 12 · 77.6 10.2 25

Left ℄ Right

387.85

306+25

+50

+75

307

+17

T.P. 12.74 375.11

9.16 375.27

+10

+60

+80

H.I. 387.85

87.2 87.2 84.2 83.2 79.6
0.6 0.6 3.6 4.6 8.2
25 22 11 0 25

85.1 85.1 84.1 83.6 82.1 78.3
2.7 2.7 3.7 4.2 5.7 9.5
25 20 14 8 0 25

82.6 82.0 80.3 80.5 76.7
5.2 5.8 7.5 7.3 11.1
25 12 0 15 25

pipe 78.2 75.0 79.1 81.3 79.4 79.3 77.6 75.6 73.8
9.6 12.8 8.7 6.3 8.4 8.5 10.2 12.2 17.0
33 30 29 25 19 8 0 12 25

pipe 12.2 72.0 76.2 78.3 76.5 76.1 75.8 71.8
15.8 11.6 9.5 11.3 11.1 12.0 16.0
25 24 21 13 3 0 25

H.I. 375.3

pipe 72.6 69.6 73.3 74.9 73.3 74.1 72.8 70.8
2.7 5.7 2.0 0.4 2.0 1.2 2.5 4.5
21.5 19 17 13 8 0 15 25

pipe 69.2 66.1 69.9 72.1 70.2 70.8 70.3 67.9
6.1 9.2 5.7 3.2 5.1 4.5 5.0 7.4
15 12 10 6 0 6 13 25

67.9 68.0 63.7 66.3 63.3 65.6 70.1 68.7 67.5 66.4
7.4 7.3 11.6 9.0 12.0 9.7 5.2 7.1 7.8 8.9
25 16 13 9.5 7 6 0 6 12 25

		375.27		64.8 10.5 20
307+98				
308+02				
T.P.			12.85	362.32
	0.87	363.19		
+12.38				
+22.5				
+24				
+35				
+50				
T.P.			12.84	350.35
	0.16	350.51		
+80				
T.P.			12.89	337.62
	0.57	338.19		

Left ℄ Right 20

H.I. 375.3

63.9 60.8 pipe 63.6 60.6 63.8 66.8 65.4 64.9
11.4 18.5 11.7 14.7 11.5 8.5 9.9 10.4
8.5 7.5 4.5 1.5 0 6 12 25

64.0 65.0 63.6 60.1 pipe 62.8 59.6 63.5 62.1 64.9 64.7
11.3 10.3 11.7 15.2 12.5 15.7 11.8 9.2 10.4 10.6
25 10 7 6 3 0 2 7 12 25

H.I. 363.2

62.8 61.5 63.2 61.6 58.2 pipe 60.9 58.2 62.1 63.7 62.4 62.5
0.4 1.7 0.0 1.6 5.0 2.38 5.0 1.1 +0.5 0.8 0.7
25 14 8 4.5 3 0 3 5 10 19 25

59.1 59.2 60.4 58.9 55.8 pipe 58.6 55.8 59.5 60.6 59.5 59.3
4.1 4.0 2.8 4.3 7.4 4.6 7.4 3.7 2.6 3.7 3.7
25 11 4 0.5 0 3 6 8 13 18 23

59.6 59.1 60.2 58.7 55.3 pipe 58.4 55.4 59.2 60.2 59.1 54.2
3.6 4.1 3.0 4.5 7.9 4.8 7.8 4.0 3.0 7.1 4.0
20 10 3 0 0.5 3.5 6.5 8 13 18 25

56.0 57.5 56.8 55.7 52.0 pipe 54.9 51.9 57.5 56.4
7.2 7.7 6.4 7.5 11.2 8.3 11.3 5.7 6.8
20 7 0 4 4.5 7.5 10.5 17 20

50.1 50.3 49.9 50.5 50.9 49.9 46.6 50.0 46.9 52.6
12.1 12.9 13.4 12.7 12.4 13.4 16.6 13.3 16.4 10.7
20 14 9 6 6 9 10 12.5 15 22

H.I. 350.5

39.4 40.9 41.0 40.3 41.3 36.9 pipe 39.6
11.1 9.6 9.5 10.2 9.2 13.6 10.9
20 11 0 9 1.5 19 21.0

		338.19		
309				
+30				
T.P.			12.37	325.82
	2.94	328.76		
+45				
+60				
309+78.09 = 309+72.07			7.3	321.5

Left ℄ Right

H.I. 338.2

37.6	33.1	33.4	33.9	34.4	32.8	30.0 pipe	32.9
5.6	5.1	4.8	4.3	3.8	5.4	8.2	5.3
20	8	0	15	19	23	24.5	27
27.1	27.0	27.9	28.7	27.9	25.5	pipe 24.9	
10.5	11.2	10.3	9.5	10.3	12.7	13.3	
20	9	0	9	18	29	32	

H.I. 328.8

25.3	24.5	24.8	
3.5	4.3	4.0	
20	0	20	
21.4	22.3	22.9	23.1
7.4	6.5	5.9	5.7
20	10	0	20

BM. 31 # 396.87

2.62 399.49

128+36.8 P.C.

+54

+81

129+00

+10

+25

+50

+75 Entering deep cut →

July 25-29
Parker
Hill
Elliott
Walton

Point for begining throw of present pipe (22)

Rt

HI. 399.49

		391.6	393.5	394.4	395.6		396.7		395.2	391.8	Pipe 394.3	392.9
		7.9	6.0	5.1	3.9		2.8		4.3	7.7	5.2	6.6
		23	11	2	11		16		20	22	24	26
			390.2	394.2	395.2	394.2	396.7	395.0	391.8	394.2 P.	392.7	395.3	396.7
			9.3	5.3	4.3	5.3	2.8	4.5	7.7	5.3	6.8	4.2	2.8
			22	10	2	6	11	15	18	20	22	25	29
390.5	392.5	393.3	392.8	392.3	395.3	394.8	392.5	394.4 P.	392.1	395.8			
9.0	7.0	6.2	6.7	6.2	4.2	4.7	7.0	5.1	7.4	3.8			
17	12	4	2	3	8	10	12	14	16	22			
395.0	390.1	393.1	394.1	394.8	392.9	P. 394.4	392.3	394.4	395.1				
4.5	9.4	6.4	5.4	4.7	6.6	5.1	7.2	5.1	4.4				
19	8	5	2	3	5	7	13	17	21				
395.0		394.8	393.6	390.4	390.9	394.3 P.		391.2	392.7	394.1			
4.5		4.7	5.9	9.1	8.6	5.2		8.3	6.8	5.4			
17		10	5	2	8	9.5		11.6	15	20			
392.7		392.5	394.5	395.2	391.7	P. 394.3		392.1	392.9				
6.8		7.0	5.0	4.3	7.8	5.2		7.4	6.6				
21		16	10	6	5.5	7.5		9.5	16				
397.1	396.4	393.4	394.7	393.9	391.8	Pipe 394.4		391.7	395.4				
2.4	3.1	6.1	4.8	5.6	7.7	5.1		7.8	4.1				
20	13	9	4	2	3	5.5		7.5	17				
399.5		396.7	393.7	392.5	391.9	P. 394.3	392.6	392.8	397.6	398.6			
0.0		2.8	5.8	7.0	7.6	5.2	6.9	6.7	1.9	0.9			
8		3	1.5	1	2	4	6	8	13.5	17.5			

