2168

AERIAL SURVEY

ONLY

DIETZGEN

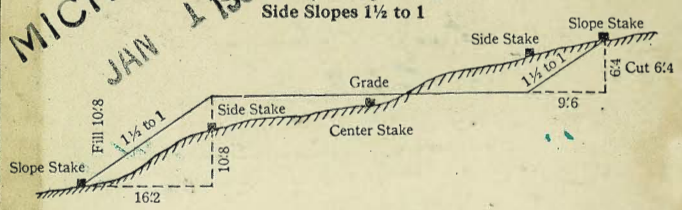
MINING

TRANSIT BOOK

No. 225

MICROFILMED
JAN 1 1960

**DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING**
**Roadway of any Width**
**Side Slopes 1½ to 1**




In the figure above: Opposite 6 under "Cut or Fill" and under .4 read 9.6 the distance from the side stake to the slope stake at right. Opposite 10 under "Cut or Fill" and under .8 read 16.2, the distance from the side stake to the slope stake at the left.

| Cut or Fill | 0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | Cut or Fill |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Distance out from Side or Shoulder Stake | | | | | | | | | | |
| 0 | 0.0 | 0.2 | 0.3 | 0.5 | 0.6 | 0.8 | 0.9 | 1.1 | 1.2 | 1.4 | 0 |
| 1 | 1.5 | 1.7 | 1.8 | 2.0 | 2.1 | 2.3 | 2.4 | 2.6 | 2.7 | 2.9 | 1 |
| 2 | 3.0 | 3.2 | 3.3 | 3.5 | 3.6 | 3.8 | 3.9 | 4.1 | 4.2 | 4.4 | 2 |
| 3 | 4.5 | 4.7 | 4.8 | 5.0 | 5.1 | 5.3 | 5.4 | 5.6 | 5.7 | 5.9 | 3 |
| 4 | 6.0 | 6.2 | 6.3 | 6.5 | 6.6 | 6.8 | 6.9 | 7.1 | 7.2 | 7.4 | 4 |
| 5 | 7.5 | 7.7 | 7.8 | 8.0 | 8.1 | 8.3 | 8.4 | 8.6 | 8.7 | 8.9 | 5 |
| 6 | 9.0 | 9.2 | 9.3 | 9.5 | 9.6 | 9.8 | 9.9 | 10.1 | 10.2 | 10.4 | 6 |
| 7 | 10.5 | 10.7 | 10.8 | 11.0 | 11.1 | 11.3 | 11.4 | 11.6 | 11.7 | 11.9 | 7 |
| 8 | 12.0 | 12.2 | 12.3 | 12.5 | 12.6 | 12.8 | 12.9 | 13.1 | 13.2 | 13.4 | 8 |
| 9 | 13.5 | 13.7 | 13.8 | 14.0 | 14.1 | 14.3 | 14.4 | 14.6 | 14.7 | 14.9 | 9 |
| 10 | 15.0 | 15.2 | 15.3 | 15.5 | 15.6 | 15.8 | 15.9 | 16.1 | 16.2 | 16.4 | 10 |
| 11 | 16.5 | 16.7 | 16.8 | 17.0 | 17.1 | 17.3 | 17.4 | 17.6 | 17.7 | 17.9 | 11 |
| 12 | 18.0 | 18.2 | 18.3 | 18.5 | 18.6 | 18.8 | 18.9 | 19.1 | 19.2 | 19.4 | 12 |
| 13 | 19.5 | 19.7 | 19.8 | 20.0 | 20.1 | 20.3 | 20.4 | 20.6 | 20.7 | 20.9 | 13 |
| 14 | 21.0 | 21.2 | 21.3 | 21.5 | 21.6 | 21.8 | 21.9 | 22.1 | 22.2 | 22.4 | 14 |
| 15 | 22.5 | 22.7 | 22.8 | 23.0 | 23.1 | 23.3 | 23.4 | 23.6 | 23.7 | 23.9 | 15 |
| 16 | 24.0 | 24.2 | 24.3 | 24.5 | 24.6 | 24.8 | 24.9 | 25.1 | 25.2 | 25.4 | 16 |
