

San Miguel

NAME _____

Class _____ Course _____ Party _____

Water line stakes

RETURN TO
Watson, Miller & Gough, Inc.
543 Commercial Bldg.
San Diego, Calif.

1977

324

FIELD NOTES

No. 403P

ESPECIALLY ADAPTED

TO THE USE OF

ENGINEERING STUDENTS

EUGENE DIETZGEN Co.

MANUFACTURERS

DRAWING MATERIALS

MATHEMATICAL AND SURVEYING INSTRUMENTS

MEASURING TAPES

CHICAGO SAN FRANCISCO NEW YORK
NEW ORLEANS PITTSBURGH

MICROFILMED
DEC 30 1964

— INDEX —

	Page
Alignment and dist for pipeline } on Cuyamaca Ave-	1-4
curve data	5-6
Profile levels Cuyamaca Ave.	9-15
Washington Street Waterline	18

sta

West Prop line

0+00

Fd 212 RW
Lot 131 & 132

EL PRADO TRACT
MAP 1320

transit line on Prop. line
53° 56' W

6+36.30

Fd 212 Hub So. Cor.
Lot 127 El Prado

S 42° 07' W

52+82

90°

CUYAMACA AVE.

0+00

S. D. C. & E. R. R.

PLATA AVE

back sight for lot

50'

San Altos
MAP 1967

21+77⁹⁰ P.I.

$\Delta = 16^{\circ}01'$ left.

10' East of West Pipeline

P.C. 17+85.80

16+14²⁵ P.O.T

W. Pipeline

Note.
sta. in red are for
true pipeline dist.
which is 10' West of ϕ
of Cuyamaca Ave.

9+00⁹⁵ P.O.T

22

34+97⁰⁸

P.C.

Transit line

P.I. set by intersection nailed in
21+77⁹⁰

Fd 1 x 4 hub at tow
of line

36+68⁵³

13+49³³

Fd 2 x 2 R/W HUB

SON MIB 4# LST.

12+98²⁵

39+33⁹⁵

Transit line of
Cuyamaca Pipeline

ϕ CUYAMACA AVE

C.R.R. RIGHT OF WAY

ϕ S.D. C.&E. RR.

134

133

9+00⁹⁵

10015

$$\begin{cases} L.C = 543.28 \\ \frac{1}{2}\Delta = 5^{\circ}17' \\ R = 2950.02 \end{cases}$$

30+32.12 P.T.

$\Delta = 5^{\circ}17'$ Right

10' E of W.R.I.
462.12

25+70.00

P.T. EQUATION

$$R = 2787.00$$

$$\Delta = 16^{\circ}01'$$

$$T = 392.10$$

$$L =$$

21+77.90 P.I.

392.10

17+11.89

35+75.40
40'

Fd 2x2 R.W.

Prop. line

long chord 543.28
Transit line

Prop. line

30+32.12 P.T.

Fd 2x2 R.W.

27+17.15

40'

Fd 2x2 R.W.

Fd 2x2 R.W.