		399.49			
130+00					
130+18.68					
+44					
+70					
130+85					
T.P.			5.01	394.48	
	6.10	400.58			
131+00					
+50					

Lt

Rt

399.49 HI

399.5	394.8	392.3	391.9	394.5 P.pc	392.3	394.4	399.5	
0.0	4.7	7.2	7.6	5.0	7.2	5.1	0.0	
4.5	2.5	0	1.5	3.5	5.0	9	12	
399.5	394.0	392.3	391.9	394.6 P.	392.3	394.7	399.5	
0.0	5.5	7.2	7.6	4.9	6.2	4.8	0.0	
4.0	2.5	0	1	3.	5	6.5	12.5	
399.5	398.4	393.8	393.3	394.6 P.	393.9	396.5	399.5	
0.0	1.1	5.7	6.2	4.9	5.6	3.0	0.0	
5.5	5.5	0	1.5	3.5	6	10	11	
399.5	394.3	394.3	393.9	394.3 P.	394.0	395.9	399.5	401.5
0.0	5.2	5.2	5.6	5.2	5.5	3.6	0.0	+2.0
3	1	0	2	3.5	6	8	10.5	11.5
397.9	395.9	394.5		394.5 P.	396.0	399.5	401.5	
1.6	3.6	5.0		5.0	3.5	0.0	+2.0	
9	2.5	0		4	8	10.5	12	

400.58 HI

402.6	400.6	397.4	394.8	393.9	394.5 P.	397.2	400.6
+2.0	0.0	3.2	5.8	6.7	6.1	3.4	0.0
4	3	3	0	2	4	10.5	11.5
	400.6	396.4	395.5	394.7 P.	398.6	401.6	403.1
	0.0	4.2	5.1	6.7	2.0	+1.0	+2.5
	3.	2.5	0	3	10	11.5	12.5

132+00		400.58
+15		
+35		
+50	This Section opposite	Runway
+65	"	" West Side of Runway
133+00		
+50		
134+00		

Lt. ℄ Rt 24

400.58 H.I.

	404.9	396.9	398.1	395.0 Pipe	395.6	400.6		402.1	
	+4.3	2.7	5.5	5.6	5.0	0.0	+	1.5	
	6	3	0	4	6	11.5		12.5	
402.6		401.1	397.4	395.1	394.9 P.	395.8	398.5	400.6	403.6
+2.0	+	0.5	3.2	5.5	5.7	5.1	2.1	0.0	+ 3.0
6		5	3	0	4	5.5	11	11.5	13.5
		400.6	394.6	394.7 P.	395.4	398.6		404.6	
		0.0	6.0	5.9	5.2	2.0	+	4.0	
		7.5	0	3.5	6	11		12.5	
	398.4	395.3	393.0	393.1	394.9 P.	397.0		403.6	
	2.2	5.3	7.6	7.5	5.7	1.6	+	3.0	
	11	3	0	2	4	11		13.0	
	400.6	397.0	394.9	395.0 P.	398.9	404.3			
	0.0	3.6	5.7	5.6	1.7	+ 3.7			
	4.5	3	0	3.5	11	13.4			
	400.6	396.5	395.3	394.7 P.	400.0	400.6			
	0.0	4.1	5.3	5.9	0.6	0.0			
	4	2.5	0	3	11.5	12			
	404.6	400.6	394.4	394.5 P.	395.2	396.6	400.6		402.1
	+4.0	0.0	6.2	6.1	5.4	4.0	0.0		+ 1.5
	5	3.0	0	3.5	7	9.5	11		13
	403.6		393.6	393.2	394.4 P.	393.5	393.9	400.6	
	+3.0		7.0	7.4	6.2	7.1	6.7	0.0	
	4		0	2	3.5	5	9	12	

		400.58			
134+50					
+82					
135+00					
T.P.			8.86	391.72	
	4.31	396.03			
135+25					
+35					
+57					
+67					
B.M. #32			10.83	385.20	Record 385.19

L7 ℄ RT

400.58 HI

	400.6	395.1	394.5	394.1 Pipe	393.4	396.4	400.6		
0.0	5.5	6.1	6.5	7.2	4.2	0.0			
4	1.5	0	3	6	10	13			
	400.2	398.0	394.1	392.5	392.9	391.7	391.9	393.4	399.1
0.4	2.6	6.5	8.1	7.7	8.9	8.7	7.2	1.5	
8	0	0	4	5.5	7.5	9.5	11	13.5	
	397.3	397.5 OK	392.5	391.7	391.8 Pipe	392.3	395.3		
3.3	2.1	5.1	8.9	8.8	8.2	5.3			
17	0	0	4	8	15	17			

396.03 HI.

	394.4	393.5	392.6	390.7	391.8				
1.6	2.5	2.4	5.3	4.2					
22	15	0	10	18					
	393.8	393.2	393.0	389.4	388.8	391.8			
2.2	2.8	3.0	6.6	7.2	4.7				
22	0	3	7	11	20				
	384.2	385.2	386.2	388.4					
11.8	10.8	9.8	7.6						
24	0	15	26						
381.6	379.1	383.9	384.8	381.2	380.3	384.7 Pipe	382.5	386.5	
14.4	16.9	12.1	11.2	14.8	15.7	11.3	13.5	9.5	
25	18	0	5	10	15.5	18	20	30	

B.M. #32			385.19
	0.48	385.67	
135+75			
+84			
136+00			
+25			
+50			
136+73.80 P.T.			
137+00			

385.67 H.I.

Top of Valve Main Line

376.9	378.1	Ground 379.6	Cement Pipe 382.7	380.8		Top 384.2	381.9		385.8
8.8	7.6	6.1	3.0	4.9		1.5	3.8		0.2
25	8	0	0	17.5		19.5	21.5		33
375.8	380.1	381.4	381.7	380.1		Pipe 383.0	379.7	379.9	
9.9	5.6	3.3	4.0	5.6		2.7	6.0	3.8	
28	16	0	7	20		22	23	29	
377.7	379.9	380.5	379.2	375.6		375.2	381.4	385.1	Cradle at beginning of Trestle 378.1
8.0	5.8	5.2	6.5	10.1		10.5	4.3	10.6	7.6
30	19	0	9	17		20	22	24	
369.6	370.8	370.6	371.7	370.2		371.2			
16.1	14.9	15.0	14.0	15.5		14.5			
31	24	0	11	17		22			
358.7	362.3	364.3		364.3					
27.0	23.4	21.4		21.4					
28	0	20		25					
367.2	367.7	367.6							
18.5	18.0	18.1							
25	0	19							
369.2	373.3	374.6	371.5		Top pipe 376.9				
16.5	12.4	11.1	14.2		8.8				
50	0	9	22						

		385.67		
137+50				
138+00				
T.P.			1.74	383.93
	7.09	391.02		
139+00				
+50				
140+00				
+50				
141+00				
+25				

385.67 H.I.

370.2	373.2		379.7	Pipe 380.3	
15.5	12.5	6.0		5.4	
50	35	0		24	
373.4	376.2	379.3	383.0	384.5	Pipe 382.9
12.3	9.5	6.4	2.7	1.2	2.8
37	27	14	0	14	23