| 17 | 25.5 | 25.7 | 25.8 | 26.0 | 26.1 | 26.3 | 26.4 | 26.6 | 26.7 | 26.9 | 17 |
| 18 | 27.0 | 27.2 | 27.3 | 27.5 | 27.6 | 27.8 | 27.9 | 28.1 | 28.2 | 28.4 | 18 |
| 19 | 28.5 | 28.7 | 28.8 | 29.0 | 29.1 | 29.3 | 29.4 | 29.6 | 29.7 | 29.9 | 19 |
| 20 | 30.0 | 30.2 | 30.3 | 30.5 | 30.6 | 30.8 | 30.9 | 31.1 | 31.2 | 31.4 | 20 |
| 21 | 31.5 | 31.7 | 31.8 | 32.0 | 32.1 | 32.3 | 32.4 | 32.6 | 32.7 | 32.9 | 21 |
| 22 | 33.0 | 33.2 | 33.3 | 33.5 | 33.6 | 33.8 | 33.9 | 34.1 | 34.2 | 34.4 | 22 |
| 23 | 34.5 | 34.7 | 34.8 | 35.0 | 35.1 | 35.3 | 35.4 | 35.6 | 35.7 | 35.9 | 23 |
| 24 | 36.0 | 36.2 | 36.3 | 36.5 | 36.6 | 36.8 | 36.9 | 37.1 | 37.2 | 37.4 | 24 |
| 25 | 37.5 | 37.7 | 37.8 | 38.0 | 38.1 | 38.3 | 38.4 | 38.6 | 38.7 | 38.9 | 25 |
| 26 | 39.0 | 39.2 | 39.3 | 39.5 | 39.6 | 39.8 | 39.9 | 40.1 | 40.2 | 40.4 | 26 |
| 27 | 40.5 | 40.7 | 40.8 | 41.0 | 41.1 | 41.3 | 41.4 | 41.6 | 41.7 | 41.9 | 27 |
| 28 | 42.0 | 42.2 | 42.3 | 42.5 | 42.6 | 42.8 | 42.9 | 43.1 | 43.2 | 43.4 | 28 |
| 29 | 43.5 | 43.7 | 43.8 | 44.0 | 44.1 | 44.3 | 44.4 | 44.6 | 44.7 | 44.9 | 29 |
| 30 | 45.0 | 45.2 | 45.3 | 45.5 | 45.6 | 45.8 | 45.9 | 46.1 | 46.2 | 46.4 | 30 |
| 31 | 46.5 | 46.7 | 46.8 | 47.0 | 47.1 | 47.3 | 47.4 | 47.6 | 47.7 | 47.9 | 31 |
| 32 | 48.0 | 48.2 | 48.3 | 48.5 | 48.6 | 48.8 | 48.9 | 49.1 | 49.2 | 49.4 | 32 |
| 33 | 49.5 | 49.7 | 49.8 | 50.0 | 50.1 | 50.3 | 50.4 | 50.6 | 50.7 | 50.9 | 33 |
| 34 | 51.0 | 51.2 | 51.3 | 51.5 | 51.6 | 51.8 | 51.9 | 52.1 | 52.2 | 52.4 | 34 |
| 35 | 52.5 | 52.7 | 52.8 | 53.0 | 53.1 | 53.3 | 53.4 | 53.6 | 53.7 | 53.9 | 35 |
| 36 | 54.0 | 54.2 | 54.3 | 54.5 | 54.6 | 54.8 | 54.9 | 55.1 | 55.2 | 55.4 | 36 |
| 37 | 55.5 | 55.7 | 55.8 | 56.0 | 56.1 | 56.3 | 56.4 | 56.6 | 56.7 | 56.9 | 37 |
| 38 | 57.0 | 57.2 | 57.3 | 57.5 | 57.6 | 57.8 | 57.9 | 58.1 | 58.2 | 58.4 | 38 |
| 39 | 58.5 | 58.7 | 58.8 | 59.0 | 59.1 | 59.3 | 59.4 | 59.6 | 59.7 | 59.9 | 39 |
| 40 | 60.0 | 60.2 | 60.3 | 60.5 | 60.6 | 60.8 | 60.9 | 61.1 | 61.2 | 61.4 | 40 |