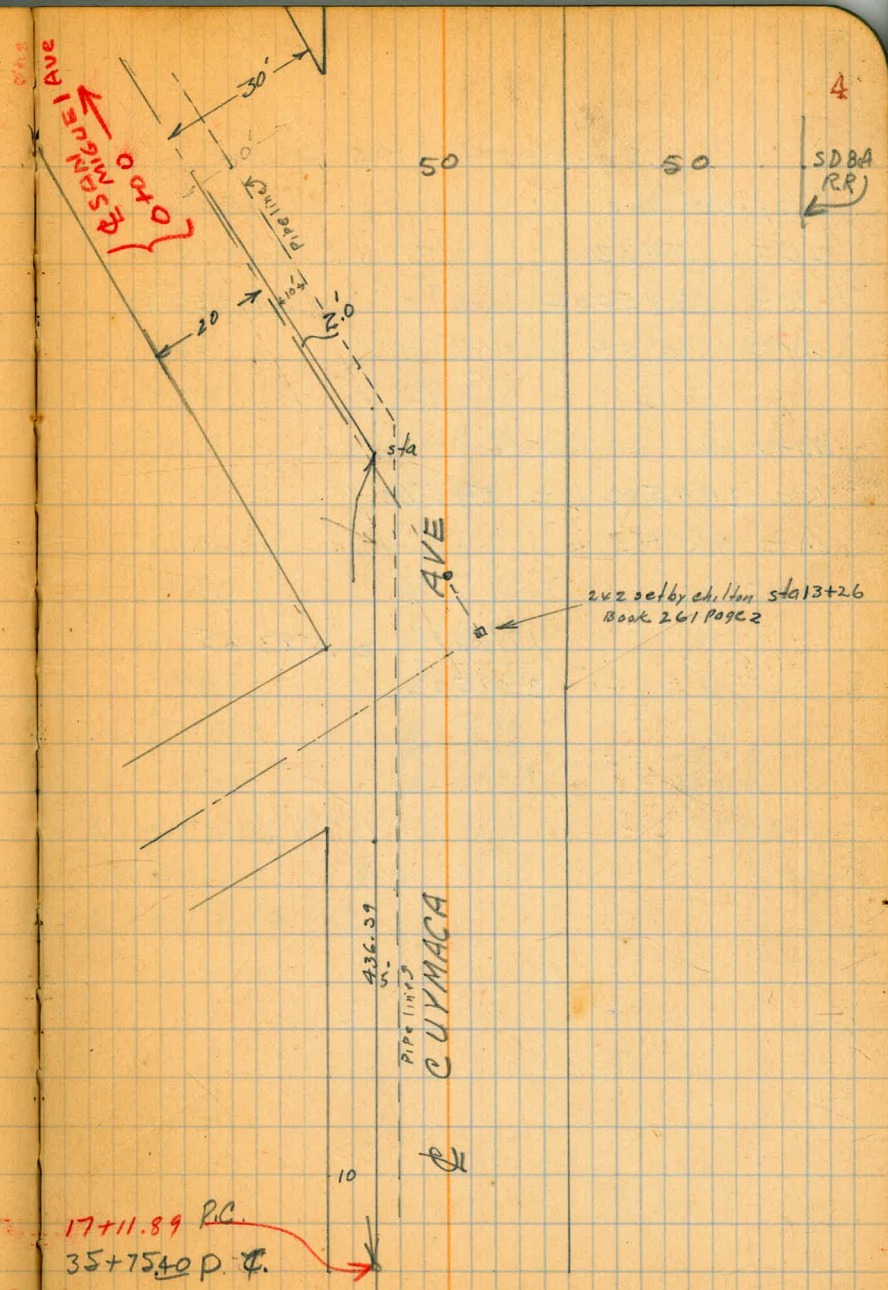
22+55.03

Transit line

CUYMACA AVE

Fd 2x2 R.W.

50' (ERR)



stakes for Water line

5' offset line

$L = 543.28$ 1718.88
 $R = 2950.02$ $ch = 50.09$
 $\Delta = 10^\circ 34'$

Water line or Pipe line

$R = 2945.02$ $L = 543.13$
 $\Delta = 10^\circ 34'$ $ch = 47.11$

$\frac{1718.88}{2945.02} = 0.58365$

Def.	Def	Chord.
17+11.89 P.C.	0°00' ✓	14.60
+25	0°14.59' ✓	38.15
+50	0°22.24' ✓	50.09
18+00	0°51.42' ✓	"
+50	1°20.60' ✓	"
19+00	1°49.78' ✓	"
+50	2°18.96' ✓	"
20+00	2°48.14' ✓	"
+50	3°17.42' ✓	"
21+00	3°46.50' ✓	"
+50	4°15.68' ✓	"
22+00	4°44.86' ✓	25.05
+25	4°59.45' ✓	25.04
+50	5°14.04' ✓	5.02
22+55.02 PT.	5°17'	
4+6212 TAN.		
27+17.14 P.C.		

CURVE Data

10' off Prop.

