

271

LISTS

271-5

FIELD BOOK

1896

11

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.

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THE FREDERICK POST CO.
ENGINEERING and DRAFTING SUPPLIES
IRVING PARK STATION

CHICAGO, ILL.
MICROFILMED

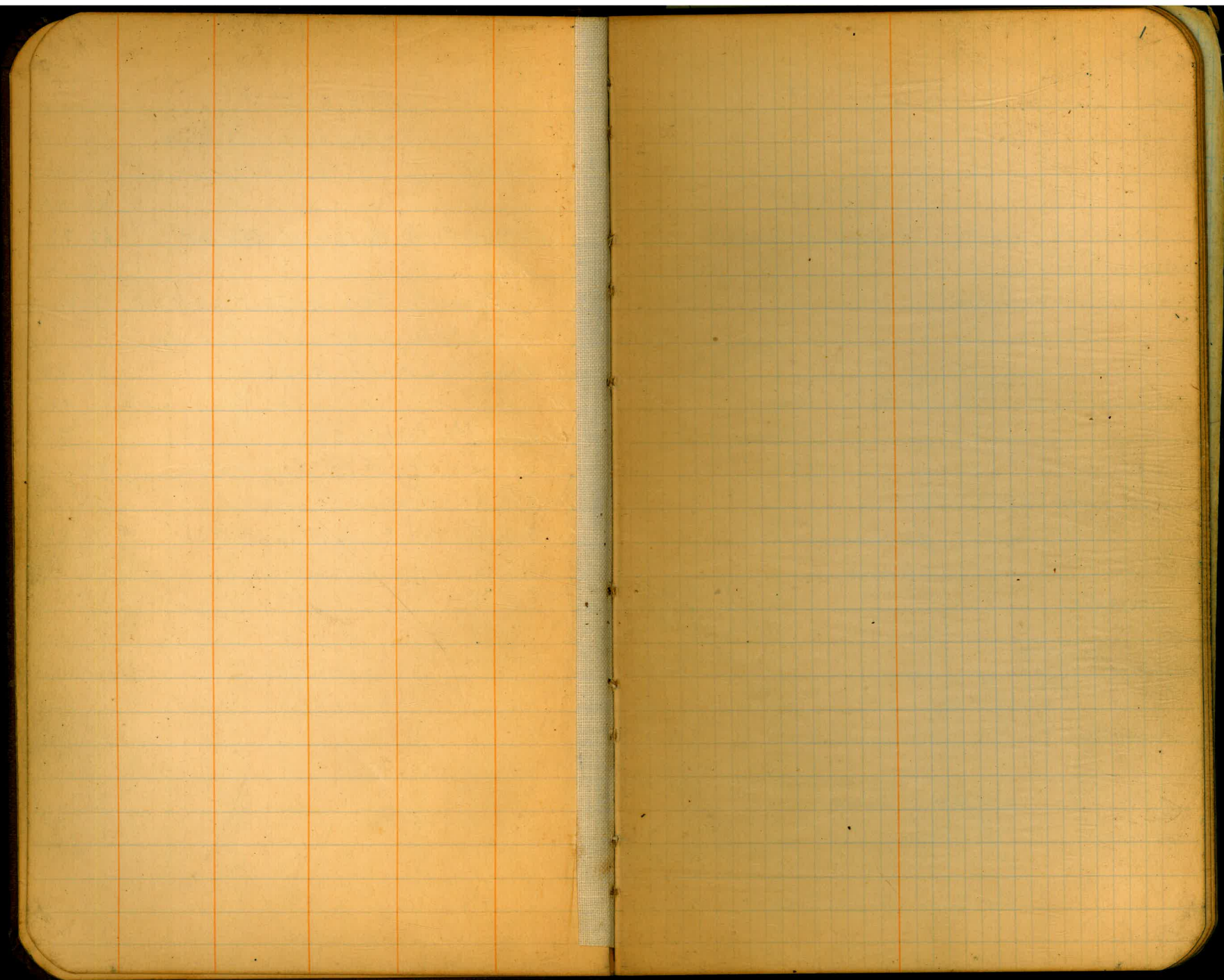
JAN 11 1965

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MICROFILMED

JAN 1 1962



O.R.S.D. 2nd. Main Pipe Line
 Alignment from Sta. 630+37.5 to Sta. 855+95.02.
 Note - This Alignment Abandoned.
 Sta. Deflec. Bear. Mag.

10-12' No-30W
 642+66.35 0-36 L

641+72.50 P.O.T. Prop. Line tie

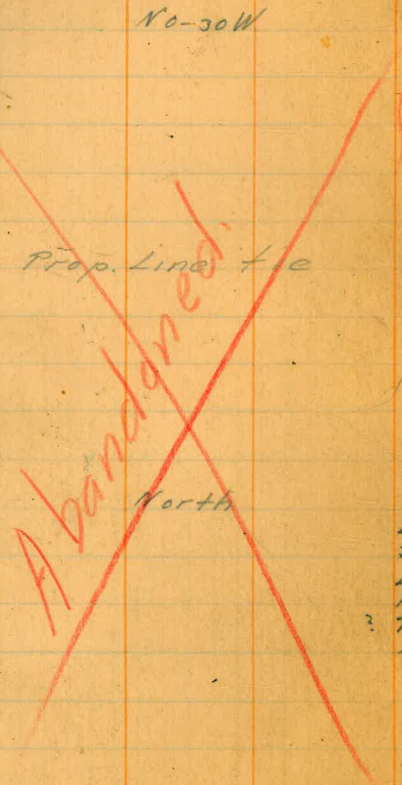
633+36.33 P.T.

30-58-30
 632+88.38 15-29 R
 15-29-15

632+39.87 P.C.

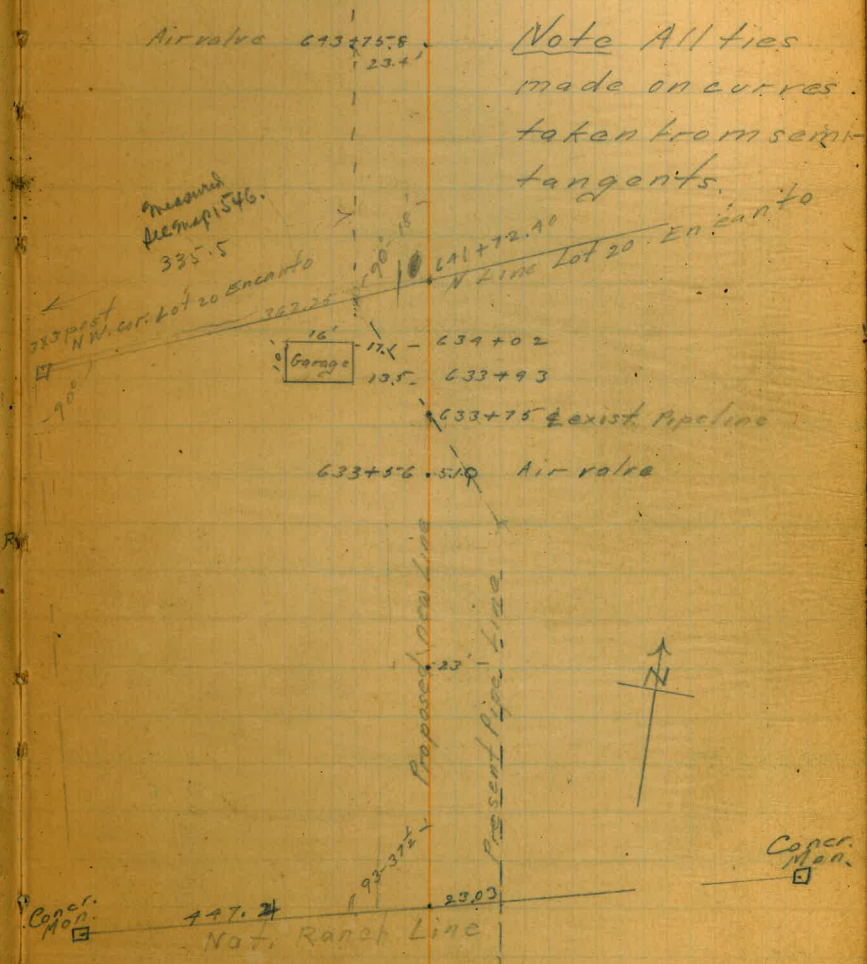
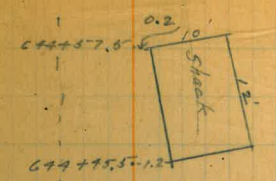
N.14°34'W N 16-45W
 630+37.5

By Solar Observation



Δ-15-29-15 R
 D 16
 L 96.79
 R 359.26
 T. 48.84
 Ext. 3.31

5/13/29 Clear
 Parker Warm
 Conners
 Hill
 Elliot
 Simpson

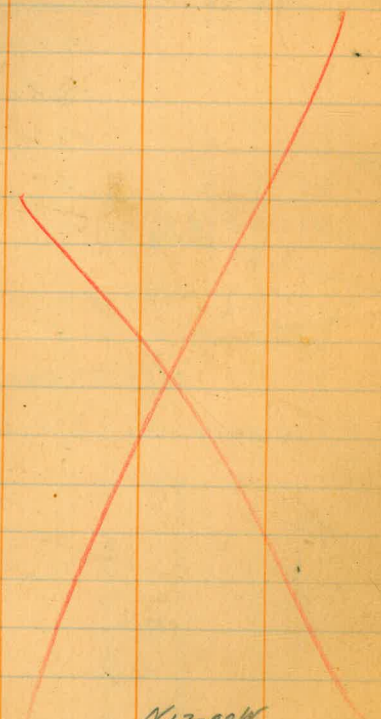


Note All ties
 made on curves.
 taken from semi-
 tangents.

measured
 Acme 1546.
 335.5

Copied
 Man.

Sta Detlec. Bear Mag.



651+96.88 P.O.T.

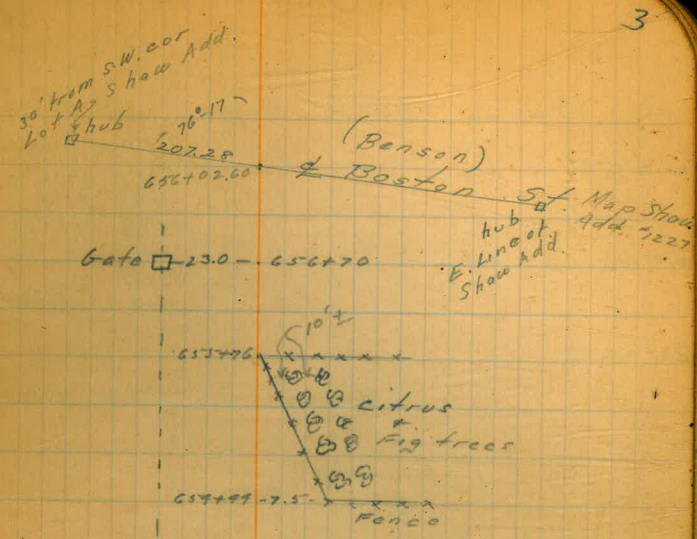
649+86.53 P.T.

N13-00W

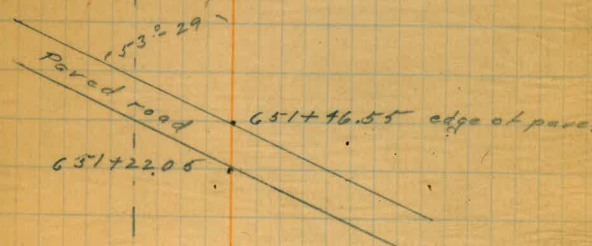
26-14
649+95.85 13-07L

649+04.85 P.C.

Δ13-07L
D 16
L. 81.98
R. 359.26
T. 71.30
Ext. 2.38



Air valve 23.1 - 651+00



17.75
22.05
651+38.30

1 x 1 wood box 644+88
cut in

Sta. DeHoo. Bear. Mag.

665+77.47

N22-30W +77.47 10-57

+50 8-95 Δ 21-54 L

+25 6-95 D 16

665+00 4-95 L 136.88

+75 2-95 R 359.26

T 69.51

+80 0-95 Ext. 6.66

73°-47'

665+10.10 21-54 L

21-53-30

664+10.59

N1°-00'W

663+28.60 P.T.

11°-4+30"

662+92.00 5°-52' R

Δ 5°-5-2 R

D 8

L 73.33

R 716.78

T 36.73

Ext. 0.94

662+55.27 P.C.

N6-30W

658+29.38 P.T.

13°-24'

657+87.58 6-42 R

Δ 6°-42 R

D 8

L 83.75

R 716.79

T 71.28

Ext. 1.23

657+15.63 P.C.

Air. val. 0-24.0 - 664+51.



Sta. Dakota Bear Mag.
673+1868 P.T. N29-30W

19-52-30
672+72.32 7°-26' L

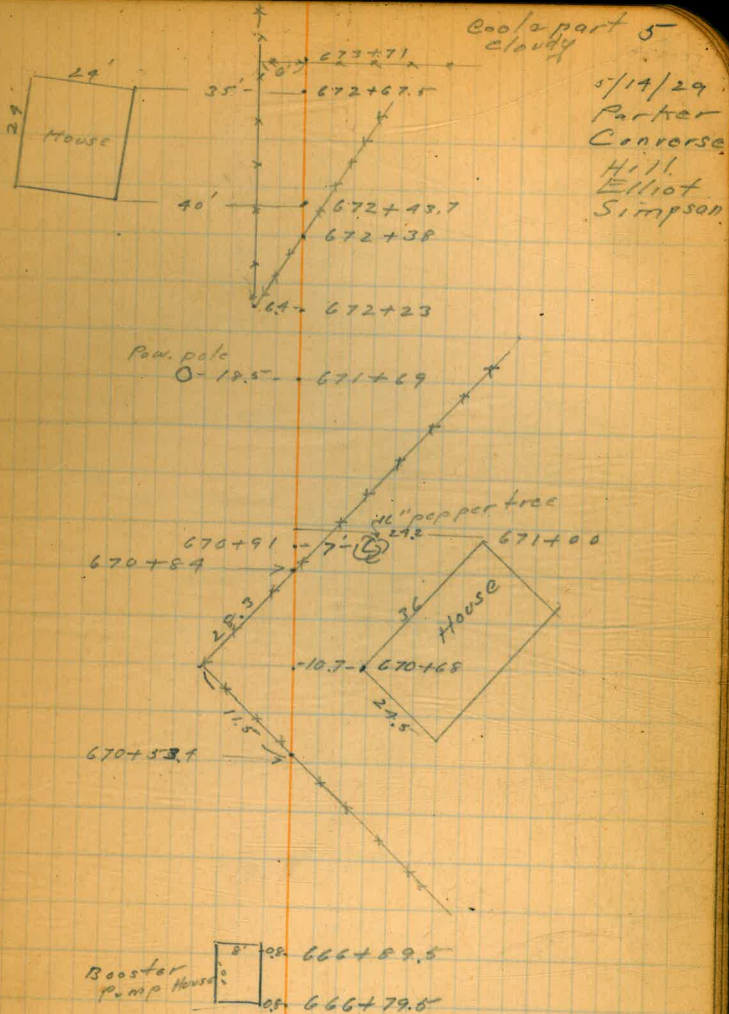
672+25.76 P.C.

671+57.13 P.O.T.

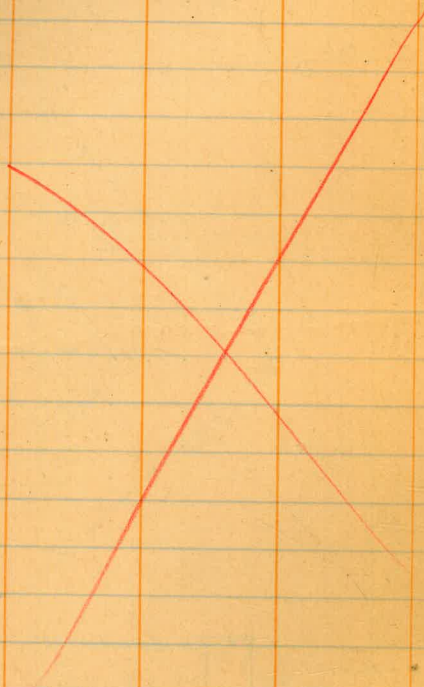
670+18.79 P.O.T.

665+89.17 P.O.T.

$\Delta 7^{\circ}-26' L$
D 8
L 92.92
T 10.56
R 716.78
Ext 1.51



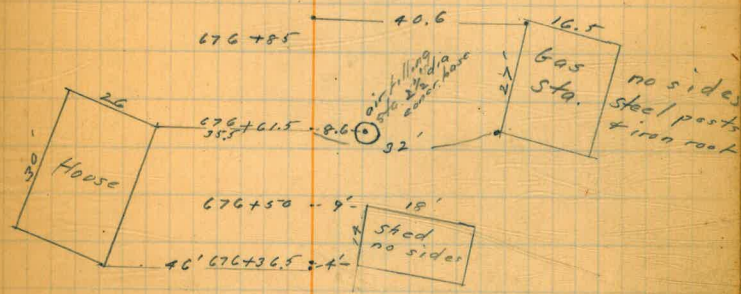
677+4569 P.O.T.



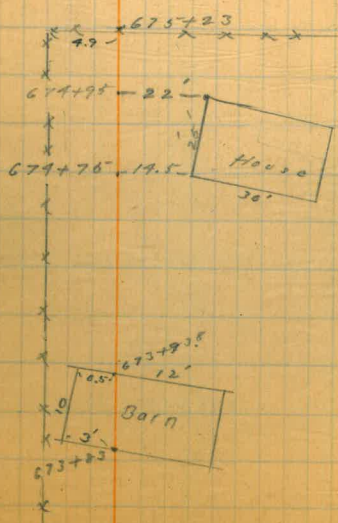
179-00
68-37
111-23

68237
+4569
677+2610
Paved road - Imperial Ave
677+122 - 230 Tel pole
Center sidewalk 11.2
67706.1

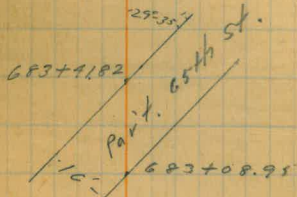
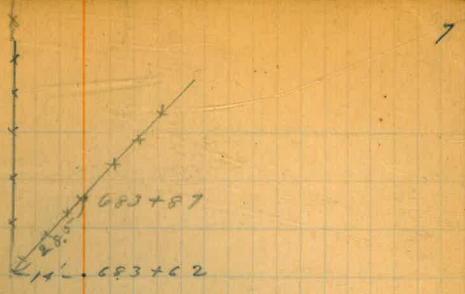
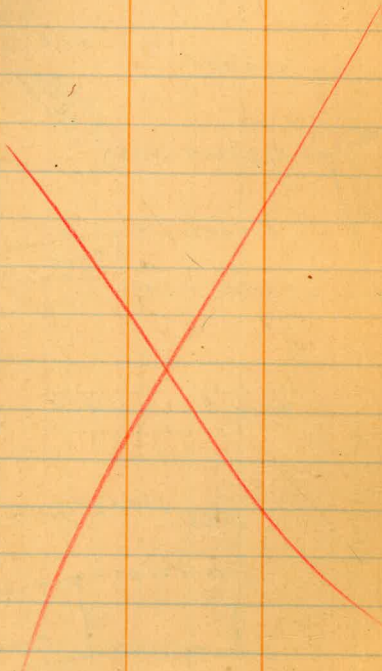
45.69
26.10
19.59
9.795
26.10
36.895



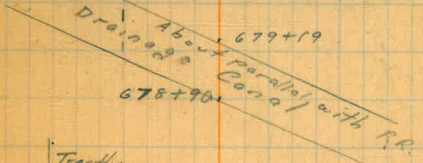
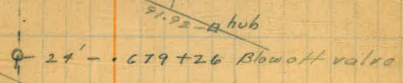
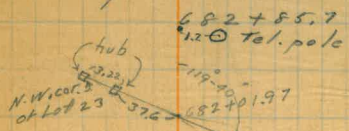
Alley 6' 675+31



682+34.15 P.O.T.