2168

SAN DIEGO
City Engineer
Civic Center
on Pacific Highway

AERIAL SURVEY
ONLY

2141
2167
2168
2280

INDEXED
JUN 2 1953

This Field Book is manufactured of a High Grade 50% Rag Paper having a WATER RESISTING SURFACE, and is sewed with Bing Special Enamel Waterproof thread.

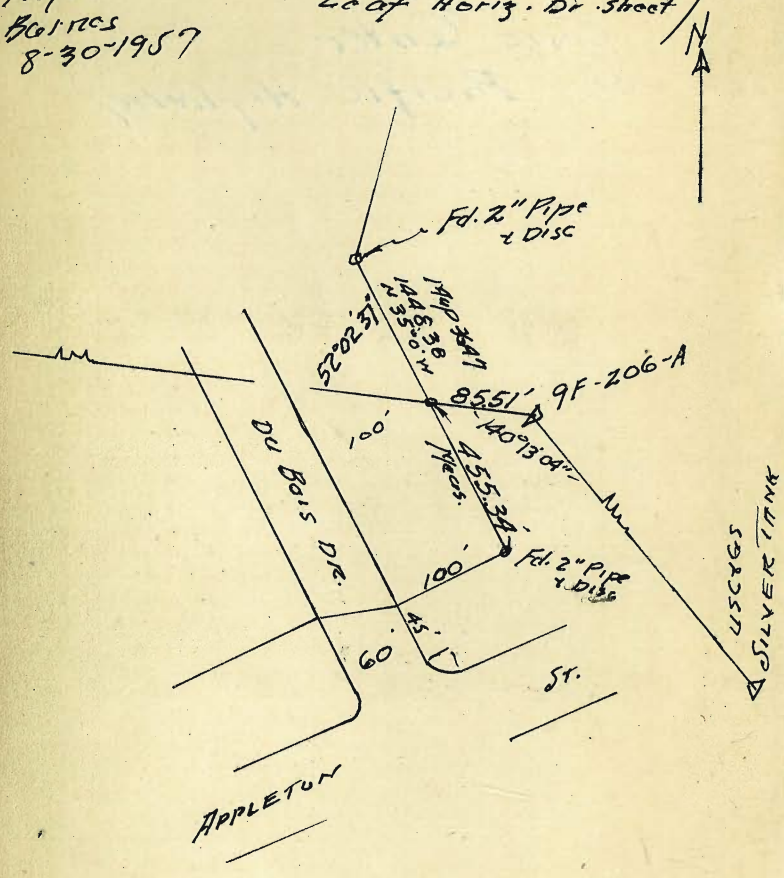
Made in U. S. A.

-0

# TIES - 9F-206A

Walker
Schelin
Meyer
Bolines
8-30-1957

(Sketch of Ties
Also shown on Loose
Leaf Horiz. Dr. sheet)




INDEX Cont. from P. 1

0

| Station | Page |
|---|---|
| 10F 700 | 78 |
| 10F 699 | 77 |
| 10F 704 | 76 |
| 10F 723 | 75 |
| 10F 702 | 74 |