$\Delta = 16^{\circ}01'$

$R = 27.87$

$T = 392.10$

$ch = 49.91$

Waterline

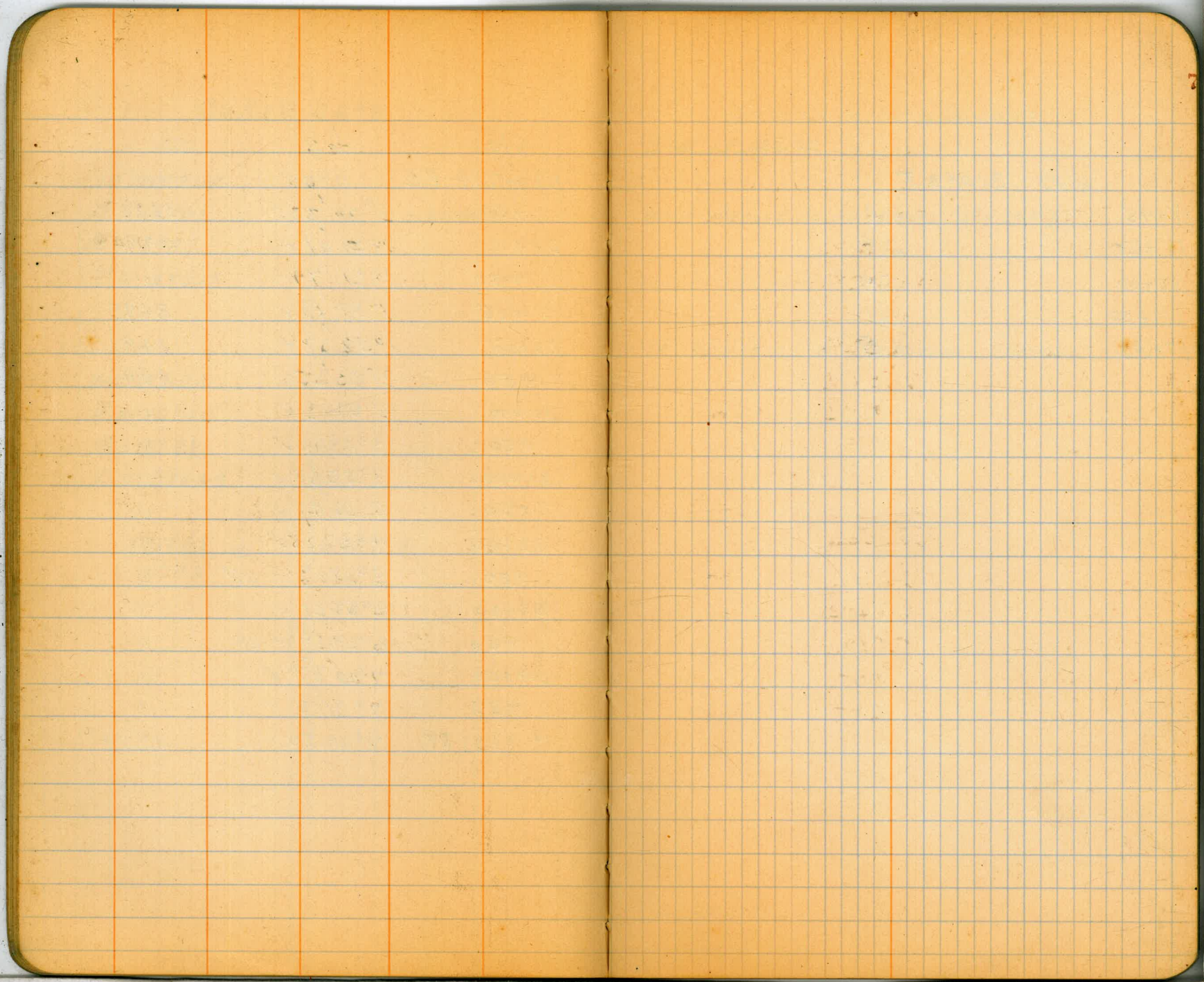
$\Delta = 16^{\circ}01'$

$R = 27.92$

$L = 980.49$

$$\frac{1718.88}{2792} = .61564$$

Sta	def.	ch.
27+17.14 P.C	0°00'	—
+50	0°20.23 ✓	32.83
28+00	0°51.61 ✓	49.91
+50	1°21.79 ✓	
+75	1°37.18 ✓	24.95
29+00	1°52.57 ✓	24.96
+50	2°23.35 ✓	49.91
30+00	2°54.13 ✓	
+50	3°24.91 ✓	
31+00	3°55.69 ✓	
+50	4°26.47 ✓	
32+00	4°57.25 ✓	
+50	5°28.03 ✓ UP	
33+00	5°58.21 ✓	
+50	6°29.59 ✓ UP	
34+00	7°00.37 ✓	
+50	7°31.15 ✓	
+ 97.08 P.T.	8°00.50 ✓	47.04



Extenshion of pipe line
3059

4.43 310.3 X

18+95	4.4
18+50	4.9
18+00	5.4
17+50	6.1
17+32	6.5

Sta 18+95

end according to plans (A+ID#3)