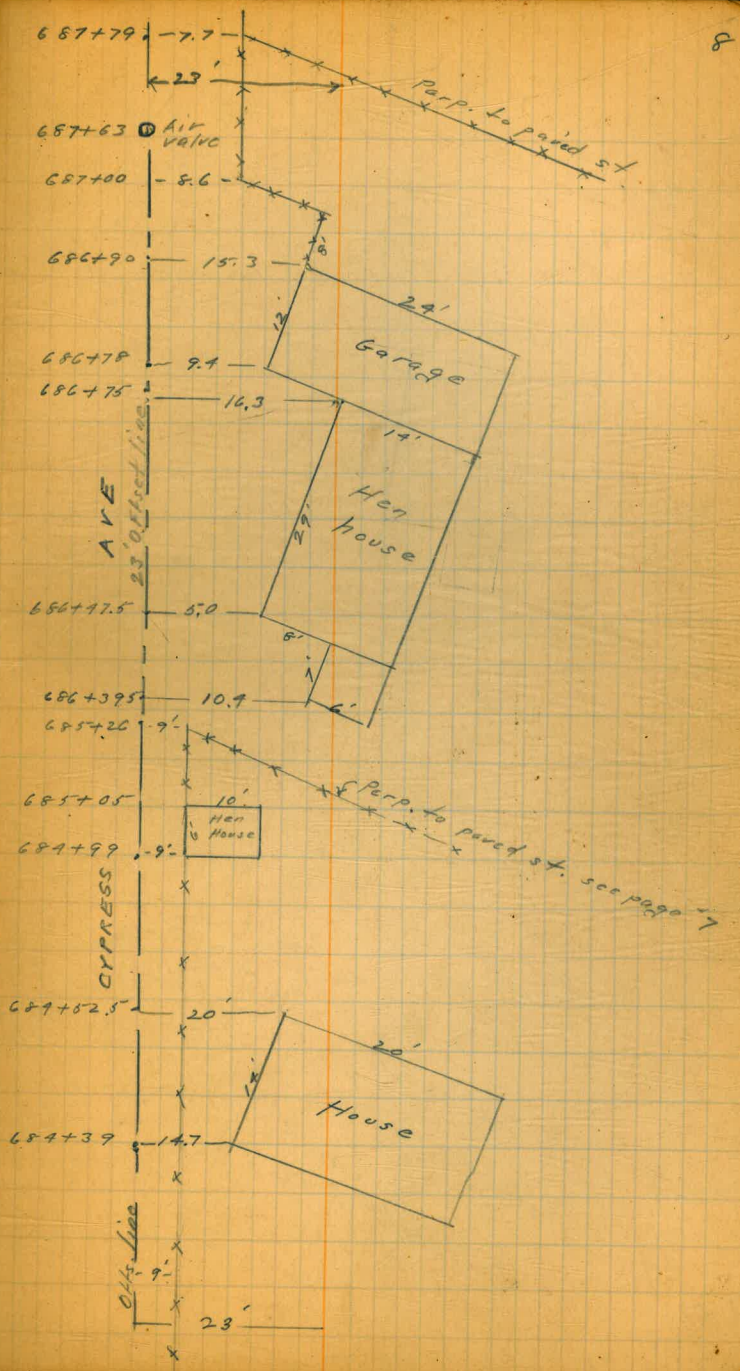
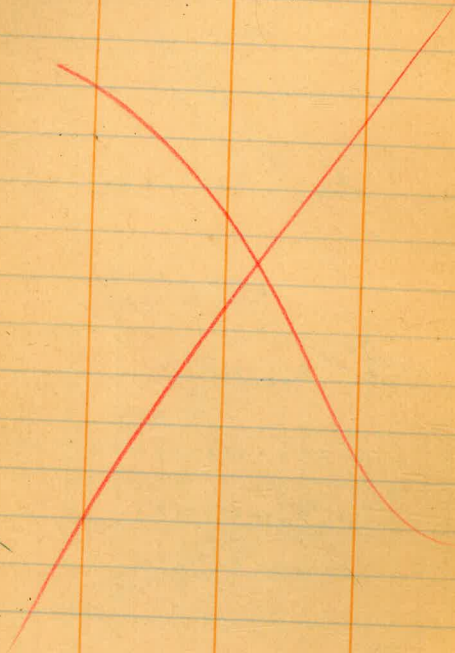


41.82
08.95
32.87
14.43
8.95
25.38



68° 37'
Pow. pole @ 35' - 677+69.5

682+



Sta. Detloc. Bear. Mag.

~~689+54.24 P.T.~~

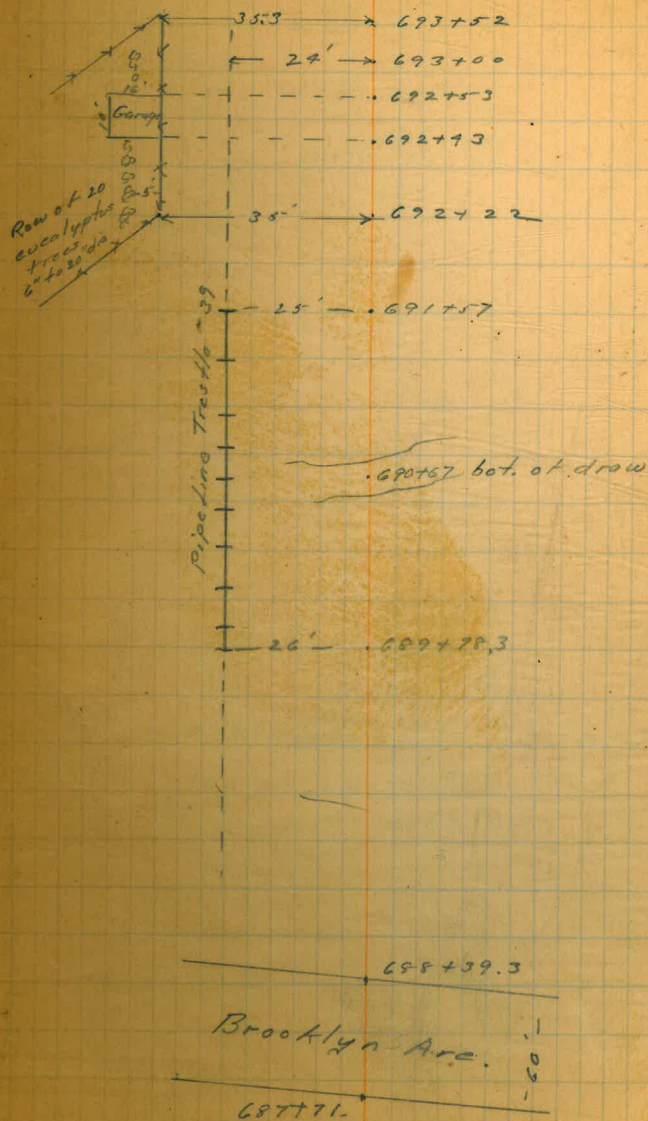
~~65-00
688+94.09 19° 30' L~~

~~688+3236 P.C.~~

~~688+33.29 P.O.T.~~

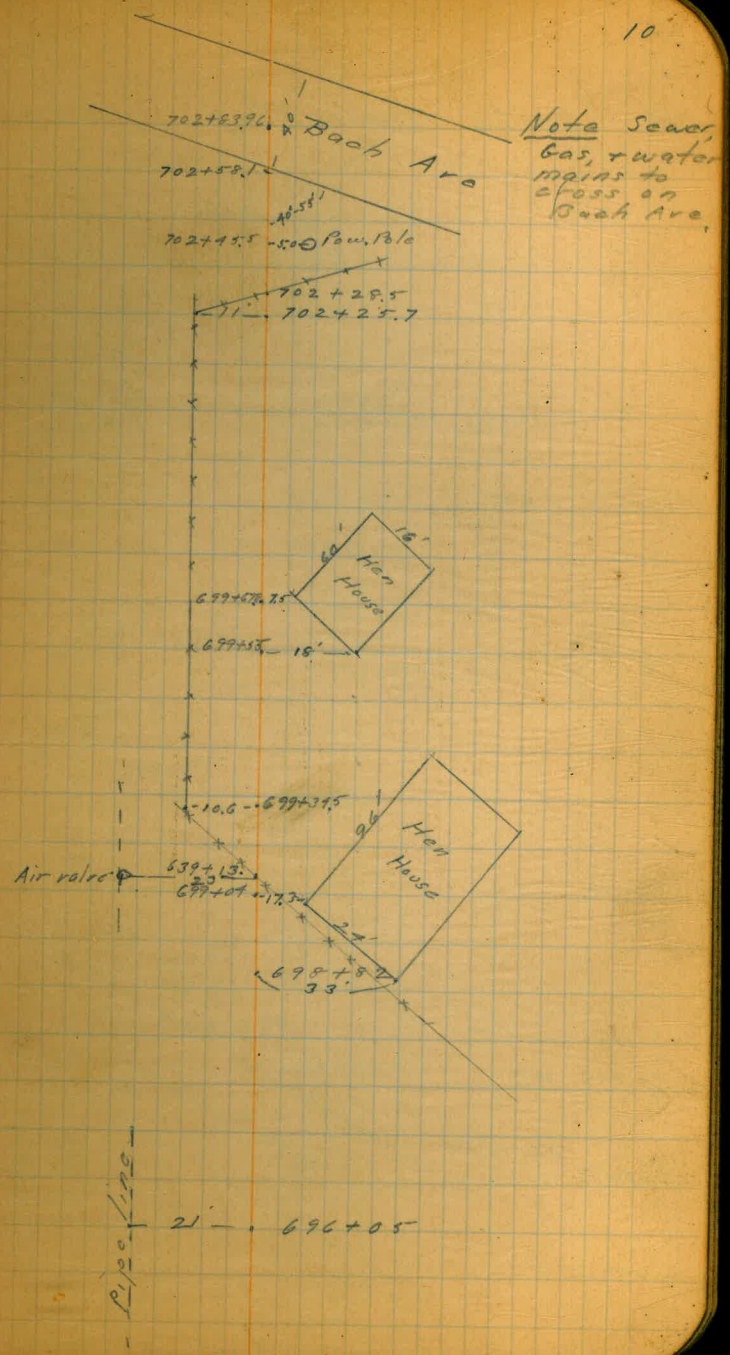
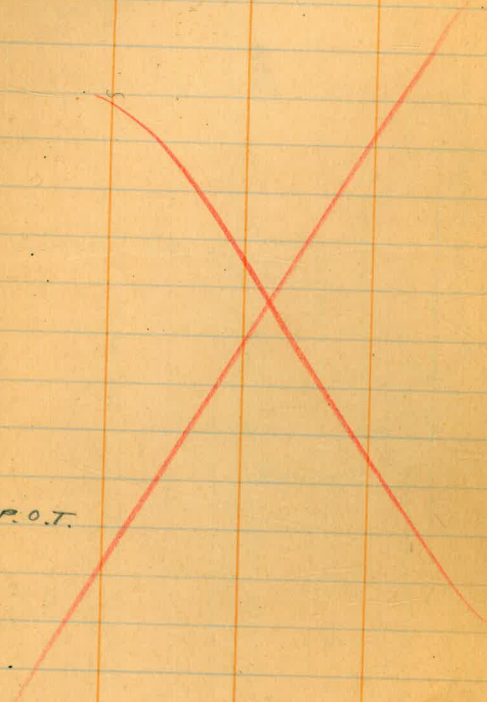
~~N49-30W~~

~~689+54-9-45 Δ 19-30L
+58 9-26 D 16
+28 7-26 L 121.88
689+00-5-26 R 357.26
+78 3-26 T 61.73
688+50-12-26~~



702+83.96

699+02.05 P.O.T.



Sta. Detec. Bear. Mag.

708+25.16 P.O.T.

703+18.32 P.T.

22-07.30
702+83.96 11-02.1

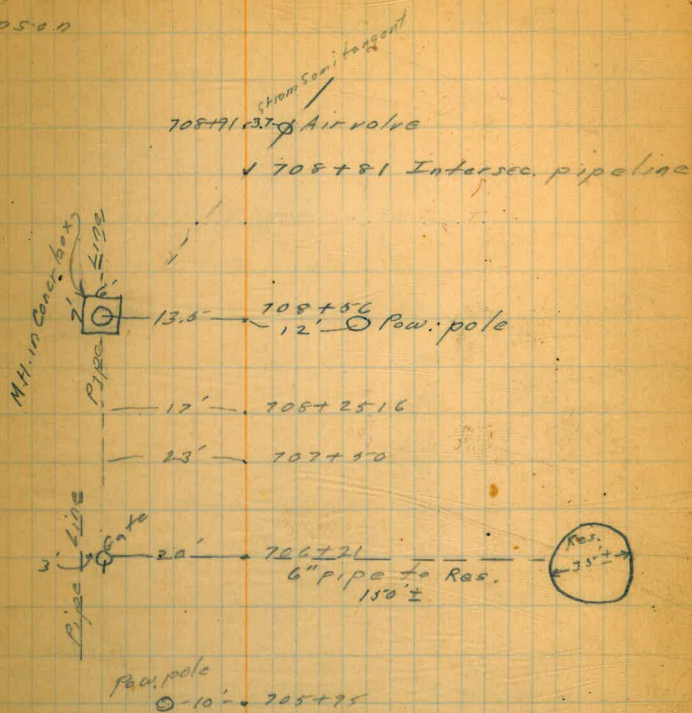
702+49.26 P.C.

N61-30W

Δ 11-02.1
D 16
Δ 69.06
R 359.26
T 34.70

5/15/29 Cool + part cloudy - showers
Parker
Converso
Hill
Elliot
Simpson

11



Pow. pole
10.2 - 704+32

703+29.5

Bach Ave

703+29.5
702+52.1
71.7
35.7
258.1
2+93.8

Sta. De/lcc. Bear. Mag.

716+12.61 P.O.T.

711+17.31 P.T.

39-08

710+99.55 17-07 R

710+10.61 P.C.

710+11.43

16°00'

709+93.77 23°-00' R

708+70.68 P.C.

N21°30'W

711+97.3 8-32 Δ 17-04

+25 6-15 D 16

711+00 7-15 L 100.67

+75 2-15 R 359.26

710+50 0-15 T 63.91

N38°30'W

+17.43 11°30'

710+00 10-21 Δ 23°-00' R

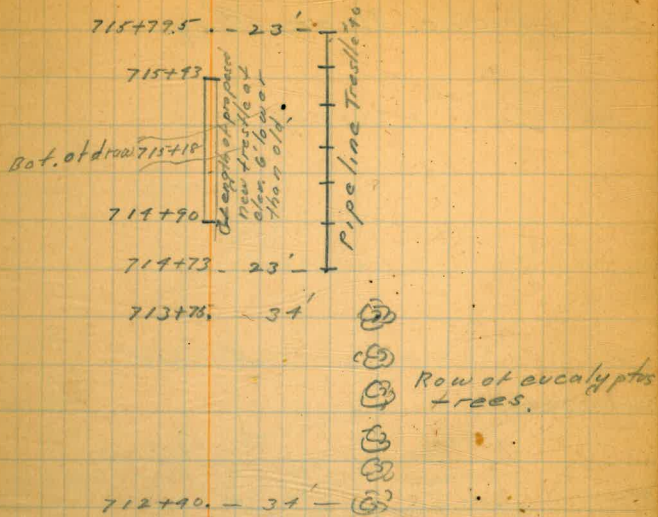
+75 8-21 D 16

+80 6-21 L 143.75

+25 4-21 R 359.26

709+00 2-21 T 73.09

708+75 0-21



P.T. 711+17.31 -23'

P.I. 710+99.55 -27'

P.C. 710+10.61 -23'-1

710+11.43 P.T. -23'-4

709+93.77 P.I. -23'-1

P.C. 708+70.68 P.C.

Sta. DeHoc, Bear. Mag.

724+37.26 P.T.

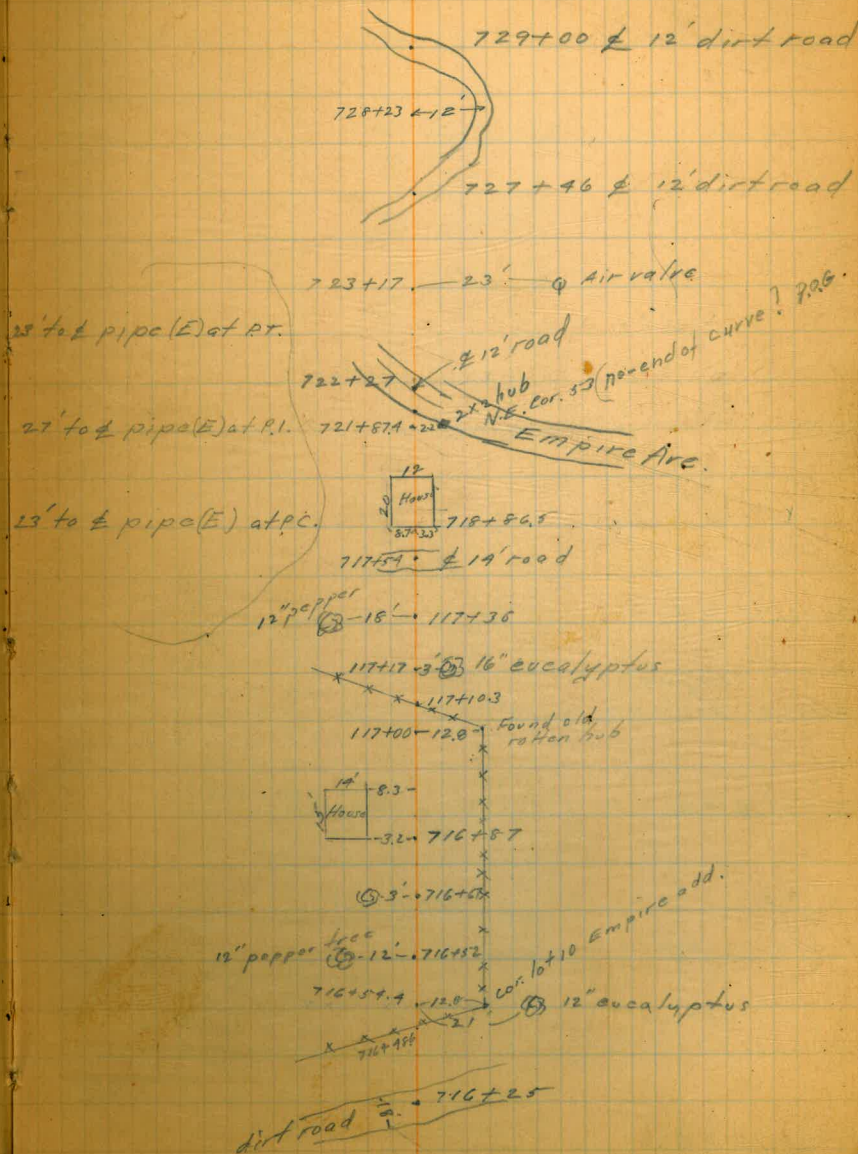
33-49-30
723+85.10 16-52 R

723+31.84 P.C.

N 9°-30' W

Δ 16-52 R
D 16
724+37.26 8-26
+25 7-27 L 105.42
724+00 5-27 R 359.26
+75 3-27 T 53.26
723+50.1-27

13



Sta. Delta Bear Mag.

734+01.35 P.T.

63°-06'

733+05.71 31-33 L

732+09.16 P.C.