## INDEX

| Station | Page |
|---|---|
| BACK BAY "Museum" OUT | 69 |
| Jumper Serra | |
| LADRILLO OUT | 67 |
| Morena Airway OUT | 68 |
| Murphy FB2280 | 51 |
| Soledad | |
| Tecolote OUT | 64 |
| Silver Water Tank OUT | |
| B.M. H-47 | |
| Nira | |
| 9F 193 | 44 |
| 9F 194 | 39 |
| 9F 195 | 41 |
| 9F 196 | 42 |
| 9F 197 | 3 |
| 9F 199 | 3 |
| 9F 200 | 2 |
| 9F 201 | 52 |
| 9F 202 | 5 |
| 9F 203 | 4 |
| 9F 204 | 7 |
| 9F 205 C.I.: Dome Air Beacon | |
| 9F 206 | 8 |
| 9F 207 | 36 |
| 9F-206-A | -0 |

## INDEX 2168.

| Station | Page |
|---|---|
| 9F 208 | 37 |
| 9F 209 | 33 |
| 9F 210 | 38 |
| 9F 211 | 34 |
| 9F 212 | 54 |
| 9F 213 | 53 |
| 9F 215 | 59 |
| 9F 216 C.I. | |
| 9F 217 | 57 |
| 9F 219 | 64 |
| 9F 220 | |
| 9F 221 | 31 |
| 9F 222 | 32 |
| 9F 222 A | — |
| 9F 223 | 29 |
| 9F 224 | 65 |
| 9F 225 | 27 |
| 9F 226 | 28 |
| 9F 227 | 30 |
| ~~9F 227~~ | |
| 9F 228 C.I. | 80 |
| 9F 229 | 21 |
| 9F 230 | 20 |
| 9F 231 | 62 |
| 9F 232 C.I. = Flag Pole Gibbs Airport = Montgomery Field. | |

## INDEX

| Station | Page |
|---|---|
| 9F 233 | 22 |
| 9F 234 | 23 |
| 9F 235 | 24 |
| 9F 236 Not Found | |
| 9F 237 | 60 |
| 9F 238 | 61 |
| 9F 239 Not Found | |
| 9F 239 A Not Found | |
| 9F 240 Fd. | 80 |
| 9F 241 | 26. |
| 9F 242 | 25 |
| 9F 243 | 19 |
| 9F 244 | 66 |
| 9F 245 | 18 |
| 9F 246 | 17 |
| 9F 247 | 35 |
| 9F 248 | 12 |
| 9F 248 A Not fd. | |
| 9F 249 | 13 |
| 9F 250 | 9 |
| 9F 251 | 14 |
| 9F 252 | 11 |
| 9F 254 | 63 |
| 9F 255 CUT IN | |
| 9F 256 | 10 |

## INDEX. 2168 1

| Station | Page |
|---|---|
| 9F 256 A | |
| 9F 257 | 16 |
| 9F 258 | 15 |
| 9F 259 | |
| 9F 260 | 15 |
| 9F 261 | 56 |
| 9F 262 | 55 |
| 9F 265 | 58 |
| 9F 266 Not Fd. | |
| 9F 280 | 45 |
| 9F 281 | 70 |
| 9F 282 | 51 |
| 9F 283 | 50 |
| 9F 284 | 49 |
| 9F 285 | 46 |
| 9F 286 | 47 |
| 9F 287 | 48 |
| 9F 288 C.I. | |
| 9F 289 | 40 |
| 9F 290 | 43 |
| Morena ECC | |
| Island | |
| S.D.U. | 6 |
| BM. A322 | 73 |
| Cont. on Page 0 | |

AERIAL SURVEY COORDINATE

POSITIONS.