10' south of ϕ La Puerta Place—

CUYAMACA AVE

5' offset
line

Sta	+S	π	-S	elev.	grade.
				317.28	
	249	319.77			
			4.35	311.42	
	280	314.22			
18+15			8.3	305.9	
19+00			8.3	305.9	
+50			7.6	306.6	
20			7.0	307.2	
+50			5.9	308.3	
21			9.8	305.4	
+50			5.1	309.1	
22			4.1	310.1	
+50			4.6	309.6	
23			4.4	309.8	
			4.40	309.82	
	10.70	320.52			
+50			9.2	311.3	
24			7.2	313.3	
+50			6.4		
25			5.8		
+50			5.2		
26			4.3		
+50			3.5		
26+12.41					
53+4.14	EQUATION		3.6	316.9	312.2

Going North

Profile levels of actual waterline course 10' W of center of road.

BM#19. CUYAMACA AVE.

End of pipeline. (See A & I.D. #3 Plans)

- Note -

Pipeline extends further South to 10' S of LA Puerta Pla. see page 8.

T.P. 13+00

South line of Plata Ave

Profile levels of Aoutal
 Pipe line course 10' W of ϕ Road.

Sta	+s	π	-s	elev
		320.52		
53+00			3.3	17.2 313.4
+50				
			3.20	317.32
				317.28 BM #19

Sta	+s	π	-s	elev
		9.20 326.48x		
52+82	North line Plata		8.9	17.6 136
+50			8.5	18.0 140
52			8.4	18.1 150
+50			7.9	18.6 155
+15			7.4	—
51			7.3	19.2 168
+75			6.7	19.8 —
+50			6.0	20.5 176
50+00			4.6	21.9 185
+50			3.6	22.9 195
49			1.7	24.8 204
+50			0.9	25.6 213
			0.88	325.60

Sta	+s	π	-s	elev
		9.25 334.85		
48			8.9	26.0 223
+50			9.6	25.3 231
47			6.3	28.6 242
+50			6.2	27.7 250
46			5.7	29.2 268

		320.52 π		
			3.8	316.9
				317.9
				317.9

Cut	π	elev
	326.48x	
4.0	9.0	317.5
4.0	8.6	317.9
3.1	7.9	318.6
2.8	7.4	319.1
—	8.2	318.3
2.4	6.8	319.7
—	6.5	320.0
2.9	6.6	319.9
3.4	5.0	321.5
3.4	3.8	322.7
4.4	1.9	324.6
4.3	1.0	328.5

TP	π	elev
48+50	334.85x	
	9.2	325.6
	10.2	324.6
	6.8	328.0
	6.7	328.1
	6.2	328.6

sta	+s	T	+s	elev
		334.85		
+50			2.3	22.6 282
			1.34	333.51
	11.42	344.93		
45-			8.4	36.5 304
+50			6.2	38.7 323
44			5.1	39.8 340
+50			5.2	39.7 340
43			4.4	40.5 340
+50			5.4	39.5 340
42			8.3	36.6 340
+75			8.6	36.3 340
+50			7.49	337.44 340
	10.64	348.08		
41			9.4	38.7 356
+50			8.0	40.1 372
40			6.4	41.7 382
+75			5.3	42.8 396
+50			4.9	43.2 403
+33.45	N. line St	Miguel St.	3.8	44.3
39+00			1.9	46.2 422
			2.17	345.91
	11.47	357.38		
38+50			9.1	48.3 435

	334.85		
		2.8	332.0
	344.93		
		8.9	336.0
		6.5	339.4
		5.6	339.3
		5.9	339.0
		5.1	339.8
		5.7	339.2
		8.0	336.9
		9.7	336.2
		7.6	337.3
	348.08		
		9.5	338.6
		8.2	339.9
		7.0	341.1
		6.1	342.0
		5.3	342.8
		4.6	343.5
		2.7	345.4
	357.38		
		9.7	347.7