729+93.63 P.T.

47° 10'

729+21.23 23-35 L

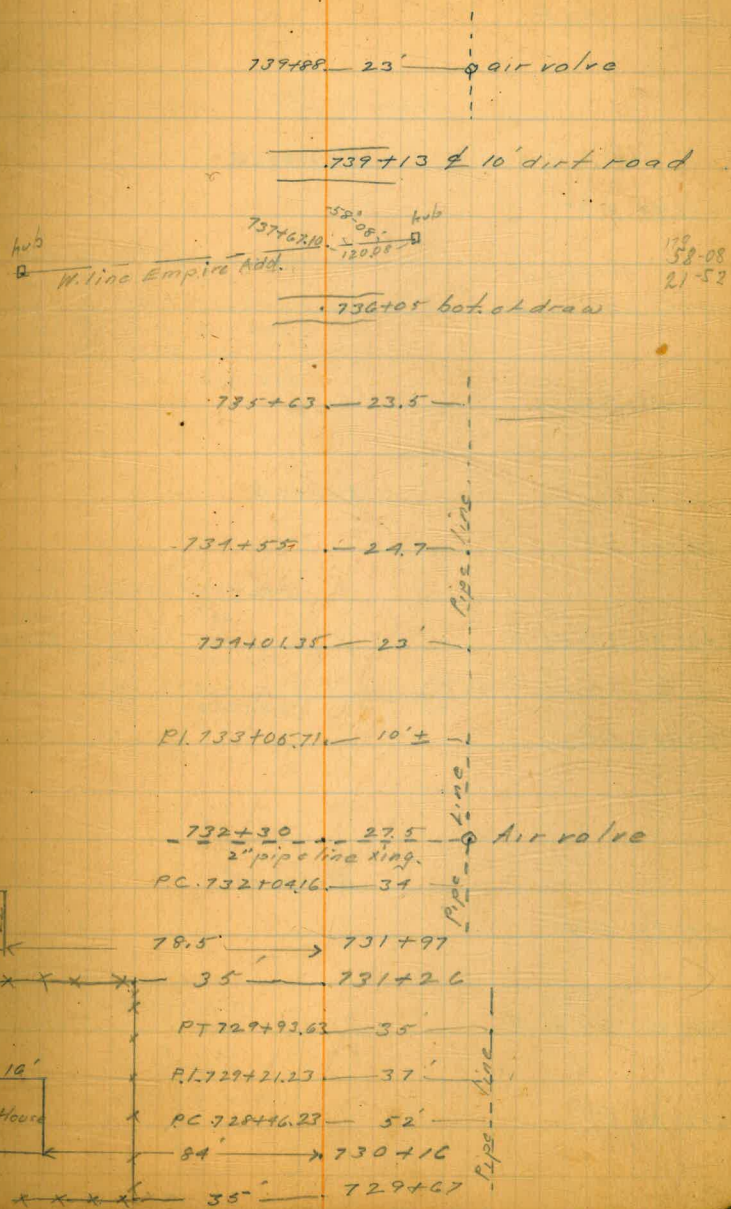
728+46.23 P.C.

N59-30W

+01.35 15-46 1/2
 731+00 15-20
 +75 13-40
 +50 11-10 Δ 31-33 L
 +25 7-40 D 16
 733+00 7-46 L 197.19
 +75 5-40 R 359.26
 +50 3-40 T. 106.55
 732+25 12-40

N27-30W

729+93.63 11-47 1/2
 +75 10-18 Δ 23-35 L
 +50 8-18 D 16
 +25 6-18 L 147.40
 729+00 4-18 R 359.26
 +75 2-18 T. 75.00
 728+50 0-18



5/10/28 Cool-Cloudy

15

Sta. Delta Bear Mag.

747+55.00 P.O.T.

N33-30W

746+66.99 P.T.

45-03-30

745+97.68 22°-32' L

745+26.11 P.C.

N11-00W

742+59.68 P.T.

60-10

742+03.71 30-05'R

741+43.98 P.C.

N41-00W

741+42.23 P.T.

35°-56'

740+86.71 17°-58' R

740+29.94 P.C.

746+66.99 11-16 Δ 22°-32' L
 +50 9-55 D 16
 +25 7-55 L 140.83
 746+00 5-55 R 38°-26'
 +75 3-55 T 71.57
 745+50 1-55

742+59.68 15-02 1/2 Δ 30-05'R
 +50 13-47 D 26
 +25 10-32 L 115.70
 742+00 7-17 R 222.27
 +75 4-02 T 59.73
 741+50 0-47

742+42.23 8-58 Δ 17-58
 +50 7-36 D 16
 +25 7-36 L 112.29
 741+00 5-36 R 359.26
 +75 3-36 T 56.80
 740+50 1-36

Parker
 Converse
 Hill
 Elliot
 Simpson



746+94.5 23' air valve

P.I. 18'

4" P.I.P. — 741+80 — 19' — □ 3x4.5 frame Metro Box
 To Cacer res. (on Semit.)
 near Crouch well

P.I. 23'

Sta. Detloc. Bear. Mag.

763+6295 P.O.T.

762+0289 P.T.

31° 00' 30"
761+5500 15° 30' L

761+0611 P.C.

179-00 W

Δ 15° 30' L
D 16
L 96.68
R 389.26
T 48.89
Ext. 331

762+795 - 22.8 - φ air valve

P.I. 761+5500 - 20

753+35.4
Paved Road
752+99.00
oil
-82
751+95
751+36 CREEK BED
20" φ Valve
DRY

750+55

750+21 Top of slope + edge of wash.

Sta. Detec. Bear. Mag.

N76.30W

770+76.26 P.T.

770+76.26 9-44 1/2 Δ-19-29 L

38-58,
770+16.17 19-29 L

D-16
+50 7-38 L 121.77
R 359.26
+25 5-38 T 61.68

770+00 3-38

769+54.19 P.C.

769+78 12-38

N57-00W

764+77.58 P.T.

58-02 L

764+52.60 8-02 L

D 16

L 50.21

R 359.26

T 25.23

Ext 0.88

764+2737 P.C.

air valve 23' - 770+25

P.I. 770+16.17 23'

769+19

769+00 -125'

768+00 -25'

767+48 -23'

766+53 - bot. of draw

766+07.5 - 24'

Pipe line Trestle 24'

783+6682 P.O.T.

778+100 P.O.T.

777+5210 P.T.

152-00'
776+1970 76°-00' R

774+9877 P.E

~~N1-00W 152.1 38°-00'
 +25 33-56
 777 +00 30-11
 +75 26-26
 +50 22-11 R=193.18
 +25 18-56 D=30
 776 +00 15-11 L=253.33
 +75 11-26 T=150.93
 +50 7-41
 +25 3-56
 775 +00 0-11~~

5/17/29 Fair

15

Air valve Q --- 23' --- 786+90
 --- 23' --- 784+92.5
 --- 79' --- 784+92.5
 --- 23' --- 784+92.5

Parker
Converse
Hill
Elliot
Simpson

--- 21' --- 777+521
 --- 777+357-17.2
 from semi-tangent
 P.T. 2x2 hub
 subdivision alloy curve

774+84.8 41° 24' hub
air valve Q --- 22.3 --- 774+83

--- 30.36 --- 1031.8
 --- 762.58 --- 773+42.27
 --- 2x2 stake
 Lot 15-16
 E. line Balboa Add
 --- 2x2 stake
 Lot 20

799+21.37

N10-30 E

100-50'
798+68.91 80-25' L

798+16.16 P.C.

$\Delta 8^{\circ} 25' L$
D 8'
L 105.21
R 716.78
T 52.75

N18-30 E +34.8 100'

788+34.80 P.T.

+25 914

788+00 7-14 A 20-02 R

D 16

40-04
787+73.05 20-02 R

+75 5-14 L 125.21

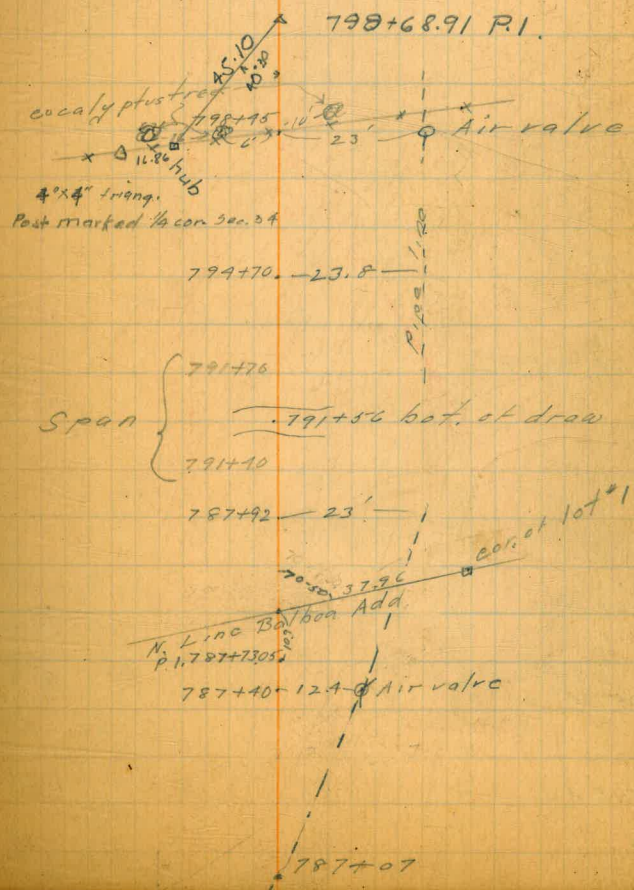
R 359.26

+50 3-14 T 63.46

787+02.59 P.C.

787+25 1-14

63.46
10.9
42.56



Sta Detled Bear Mag.

807+08.90 P.O.T.

7.

77

78

~~800+82.31 90°00' L~~

~~N62°00'W~~

800+63.61 P.T.

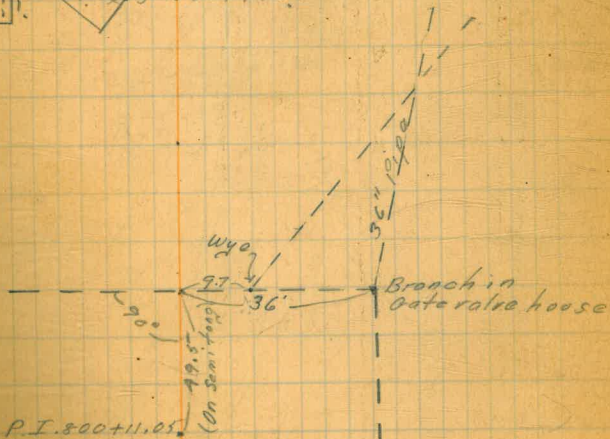
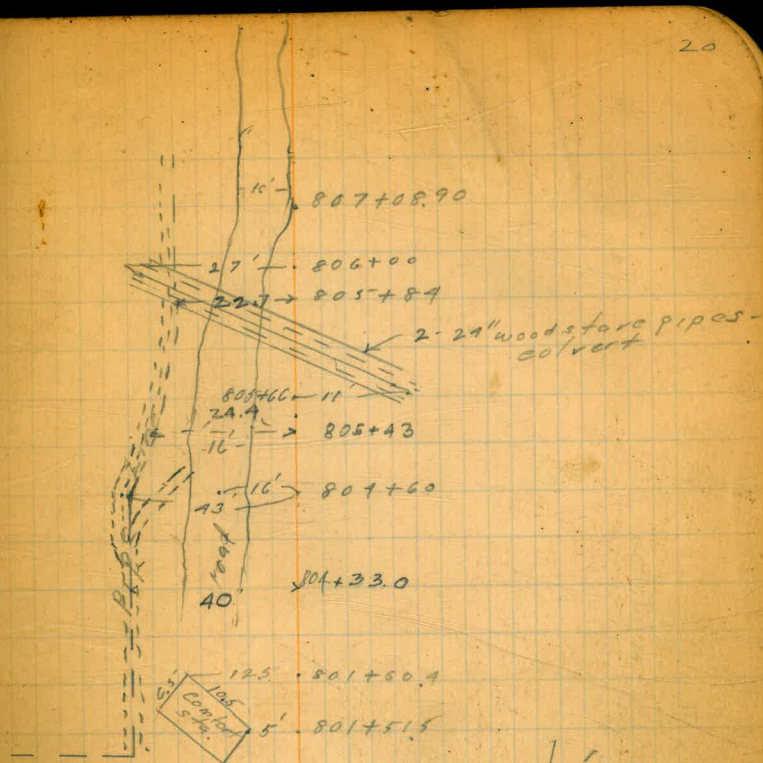
S

34°00'

800+11.08 17°00' R

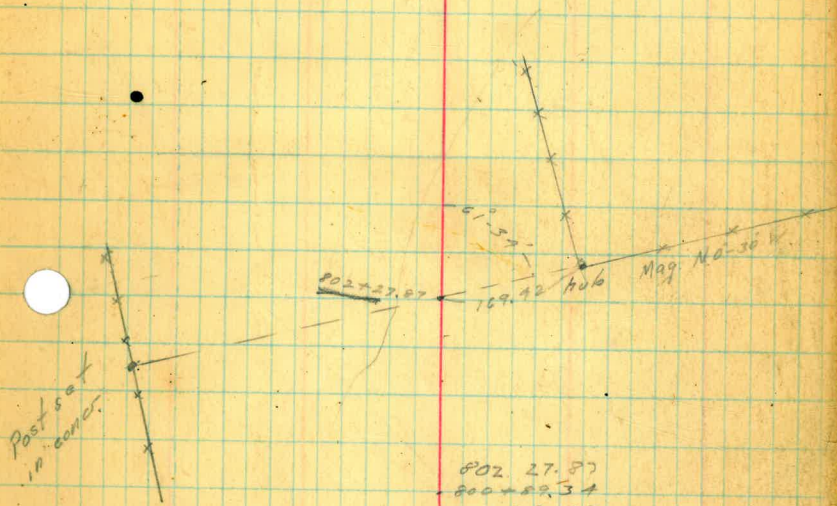
799+57.36 P.C.

Δ-17°00' R
D 16'
L 106.25
R 359.26
T 53.69
EXT. 90



N. 14° 34' W.

Tie at E Side of City 5-Ac Tr.
Chollas Fitter Plant. (Mar 1968)
H.



802 27.87
800 82.34
138.53

62-21 30
61-34
N 0° 47' 30 W

817 86.66
816 76.04
90.62
45.31
814 76.04
817 41.35

ΔP = 78



Sta Dotted Bear Mag.
825+13.09 P.T. N. 56-00 W

12-03-39
825+13.09 G-02 R

824+75.32 P.C.

818+13.71? P.O.T.

Δ 6-02
D 8
L 75.42
R 716.75
T 37.77
Ext. 1.0

air valve 22.8 → 817+74

817+38.18

Radio Road

1673.43

817+21.35

1675.60

817+09.20

N.W. cor lot?
Seamans Sub. ?
= N.W. Cor. Balboa Vista

817+21.35
808+58.15
863.20
808+78.15
817+41.35

air valve 22.5 → 809+68

808+58.15

Equation on line but not included in notes: Add 20 to
808+58.15 P.O.T. = Distance at this Point.
808+78.15 P.O.T. =

Sta. DeHoe Bear Magi

5/18/29 Fair
Parker
Converse
Holt
Elliat
Simpson

22

~~810+00 P.O.T.~~

~~837+12.92 P.O.T.~~

~~831+78.82 P.O.T.~~

826+50 P.O.T.

10' road 892+50

Air valve @ 23' 890+28

833+00 edge of wash

829+33 edge of wash

22+70.01

827+16.95

93.62

15+10.66 P.T. of road curra.

Air valve @ 23' 826+22

853+95.02 P.O.T.

852+12.11 P.O.T.

N 67-00W

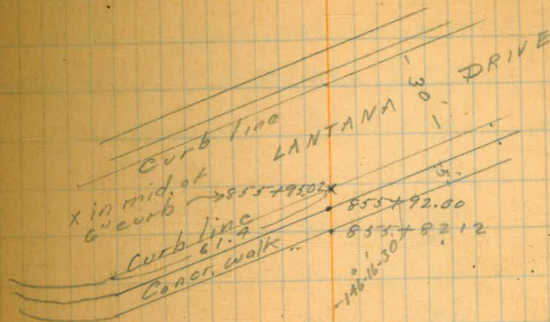
849+26.63 P.T.

25-56'

848+46.00 12-58 L

847+64.55 P.C.

Δ-12-58 L
 +26.63 6-39 D 8°
 849+00 5-25 L 122.08
 +75 4-25 R 716.78
 +17 3-25 T 81.75
 +25 2-25
 848+00 1-25
 847+75 0-25



Air valve @ 24.5' - 855+99

6" flow off @ 23' - 852+28
P.O.T. 852+12.11

Nail in eucalyptus tree

850+88.2 in road

23' P.T.

28' P.I.

25' P.C.

19pc. line

Stations on Existing 2 nd Main, Locat.	Existing Line	Aban- doned Line
855	23	31
852	23	31.5
849+50		34
847	22	30
843	23	29
836	22	29.5
834	22	30
828+75	22	30
826	23	32
823	24.5	31
821	22	31
818	23	31
816	21.5	30.5
813	23	31
809	25	33
807	21.5	29
804+60	43.5	33

Valves at
Chollas

24

Offsets from Second Main
P/L survey to existing W.S. pipe
and to abandoned W.S. pipe,
between Chollas Y and Lantano St.
Made by Converse - 8/12/29

Line change in Empire Add.

Sta. Dellec. Bear. Mag.

723+18.35 P.T.

722+22.35 12-32 R

720+12.52 P.C.

718+96.02 P.T.

39-11-30
718+60.95 19-36 R

718+26.43 P.C.

718+25.75 P.T.

717+31.63 31°00' L

716+32.00 P.C.

442-32R
D16
T 139.83
R 359.26
L 266.83

Δ 19-36 R
D29
T 34.49
R 199.76
L 67.67

+ 35.75 15-30
719+00 13-20 Δ 31°00' L
+ 75 11-25 D16
+ 50 7-26 T 99.63
+ 25 7-26 R 359.26
717+00 5-26 L 193.75
+ 75 3-26
716+50 1-26

~~Abandoned~~

Parker 7/2/29
Converse
Hill Clear
Elliot Warm
Simpson

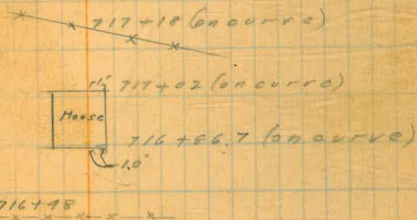
25

hub W.P.L. — 20' — 723+82.75

hub W.P.L. — 20' — 722+92.05

721+19.12 20' — 0 hub E.P.L.

718+88.4 — 20' — 0 hub E.P.L.



730+1116 P.T.

63°-51'

729+1137 31-56 L

728+1158 P.C.

727+1225 P.T.

16-29-30

726+17800 8°-18' R

726+1350 P.C.

724+7423 P.T.

28°-10'

724+3053 14°-05' L

723+8621 P.C.

Δ 31°-56' L

D 16

T 102.79

R 359.26

L 199.58

Δ 8°-18' R

D 12

T 34.50

R 478.34

L 68.75

Δ 14°-05' L

D 16

T 42.32

R 349.26

L 88.02

Parker
Carraro
Hall
Elliot
Simpson

7/3/29

26

Warm

hub W.P.L. 0 20'

P.L.

hub W.P.L. 0 20' — 728+1158 (on Semi T.)