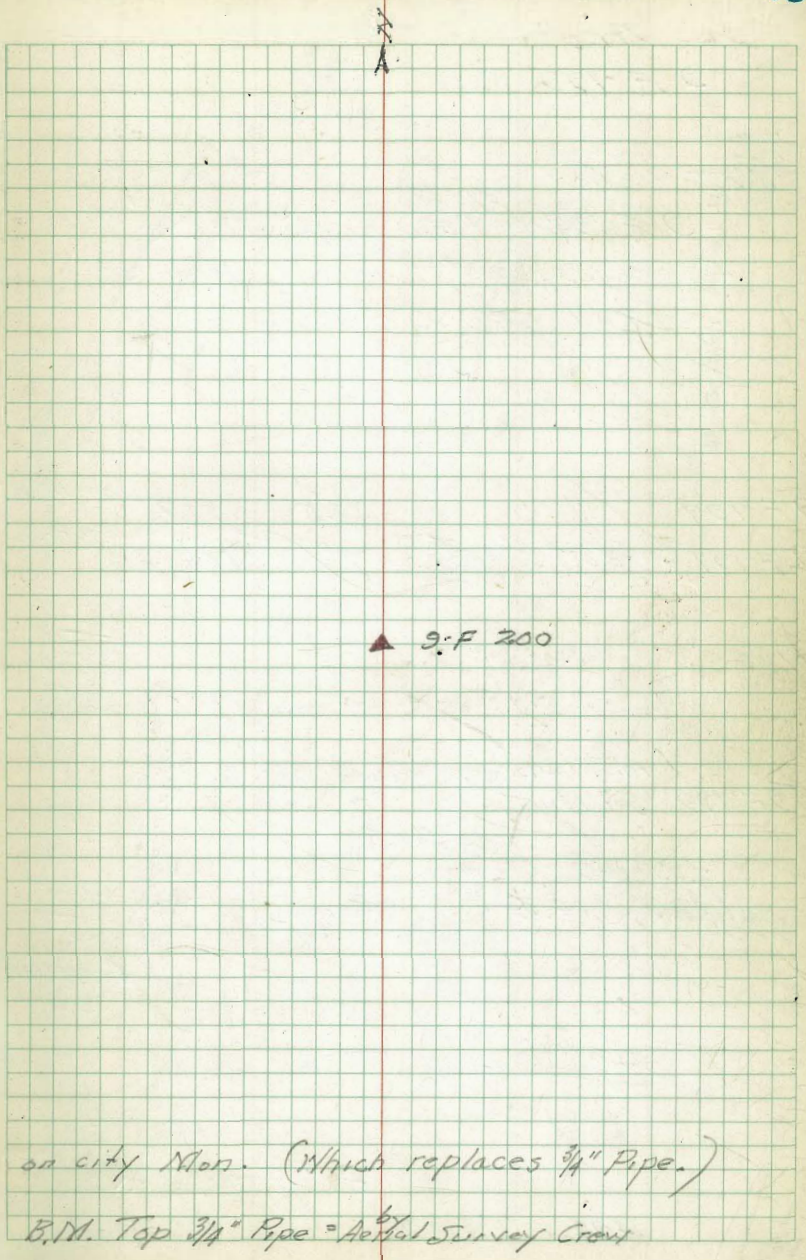
Walker ~ TIES ~
Pope
Huffman 9F-200 Photo 1-31
Bishop
1-22-52.

9F 200 Fd. Pipe.
Set Conc. Mon
2,21,757.88 N
1,706 377.24 E

Elev

T.P. -4.61

4.04 4.23




on city Mon. (Which replaces 3/4" Pipe.)