E. Prado

sta	+	+	-	elev	Grade	cut.
		35738	+			
38-			7.2	50.2	45.0	5.2
+50			5.0	52.4	46.6	5.8
37			2.9	54.5	48.2	6.3
468 ⁵²	P.O.T.		1.63	355.75		TP.
	10.39	366.14	+			
+50			9.7	56.4	48.9	7.5
36-			8.2	57.9	49.4	8.5
+50			11.3	54.9	50.2	4.8
440 ²⁰	P.O.T.		9.3	56.8		
3449 ⁰⁸	P.T.		26.6	39.5	37.1	2.4
+50			25.5	40.6	38.2	2.6
34-			19.9	46.2	42.5	3.7
+75			8.8	57.3	52.0	5.3
+50			5.5	60.6	52.3	8.3
33			4.1	62.0	52.4	9.4
+50			2.96	363.18	53.1	10.1
	4.80	367.98				
32			4.2	63.8	53.5	10.3
+50			7.4	60.6	54.0	6.6
31			9.8	58.2	53.3	5.0
+50			11.2	56.8	52.6	4.2
			11.16	356.82		TP
	1.24	358.06				
30+00			3.1	55.0	51.9	3.1

acutal pipe line
 ← COURSE

12/15

35738	+					
7.7						349.7
5.6						351.8
3.5						353.9
2.6						354.8
366.14	+					
10.5						355.6
8.7						357.4
13.7						352.4
11.3						354.8
26.8						339.3
25.1						341.0
20.6						345.5
10.5						345.6
6.6						349.5
4.7						361.4
3.1						363.0
367.98	+					
5.2						362.8
7.7						359.3
10.0						358.0
11.3						355.7
358.06	+					
3.3						354.8

sta	+	π	5' offset ↓ -	elev	
		35806			
+50			4.0	54.1	51.3
2.9			5.0	53.1	50.1
+75			5.4	52.7	50.3
+50			5.2	52.9	50.0
28-			4.9	53.2	50.5
+50			4.3	53.8	51.0
27+17 ¹⁴	P.C.		3.6	54.5	51.3
+00			3.0	55.1	54.4
+50			1.8	56.3	51.9
26			0.8	57.3	52.4
			0.81	357.25	
	690	36415			
+50			6.4	56.8	52.9
+25			6.5	57.9	53.1
25			6.4	57.8	53.4
+50			6.9	57.3	53.9
24-			6.7	57.5	54.7
+50			4.7	59.5	55.5
23			4.8	59.4	356.3
+5502	P.T.		4.5	59.7	
+50			4.5	59.7	57.2
+25			3.7	60.5	57.5
22+			2.9	61.3	358.0

Pipeline
←

13

	35806π	
	4.0	354.1
	4.7	353.4
	5.1	353.0
	5.1	353.0
	4.7	353.4
	4.2	353.9
	3.4	354.7
	2.9	355.2
	1.6	356.5
	0.8	357.3
		TP
	36415π	
	6.5	357.6
	6.5	357.6
	6.6	357.5
	7.1	357.0
	6.6	357.5
	4.8	359.3
	4.8	359.3
	4.3	359.8
	4.4	359.7
	3.9	360.2
	3.3	360.8

Sta	+	π	-	elev	Top. Elev. Bottom Pipe	TP	Pipeline Course	
		364.15						
			2.21	361.94				
	8.97	370.91					370.91X	
21+50			8.1	62.8	358.9	3.19	9.0	361.9
21			8.4	62.5	359.7	2.8	8.2	362.7
+50			8.0	62.9	360.5	2.4	7.6	363.3
20			7.6	63.3	361.3	2.0	6.9	364.0
+50			5.8	65.1	362.1	3.4	5.8	365.1
19-			3.1	67.8	364.0	3.8	3.8	367.1
+50			0.2	70.7	365.3	5.4	1.5	369.4
			0.43	370.48		TP		
	6.94	377.42					377.42X	
18+00			4.6	72.8	366.7	6.1	5.7	371.7
+50			3.3	74.1	368.0	6.1	3.4	374.0
+25			3.7	73.7	368.3	5.4	3.7	373.7
+11.89	P.O.		4.0	73.4	368.4	5.0	4.2	373.2
17+00			3.9	73.5	368.5	5.0	4.7	372.7
+50			5.5	71.9	368.8	3.1	5.5	371.9
16			5.4	72.0	369.1	2.9	5.3	372.1
+50			3.9	73.6	369.4	4.1	4.8	372.6
15			6.4	71.0	369.7	1.3	5.8	371.6
			5.73	371.69				
	8.51	380.20			370.3		380.20X	
+50			9.3	70.9	370.0	0.9	7.8	372.4
14			8.9	71.3	370.3	1.0	7.5	372.7

North ↓

Page

sta.	+	X	-	elev.	Grade	Cut.
		380.20				
13+50			6.3	73.9	70.6	3.3
13+00			6.4	73.8	71.0	2.8
+76 = 17 Δ 136			6.6	73.6	71.5	2.1
+64			6.3	73.9	—	—
+50			6.1	74.1	72.0	2.1
12+00			3.8	76.4	75.0	1.4
11+83.8			1.8	78.4	76.2	2.2
			3.37	376.83		
				376.59		

From sta 12+76
to 0+00 cut-stakes
align 106 ft set

Note - Grade is o.k. from
11+83.8 to 0+00
see book 200
page 12

Pipe line Course

380.20

6.4	373.8
6.4	373.2
6.6	373.6

15

Nail in tel pole Buena Vista to Cuyamaca.