391.02 H.I.

376.5	380.6	385.0	386.2	387.2	Pipe 386.2
14.5	10.4	6.0	4.8	3.8	4.8
26	15	6	0	12	23
378.6	382.7	387.5		388.0	Pipe 386.7
12.4	8.3	3.5		3.0	4.3
20	10	0		13	23
	378.5	382.2	386.3	Pipe 387.0	
	12.5	8.8	4.7	4.0	
	18	10	0	20	
Bottom Draw 72.0	Edge Draw 79.9	84.2	85.3		87.0
19.0	11.1	6.8	5.7		4.0
36	23	11	0		16
Bottom Dr. 72.5	82.0	86.4	87.3		87.9
18.5	9.0	4.6	3.7		3.1
27	21	9	0		13
Bottom Draw 75.3	Edge Draw 85.9	87.0		Toppipe 87.7	
15.5	5.1	4.0		3.3	
22	12	0		11	

		391.02			
141+31					
T.P.			2.79	388.23	
	9.53	397.76			
141+45					
142+00					
+25					
+45					
B.M. #34			1.24	396.52	Record 396.54
	8.80	405.34			
+85					
143+00					

391.02 H.I.

			77.7		86.4	89.7	90.6	Pipe 88.2				
			13.3	4.6	1.3	0.4	2.8					
			19	12	6	0	11					

397.76 H.I.

81.6	86.8	83.7	79.5	90.9	91.1	91.1	88.0	Pipe 88.2	88.8	91.8		
6.0	11.0	14.1	18.3	6.9	6.7	6.7	9.8	9.6	9.0	6.0		
32	25	17	12	4	0	2	7	10	13.5	20		
87.3	94.1	90.7	86.8	99.5	94.0	90.4 Ground 89.4 Top Pipe						
0.5	3.7	6.9	11.0	7.3	6.8	7.4	8.4	5.7				
21	18	14	9	5	0	13	13	22				
98.4	95.3	93.3	88.4	90.7	92.4	Over Pipe 91.8	93.2					
+0.6	2.5	4.3	9.4	7.1	5.4	6.0	4.6					
20	17	11	4	2	0	15	24					
401.8	97.8	94.8	91.3	90.6	Over pipe 92.4	93.6						
+4.0	0.0	3.0	6.5	7.2	5.4	4.2						
21	12	8	2.5	0	9	25						

405.34 H.I.

	401.2	399.8	Ground 392.9	Pipe 90.6	93.3	96.1						
	4.1	12.5	12.4	14.7	12.0	9.2						
	14	0	10	10	15	22						
02.8	00.6	397.0	93.0	Gr. over pipe 93.2	93.7	96.4						
2.5	4.7	11.3	12.3	12.1	11.6	8.9						
24	12	0	3	10	16	25						

405.34

405.34 HI

Station	Shots (elevation / rod / distance)
143+50	403.9 / 1.4 / 35; 399.9 / 5.4 / 27; 400.2 / 5.1 / 11; 394.6 / 10.7 / 0; 393.9 / 11.4 / 2; Top Pipe 392.9 / 12.4 / 11; Ground 393.6 / 11.7 / 11; 394.2 / 11.1 / 14; 398.0 / 7.3 / 23; 98.6 / 6.7 / 27; 402.2 / 3.1 / 36
144+00	404.3 / 1.0 / 26; 398.3 / 7.0 / 14; 396.2 / 9.1 / 0; 396.2 / 9.1 / 3 pipe; Ground / 10.8 / 13; Pipe 393.3 / 12.0 / 13; 396.4 / 8.9 / 18; 400.4 / 4.9 / 27
+22	410.1 / +4.8 / 42; 410.5 / +5.2 / 34; 399.1 / 6.2 / 12; 399.1 / 6.2 / 6; 395.1 / 10.2 / 0; over pipe 395.3 / 10.0 / 13; 395.6 / 9.7 / 18; 401.1 / 4.3 / 29
+50	408.5 / +3.2 / 39; 408.6 / +3.3 / 29; 401.1 / 4.2 / 10; 399.7 / 5.6 / 0; 395.5 / 9.8 / 7; 395.2 / 10.1 / 15; 395.9 / 9.4 / 21; 401.7 / 3.6 / 29
145+00	416.5 / +11.2 / 43; 405.3 / 0.0 / 23; 404.4 / 0.9 / 6; 402.6 / 2.7 / 1.5; 400.8 / 4.5 / 0; 395.8 / 9.5 / 8; Pipe 393.7 / 11.6 / 16; Ground 395.2 / 10.1 / 16; 395.6 / 9.7 / 21; 404.8 / 0.5 / 33
+13	415.7 / +10.4 / 37; 403.1 / 2.2 / 14; 401.9 / 3.4 / 0; 395.5 / 9.8 / 8; 395.3 / 10.0 / 16; 395.6 / 9.7 / 22; 405.5 / +0.2 / 35
+30	413.3 / +8.0 / 38; 414.3 / +9.0 / 28; 408.1 / +2.8 / 13; 400.0 / 5.3 / 0; 399.0 / 6.3 / 7; 395.7 / 9.6 / 14; 395.6 / 9.7 / 20
+44	412.8 / +7.5 / 33; 413.0 / +7.7 / 18; 407.3 / +2.0 / 0; 396.2 / 9.1 / 14; Ground 395.7 / 9.6 / 25; Pipe 392.7 / 12.6 / 25

		405.34		
T.P.			0.64	404.70
	12.29	416.99		

145+64

+76

T.P.

145+93 Proposed S. Portal #1

146+11

+30 Present S. Portal #1

+50

417.0 HI

416.7							Over Pipe 396.0
0.3	1.6	6.3	6.6	5.3	7.9	21.0	21.0
37	28	18	10	0	11	29	40

	421.0	416.8	408.1		410.7	396.2	Over Pipe 396.0
	+4.0	0.2	8.9		6.3	20.8	21.0
	50	16	0		14	32	42

	422.2	420.6	416.9	405.0	404.4	396.0	Ground 395.3	Pipe 393.9	
	+5.2	+3.6	0.1	12.0	12.6	21.0	21.7	23.1	
	50	20	0	22	31	40	50	50	

428.0	423.0	422.5	421.5	417.7	406.0	400.8	394.5				
+8.0	+6.0	+5.5	+4.5	+0.7	11.0	16.2	22.5				
50	40	15	0	21	30	47	55				

431.0	424.6	427.0	426.0	422.0		418.8	407.4	405.9	Capof Tunnel 398.4	Ground 394.0	Top of Pipe 398.0
+14.0	+9.6	+10.0	+9.0	+5.0		+1.8	9.6	11.1	18.6	23.0	23.0
50	21	9	0	15		29	45	52	57	57	60

436.5	431.5	428.3	428.0	428.0	423.2	421.5	412.3	409.8
+19.5	+14.5	+11.3	+11.0	+11.0	+6.2	+4.5	4.7	7.2
50	20	8	0	10	25	35	47	60

B.M. #36				396.00
	12.74	408.74		
T.P.			0.67	408.07
	9.99	418.06		
167+00				
+65	Proposed N. Portal / Tunnel #1			
168+00				
+25				
T.P.			12.01	406.05
	2.68	408.73		
+78				
+90				

418.06 HI

422.6	421.1	418.2	417.6	416.4	411.8	411.3	393.6	Pipe 394.5	
+4.5	+3.0	+0.1	0.5	1.7	6.3	6.8	24.5	23.6	
50	36	16	0	18	32	40	62	65	

417.0	414.7	411.7	408.6	407.3	406.2	393.9	Pipe 394.9	
1.1	3.4	6.4	9.5	10.8	11.9	24.2	23.2	
44	31	0	34	39	47	58	65	