B.M. Top 3/4" Pipe = Aerial Survey Crew

AERIAL SURVEY, PLANE COORDINATE POSITIONS

~ TIES ~

9 F-199

Walker
Pope
Huffman
Bishop
1-23-52

9 F 197 Fd. Pipe Set Mon & Ref Ties.

229,986.52 N Photo 29

1,707,342.99 E

9 F-197 3.25 196.95 on Mon

9 F-197 3.35 200.20 196.85 on Pipe

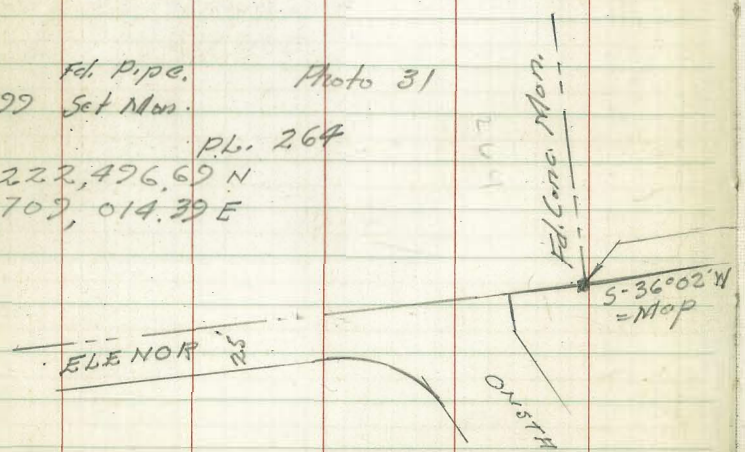
Fd. Pipe.