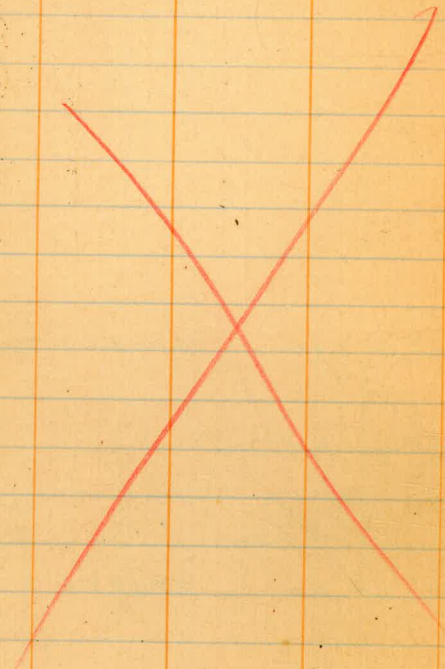
hub W.P.L. 0 20'

P.L.

hub W.P.L. 0 20' — 726+17800 (on Semi tang.)

hub W.P.L. 0 20' — 724+7423

Sta. Double Bear Moq.



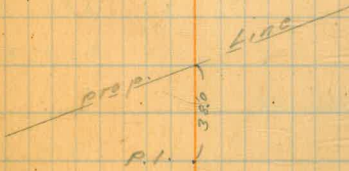
734+28.09 lat/long
734+67.16 P.T.

N 59-15W

63-16-40
733+71.22 31-38L

A 31-38L
D 16
T 10177
R 359.26
L 197.71

732+69.45 P.C.



Levels over Revised Line

1/3/29
 Parker Warm
 Conrorse
 Hill
 Elliot
 Simpson

B.M.	0.59	290.19	289.60
			289.6 ?
716+32.0			17.8 272.4
+35			17.5 272.7
+40			14.4 275.8
+50			12.0 277.6
+75			9.0 281.2
717			6.8 283.4
+25			1.7 288.5
T.P.			0.23 289.96
	11.95	301.91	
+50			10.0 291.3
+75			6.0 295.9
718			7.1 297.5
+25			2.3 299.6
T.P.			0.33 301.58
	12.79	314.37	
+61			12.0 302.4
719			8.9 305.5
T.P.			0.65 313.72
	12.97	326.69	
720			11.4 315.3
T.P.			0.37 326.32
	12.97	339.29	
721			9.4 319.9
			329.9

Nail in eucalyptus tree to R of 715+75

T.P.	339.29	0.05	339.24
13.11	352.35		
721+74		11.5	340.8
722		8.7	343.6
+25		6.8	345.5
+50		5.2	347.1
723		1.7	350.6
T.P.		0.11	352.24
12.04	364.28		
723+50		2.8	354.5
724		5.8	358.5
+50		3.6	360.7
+75		3.2	361.1
725		3.5	360.8
+50		4.1	360.2
726		5.7	358.6
+23		6.7	357.5
+50		6.5	357.8
+85		6.9	357.4
727		6.7	357.6
+30		8.0	355.7
+50		9.2	355.1
728		11.9	352.4
T.P.		11.09	353.19
4.68	357.87		

357.87

728+30	6.2	351.7	
+80	6.6	351.3	
729	6.5	351.4	
+30	6.2	351.7	
+65	7.0	353.9	
730	3.4	354.5	
+20	3.8	354.1	
+60	6.2	351.7	
731	7.1	350.8	
+25	6.7	351.2	
+60	7.3	350.6	
+80	9.9	348.9	
732	6.5	351.4	
+35	7.0	353.9	
733	3.0	354.9	
+50	3.8	354.1	
+75	5.5	352.4	
T.P.	5.49	352.38	= 352.38
1.44		353.82	
734	6.0	347.8	↓
+34	13.1	340.7	
734+67.16 P.T.	17.6	336.2	
734+28.09 P.O.T.			

On old turn 733+35 prev line.

Proposed Line change
from E. line of Sec. 33 to West
Line of Oak Park Annex

5+19.81 P.O.T.

4+00

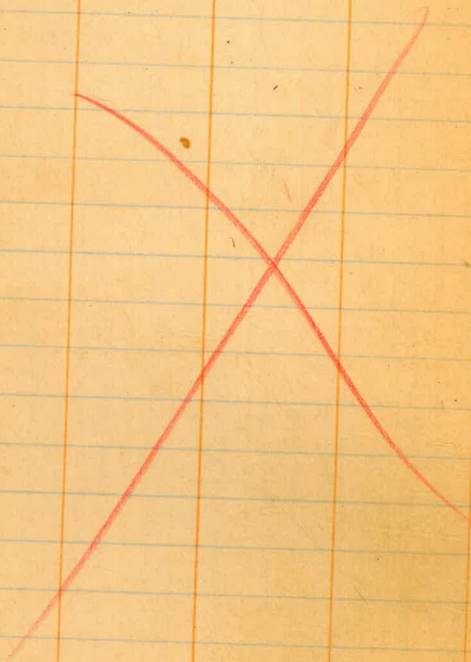
3+45

2+21

1+80

0+165

0+00



Parker
Conroy
Hill
Simpson

32

4+00

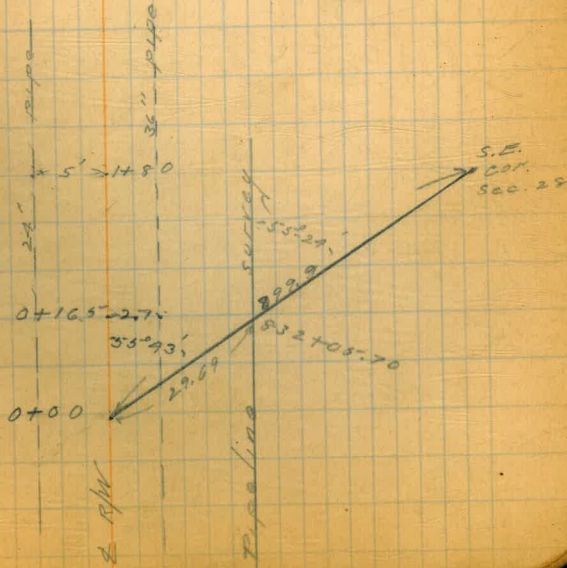
3+45

2+21
4.6 3.57

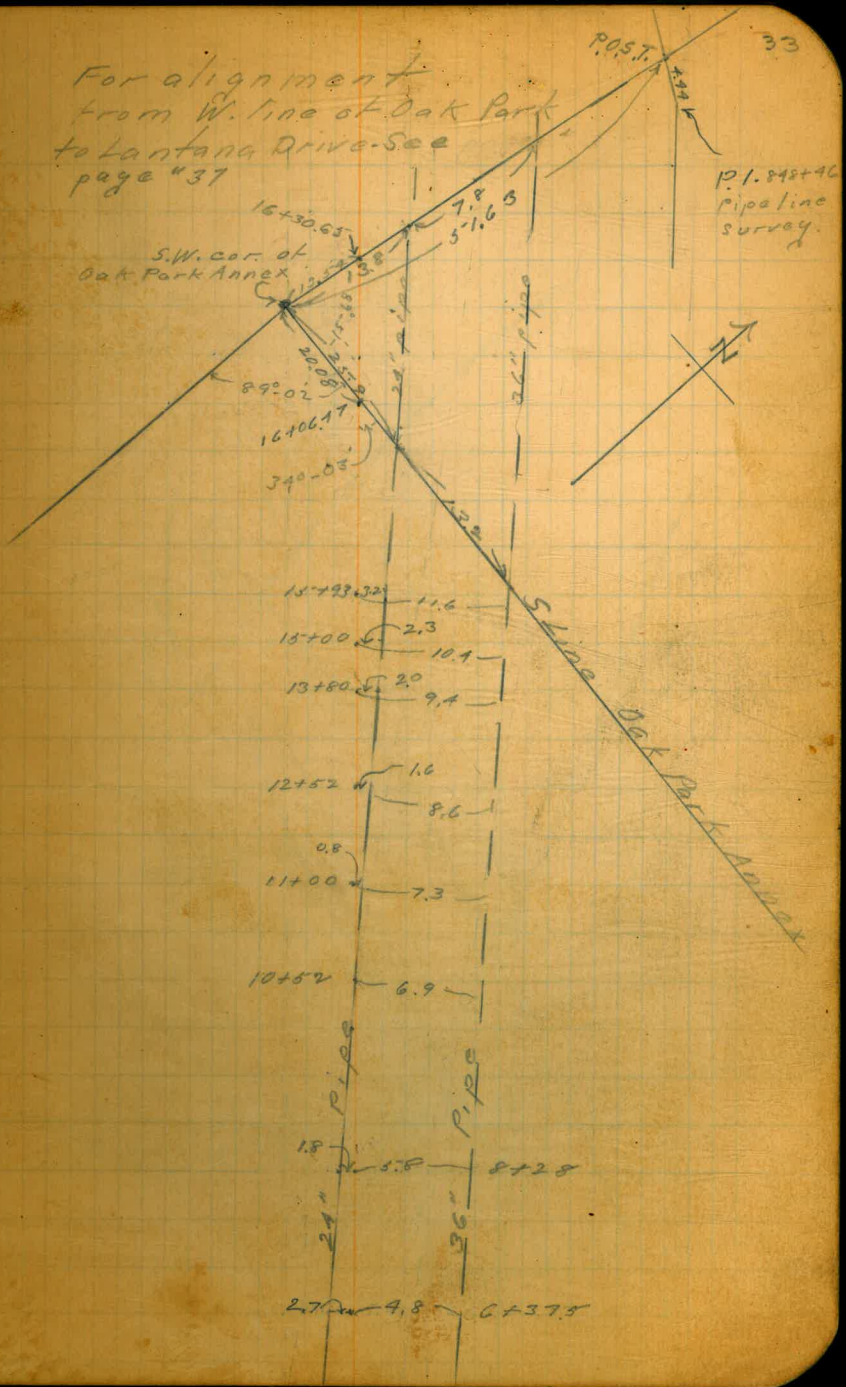
1+80

0+165

0+00



For alignment
 from W. line of Oak Park
 to Lantana Drive. See
 page #37



16+06.77

13+88.20 P.O.T.

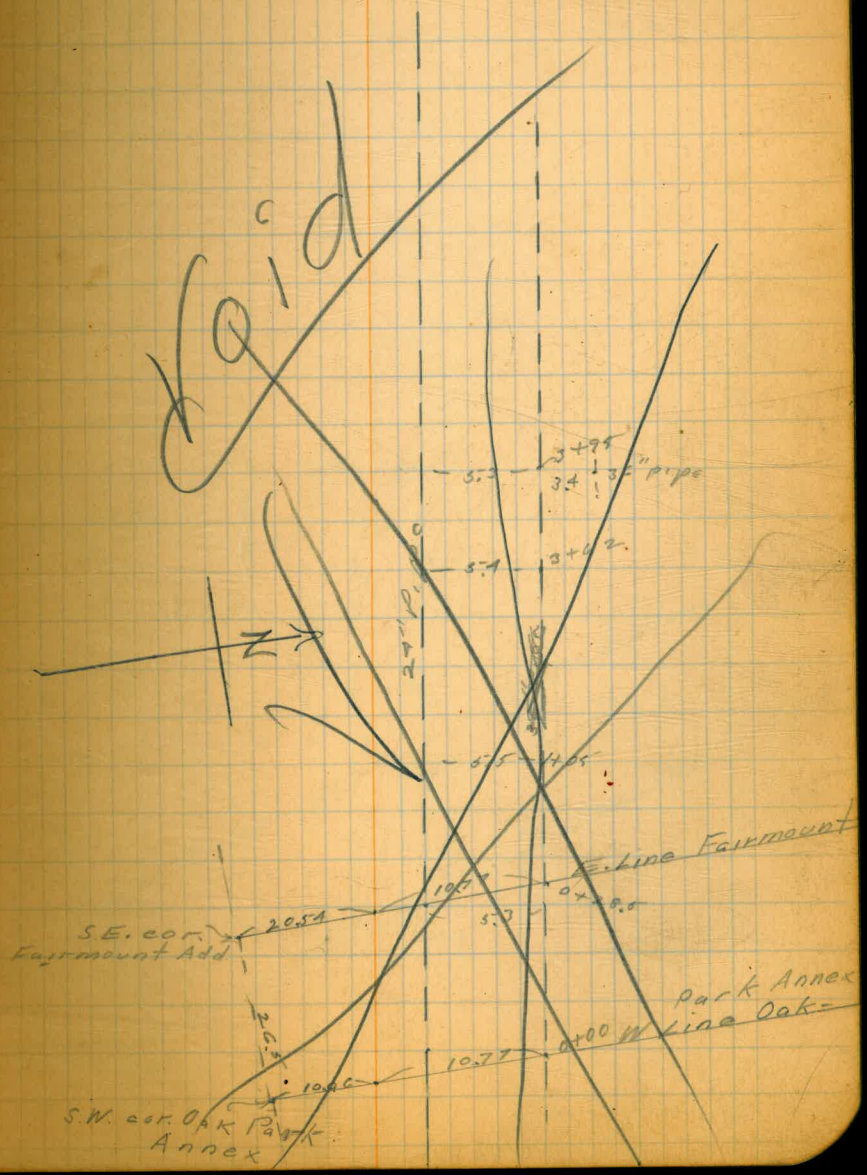
10+52

8+28

8+00 P.O.T.

6+37.5

Solid



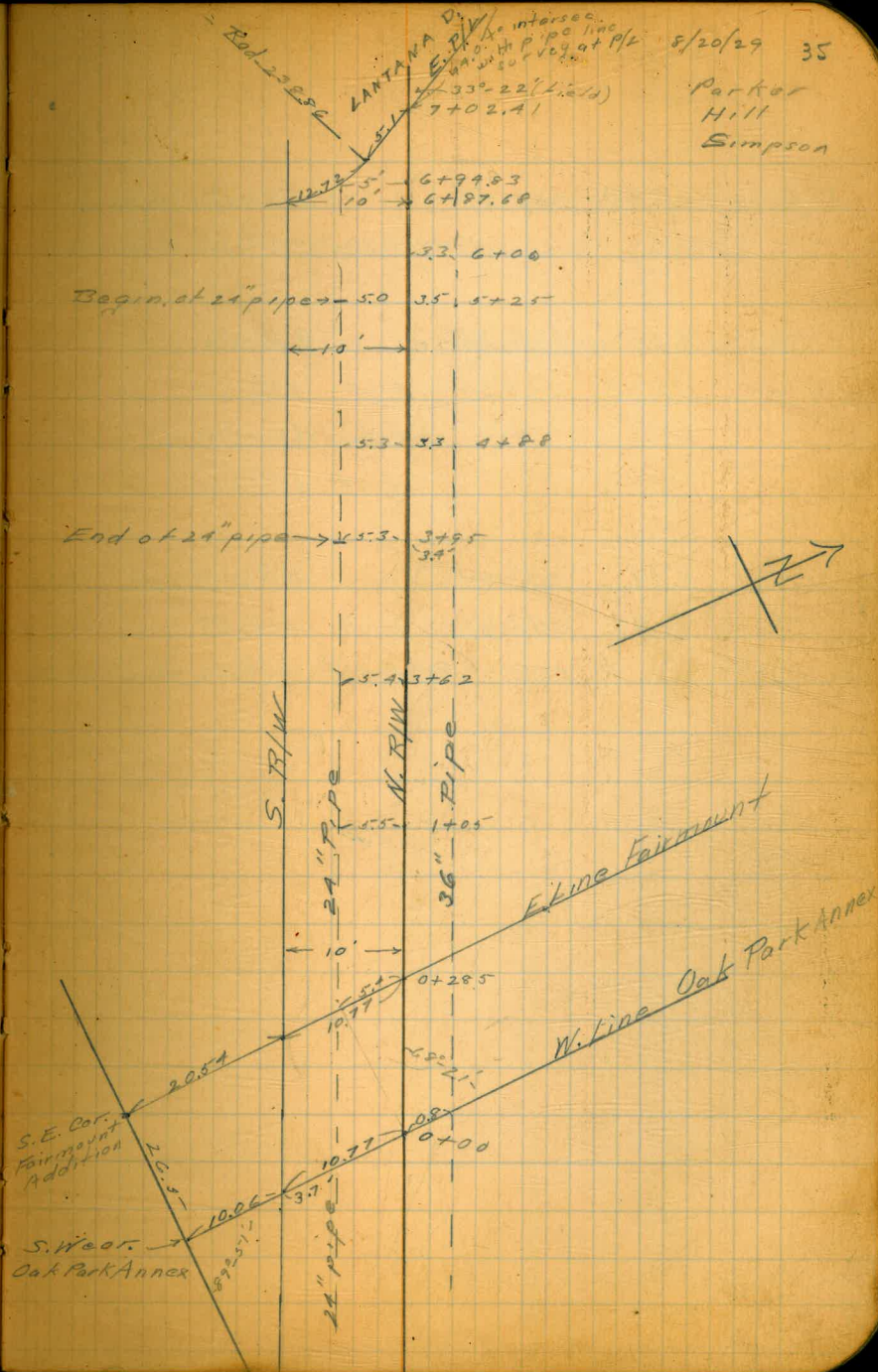
7+02.41 Intersec. EL. Lantana Drive + N. R/W

5+23.10 P.O.T.

0+60 P.O.T.

0+00

6821 - 2139 cal 9762228
285 - 1459845
1423073-1089



Elevs for topography at Point Loma
Pumping Sta # 2, and adjacent property

B.M.	2.10	252.27		250.17
			9.12	243.15

B.M.	8.40	243.86		235.46
TP	12.18	255.00	1.04	242.82
			4.06	250.94
			3.34	251.66

B.M.	1.84	252.01		250.17
TP	3.98	248.41	7.58	244.43
			5.25	243.16

9/12/41
Soper
Brooks
Hodgeson

36

B.P. S.W. Cor. Catalina & Verona (Rec. on N.W. Cor.)
hub at sta 1+81 - Book 1553 page 51. (243.7)

B.P. N.W. Cor. Catalina & La Paloma (Rec. on S.W. Cor.)

N.W. Cor. Catalina & Veronica

B.P. S.W. Cor. " "

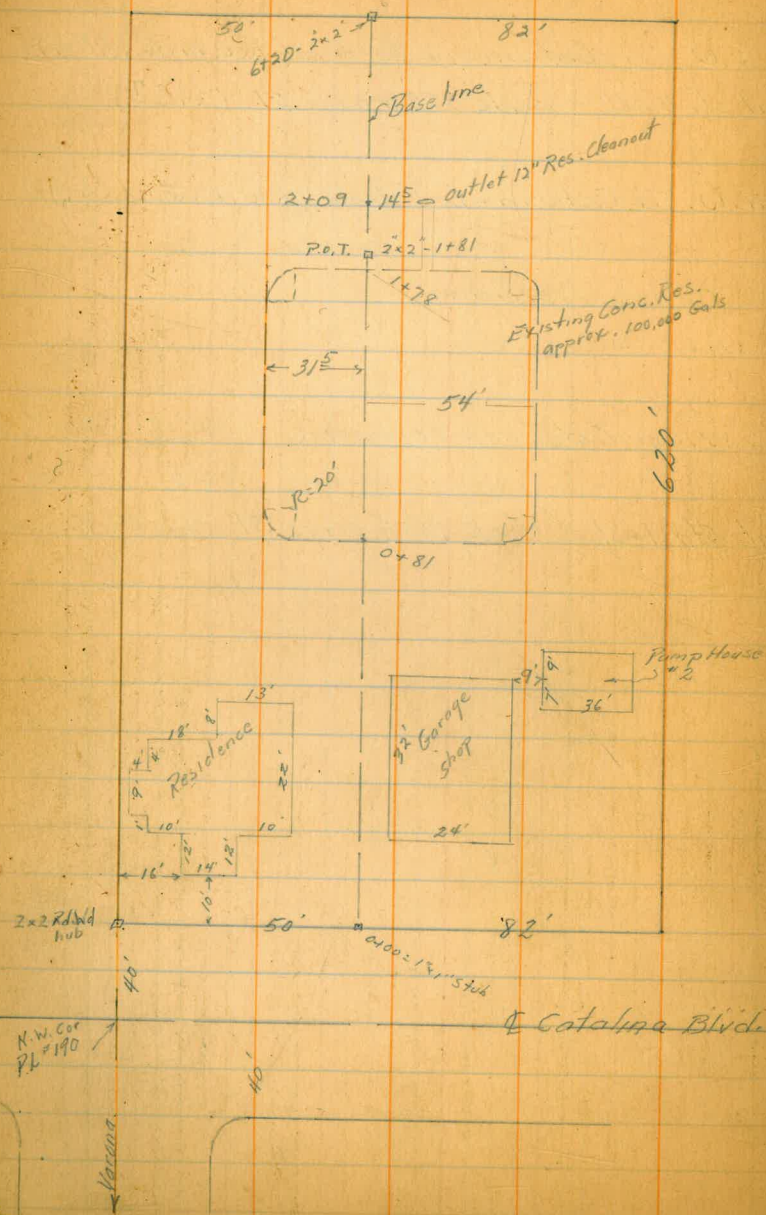
B.P. S.W. Cor. Catalina & Veronica.