15.3	09.6	07.3	07.7	04.9	98.1	Pipe 94.7	
2.8	8.5	10.8	10.4	13.2	25.0	23.4	
45	0	12	19	30	59	63	

13.5	10.4	06.9	05.7	06.6	06.6	98.4	98.7	03.1	03.2	01.1
4.6	7.7	11.2	12.4	11.5	11.5	19.7	19.4	15.0	14.9	17.0
35	9	0	4	7	13	34	37.5	45	49	53

94.2	Pipe 94.3		
23.9	23.8		
56	60		

408.73 HI

409.7	405.7	403.2	403.2	403.2	404.2	402.4	401.7	393.4	Pipe 394.2
+1.0	3.0	5.5	5.5	5.5	4.5	6.3	7.0	15.3	14.5
36	10	5	0	4	10	15	40	44	48

09.5	08.4	02.		04.0	392.1	394.4	Pipe 394.2
+0.8	5.3	6.0		4.7	16.6	14.3	14.5
37	7	0		9	23	41	47

		408.73								
169+00										
+25										
+50										
+95										
170+10										
+50										
T.P.			11.84	396.89						
	3.05	399.94								
170+85										
+96	This Section in Drawn.									

408.3	407.3	403.7	404.4	408.7	403.5	402.1	402	393.9	Pipe 394.4	
0.4	1.4	5.0	4.3	6.1	5.2	6.6	6.3	14.8	14.3	
37	28	17	10	0	8	18	33	40	44	
		405.4	406.3	402.8	02.5	03.6	02.7	94.2	Pipe 94.3	
		3.3	2.4	5.9	6.2	5.1	6.0	14.5	14.4	
		40	4	0	3	11	29	37	40	
		05.0	05.5	02.4	03.0	02.4	393.0	Pipe 94.0		
		3.7	3.2	6.3	5.7	6.3	15.7	14.7		
		40	27	0	8	30	35	38		
		04.1	04.7	01.3		02.7	01.5	99.0	93.1	93.8 Pipe
		4.6	4.0	7.4		6.0	7.2	9.7	15.6	14.9
		40	10	0		9	28	33	35	39
401.3	400.9	04.6	03.2	04.3	01.0	02.7	01.6			
7.4	7.8	4.1	3.5	4.4	7.7	6.0	7.1			
40	32	21	6	0	9	15	28			
		96.3	98.6	98.0	99.1	92.4	Pipe 93.5			
		12.4	10.1	10.7	9.6	16.3	15.2			
		40	16	0	38	41	46			
		399.9 HI								
		94.0	94.6	94.5						
		5.9	5.3	5.4						
		40	0	43						
		87.9	88.3	89.8	93.1					
		12.0	11.6	10.1	6.8					
		35	0	53	55					

399.94

171+02

+14

+25

T.P. 0.90 399.04

12.76 411.80

+38

+75

172+05.5 Proposed S. Portal Tunnel #2

+24 Opp. old Portal Tunnel #2

+48

B.M. # 37 14.95 396.85 Record 396.80

47 ℄ RH (33)

399.9 H.I.

92.3 392.6 93.5

7.6 7.3 6.4

35 0 44

94.7 94.2 96.8 95.6 90.7 93.7 Pipe

5.2 5.7 3.4 4.3 9.2 6.2

35 11 0 43 56 58

99.1 96.9 97.4 95.2

0.8 3.0 2.5 4.7

35 0 30 45

411.8 H.I.

400.5 400.4 400.4 99.2

11.3 11.4 11.4 12.6

40 0 35 45

05.5 04.7 04.8 05.6 04.1 96.3 93.8 95.0 Pipe

6.3 7.1 7.0 6.2 7.7 15.5 18.0 16.8

35 0 14 23 37 49 63 65

11.1 09.6 11.5 09.3 05.7 97.5 94.4 93.6 95.6 Pipe

0.7 2.2 0.3 2.5 6.1 14.3 17.4 18.2 16.8 Pipe at Portal

35 0 24 37 47 54 59 63

414.8 414.8 13.5 12.2 08.9 400.7 93.3 94.3

+3.0 +3.0 +1.7 +0.4 2.9 11.1 18.5 17.5

35 0 24 35 45 59 63 65

19.3 18.4 16.9 18.0 17.3 14.6 15.5 06.8

+7.5 +6.6 +5.0 +6.2 +5.5 +2.8 +3.7 5.0

43 32 22 16 0 23 30 65

B.M. #39				395.35
	12.17	407.52		
T.P.			0.30	407.22
	13.04	420.26		
191+62				
+77				
+92				
192+20.50 Proposed N. Portal Tunnel #2				
T.P.			13.04	407.22
	1.04	408.26		
+48				
+67				
T.P.			12.01	396.25
	1.25	397.50		

Top of A.V. 100' N. of N. Portal Tunnel #2

420.3 HI

23.1	21.6	20.6		17.4	16.9	10.3	04.5	88.1	Pipe 92.4	92.5 Pipe at Portal
+2.8	+1.3	+0.3		2.9	3.4	10.0	15.8	32.2	27.9	27.8
40	27	0		15	27	43	51	63	65	

20.5	19.5	16.5	15.3	06.3	
+0.2	0.8	3.8	5.0	14.0	
45	27	0	20	47	

20.7	17.3	16.5	15.5	04.1	04.1	
+0.4	3.0	3.8	4.8	16.2	16.2	
45	18	0	8	36	44	

20.7	19.1	16.9	10.8	02.1	01.9	92.9	92.9	87.2	Pipe 90.7	
+0.4	1.2	3.4	9.5	18.2	18.4	27.4	27.4	33.1	29.6	
50	39	22	0	22	32	53	59	66	68	

408.3 HI.

16.3	05.2	09.4	00.1	92.3	92.3	
2.0	3.1	8.7	8.2	16.0	16.0	
48	18	0	16	39	46	

02.2	01.3	98.0	98.6	98.6	88.8	91.2	81.1	81.5 Pipe
6.1	7.0	10.3	9.7	9.7	19.5	17.1	27.2	26.8
40	29	15	0	5	23	38	59	67.

		397.50		
192+90				
193 +25				
+41				
T.P.			12.15	385.35
	0.62	385.97		
+82				
194+00				
T.P.			12.83	373.14
	4.17	377.31		
T.P.			13.05	364.26
	1.16	365.42		
+35				
+78				
T.P.			10.67	354.75
	0.78	355.53		

Lt 4 Rt 35

397.5 HI

95.9	93.1	88.5	88.8	91.4	91.5	88.4	
1.6	4.4	9.0	8.7	6.1	6.0	9.1	
40	20	0	17	25	35	43	
89.5	87.3	87.1	91.1	90.9	86.0	85.3	72.9
8.0	10.2	10.4	6.4	6.6	11.5	12.2	24.6
40	30	0	11	19	30	35	58

over pipe 73.1 24.4 68

85.3	83.7	86.3	86.4	88.1	90.6	85.5	89.2
12.2	13.8	11.2	11.1	9.4	6.9	12.0	13.3
38	27	17	4	0	9	24	32

386.0 HI

74.4	72.0	82.3	82.1	76.9	78.5	63.0	64.0
11.6	14.0	3.7	3.9	9.1	7.5	23.0	22.0
40	26	-7	0	10	19	57	63

over pipe

69.7	68.8	79.5	75.9	65.4	61.9	60.6	
16.3	17.2	6.5	10.1	20.6	24.1	25.4	
40	32	9	0	17	46	59	