9F 199 Set Mon. Photo 31

P.L. 264

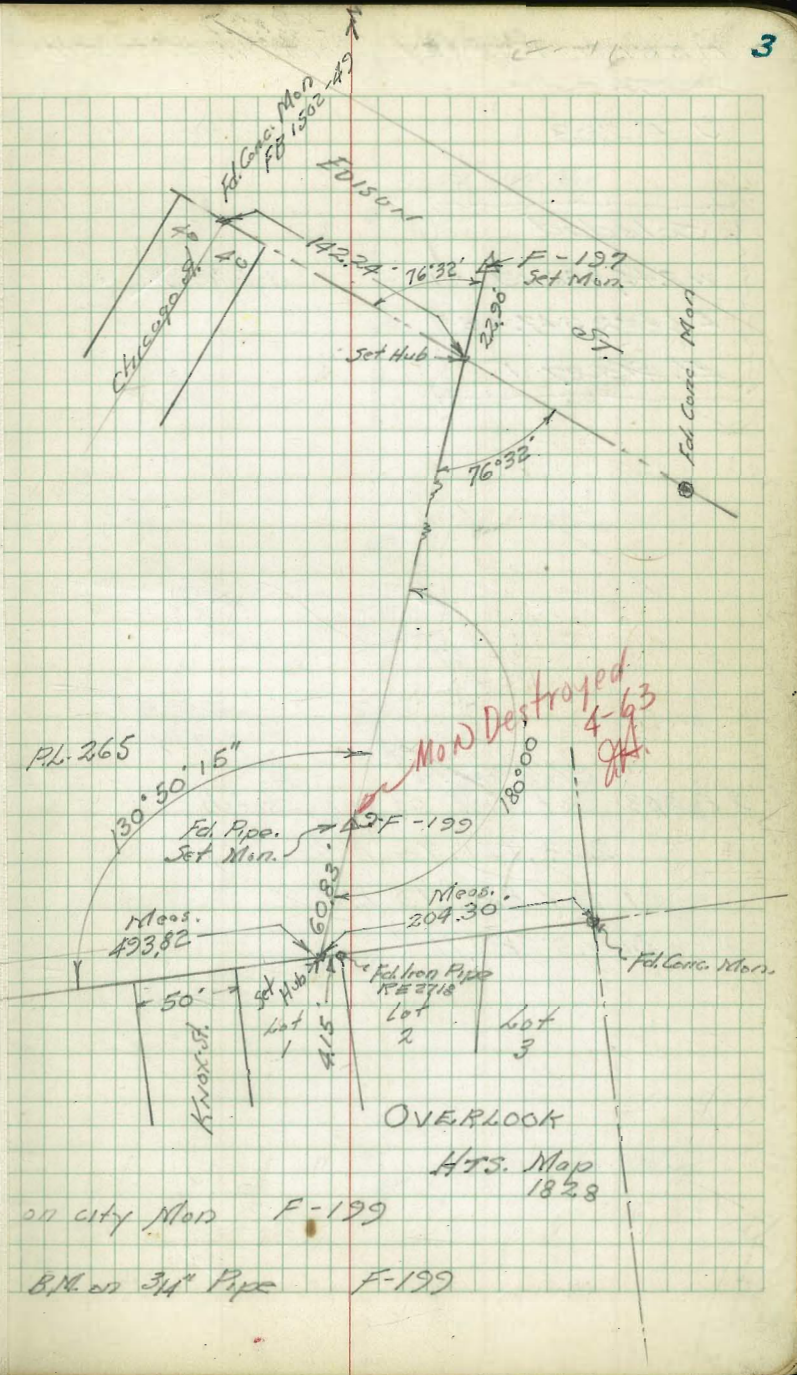
222,496.69 N

1,709,014.39 E




4.88 180.44

4.99 188.32 180.33




on city Mon F-199

B.M. on 3/4" Pipe F-199

AERIAL SURVEY PLANE COORDINATE POSITIONS

~Ties~

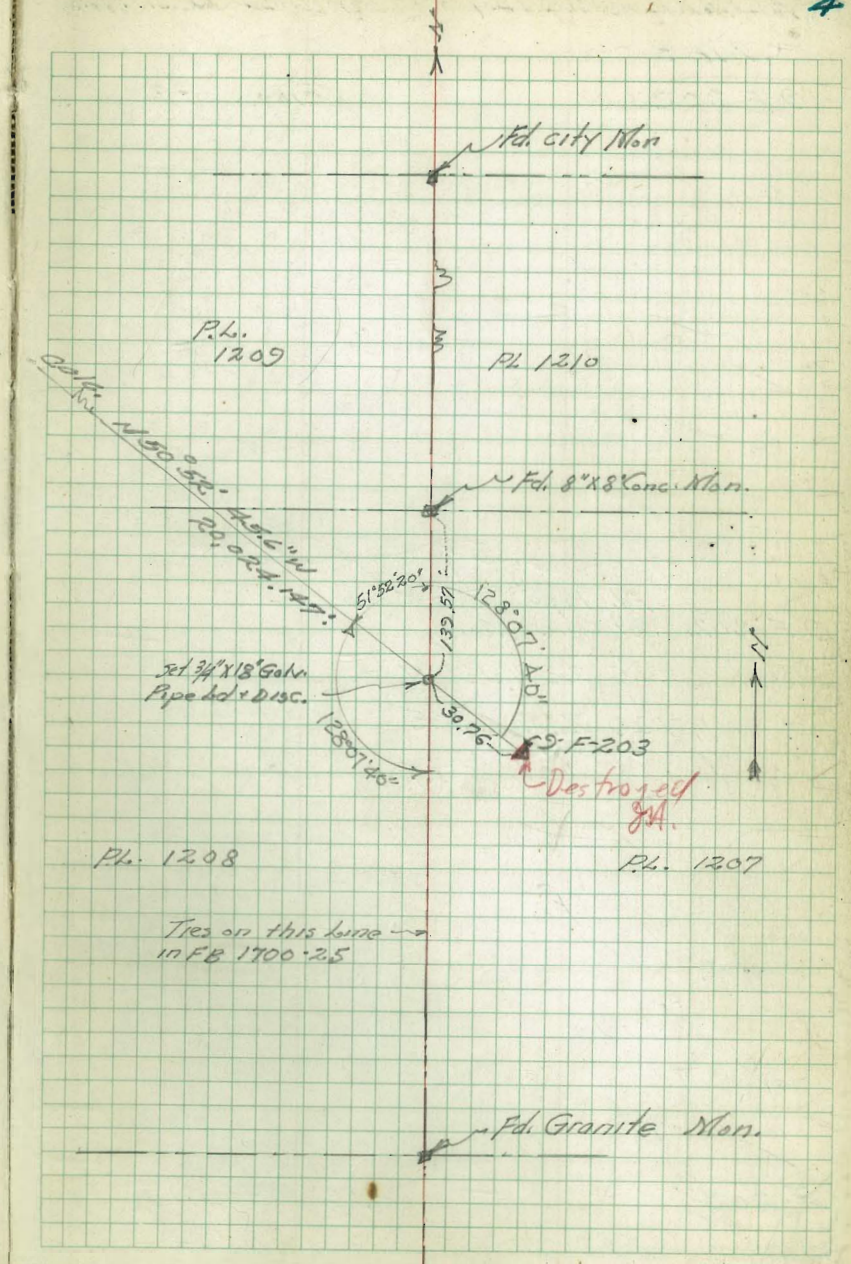
9 F 203 Photo 1-28

Soledad
N 246,396.13
E 1,692,347.68
El. 815.27

Soledad ~~Mon.~~

9 F 203 Fd. Pipe. Set Ties as per sketch
233,761.78 N