Hub at Sta. 1+81 - Book 1553 page 51 - Page 37 - this book

Location of buildings etc.
 at Point Loma Res. #2 - Catalina
 and Verona. Copied from Book
 #1553, page 51 - City Eng. Office

9/13/41
 Soper
 Brooks
 Hodgson

37



9/15/46
 Soper - II 38
 Brooks - red
 Hodgeson notes

Dist.	Gr. elev.	H.I.	Rod.	Beam an		Elev.
				Y.	H.	
Tot 148, baseline						
#1	55'	243.2	246.9	4.2	50	242.7
#2	90'			3.0	50	243.9
#3	106'			4.6	50	242.3
#4	69'			11.4	45	232.0
#5	31			11.1	34	230.8
#6	45			11.4	50	235.5
#7	30			3.5	50	243.4
#8	95			2.6	50	244.3
#9	102			5.4	50	241.5
#10	167			3.2	50	243.7
#11	167			9.7	50	237.2
#12	192			5.6	45	231.7
#13	245			7.6	45	227.0
#14	308			10.1	48	230.6
#15	316			12.6	50	234.3
#16	320			5.1	51	245.0

7/16/41
 Super - T 39
 Brooks-rod
 Heelgasen-notes

Dist	Gr. Elev.	N.I	Rod	Ver. L.	Elev.
Kat 1+8, baseline	243.2	247.9			
PH ¹⁷					
184			8.9	0° 0'	239.0
246			9.4	0° 0'	238.5
218			10.7	-1° 0'	233.4
220			11.7	-2° 0'	228.5
151			10.4	-3° 0'	229.6
146 (48)			7.8	-9° 0'	217.2
141 (43)			8.2	-9° 0'	219.6
176 (80)			12.0	-9° 0'	208.1
176 (80)			4.5	-9° 0'	215.6
190 (94)			9.6	-9° 0'	208.3
246 (251)			8.9	-9° 0'	200.2
204 (205)			11.2	-6° 0'	215.4
256 (261)			5.0	-8° 0'	206.0
326 (330)			6.8	-7° 0'	200.2
383 (386)			9.9	-6° 0'	198.0
370 (373)			11.2	-6° 0'	197.9
372 (378)			10.6	-8° 0'	185.2
367			12.4	-6° 0'	197.3
390			8.2	-6° 0'	199.6
332			10.2	-6° 0'	203.2
279 (282)			9.9	-7° 0'	203.9
211 (213)			12.9	-7° 0'	209.3
220 (224)			12.0	-9° 0'	201.3
297			7.5	-3° 0'	224.9

These notes plotted
 in field on drawing
 board - Green paper

Dist.	Gr. Elev.	H. I.	Rod	Vert. \angle	Elev.
251		247.9	10.6	-3° 0'	224.2
177			11.7	-4° 0'	224.9
382			7.3	-4° 0'	214.0
470			11.2	-4° 30'	200.0
515			11.2	-5° 0'	192.0
580			3.8	-5° 0'	193.8
627			8.0	-5° 0'	185.5
534 (540)			10.1	-6° 30'	177.0
510 (515)			10.3	-6° 0'	184.0
555			11.8	-5° 0'	187.9
460			12.3	-6° 0'	187.8
455			8.8	-6° 0'	191.8
480			10.2	-5° 0'	196.0
260			12.3	-5° 30'	220.8
375			12.1	-5° 30'	200.0

9/17/41

Soper - π
Brooks - rod
Hodgeson - notes

41

	Dist	Gr. Elev.	H. I.	Rod	Vert. \angle	Elev.
π # 2	378 (381)		247.9	12.4	-5° 30'	199.2
π # 3	548 (554)			10.0	-6° 30'	175.6
π # 4	515			7.8	+2° 0'	258.0
	380			10.9	-4° 30'	207.3
	308			10.7	-4° 30'	213.1
	158			12.1	-4° 30'	223.4
π # 4		258.0	262.8			
	393			5.7	0° 0'	257.1
	367			7.5	0° 0'	255.3
	349			9.6	0° 0'	253.2
	321			12.5	-0° 40'	246.6
	301			12.1	-1° 30'	242.8
	369			9.0	-2° 30'	237.7
	422			8.8	-2° 30'	235.6
	360			10.7	-3° 0'	233.3
	305			10.3	-3° 0'	236.5
	427			11.4	-3° 30'	225.4
	331			11.7	-3° 30'	231.0
	245			10.8	-3° 30'	237.0
	152			9.4	-3° 30'	244.1
	136			9.6	-3° 30'	244.9
	168			12.2	-1° 0'	247.7
	110			9.8	0° 0'	253.0
	212			7.2	0° 0'	255.6

Dist.	Gr. Elev.	H. I.	Red.	Vert. C.	Elev.
216		262.8	5.0	0° 0'	257.8
32			4.4	0° 0'	258.4
56			5.2	0° 0'	257.6
214			12.2	0° 0'	250.6
370			13.0	0° 0'	249.8
391			10.6	0° 0'	252.2
392			11.5	0° 0'	251.3
276			12.9	-3° 00'	235.5
380			12.7	-3° 30'	227.7

Tot 17° 3 175.6 180.2

126			5.2	+5° 0'	185.9
193			9.7	+5° 0'	187.3
390			5.9	+5° 0'	208.1
485			9.9	+5° 0'	212.4
500			13.0	+4° 28'	206.0
460			10.9	+4° 30'	205.3
347			4.3	+4° 30'	203.0
133 (134)			8.3	-7° 0'	155.7
253			6.1	-2° 30'	163.1
382			5.0	-5° 0'	142.0
106 (109)			11.0	-11° 30'	147.9
58' (60)			9.0	-11° 00'	160.0
84			2.1	+2° 0'	181.0

9/18/41
Soper - π
Brooks - red
Hodgeson - index

Dist.	Gr. Elev.	H. I.	Red	Vert. A	Elev.
	175.6	180.2			
80			4.6	0° 0'	175.6
17			6.7	0° 0'	173.5
124			5.1	+3° 0'	181.6
190			8.3	+3° 0'	181.8

At Pt. #2

Dist.	Gr. Elev.	H. I.	Red	Vert. A	Elev.
	199.2	204.3			
260			9.5	+5° 30'	219.6
282			8.1	+5° 30'	223.1
530			9.9	+5° 30'	245.0

At 0+00 (baseline)

Dist.	Gr. Elev.	H. I.	Red	Vert. A	Elev.
	247.1	252.2			
67			3.7	0° 0'	248.5
167			6.1	-0° 30'	244.6
107			4.7	-0° 30'	246.6
87			1.6	0° 0'	250.6
80			8.6	0° 0'	243.6

(cont.)

B.M.	967	260.77		260.82	
T.P.	298	259.33	4.14	256.35	
0+00			3.2		Top of wall
"			1.7	254.6	Bot "
20' L			1.9	254.4	Fence
1+00			2.3		Top of wall
"			4.7	254.6	Bot. "
" 20' L			1.7	254.6	Fence
1+73			3.3		Top of wall
"			4.8	254.5	Bot. "
" 20' L			1.5	254.5	Fence
1+98			3.2		Top of wall
"			4.7	254.6	Bot. "
" 20' L			4.7	254.6	Fence
2+23			3.2		Top of wall
"			4.8	254.5	Bot. "
" 5' L			4.6	254.7	
" 20' L			1.8	254.5	Fence
3+00			3.2		Top of wall
"			4.8	254.5	Bot. "
" 20' L			4.8	254.5	Fence
4+00			3.3		Top of wall
"			4.7	254.6	Bot. "
" 20' L			4.6	254.7	Fence

B.P. on curb S.W. cor. Catalina + Varena
 Top of 1/2 steel pin sta 10+66

33
259.23

5708	3.2		Top of wall
"	4.7	254.6	Bot. " "
" 20'L	4.6	254.7	Fence
5733	3.2		Top of wall
"	4.7	254.6	Bot. " "
" 20'L	4.5	254.8	Fence
5758	3.2		Top of wall
"	4.7	254.6	Bot. " "
" 20'L	4.6	254.7	Fence
6700	3.2		Top of wall
"	4.7	254.6	Bot. " "
" 20'L	4.6	254.7	Fence
7700	3.2		Top of wall
"	4.7	254.6	Bot. " "
" 20'L	4.9	254.4	Fence
7732	3.2		Top of wall
"	4.7	254.6	Bot. " "
" 20'L	4.7	254.6	Fence
7757	3.2		Top of wall
"	4.6	254.7	Bot. " "
" 28'L	4.0	255.3	
" 48'L	2.2	257.1	fence cor
7782	3.2		Top of wall
"	4.7	254.6	Bot. " "
7725			Fence

	259.23		
7+52-20L	1.3	255.0	
" 23L	0.3	259.0	
" 29.2L	0.0		Fence
8+00	3.2		Top of wall
"	4.7	254.6	Bot. " "
" 19.7L	4.7	254.6	
" 23L	0.1	259.2	
" 29.2L	0.0		Fence
9+00	3.2		Top of wall
"	4.7	254.6	Bot. of wall
" 20L	4.7	254.6	
" 24L	+0.4	259.7	
" 29.4	+0.6	259.9	Fence
10+00	3.2		Top of wall
"	4.6	254.7	Bot. " "
" 20L	4.6	254.7	
" 22.5L	1.3	258.0	
" 29.2L	1.3		Fence
10+66	3.2		Top of wall
"	4.7	254.6	Bot. " "
" 20L	4.6	254.7	
" 22L	2.1	257.2	
" 29.2L	4.7		Fence

33.
259.28

10491	3.2		Top of wall
"	4.7	254.4	Bot. of "
" 242	4.5	254.8	
" 47.72	3.0	256.3	Fence cor.

Elev's at N. Gate Pt Loma Res. 4/22/93

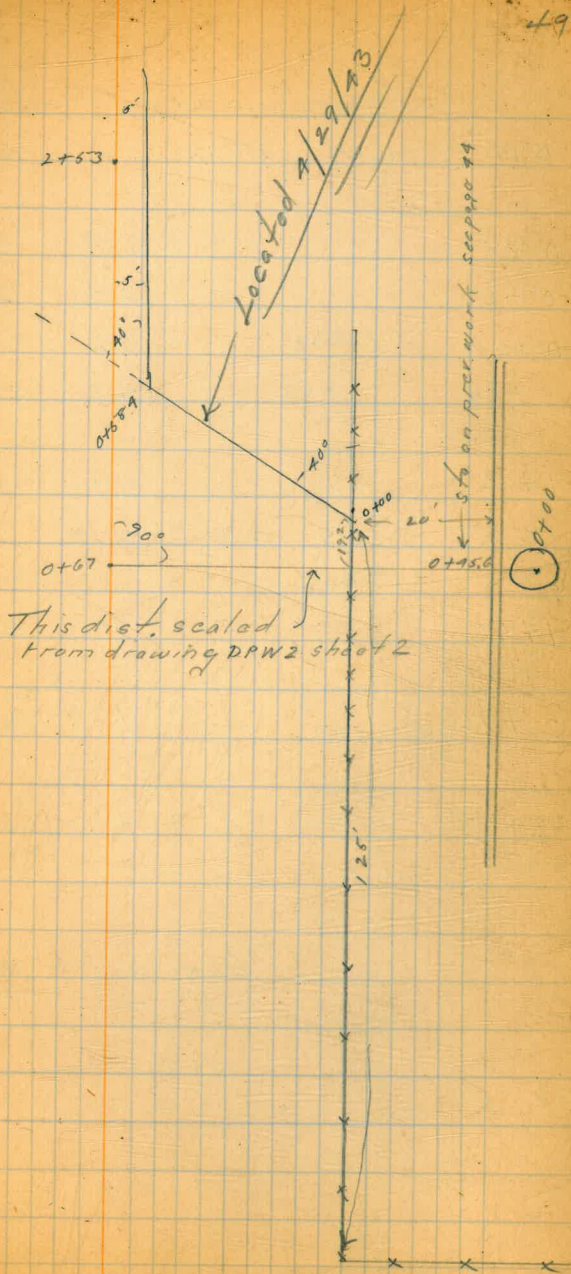
B.M.	5.48	261.83	256.35	25	Pin on wall sta 10+66
Grat N. post		5.1	256.1		
Grat center of gate		5.6	256.2		
Grat S. post		5.6	256.2		
Gr. 13 W. of S. post		5.5	256.3		
" " " N. "		5.0	256.8		
Gr 21 W. of S. post		6.0	255.9		
" " " N. "		5.8	256.0		
Edge post 20.5 W. of S. post		5.7	256.1		
" " " N. "		5.3	256.5		

See sketch - page 49

Sketch showing drain from Pt. Lema Res.

1/22/43

49



This dist. scaled from drawing DPW2 sheet 2

Hill
Mox
Falck
atten
4-21-42

Profile - Drain Pipe

B.M.	0.69	257.04	256.35
0+5		2.4	254.6
0+20		2.4	254.6
AD+67		3.7	253.3
0+84		4.1	252.9
1+16		11.1	245.9
T.P.	2.63	248.55	11.12 245.92
1+66		8.6	240.0
2+16		11.7	236.9
2+53		14.0	234.6

See sketch page 49

Top steel pin - 10+65

FENCE

253.2

+0.3
20'

245.2

-0.7
20'

238.3

-1.7
20'

236.0

-0.9
20'

234.2

-0.4
20'

253.3

+0.4
30'

247.7

+1.8
21'

244.2

+4.2
16'

237.7

+0.9
5'

236.1

+1.5
15'

241.3

+4.4
15'

4/22/43

51

Levels over ditch at S. side Pt. Luria Res.

B.M.	0.32	256.67		256.35	
0+00			10.7	246.0	Flow line granite gut. begin.
+25			11.2	245.5	" " " " angle
+85			12.0	244.7	" " " " end
+86			12.8	243.9	
1+35			13.6	243.1	
1+85			15.8	240.9	
T.P.	1.20	246.97	10.96	245.71	
2+35			9.1	237.9	
+85			11.5	235.5	
3+25			13.5	233.5	

See sketch P. 44

4/29/43

Levels over ditch at N. side Pt. Loma See sketch P. 49

B.M.	0.24	256.59		256.35
0+00			2.0	254.6 ✓
0+06			2.0	254.6 ✓
+26			7.2	249.4 ✓
A 0+58.43			12.3	249.3 ✓
T.P.	1.40	295.65 ✓	12.34	249.25 ✓
0+92			4.7	241.0 ✓
1+22			5.8	239.9 ✓
1197 5+78			10.7	235.0 ✓

Levels over ditch at south side Pt. Loma See sketch P. 44

B.M.	2.92	259.27		256.35
6+08.65 0+00			4.7	254.6
0+05			4.8	254.5
0+23			11.1	248.2
0+35.5			12.5	246.8
0+39.5			13.8	245.5



4" x section - conc ditch

Edges conc ditch

F.L. Line

Levels over proposed East drain E. side res. Side slopes same as either side of ditch

3+30.3 B.M.	3.16	259.51		256.35
0+00			4.9	254.6 See sketch P. 49
0+04			4.9	254.6
0+37			21.7	237.8
0+39.4			22.2	237.3
"			21.4	238.1
"			31.5	228.0
"			30.7	229.1

Note if drain were located on line with N. side pt conc chamber advantage could be taken of ditch about 1.5' deep made by water running down slope.

5.5' N. inside wall 13x

Tap Box 5.5 right

Battery Box = F.L. Line 18" P.P.C. outlet

F.L. Line 4" Drain inlet

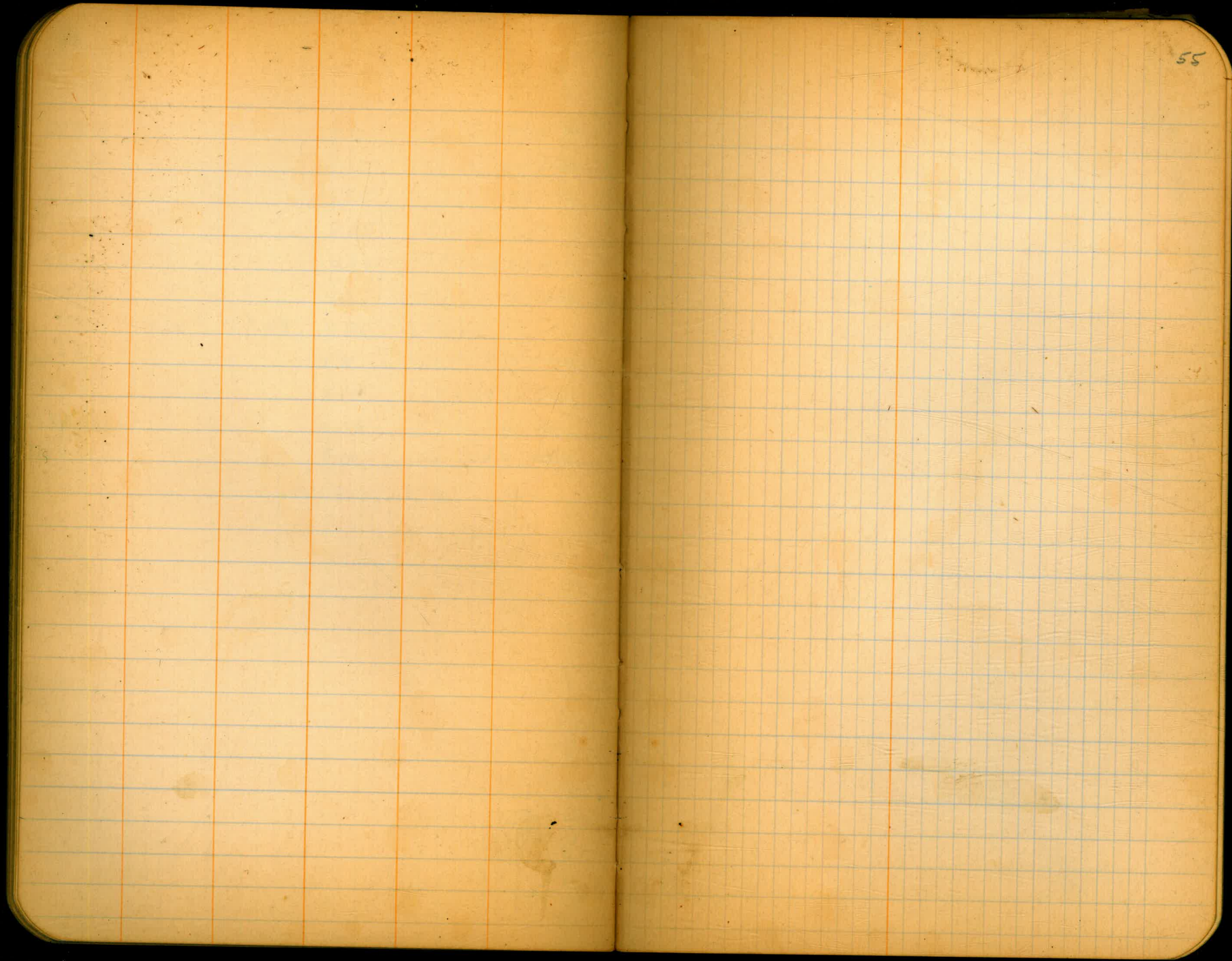
8-16-43
H. H.
\$1116
8440 H

50

B.M.				250.82		
B.M.	8.20	259.02	0.07	258.95		
	0.44	259.39				
9+24			4.82	254.57	54.30	.27.35
9+50			4.83	54.56	54.26	.30.38
10			4.82	54.57	54.18	.34.17
+50			4.93	54.46	54.10	.36.41
+66			4.88	54.51	54.08	.43.51
+91			4.81	54.58	54.04	.57.62
11+16=						
0+00			4.78	54.61	54.00	.61.69
0+64.5			4.86	54.53	52.90	.63.71
14 00			4.96	54.49	54.01	.48.56
1+50			4.87	54.46	54.16	.30.38
1+73			4.91	54.48	54.23	.25.33
1+98			4.86	54.53	54.30	.27.31
2+23			4.90	54.49	54.24	.25.33
T.P.	4.85	259.42	4.82	254.57		
2+50			4.93	54.49	54.17	.32.40
3+00			4.93	54.49	54.04	.45.53
+53			4.95	54.47	53.90	.57.65
4+00			4.93	54.49	54.00	.49.57
+50			4.94	54.48	54.12	.36.41
5+68			4.87	54.55	54.23	.32.40
+33			4.86	54.56	54.30	.26.34
+58			4.92	54.50	54.22	.28.36