365.4 HI.

59.5	57.6	57.1	58.1	57.6	55.6	55.4	
5.9	7.8	8.3	7.3	7.8	9.8	10.0	
40	20	0	15	35	46	57	

Pipe

48.8	53.8	51.3	50.9
16.6	11.6	14.1	14.5
50	0	39	48

355.53

+87

194+98

195+24

+43 This Section in Draw

+54

T.P. 5.37 350.16

8.79 358.95

+62

+70

355.5 H.I.

47.8	49.3	49.2	50.9	50.8	
7.7	6.2	6.3	4.6	4.7	
40	0	13	22	47	
49.4	51.0	50.5	50.8		
6.1	4.5	5.0	4.7		
38	0	16	46		
46.8	47.0	49.3	50.4	48.1	
8.7	8.5	6.2	5.1	7.4	
38	15	0	23	38	
48.9	48.0	45.9 Bridmd	45.6 Pipe		
10.6	10.5	9.6	9.9		
40	0	47	47		
45.9	46.0	47.8	48.8	47.4	47.6
9.6	9.5	7.7	6.7	8.1	7.9
40	18	0	15	28	47

Pegon & at Sta 196+00

358.9 H.I.

Aug. 2. 1929.
Converse
Elliott
Simpson

46.0	46.2	48.3	47.6					
12.9	12.7	10.6	11.3	11.0	9.1	10.5	10.2	
29	16	6	0	3	12	20	25	
46.0								
12.9	12.8	13.3	12.5	12.4	9.0	8.8	9.6	
25	19	10	0	2	11	21	25	

358.95

+78

+88

195+96

176+13

+23

+53

+58

+75

358.9HT

45.9	46.0	48.2	48.8	49.2	50.0	50.0	
13.0	12.9	10.6	10.1	9.7	8.9	8.9	
20	16	4	0	10	19	25	

46.3	46.8	48.5	49.5	50.1	50.2	
12.6	12.6	10.4	9.4	8.8	8.7	
25	19	6	0	5	25	

46.4	46.4	50.3	50.6	50.1	50.3	50.6
12.5	12.5	8.6	8.3	8.8	8.6	8.2
25	20	4	0	10	17	25

45.9	45.9	47.3	48.7	50.3	50.2	
13.0	13.0	11.6	10.2	8.6	8.7	
25	20	11	0	10	25	

46.0	46.4	48.5	51.1	50.9	50.3	
12.9	12.5	10.4	7.8	8.0	8.6	
25	10	0	12	18	25	

46.6	47.1	50.3	53.2	53.1	50.7	50.6
12.3	11.8	8.6	5.7	5.8	8.2	8.3
25	14	0	10	15	32	48

46.7	47.4	50.4	51.8	52.6	52.1	
12.2	11.5	8.5	7.1	6.3	6.8	
25	14	0	10	19	28	

48.3	49.5	51.5	52.8	54.4	55.4	
10.6	9.4	7.4	6.1	4.5	3.5	
25	11	0	6	14	25	

Aug 2-1929

Converse
Elliott
Simpson

358.9

			50.5	51.5	52.9	53.4	55.4	57.0	
			8.4	7.4	6.0	5.5	3.5	1.9	
			25	10	0	4	12	25	
			52.9	54.2	54.5	56.4	59.3	59.5	58.0	57.8
			7.0	5.7	4.4	2.5	+0.4	+0.6	0.9	1.1
			25	11	0	8	20	28	39	46

370.4 HI

53.7	54.8	55.8	57.1	58.3	61.8	63.7	64.3	
16.7	15.6	14.6	13.3	12.1	8.6	6.7	6.1	
25	14	4	0	4	14	21	25	
	56.2	58.3	61.7	63.0	67.7	70.9	70.4	
	14.2	12.1	8.7	7.4	2.7	+0.5	0.0	
	25	11	0	5	15	22	25	
56.4	57.8	59.2	61.0	63.2	69.0	69.9		
14.0	12.6	11.2	9.4	7.2	1.4	0.5		
25	17	10	0	6	19	25		
57.4	57.8	59.5	61.9	64.4	65.9	69.6		
13.0	12.6	10.9	8.5	6.0	4.5	0.9		
25	19	11	0	10	16	25		
	57.2	60.3	63.3	64.4	66.9	72.3		
	13.2	10.1	7.1	6.0	3.5	+1.9		
	25	10	0	4	14	25		

358.95

+90				
197+00				
T.P			0.29	358.66
	11.78	370.44		
+15				
+38				
+53				
+67				
+82				

		370+44		
198+00				
+25				
+50				
+75				
199+00				
T.P			1.31	369.13
	11.64	380.77		
+25				
+50				
+75				
200+00				

370+44 H.I.

39

Toppipe 74.9

57.8	59.2	61.9	63.6	64.0	66.1	68.6	71.1	77.2	77.0		
12.6	11.2	8.5	6.8	6.4	4.3	1.8	+0.7	+6.8	+6.6	+4.8	
25	18	7	3	0	6	14	20	32	40	47	
58.4		59.7	62.5	64.3	67.0	70.0	73.7				
12.0		10.1	7.9	6.1	3.4	0.4	+3.3				
25		19	8	0	7	15	25				
59.7		61.2	63.6	65.2	68.6	72.4	77.4				
10.7		9.2	6.8	5.2	1.8	+2.0	+7.0				
25		16	6	0	10	15	25				
		61.0	64.6	66.3	68.2	71.1	75.3				
		9.4	5.8	4.1	2.2	+0.7	+4.9				
		25	7	0	8	18	25				
61.7		62.5	64.7	67.0	68.6	73.4	79.8	84.7	85.0 Ground	83.5 Pipe	
8.7		7.9	5.7	3.4	1.8	+3.0	+9.4	+14.3	+14.6	+13.1	
25		22	10	0	7	17	28	38	52	52	

380.8 H.I.

63.4	66.3	68.4	68.8	72.1	79.4		
17.4	14.5	12.4	12.0	8.7	1.4		
25	8	0	3	11	25		
66.2	67.5	70.1	72.9	82.5			
14.6	13.3	10.7	7.9	+1.7			
25	10	0	8	25			
66.8	69.6	71.4	72.2	75.9	82.0		
14.0	11.2	9.4	8.6	4.9	+1.2		
25	9	0	5	15	25		
68.1	71.5	71.7	73.1	74.2	84.9	85.4	
12.7	9.3	9.1	7.7	6.6	+4.1	+4.6	
25	12	4	0	5	26	40	

		380.77			
200 +23					
. +50					
201+00					
T. P.			0.11	380.66	
	10.93	391.59			
+ 15					
+ 35					
+ 65					
+ 82					
202+00					

380.8 H.I.

		69.0	72.0	74.1	75.7	79.5	84.1	84.3
		11.8	8.8	6.7	5.1	1.3	+3.3	+3.5
		25	10	0	5	15	22	25
		70.8	72.7	76.8	78.7	83.3	84.5	
		10.0	8.1	4.0	2.1	+2.5	+3.5	
		25	14	0	5	17	25	
72.5	75.0	76.0	78.1	79.9	81.9	84.8	85.9 Pipe	
8.3	5.8	4.8	2.7	0.9	+1.1	+4.0	+5.1	
25	19	13	5	0	6	20	29	