Treadwell
Reed
Tight

18

APRIL 22, 1927

PIPE LINE WASHINGTON AVE						
sta	+	π	-	elev.	Grade.	cut.
				451.73		BM N.E. Cor Valencia + Washington nail intel pole.
	842	460.15				
0+00	♀ Valencia st.					
+50			8.2	52.0	488	3.2
1+00			6.7	53.5	501	3.4
+50			5.7	54.5	514	3.1
2+00			4.6	55.6	528	2.8
+50			3.3	56.9	540	2.9
3+00			3.0	57.2	542	3.2
+50			3.4	56.8	542	2.8
+75			3.8	56.4	542	2.4
4+00			4.4	55.8	530	2.8
+50	TP ₁		5.75	454.40	514	3.4
	0.10	454.50				
5+00			2.1	52.4	490	3.4
+50			4.2	50.3	470	3.3
6+00			6.2	48.3	450	3.3
+50			8.0	46.5	430	3.5
7+00			10.1	44.4	410	3.4
+25			11.0	43.5	400	3.5
+50	TP ₂		11.80	442.70	395	3.2
	160	444.30				
8+00			2.0	41.6	385	3.1
+25			3.0	41.3	380	3.0
+50			3.4	40.9	378	3.1

	444.30				
9+00		4.0	40.3	37.5	Cut. 2.8
+50		4.5	39.8	37.3	2.6
10+00		4.8	39.5	36.2	2.6
+50	S/S Mt. Vernon. (App.)	4.7	39.6	36.6	3.0
11+00		5.2	39.1	36.3	2.8
+50		5.6	38.7	36.0	2.7
12+00		5.8	38.5	35.7	2.8
+50		6.1	38.2	35.4	2.8
	TP ₃	6.03	438.27		
	4.29 442.56				
13+00		4.9	37.7	35.3	2.5
+25		5.1	37.5	35.0	2.5
+50		4.8	37.8	35.0	2.8
14+00		4.7	37.9	35.0	2.9
+50		5.2	37.4	35.0	2.4
15+00		5.3	37.3	35.0	2.3
+50		5.5	37.1	35.0	2.1
16+00		5.4	37.2	35.0	2.2
+50		5.2	37.4	35.0	2.4
17+00		5.3	37.3	35.0	2.3
+50	TP ₄	5.28	437.28	35.0	2.3
	5.65 441.93			3	
18+00		5.70	437.1	35.0	2.2
+50		5.5	437.4	35.0	2.4

April 23, 1927

20

	442.93			
19+00		5.1	37.8	35.0
+50		5.2	37.7	35.0
20+00		5.2	37.7	35.0
+50		5.0	37.9	35.0
		4.66	438.27	
			438.30	

Cut

2.8
2.7
2.7
2.9

	2.33	440.63		
20+82 ^{1/2}	Δ in pipe line	3.3	37.3	34.8
21+00		3.5	37.1	34.6
+50		4.5	36.1	33.6
22+00		6.1	34.5	32.7
+50		7.2	33.4	31.8
23+00		7.7	32.9	30.9
+50		8.9	31.7	30.0
24+00		9.75	430.88	29.1

Nail in Pole #77019 NW Cor Washington & ?