ON CURB S.W. Cor. Verona & Catalina
NAIL IN 2nd Pole South Catalina & Savoy

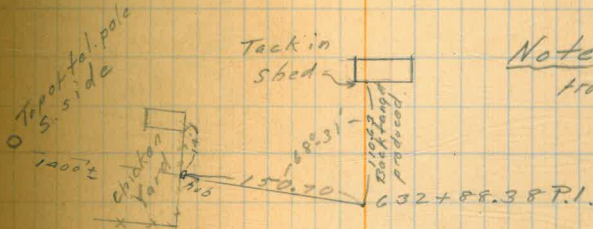
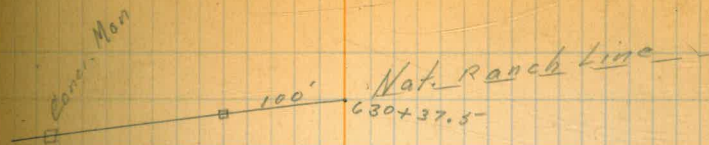
		259.42			
6+00			4.82	54.60	54.10
6+50			4.89	54.53	53.95
6+66.5			4.85	54.57	53.90
7+00			4.85	54.57	53.95
7+12			4.84	54.58	54.00
7+57			4.81	54.61	54.04
T.P.	4.86	259.48	4.80	254.62	
7+82			4.94	54.52	54.08
8+00			4.95	54.53	54.11
8+50			4.98	54.50	54.18
9+00			5.00	54.48	54.26
			8.55	258.93	
					50 .58
					52 .66
					47 .75
					42 .70
					50 .66
					52 .65
					44 .52
					42 .50
					30 .40
					22 .30



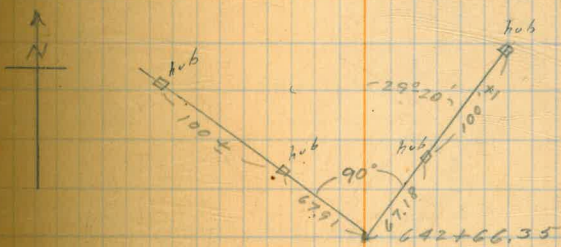
5/23/29 clear

62

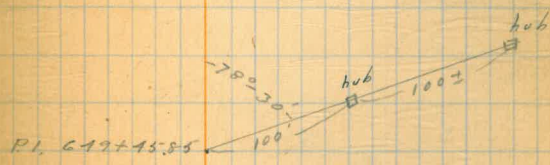
Parker
Converse
Hill
Elliot
Simpson



Note Angles meas.
from back target

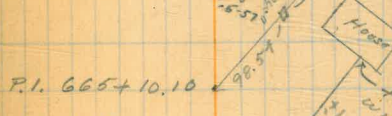
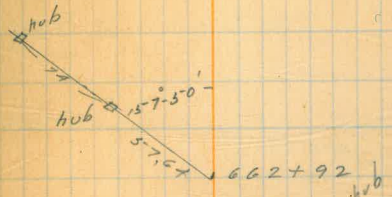


Sail Adobe





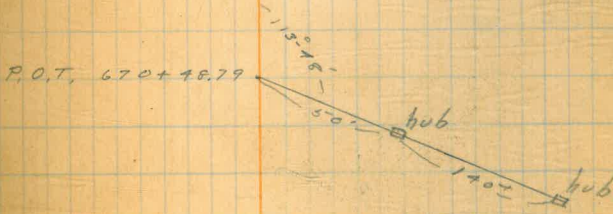
Soil Adobe

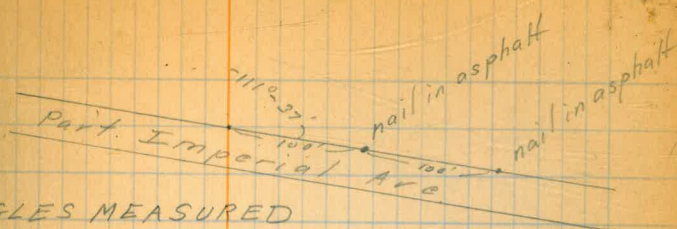


Hub near window sill

Note Angles meas.

from back tangent

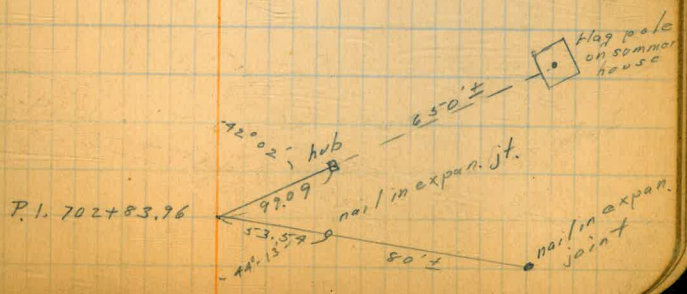
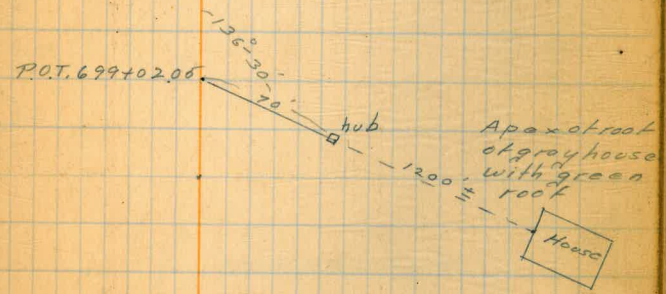




ALL ANGLES MEASURED
FROM BACK TANGENT



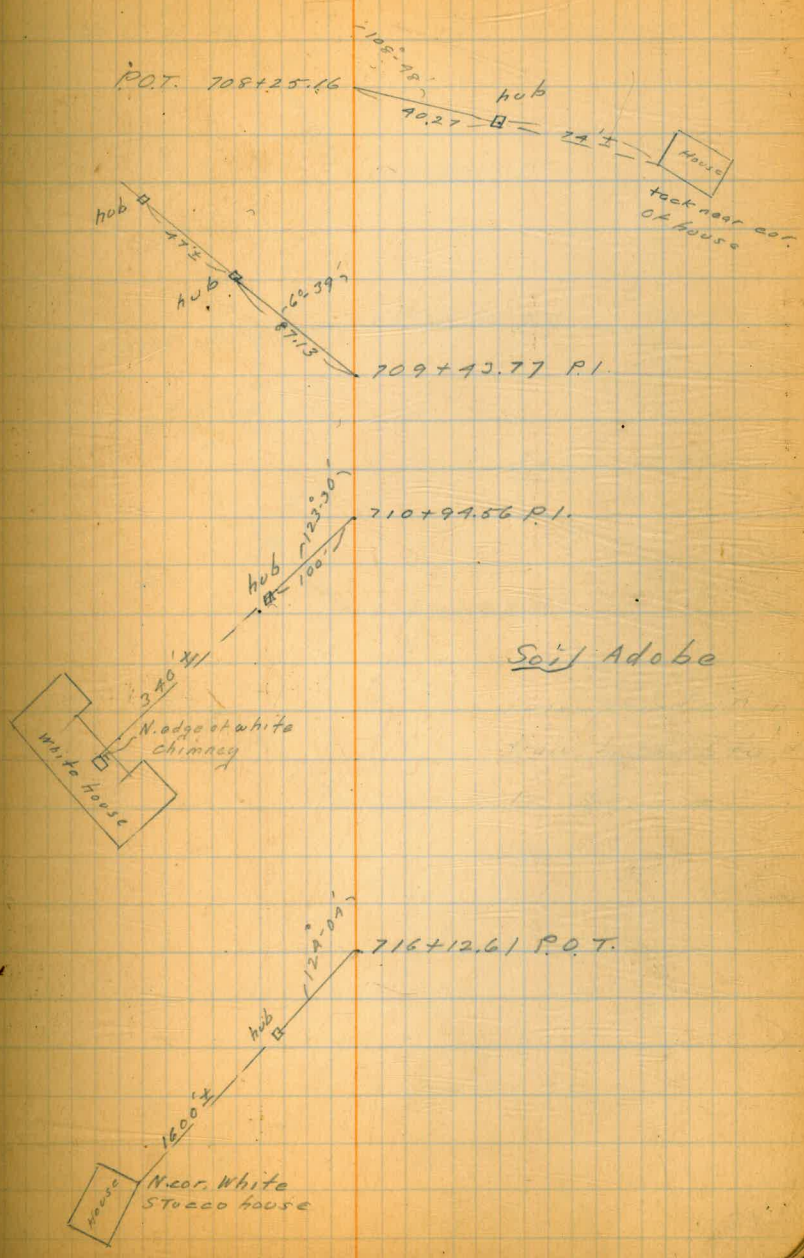
Soil Adobe

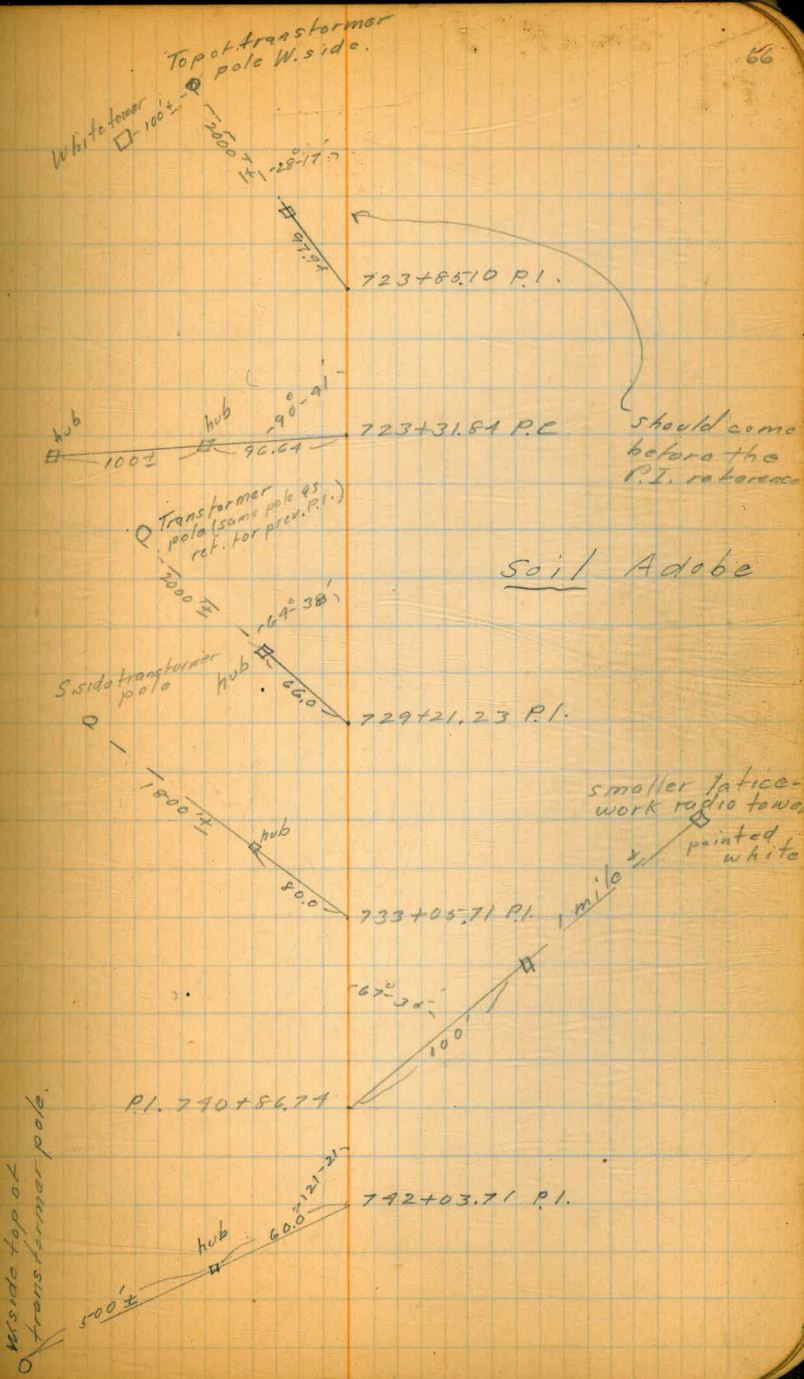


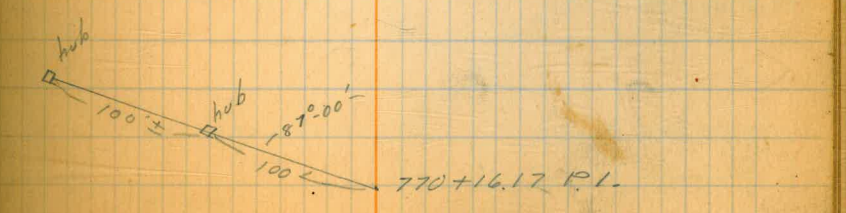
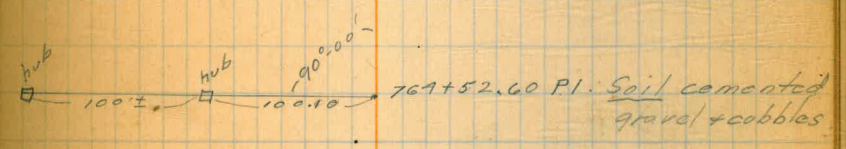
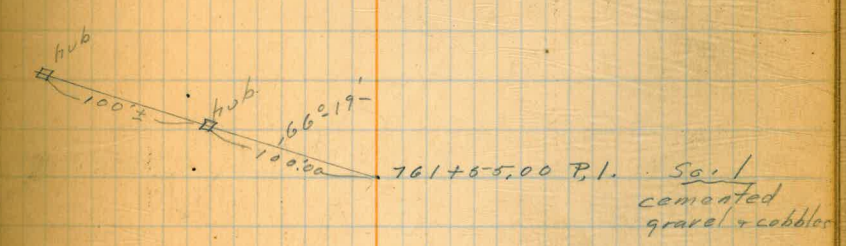
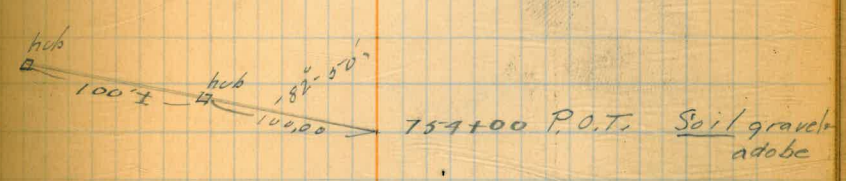
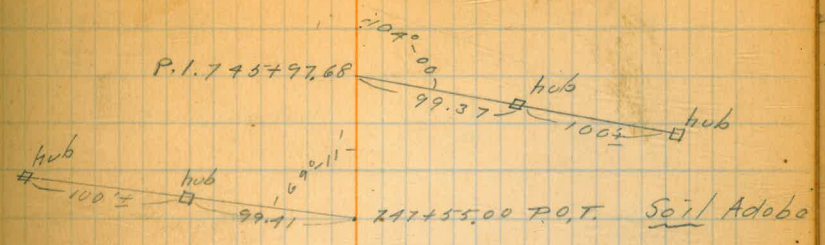
8/29/25 Cool

65

Parker
Converse
Hill
Elliot
Simpson







6/25/29 Cool

Parker
Converso
Hill
Elliot
Simpson

68

$71^{\circ}35'$ hub
 P.C. 774+98.77 $\xrightarrow{100}$ 1 mile \pm
 W. cor. of
 small radio
 tower

$75^{\circ}41'$ hub
 P.T. 777+52.10 $\xrightarrow{100}$ soil cement grade

$53^{\circ}04'$ hub
 P.O.T. 783+66.62 $\xrightarrow{100}$ Soil Adobe

Top of Steel tank
 Univ. reservoir

$9^{\circ}33'$ hub
 3 miles \pm $\xrightarrow{100}$ 787+73.05 P.I. Top soil
 Adobe - out
 croppings of
 sand stone 2'
 below surface
 in cut at sta.
 787+50

$42^{\circ}04'$ $\xrightarrow{3/4 \text{ mile}}$ N. post
 of radio
 tower at
 top
 $98^{\circ}23'$ hub
 P.I. 798+68.91 $\xrightarrow{100}$ Soil Adobe