391.6 H.I.

72.3	74.2	76.6	79.6	81.4	82.9	84.5	85.8
18.3	17.4	15.0	12.0	10.2	8.7	7.1	5.8
25	19	13	5	0	5	16	26
	73.6	75.6	76.8	81.7	82.8	85.0	86.4
	18.0	16.0	14.8	9.9	8.8	6.6	5.2
	35	23	11	0	5	16	25
77.1	77.0	80.2	80.2	81.8	82.6	84.4	86.2
14.5	14.6	11.4	11.4	9.8	9.0	7.2	5.4
30	23	10	6	0	3	13	24
86.2	85.8	83.4	82.3	82.5	83.1	85.7	86.8
5.4	5.8	8.2	9.3	9.1	8.5	5.9	4.8
30	15	8	3	0	6	16	25
86.5	86.4	83.5		83.3	84.9	86.2	86.5
5.1	5.2	8.1	8.1	8.3	6.7	5.4	5.1
30	15	5	0	3	12	19	24

391.59

+40

+50

+75

+90

203 +00

+10

+28

+42

T. P. 2.92 388.67

12.54 401.21

391.6 HI.

85.9	85.8	86.6	87.5	86.5	85.1	84.8	84.8	85.7	86.4			
5.7	5.8	5.0	4.1	5.1	6.5	6.8	6.8	5.9	5.2			
35	28	23	16	5	2	0	8	18	25			
	86.1	86.0	87.6	87.8	87.0	85.0	86.1	86.8				
	5.5	5.6	4.0	3.8	4.6	6.6	5.5	4.8				
	35	25	20	10	0	5	18	30				
83.8	86.7	86.8	87.7	88.0	87.5	84.4	86.4	86.6				
7.8	4.9	4.8	3.9	3.6	4.1	6.2	5.2	5.0				
40	32	20	14	0	2	7	18	30				
	85.0	87.3	87.6	87.9	87.8	86.0	86.7	86.1				
	6.6	4.3	4.0	3.7	3.8	5.6	4.9	5.0				
	40	27	13	0	5	12	18	35				
87.2		86.0	87.6	87.7	86.2	86.8	86.8					
4.4		5.6	4.0	3.9	5.4	4.8	4.8					
40		27	18	0	11	21	35					
95.3	89.7	86.9	87.8	87.1	86.4	87.1	87.1					
+3.7	1.9	4.7	3.8	4.5	5.2	4.5	4.5					
30	22	11	5	0	9	22	37					
95.7	95.7	92.1	90.8	87.6	87.4	87.5	87.2	88.0	87.9			
+4.1	+4.1	+0.5	1.3	4.0	4.2	4.1	4.4	3.6	3.7			
40	26	18	9	2	0	6	16	30	40			
95.5	95.5	90.7	87.9	87.6	87.6	87.6	90.4	87.9	84.5	86.9	85.4	72.3
										Pipe	10.7	
+3.9	+3.9	0.9	3.7	4.0	4.0	1.2	3.7	7.1	4.7	6.2	0.9	+0.7
35	23	12	4	0	4	10	15	16	18	21	22	25

89.1
2.5
40

		401.21			
T.P. B.M. #40			8.79	392.42	Record 392.47
60	8.79	401.26			
+60					
+90					
204+00					
+10					
+35					
+50					
+60					
T.P			0.43	400.83	
	13.04	413.87			

Lt | ℄ | Rt

401.3 HI

	98.6	97.2	95.5	95.3	94.8	88.5	88.0	88.5	87.2	87.5	89.4	92.0	90.5	89.7
3.9	4.1	5.8	6.9	6.5	12.8	13.3	12.8	14.1	13.8	11.9	9.3	10.8	11.6	
40	32	30	21	17	8	0	7	14	19	20	26	37	40	
	97.8	97.0	95.3	94.8	92.1	90.3	90.1	88.8	88.6	89.8	91.9	91.3	91.4	93.8
3.5	4.3	6.0	6.5	9.2	11.0	11.2	12.5	12.7	10.5	9.4	10.0	9.9	7.5	
40	29	28	13	8	6	0	5	9	10	15	18	32	40	
	98.9	96.6	95.2	95.0	92.3	91.0	90.5	89.4	90.8	91.5	91.7	94.5	95.5	
2.4	4.7	6.1	6.3	9.2	10.3	10.8	11.9	10.5	9.8	9.6	6.8	5.8		
40	29	28	21	10	8	0	6	7	17	29	36	40		
	99.3	96.7	95.2	94.8	91.6	91.0	89.8 Top Pipe	89.6	90.5	91.1	93.0	94.8	97.2	
2.0	4.6	6.1	6.5	9.7	10.3	11.5	11.7	10.8	10.2	8.3	6.5	4.1		
40	29	28	22	11	4	0	2	3	13	22	33	40		
	99.7	97.0	94.8	94.6	91.1	90.6	92.9	92.7	95.8	97.9				
1.6	4.3	6.5	6.7	10.2	10.7	8.4	8.6	5.5	3.4	+0.7				
40	33	31	24	14	10	5	0	10	22	40				
	97.4	94.4	94.3	90.8	93.5	95.2	97.1	97.4	98.1	00.4	06.0			
3.9	6.9	7.0	10.5	7.8	6.1	4.2	3.9	3.2	0.9	+4.7				
40	37	31	21	15	8	3	0	9	22	40				
	94.2	94.0	91.2	93.3	93.3	96.7	98.2	99.8	04.1	07.4				
7.1	7.3	10.1	8.0	8.0	4.6	3.1	1.5	+2.8	+6.1					
40	36	27	21	18	11	0	8	27	40					

413.87

+75

+90

204 +97

205 +18.66 Proposed South Portal Tunnel #3

T.P. 1.21 412.66

11.83 424.49

+38

+51

+76

206 +00

413.9 HI

93.9 91.5 93.6 93.7 98.7 98.9 01.4 02.2 04.2 05.8 07.3 08.7

20.0 22.4 20.3 20.2 15.2 15.0 12.5 11.7 9.7 8.1 6.6 5.2
40 35 30 27 16 14 5 0 9 17 27 40

91.6 94.2 93.9 01.7 02.2 05.2 06.5 07.1 07.7 10.5 12.9 15.7

22.3 19.7 20.0 12.2 11.7 8.7 7.4 6.8 6.2 3.4 1.0 +1.8
39 35 32 21 17 11 5 0 10 24 38 50

91.7 94.2 94.1 01.4 02.9 06.8 06.5 06.9 10.5 12.5 15.9 17.7 18.1

22.2 19.7 19.8 12.5 11.0 7.4 7.4 7.0 3.4 1.4 +2.0 +3.8 +4.2
43 38 35 24 19 11 5 0 12 19 34 42 50

← Top of pipe at old portal

91.7 92.1 92.0 01.8 05.8 06.4 13.0 13.5 14.9 15.4 17.2 17.3 16.4 17.1

12.2 21.8 19.9 12.1 8.1 7.5 0.9 0.4 +1.0 +1.5 +3.3 +3.4 +2.5 +3.2
53 47 35 25 18 2 0 5 9 20 35 43 50

424.5 HI

93.6 91.8 94.0 94.0 04.3 08.0 10.8 14.4 16.0 16.2 16.2 19.6 21.6 21.4

30.9 23.0 30.5 30.5 20.2 16.5 13.7 10.1 8.5 7.9 8.3 4.9 2.9 3.1
61 57 54 50 38 31 22 14 6 0 14 32 42 50