Cut

2.5
Running west on Public Road pipeline 10's of ft

2.5
2.5
1.8
1.6
2.0
1.7
1.8

	2.49	433.37		
+50		3.4	32.0	28.3
25+00		4.1	29.3	27.3
+50		5.2	28.2	26.4
26+00		6.0	27.4	25.4
+50		5.1	26.5	24.5
27+00		6.6	26.8	23.6
+50		7.6	25.8	23.6
28+00		7.1	26.3	23.6

1.8
2.0
1.8
2.0
4.0
3.2
2.2
2.1

	43337				Cut.
28+50		7.5	25.9	23.6	2.3
29+00		9.1	24.3	23.6	0.7
+50		9.0	24.4	23.6	0.8
30+00	TP ₂	7.93	425.44	24.4	1.0
	11.31	436.75			
+50		8.6	28.2	25.3	2.9
31+00		4.8	32.0	26.1	5.9
+50		3.8	33.0	27.0	6.0
		1.41	435.34		
	8.50	443.84			
		2.75	441.09		
			440.70		
	5.89	446.59			
$\frac{31+4342}{328+23}$	EQUA. ΔH_0 line	13.4	33.2	27.5	5.7
328+00		8.9	37.7	27.8	9.9
+50		5.3	41.3	28.5	12.8
327		5.2	41.4	29.1	12.3
+15		5.2	41.4	29.5	12.9
+50		5.5	41.1	30.0	11.1
326		5.8	40.8	31.0	9.8
+50		6.1	40.5	32.0	8.5
325		5.9	40.7	33.1	7.6
+50		5.5	41.1	34.1	7.0
324		3.98	442.61	35.2	7.4

BM# 38A. National Ave Survey.

National Ave ext. H₂O Pnc

22

TP.				442.61	
683	449.44				
323+50		7.2	42.2	35.6	6.6
323		6.5	42.9	36.1	6.8
+50		6.8	42.6	36.5	6.1
322		6.7	42.7	37.1	5.7
+50		5.6	43.9	37.4	6.4
321		5.2	44.2	37.8	6.4
+50		6.7	42.7	38.3	4.4
320		6.3	43.1	38.7	4.4
+50		6.1	43.3	39.2	4.1
319		5.5	43.9	39.6	4.3
+50		4.3	45.1	40.0	5.1
318		4.0	45.4	40.5	4.9
		3.94	445.50		TP.
8.74	454.24				
+50		9.0	45.2	41.0	4.2
317		7.6	46.6	41.4	5.2
+50		7.7	46.5	41.8	4.7
316		6.5	47.7	42.3	5.4
+50		7.3	46.9	42.8	4.1
315		5.5	48.7	42.9	5.8
+50		7.9	46.3	43.0	3.3
314		7.5	46.8	43.2	3.5
+50		6.9	47.3	43.3	4.0

- 5.52 = 443.92
443.97 BM#36

	454.24				
313		7.5	46.7	432	3.5
+50		6.1	48.1	429	5.2
312		7.4	46.8	422	4.1
+50		8.59	445.65	426	3.1
	5.42	451.07			
311		5.7	45.4	425	2.9
+50		4.3	46.8	421	4.7
310		6.3	44.8	419	2.9
+50		5.8	45.3	412	3.6
309		6.1	45.0	415	3.5
+50		5.7	45.4	413	4.1
308		6.6	44.5	411	3.4
+50		6.1	45.0	419	3.1
307		6.3	44.8	402	4.1
+50		5.7	45.4	405	4.9
306		7.3	43.8	403	3.5
+50		6.8	44.3	401	4.2
305		7.0	44.1	399	4.2
+50		7.6	43.5	392	3.8
304		5.93	445.14	395	5.6
	4.65	449.79			
+50		6.2	43.6	389	4.7
303		7.5	42.3	383	4.0
+50		7.4	42.4	386	4.8

	449.79				Cut
302		6.6	43.2	37 ^L	6.1
+50		8.4	41.4	36 ^L	4.9
301		8.4	41.4	36 ^O	5.4
		9.89	439.90		
TP.	6.37 44627	968	43659		
			436.61		B.M.# 35
	8.36 444.97				
300+50		3.5	42.5	35 ^A	7.1
300		4.1	40.9	34 ^Z	6.2
+50		4.8	40.2	34 ^L	6.1
299		6.5	39.5	33 ^L	5.9 ^L
+50		6.4	39.6	33 ^O	6.6
298		8.2	37.8	32 ^Z	5.5
+50		9.7	36.3	31 ^Z	4.5
297		10.1	35.9	31 ^Z	4.7
+50		9.9	36.1	30 ^L	5.5
296		11.3	34.7	30 ^O	4.7
+50		10.9	35.1	29 ^L	5.5
295+45 end of Pipeline		10.7	35.3	29 ^L	5.8
		8.36	436.61		
			436.61		B.M.# 35

APRIL 23-1927

34

17+00
85 85.75
16+14.25