5/27/29 clear

Parker
Converse
Hill
Elliot
Simpson

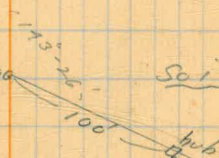
P.I. 800+1105



Soil Adobe

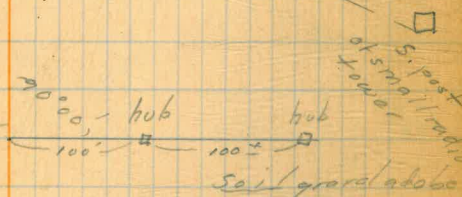


P.O.T. 807+0890

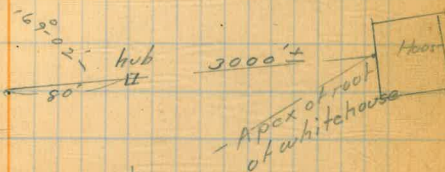


Soil gravel + adobe

P.O.T. 808+8815



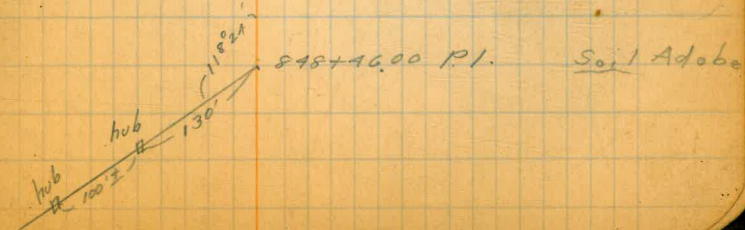
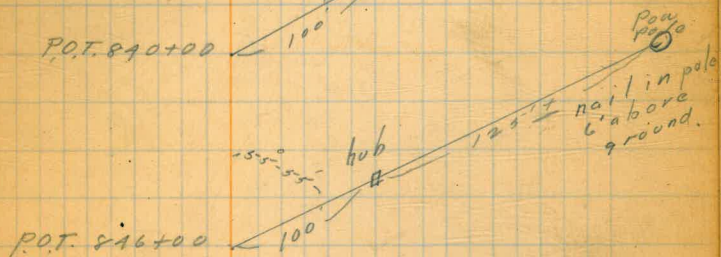
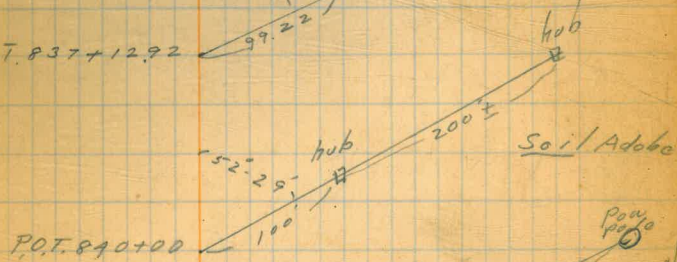
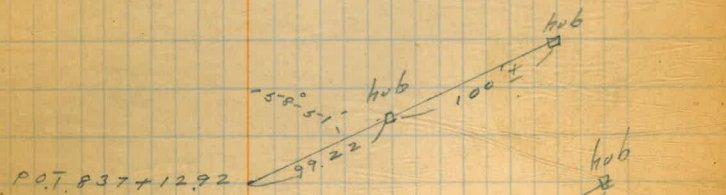
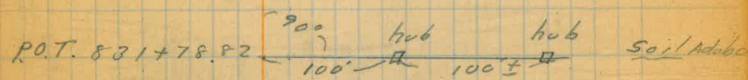
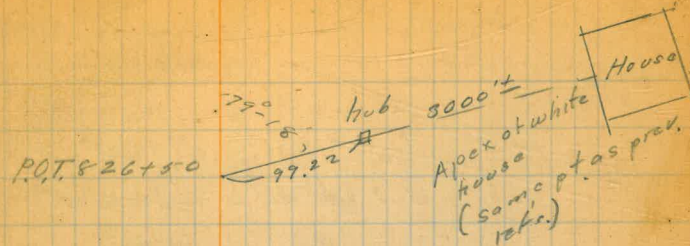
P.O.T. 818+1371



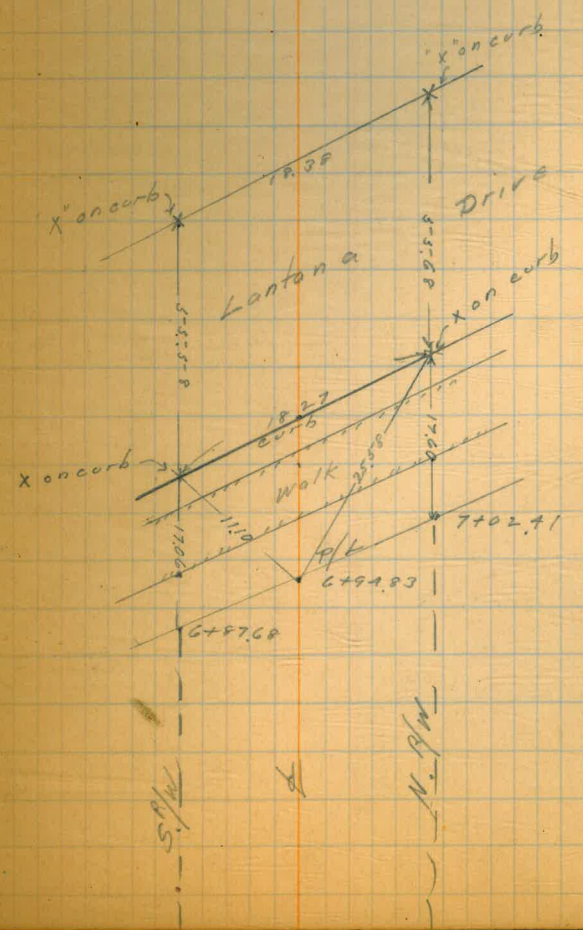
P.I. 825+1309

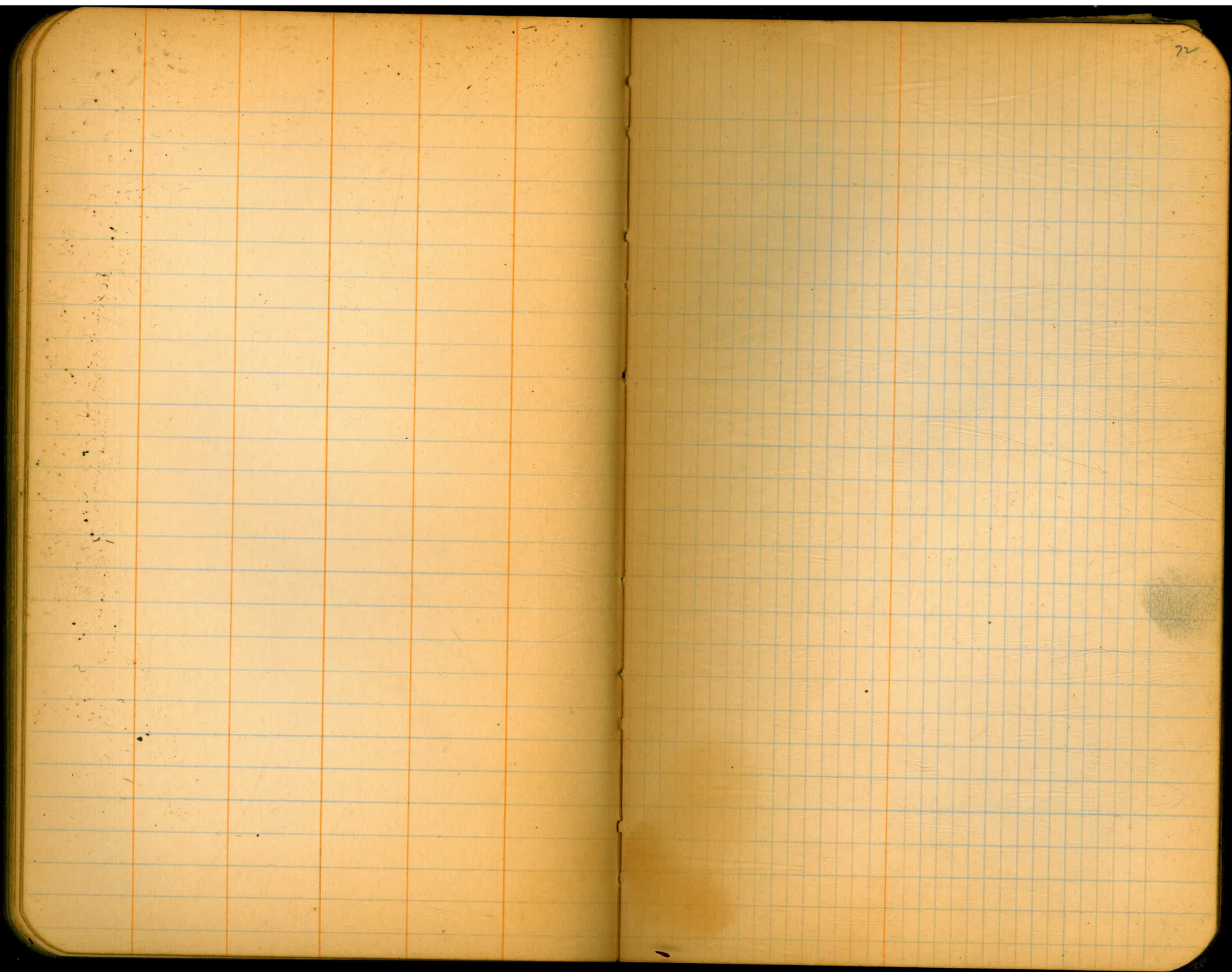


Soil adobe



181°-22' 100' $\frac{1}{2}$ 75'±
 POT, 832+12.11
 nail in eucalyptus tree





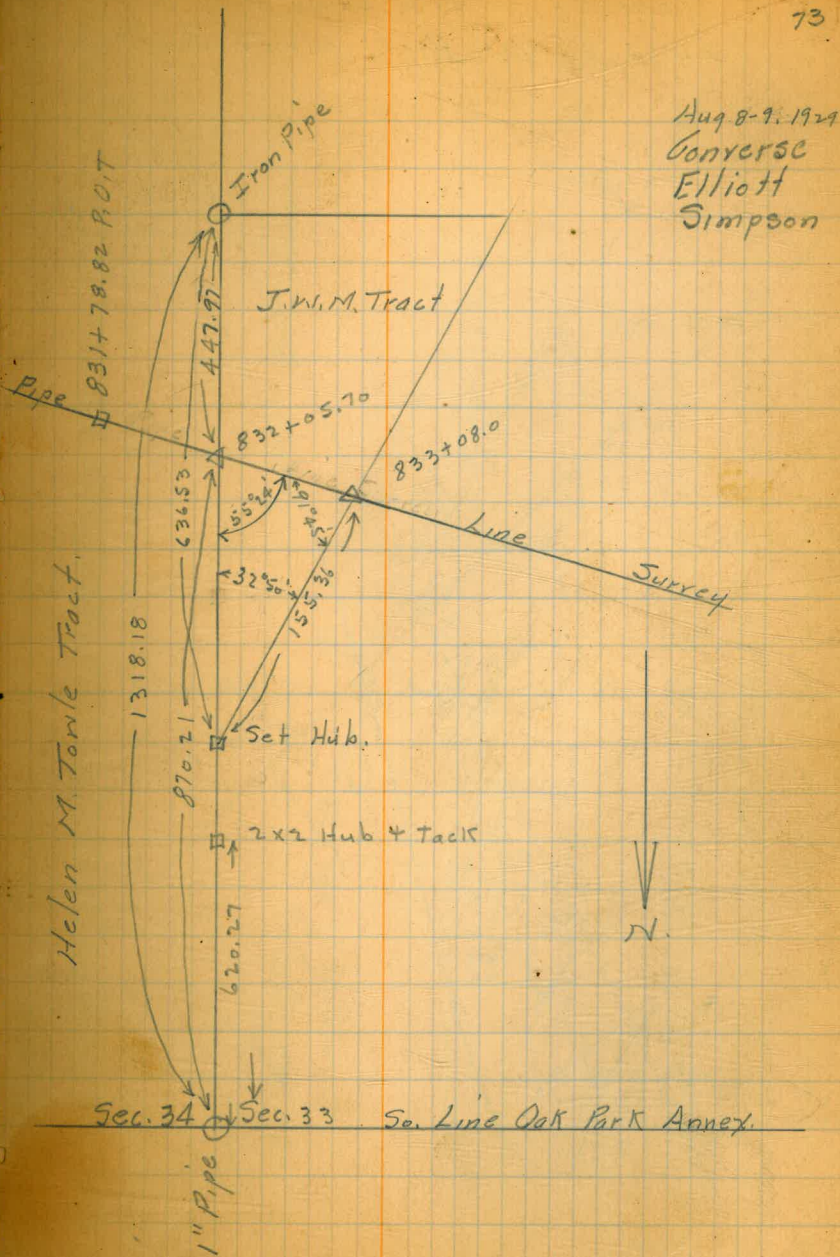
Property Ties. to West Line
 Helen M. Towle Tract; also West Line
 J.W.M. Tract.

681.65	870.21	447.97
74.21		1318.18
7.44		636.53
		659.09
		15.12

1318.18
636.53
681.65

55-24

1318.18
636.53
681.65
674.21
7.44



Property Ties to South and West
Lines of Oak Park Annex Addition

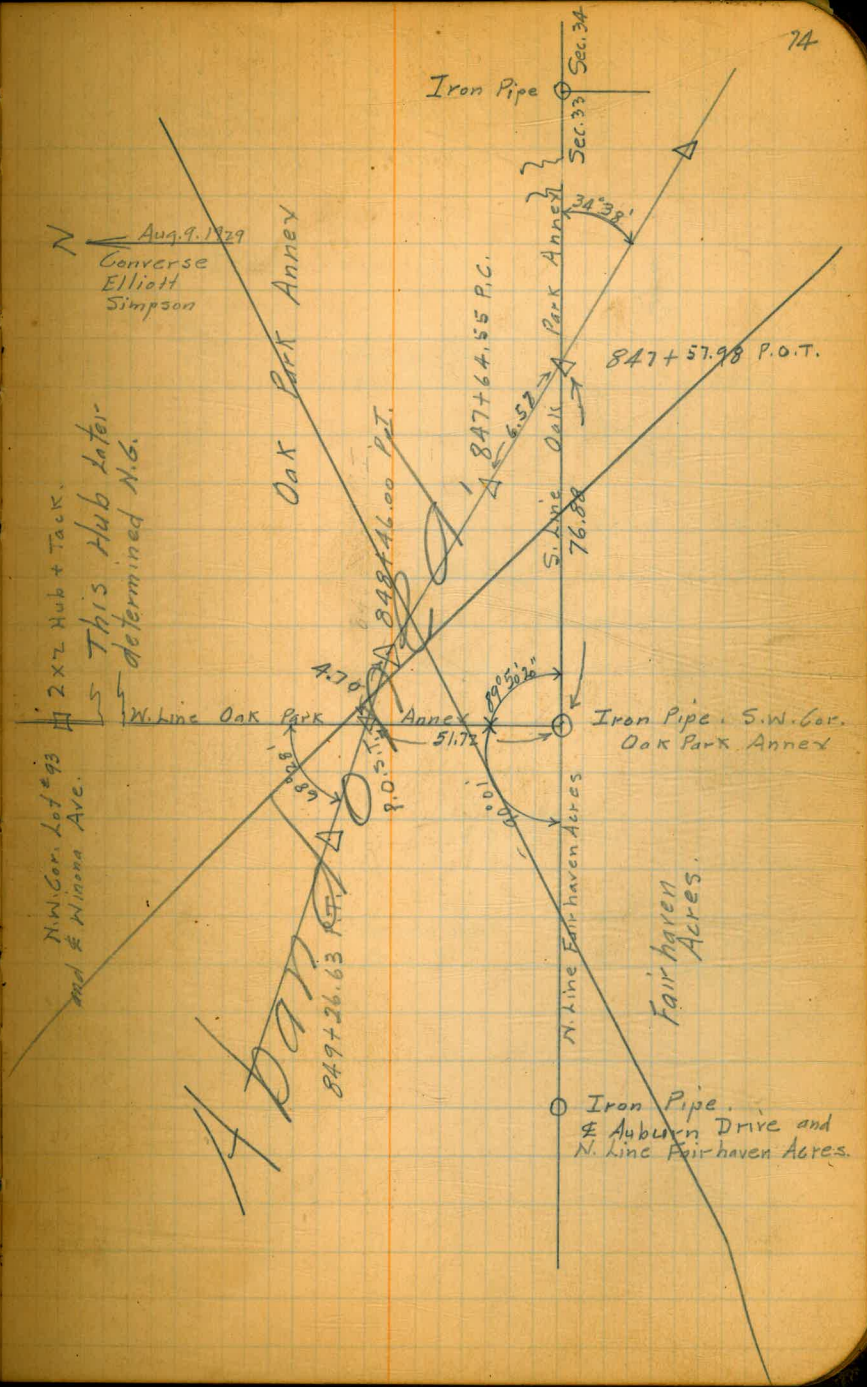
89-50-20
68-28
74-31.30
192-49-00
167-00

179 60
111-32
68-28

357 51-50
167-02
325-20-20
34-39-40

34-38

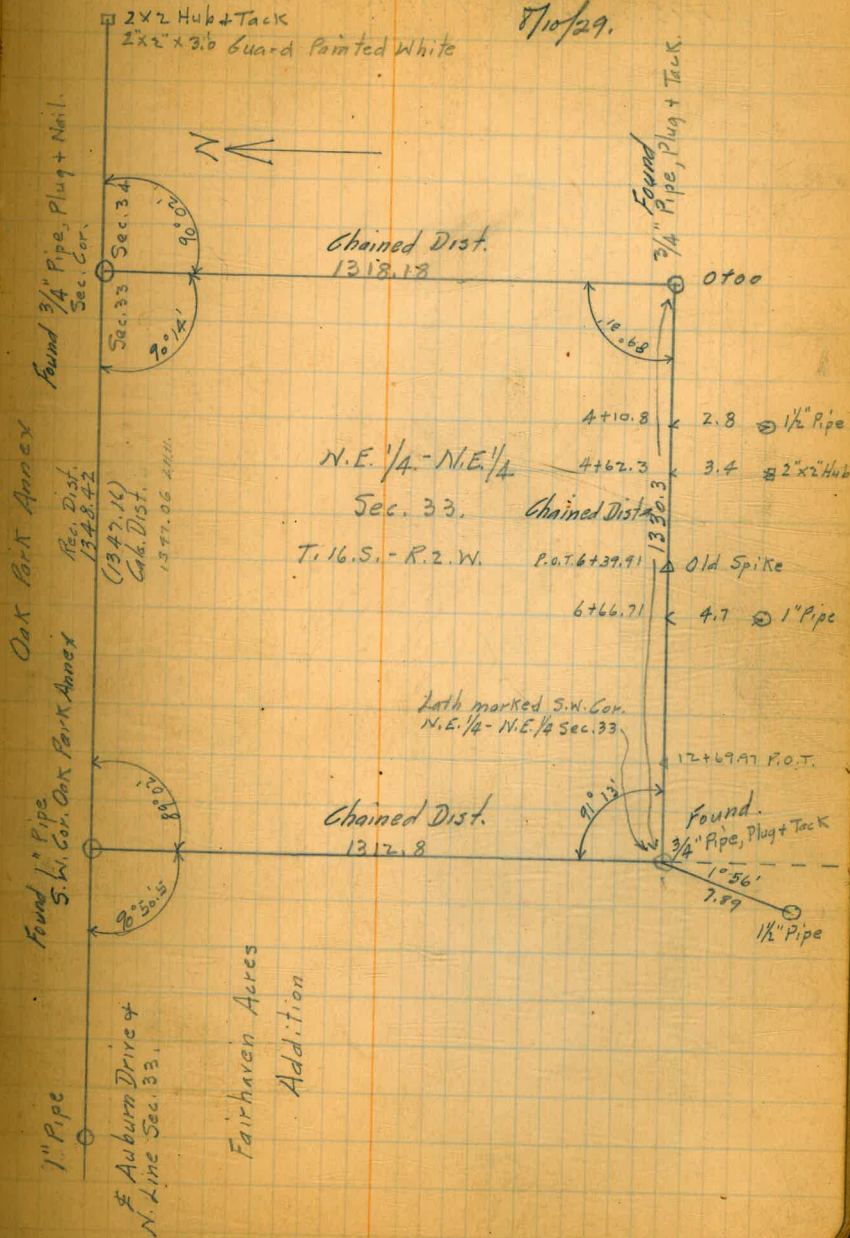
Abandoned



Survey of N.E. 1/4 - N.E. 1/4
 Sec. 33, T. 16 S. - R. 2 W.