93.0 92.7 94.5 94.5 08.1 12.4 16.7 17.1 16.2 18.3 21.3 23.5 23.3 25.2

31.5 31.8 30.0 30.0 16.4 12.1 7.8 7.4 8.3 6.2 3.2 1.0 +1.2 +1.0
64 61 56 51 39 32 19 9 0 10 22 33 43 50

92.2 92.8 95.5 94.7 99.2 17.0 21.8 22.7 24.0 26.6 26.5 29.0 31.5

32.3 31.7 29.0 29.8 25.3 7.5 2.7 1.8 0.5 +2.1 +2.0 +4.5 +7.0
71 65 60 58 54 31 10 0 10 19 27 34 50

99.5 97.8 02.5 12.7 20.5 22.9 21.5 30.1 29.5 31.8 34.5 36.3 37.8

25.0 27.0 22.0 11.8 4.0 1.6 + 3.0 +5.6 +5.0 +7.3 +10.0 +11.8 +13.3
61 56 53 39 35 23 9 0 10 17 28 41 50

99.5 Cap
25.0
71

91.7
32.8
71

← Top of pipe at existing Portal

No. Portal #3

B.M. #43				394.91
	12.07	406.98		
T.P.			0.05	406.93
	13.00	419.93		
223+55				
+85				
224+00				
224+05.28 Proposed No. Portal Tunnel #3				
T.P			13.0	406.93
	9.0	415.93		
+20				
+30				
T.P.			9.0	406.93
	4.0	410.93		
+45				

Lt | ℄ | Rt

419.9 H.I.

			13.8	16.2		14.1	15.8	16.9	19.0	21.2		24.0	
			6.1	3.7	3.8	5.8	4.1	3.0	0.9	+1.3		+4.1	
			75	55	50	40	30	19	0	24		50	
	04.9	08.9		12.3		13.9		13.9	12.4	12.2	15.1	15.2	16.9	18.4
15.0	11.0	7.6	6.0	6.0	7.5	7.7	4.8	4.7	3.0	1.5			
75	64	48	40	28	20	13	7	0	14	50			
	99.4	99.4		02.4	08.4	12.5		12.5	11.7		11.4	12.4	13.6	15.7	16.0
20.5	20.5	12.5	11.5	7.4	7.2	8.2	8.5	7.5	6.3	4.2	3.9				
74	67	62	51	39	22	10	5	0	13	33	50				
Top of Pipe at Existing Tank 1	91.5	97.4	Cap	97.8	06.6	06.8	11.4	12.0	11.7	10.7	11.4	12.9	16.0	15.1	
28.4	22.5	22.1	13.3	13.1	8.5	7.9	8.2	9.2	8.5	7.0	3.9	4.8			
75	68	60	54	40	28	16	7	0	14	36	50				

415.9 H.I

Pipe 37.5	89.1	96.6	01.9	04.7	06.0	10.1	10.9	11.4	09.3	08.7	10.5	12.4	
24.4	26.8	19.3	14.0	11.2	9.9	5.8	5.0	4.5	6.6	7.2	5.4	3.5	
74	72	71	61	58	47	38	26	15	5	0	18	50	
91.5	89.0	94.7	99.3	04.3	06.5	07.0	09.4	10.5	09.9	08.7	08.5	09.2	09.9	09.6
24.4	26.9	21.2	16.6	11.6	9.4	8.9	6.5	5.4	6.0	7.2	7.4	6.7	6.0	6.3
74	71	67	61	57	50	42	34	21	7	0	5	15	44	50

410.9 H.I.

91.6	89.0	93.9	97.3	98.6	01.9	04.9	05.9	06.8	07.7	08.5	08.5	07.3	05.9	06.6	05.1
19.3	21.9	17.0	13.6	12.3	9.0	6.0	5.0	4.1	3.2	2.4	2.4	3.6	5.0	4.3	5.8
74	71	66	63	59	55	51	43	34	22	8	0	9	16	23	50

410.93

+60

T.P 4.0 406.93

0.5 406.98

+75

+90

225+00

+15

+25

+37

+45

410.9 H.I.

91.6 P.pe	85.0	93.9	97.5	97.8	00.9	01.3	04.3	04.7	05.2	04.9	04.6	05.6	06.1	05.9	04.9	02.6	02.4	01.9
93	25	9	17.0	13.4	13.1	10.0	9.6	6.6	6.2	5.7	6.0	6.3	5.3	4.8	5.0	6.0	8.3	8.5	9.3
70	68	67	62	58	56	52	48	42	36	30	22	8	0	9	19	29	36	50	

407.0 H.I.

91.6 P.pe	97.2	93.5	96.7	97.6	00.6	01.1	02.7	03.4	03.3	05.6	04.7	01.7	00.1	00.3
15.4	17.3	13.5	10.3	9.4	6.4	5.9	4.3	3.6	1.7	1.4	2.3	5.3	6.9	6.7
64	62	61	56	50	48	29	18	8	0	8	17	33	43	50

91.9	89.7	93.6	96.5	99.3	00.3	01.8	02.4	04.1	05.0	04.8	02.2	97.4	96.3	
15.1	17.3	13.4	10.5	7.7	6.7	5.2	4.6	2.9	2.0	2.5	4.8	9.6	10.7	
61	58	57	50	42	29	19	7	0	6	15	22	34	50	

P.pe	92.0	90.9	93.7	94.4	98.6	02.7	00.2	01.0	02.9	03.3	02.9	97.2	95.9	
15.0	16.1	13.3	12.6	8.4	4.3	4.8	6.0	4.1	3.7	4.1	9.8	11.1		
59	56	54	50	46	35	24	9	0	6	17	34	50		

91.8	90.3	93.7	97.0	98.5	02.5	00.7	00.2	99.8	00.4	99.0	95.2			
15.2	16.7	13.3	10.0	8.5	4.5	6.3	6.8	7.2	6.6	8.0	11.8			
52	48	47	34	33	23	16	6	0	12	24	40			

91.8 P.pe	90.6	93.7	96.5	97.3	00.0	01.3	01.2	99.9	00.4	95.5				
15.2	16.4	13.3	10.5	9.7	7.0	5.7	5.8	7.1	6.6	11.5				
48	44	43	37	26	17	6	0	9	15	35				

94.8 P.pe	90.6	94.0	98.2	97.8	98.9	00.4	99.2	98.0	96.8					
15.2	16.4	13.0	8.8	9.2	8.1	6.6	7.8	9.0	10.2					
44	39	37	27	20	0	8	18	30	40					

91.9 P.pe	90.0	94.0	94.4	00.7	98.4	99.0	99.2	97.6						
15.1	17.0	13.0	12.6	6.3	8.6	8.0	7.8	9.4						
35	32	30	29	17	8	0	24	40						

406.98

225 +53

+63

+70

12.07

B.M. #43 394.91

3.49 398.40

+82

+88

226+00

+05

+12

407.0 H.I

96.9	90.4	93.0	98.1	00.1	99.2	98.7	96.0	97.4	
Pipe									
15.1	16.6	14.0	8.9	6.9	7.8	8.3	11.0	9.6	
29	26	25	14	7	0	16	23	40	