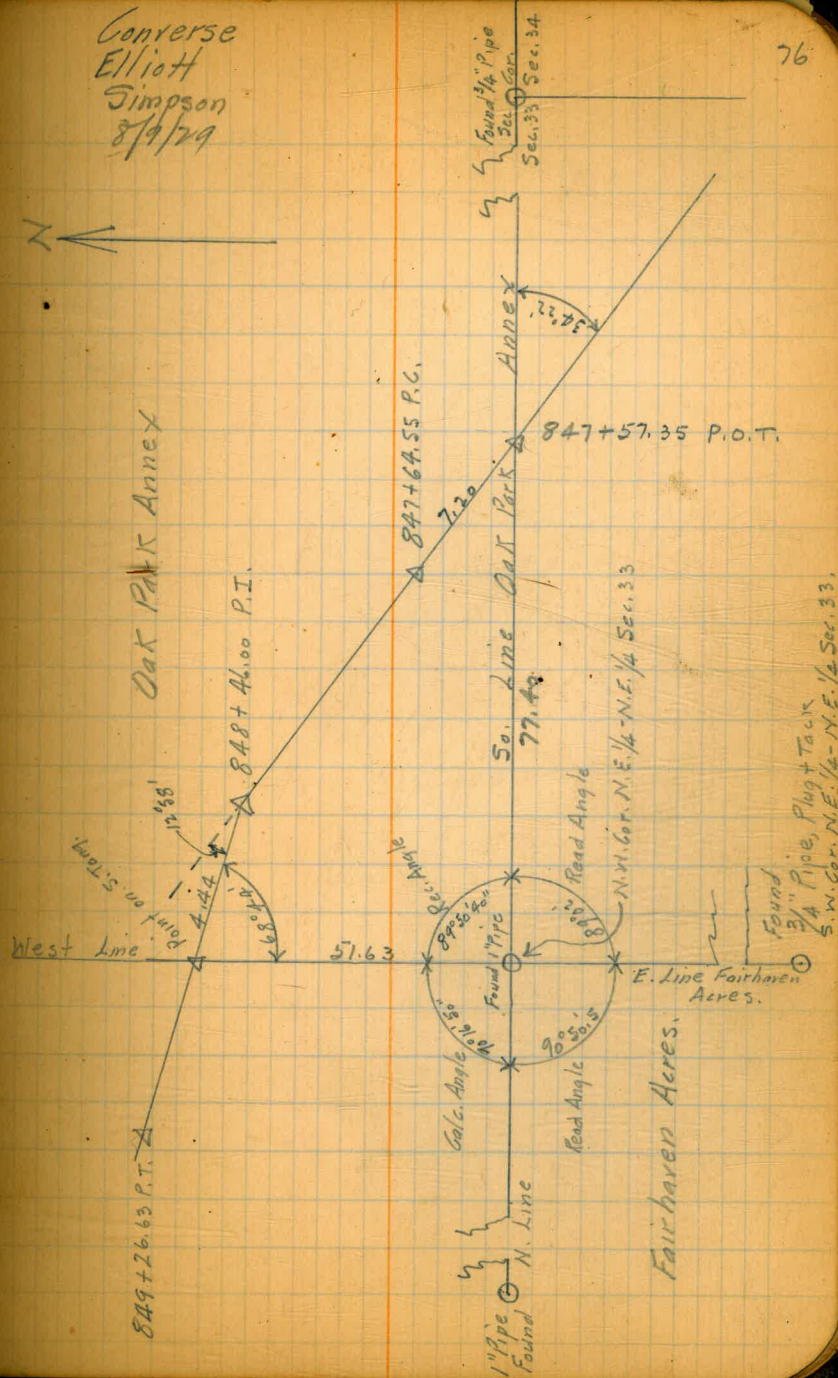
Converse
 Elliott
 Simpson
 7/10/29.

75



Property Ties to So. & West
Lines Oak Park Annex.

Converse
Elliott
Simpson
8/9/29



.28265

5

$$\begin{array}{r}
 2 \\
 \hline
 40 \\
 8 \\
 \hline
 48 \\
 8 \\
 \hline
 560 \\
 2 \\
 \hline
 562 \\
 2 \\
 \hline
 5640 \\
 6 \\
 \hline
 5646 \\
 6 \\
 \hline
 56520
 \end{array}$$

) .079894

$$\begin{array}{r}
 4 \\
 398 \\
 \hline
 384 \\
 1494 \\
 \hline
 1124 \\
 \hline
 37000 \\
 33876 \\
 \hline
 312400
 \end{array}$$

16°25
32-50

447.97

$$\begin{array}{r}
 5.0743172 \\
 481957.8 \) \ 2445606.76 \\
 \underline{24097890} \\
 \end{array}$$

$$\begin{array}{r}
 35817760 \\
 33737046 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 20807140 \\
 19278312 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 15288280 \\
 14458734 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 8295460 \\
 4819578 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 34758820 \\
 33737046 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 1021774 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 1805585 \ 116 \\
 \hline
 \end{array}$$

481957.8

$$\begin{array}{r}
 77011.935 \\
 4819578 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 28816155 \\
 38556624 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 25953100 \\
 24097890 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 18552100 \\
 14458736 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 40933660 \\
 38556624 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 40933660 \\
 38556624 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 40933660 \\
 38556624 \\
 \hline
 \end{array}$$

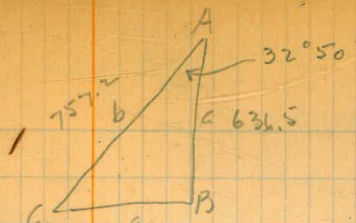
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 40933660 \\
 38556624 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 40933660 \\
 38556624 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 40933660 \\
 38556624 \\
 \hline
 \end{array}$$

481957.8

96391.4



$$s = \frac{1}{2}(a+b+c) = 902.15 \quad 410.6$$

$$\text{Vers. A} = \frac{2(s-b)(s-c)}{bc} =$$

$$\frac{2(144.95)(265.65)}{481957.8}$$

$$\text{Vers. A} = 34^{\circ}58'$$

902.15

757.20

144.95

902.15

636.50

265.65

180430

902.15 = s

757.2

636.5

37860

45432

22716

45432

481957.80

144.95

265.65

72475

86976

72475

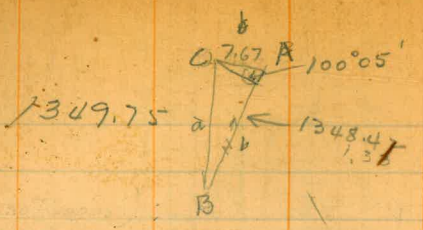
86970

28990

38505.9675

2

77011.9350



North 1348.42

N 79-55W 7.67 cos .17508 sin .98455

$$A = 100^{\circ}05' \quad \sin B = \frac{\sin A}{a} \cdot b$$

a = 1349.75

c = 7.67

1349.75
211.5

1561.25

004.95
211.5

247.5
49.5

99.0

0049.07
1561) 7.670
6244

14260
14149

11100

1.046925

670.9
111.3

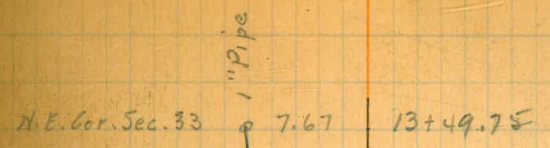
559.6

99047
2

198094

1349.75
1348.42

1.33



Nail set for N.W. Cor. N.E. 1/4 - N.E. 1/4 Sec. 33 4 6+79.49

E. Side Klauberg 4.55 6+70.90

Set Nail 6+68.69

Set Nail 2+43.69

Set Nail N.E. Cor Fairbairn Acres

0°17'

2x2 Hub.

1" Iron Pipe

50-17-30
89-55-30
90 08 00
89-52

~~17 18 00
19 00 20
19 50 20
20 00 20~~

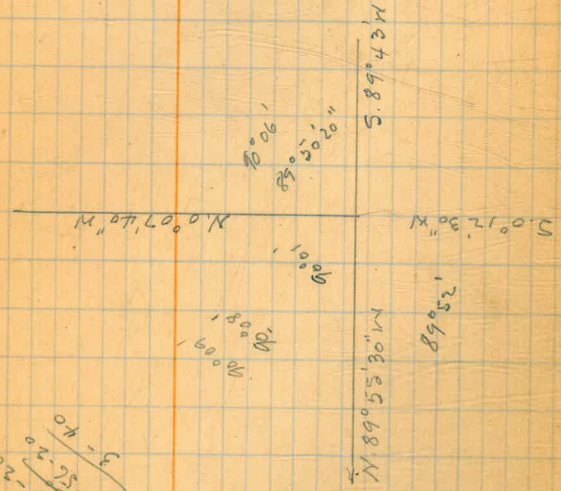
89 50 00
15 20 00
104 70 00

180-07
90-01
90-06

89-43
0-07-60

90-17
7-40
90 09 40

89-43
1-4
89-50-20



Iron Pipe to set nail 211.5 N.E. Cor Fairhaven
 Old Hub 2' N. 111.3 from N.E. Cor " (108.42)
 Set nail 243.69 from N.E. Cor "
 Set nail 668.69 " " " "
 Old Hub 4.55 N. 670.90 " " " " " E. Side Klauber
 Nail 4' N. 679.49

100' 7" 15' = 99.20
 44.49
 100.00
 243.69

1348.42
 674.21 1348.42
 68.69 668.69
 51.52 679.73

88-47
 N. 89-31 W
 179 60
 178 18
 N 1-42 W.

89-31
 88 47
 N 0-44 W

N 89-13W
76-17
12-56

53° 24' R 797+55.00
+8° 05' Vert. Δ
+2° 30'
110-01 761+55.00

$$7^{\circ}36' - 100^{\circ} = 99.17$$

$$\begin{array}{r} 6.42 \\ 105.54 \end{array}$$

$$1343 - 100^{\circ} = 97.15$$

$$\begin{array}{r} 202.69 \\ 6.83 \end{array}$$

$$\begin{array}{r} 195.86 \\ 196.50 \\ \hline 0.36 \end{array}$$

$$\begin{array}{r} 19.50 \\ 20. \\ \hline 211.5 \end{array}$$

$$\begin{array}{r} 195.86 \\ 25 \\ \hline 220.86 \\ 11.5 \\ \hline 232.36 \end{array}$$

$$2.18 - 10^{\circ}20'$$

$$\begin{array}{r} 7 \\ \hline 211 \end{array}$$

$$\begin{array}{r} 3.22 \\ 2.18 \\ \hline 2576 \\ 322 \\ \hline 644 \\ \hline 70396 \end{array}$$

44.7 Bet. Hubs

Proposed Line	Line in Use	Abandoned Line
855	23	31
852	23	31.5
849+50		34
845	22	30
836	22	29
834	22	29.5
828+75	22	30

are the measurements
urvey to W.S. Pipe Line in
W.S. Pipe Line, from
Chollas Hts.
Is.

8/12/29

The distance from a point on the tangent to
the curve is very nearly the square of the tangent
length divided by twice the radius.
Degree of curve with a given I may be found
by dividing tangent (or external) opposite I by
given tangent (or external).
add correction found in column of corrections

8/12/29

Stations on Proposed Line	Line in Use	Abandoned Line
855	23	31
852	23	31.5
849+50		34
847	22	30
843	23	29
836	22	29.5
834	22	30
828+75	22	30
826	23	32
823	24.5	31
821	22	31
818	23	31
816	21.5	30.5
813	23	31
809	25	33
807	21.5	29
804+60	43.5	33

Harvey - These are the measurements from new Pipe Line Survey to W.S. Pipe Line in use, and abandoned W.S. Pipe Line, from Santanna Drive to Chollas Hts. *Gen.*

Valves at Chollas.

N 89-13W
76-17
12-56

58° 24' R 777+55.01
+8° 05' Vert. Δ
+2° 30'
110-01 767+55.00

9969
2139
12008

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope 1/2 to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table is same row and column gives distance from side stake to slope stake. If ground is not level, the amount of cut or fill is added to amount of cut, elevate if fill. Add this amount to cut or fill and find in table. Set up rod at this point and line of sight should cut tangent.

IMPROVED TABLES

AND INFORMATION

TABLE No. 2.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections. Degree of curve with a given I may be found by dividing tangent (or external) opposite I by given tangent (or external). The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

$$70^{\circ}36' - 100^{\circ} = 99.17$$

$$\begin{array}{r} 6.42 \\ \hline 105.54 \end{array}$$

$$138^{\circ}43' - 100^{\circ} = 97.15$$

$$\begin{array}{r} 202.69 \\ \hline 6.83 \end{array}$$

$$\begin{array}{r} 195.86 \\ \hline 191.50 \\ \hline 4.36 \end{array}$$

44.7 Bet. Hubs

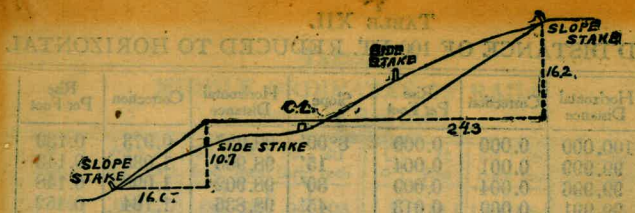
$$\begin{array}{r} 102.41 \\ 14.73 \\ \hline 117.68 \end{array}$$

$\begin{array}{r} 191.50 \\ 20. \\ \hline 211.5 \end{array}$	$\begin{array}{r} 195.86 \\ 25. \\ \hline 220.86 \\ 11.5 \\ \hline 232.36 \end{array}$
--------------------------------------------------------------	----------------------------------------------------------------------------------------

$$2.18 - 10^{\circ}20' = 2.11$$

$$\begin{array}{r} 2.18 \\ 7 \\ \hline 2.11 \end{array}$$

$$\begin{array}{r} 3.22 \\ 2.18 \\ \hline 2576 \\ 322 \\ \hline 644 \\ \hline 70396 \end{array}$$



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1 1/2 TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0 00	0 15	0 30	0 45	0 60	0 75	0 90	1 05	1 20	1 35	0
1	1 50	1 65	1 80	1 95	2 10	2 25	2 40	2 55	2 70	2 85	1
2	3 00	3 15	3 30	3 45	3 60	3 75	3 90	4 05	4 20	4 35	2
3	4 50	4 65	4 80	4 95	5 10	5 25	5 40	5 55	5 70	5 85	3
4	6 00	6 15	6 30	6 45	6 60	6 75	6 90	7 05	7 20	7 35	4
5	7 50	7 65	7 80	7 95	8 10	8 25	8 40	8 55	8 70	8 85	5
6	9 00	9 15	9 30	9 45	9 60	9 75	9 90	10 05	10 20	10 35	6
7	10 50	10 65	10 80	10 95	11 10	11 25	11 40	11 55	11 70	11 85	7
8	12 00	12 15	12 30	12 45	12 60	12 75	12 90	13 05	13 20	13 35	8
9	13 50	13 65	13 80	13 95	14 10	14 25	14 40	14 55	14 70	14 85	9
10	15 00	15 15	15 30	15 45	15 60	15 75	15 90	16 05	16 20	16 35	10
11	16 50	16 65	16 80	16 95	17 10	17 25	17 40	17 55	17 70	17 85	11
12	18 00	18 15	18 30	18 45	18 60	18 75	18 90	19 05	19 20	19 35	12
13	19 50	19 65	19 80	19 95	20 10	20 25	20 40	20 55	20 70	20 85	13
14	21 00	21 15	21 30	21 45	21 60	21 75	21 90	22 05	22 20	22 35	14
15	22 50	22 65	22 80	22 95	23 10	23 25	23 40	23 55	23 70	23 85	15
16	24 00	24 15	24 30	24 45	24 60	24 75	24 90	25 05	25 20	25 35	16
17	25 50	25 65	25 80	25 95	26 10	26 25	26 40	26 55	26 70	26 85	17
18	27 00	27 15	27 30	27 45	27 60	27 75	27 90	28 05	28 20	28 35	18
19	28 50	28 65	28 80	28 95	29 10	29 25	29 40	29 55	29 70	29 85	19
20	30 00	30 15	30 30	30 45	30 60	30 75	30 90	31 05	31 20	31 35	20
21	31 50	31 65	31 80	31 95	32 10	32 25	32 40	32 55	32 70	32 85	21
22	33 00	33 15	33 30	33 45	33 60	33 75	33 90	34 05	34 20	34 35	22
23	34 50	34 65	34 80	34 95	35 10	35 25	35 40	35 55	35 70	35 85	23
24	36 00	36 15	36 30	36 45	36 60	36 75	36 90	37 05	37 20	37 35	24
25	37 50	37 65	37 80	37 95	38 10	38 25	38 40	38 55	38 70	38 85	25
26	39 00	39 15	39 30	39 45	39 60	39 75	39 90	40 05	40 20	40 35	26
27	40 50	40 65	40 80	40 95	41 10	41 25	41 40	41 55	41 70	41 85	27
28	42 00	42 15	42 30	42 45	42 60	42 75	42 90	43 05	43 20	43 35	28
29	43 50	43 65	43 80	43 95	44 10	44 25	44 40	44 55	44 70	44 85	29
30	45 00	45 15	45 30	45 45	45 60	45 75	45 90	46 05	46 20	46 35	30
31	46 50	46 65	46 80	46 95	47 10	47 25	47 40	47 55	47 70	47 85	31
32	48 00	48 15	48 30	48 45	48 60	48 75	48 90	49 05	49 20	49 35	32
33	49 50	49 65	49 80	49 95	50 10	50 25	50 40	50 55	50 70	50 85	33
34	51 00	51 15	51 30	51 45	51 60	51 75	51 90	52 05	52 20	52 35	34
35	52 50	52 65	52 80	52 95	53 10	53 25	53 40	53 55	53 70	53 85	35
36	54 00	54 15	54 30	54 45	54 60	54 75	54 90	55 05	55 20	55 35	36
37	55 50	55 65	55 80	55 95	56 10	56 25	56 40	56 55	56 70	56 85	37
38	57 00	57 15	57 30	57 45	57 60	57 75	57 90	58 05	58 20	58 35	38
39	58 50	58 65	58 80	58 95	59 10	59 25	59 40	59 55	59 70	59 85	39
40	60 00	60 15	60 30	60 45	60 60	60 75	60 90	61 05	61 20	61 35	40
41	61 50	61 65	61 80	61 95	62 10	62 25	62 40	62 55	62 70	62 85	41
42	63 00	63 15	63 30	63 45	63 60	63 75	63 90	64 05	64 20	64 35	42
43	64 50	64 65	64 80	64 95	65 10	65 25	65 40	65 55	65 70	65 85	43
44	66 00	66 15	66 30	66 45	66 60	66 75	66 90	67 05	67 20	67 35	44
45	67 50	67 65	67 80	67 95	68 10	68 25	68 40	68 55	68 70	68 85	45
46	69 00	69 15	69 30	69 45	69 60	69 75	69 90	70 05	70 20	70 35	46
47	70 50	70 65	70 80	70 95	71 10	71 25	71 40	71 55	71 70	71 85	47
48	72 00	72 15	72 30	72 45	72 60	72 75	72 90	73 05	73 20	73 35	48
49	73 50	73 65	73 80	73 95	74 10	74 25	74 40	74 55	74 70	74 85	49
50	75 00	75 15	75 30	75 45	75 60	75 75	75 90	76 05	76 20	76 35	50

Computed by L. Leland Locke.

$$\begin{array}{r} 847467.35 \\ 832705.76 \\ \hline 15516.59 \end{array}$$

$$\begin{array}{r} 2487 \\ 15781.50 \\ \hline 16706.17 \end{array}$$

$$\begin{array}{r} 4526 \\ 2293 \\ \hline 191088 \\ 191088 \\ \hline 71685 \\ 7224056 \\ \hline 2 \\ 9224056 \end{array}$$

$$\begin{array}{r} 836 \\ 510 \\ \hline 8360 \\ 4180 \\ \hline 826560 \end{array}$$

$$\begin{array}{r} 184.48 \\ 10.38 \\ \hline 16+06.47 \\ 16+30.65 \end{array}$$

S.W. cor Cat + Varong
 B.P. in curb. El. 250.82

$$\begin{array}{r} 35.8 \\ 25 \\ \hline 25 \text{ cal of } 3 \text{ units} \\ 50 \end{array}$$