Opposite side Drain

Pipe	91.9	89.9	93.1	95.1	99.0	97.8	95.5	94.9	96.4	95.6
15.1	17.1	13.9	11.9	8.0	9.2	11.2	12.1	10.6	11.4
22	19	18	13	0	7	20	23	31	40

96.9	94.7	93.1	87.4	91.8	89.0	92.3	94.6	95.9	95.7	91.9	92.9	93.8	93.9
Pipe													
10.1	12.3	13.9	19.6	15.2	18.0	14.7	12.4	11.1	11.3	15.1	14.1	13.2	13.1
30	25	21	20	16	12	11	6	0	15	17	26	30	40

398.4 H.I

96.9	93.9	88.1	91.4	88.6	92.0	94.5	94.9	91.6	91.5	94.0
Pipe										
1.5	4.5	10.3	7.0	9.8	6.4	3.9	3.5	6.8	6.9	4.4
25	16	12	8	6	5	0	8	13	22	30

96.8	94.2	87.6	91.3	87.8	92.1	93.9	91.4	91.7	94.0	93.8
Pipe										
1.6	4.2	10.8	7.1	10.2	6.3	4.5	7.0	6.7	4.4	4.6
25	14	9	8	1	0	7	10	16	27	30

95.5	96.0	88.3	87.8	91.2	91.4	94.0	93.1		
Pipe									
2.9	2.4	10.1	10.6	7.2	7.0	4.4	5.3		
25	13	5	1	0	10	18	20		

95.4	95.5	85.9	87.8	87.9	87.8	91.2	91.5	94.2	92.9	93.6
		Drain				Pipe				
3.0	2.9	12.5	10.6	10.5	10.6	7.2	6.9	4.2	5.5	4.8
25	14	4	3	0	3	5	9	18	27	30

95.9	94.4	85.8	90.9	90.2	91.3	93.7	92.8	93.7	
					Pipe				
2.5	4.0	12.6	7.5	8.2	7.1	4.7	5.6	4.7	
25	15	5	0	5	8	15	24	30	

Aug 5-1929 Converse
Ellis H
Simpson

398.40

+24

+29

+40

+70

227+00
T.P.BM. 3.49 394.91
1.73 396.64

+50

228 +00

+45

4+ 398.4 H.I. R+ 47

	95.4	92.8	85.5	88.8	90.2	91.5	93.3 Edge Road	93.5
3.0	5.6	12.9	9.6	8.2	6.9	5.1	4.9	
25	13	6	4	0	9	21	25	
	94.6	93.6	87.8	85.5	88.4	90.8	92.4	93.9
3.8	5.8	10.6	12.9	10.0	7.6	6.0	4.5	
25	15	11	6	0	2	9	25	
	93.7	92.2	88.6 Drain Ditch	85.4	91.7 Edge Road	92.3	93.7	93.7
4.7	6.2	9.8	13.0	6.7	6.1	4.7	4.7	
25	18	15	9	2	0	13	25	
	87.9	85.3 Drain Ditch	88.5	91.9	92.4	92.0	over 72.5 Pipe	
10.5	13.1	9.9	6.5	6.0	6.4	5.7		
20	16	13	7	0	10	25		
85.0 Ditch	88.2	91.1	92.1	91.5	91.6 Edge Rd.	94.0	93.1	
13.4	10.2	7.3	6.3	6.9	6.8	4.4	5.3	
25	18	15	9	0	8	10	25	

396.6 H.I.

	84.2	Edge Rd. 90.2	90.4	Edge Rd. 90.2	92.9	94.2	94.1	91.3
12.4	6.4	6.2	6.4	3.7	2.4	2.5	5.3	
30	19	0	3	5	13	20	25	
83.3	83.8	89.2	88.9	89.2	92.4	93.6	92.0	
13.3	12.8	7.4	7.7	7.4	4.2	3.0	4.6	
30	25	19	0	3	3	11	25	
83.1	87.4	87.8	88.0	91.5	93.6	93.8	over Pipe 91.6	
13.5	9.2	8.8	8.6	5.1	3.0	2.8	5.0	
35	25	0	3	4	10	18	29	

396.64

229+00

+50

230+00

T.P. 12.43 384.21

6.39 390.60

+15

+28

+55

231+00

+50

396.6

Ditch		Edge Rd			Edge Rd			over Pipe
18.4	11.0	10.2	10.6	10.6	8.1	6.7	6.5	
38	30	20	0	6	7	13	34	
	19.4	12.0	12.0	12.0	9.2	5.1	7.0	
	45	35	0	6	7	20	34	
								Top Pipe
19.9	19.4	13.8	12.6	13.2	13.2	9.9	5.6	7.3
44	36	32	14	0	4	5	18	37

390.6

13.8	13.1	8.1	7.2	7.6	7.4	3.8	1.2	1.1
41	36	31	15	0	4	5	16	37
Ditch								over pipe
13.8	12.8	8.6	7.6	8.1	8.0	6.1	2.6	1.0
41	36	34	15	0	4	5	18	37
14.0	13.8	9.7	8.3	9.0	8.7	6.1	1.9	1.2
54	50	44	15	0	5	6	18	37
Ditch								over pipe
14.4	14.0	11.0	9.7	10.2	10.0	6.7	2.1	2.1
54	46	45	15	0	5	6	19	37
15.0	12.2	10.8	11.1	10.9	7.8	4.5	4.0	
34	29	15	0	3	4	14	32	

390.60

232+00

+30

+60

+77

+87

233+00

+30

390.6

	Ditch		Edge Rd			Edge Rd.			
	15.5	14.0	11.9	12.3		12.2	9.2	7.6	5.8
	41	37	15	0		4	5	11	30
	15.4	15.3	13.7	13.7	12.4	12.6	12.7	10.1	7.2
	42	37	34	20	11	0	7	8	27
	15.8	14.5	14.5	13.0	13.1		13.4	11.0	9.8
	37	28	13	5	0		12	14	27
	16.0	14.7	14.3	15.0	14.6	13.4	13.9	12.4	11.4
	34	24	15	11	4	0	17	19	27
	15.9	14.4	15.4	14.8		13.5	14.0	11.4	
	31	12	9	0		2	18	30	
	15.0	15.0	14.8	15.5	15.5		15.1	13.8	14.5
	26	16	6	4	0		6	7	23
	15.4		15.4		15.4				
	15		0		15				

BM's

BM "31	Air-valve 11'R 128+95	396.87
" 32	" Coronado Wye (M.L.)	388.19
" 34	" " 13'R 194+14	396.54
" 36	Nail in diag. timber N. Portal "1	396.00
" 37	" face cap S. Portal "2	396.40
" 39	Air valve 100' N. of N. " "2	395.35
" 40	" " 27'L 204+56	392.47
" 43	" " 25'R 226+64	394.91
" 44	" " 30'R 238+43	389.85

IMPROVED TABLES AND INFORMATION

BM's

BM 31	Air valve 11 R 128+95	396.87
" 32	" Coronado Wye (M.L.)	388.19
" 34	" " 13 R 194+14	396.54
" 36	Nail in diag. timber N. Portal #1	396.00
" 37	" face cap S. Portal #2	396.40
" 39	Air valve 100' N. of N. " #2	395.35
" 40	" " 27 L 204+56	392.47
" 43	" " 25 R 226+64	394.91
" 44	" " 30 R 238+43	389.85

IMPROVED TABLES AND INFORMATION

15
17
7 8
17

pipe 3-2
bat. 8.6

2.80
12.15
14.95