1,707,882.79 E
Elev. = 2,847.71

E -14



AERIAL SURVEY PLANE COÖRDINATE POSITIONS

~ TIES ~

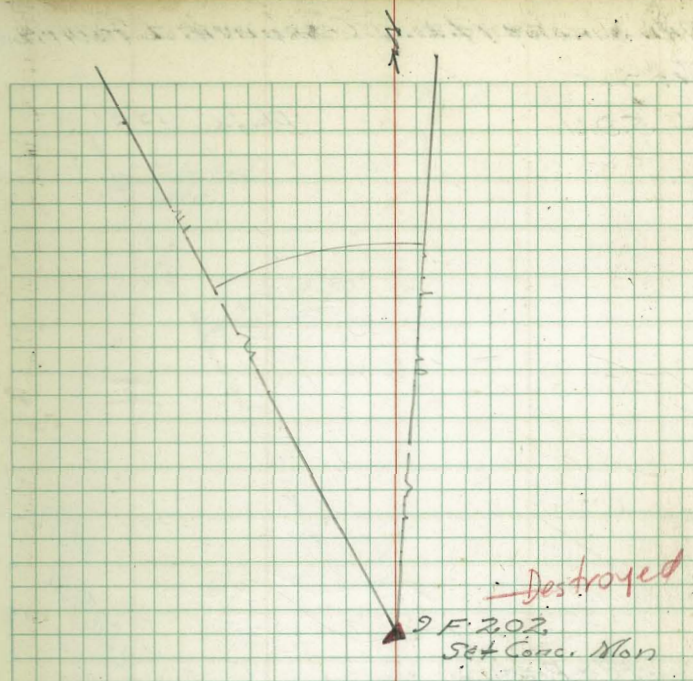
9 F 202 Photo 1-30

9 F 202 Fd. Pipe
Set Conc. Mon
226,232.33 N
1,709,793.01 E

F 202 4.80 245.41

F 202 4.82 250.21 245.39






on Conc. Mon.

on Pipe

AERIAL SURVEY PLANE COORDINATE POSITIONS

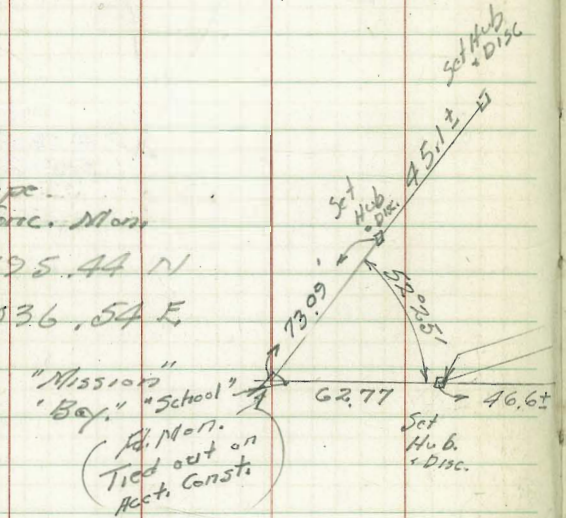
~Ties~

Walker
Pope
Hoffman
Bishop
1-23-52

S.D.U

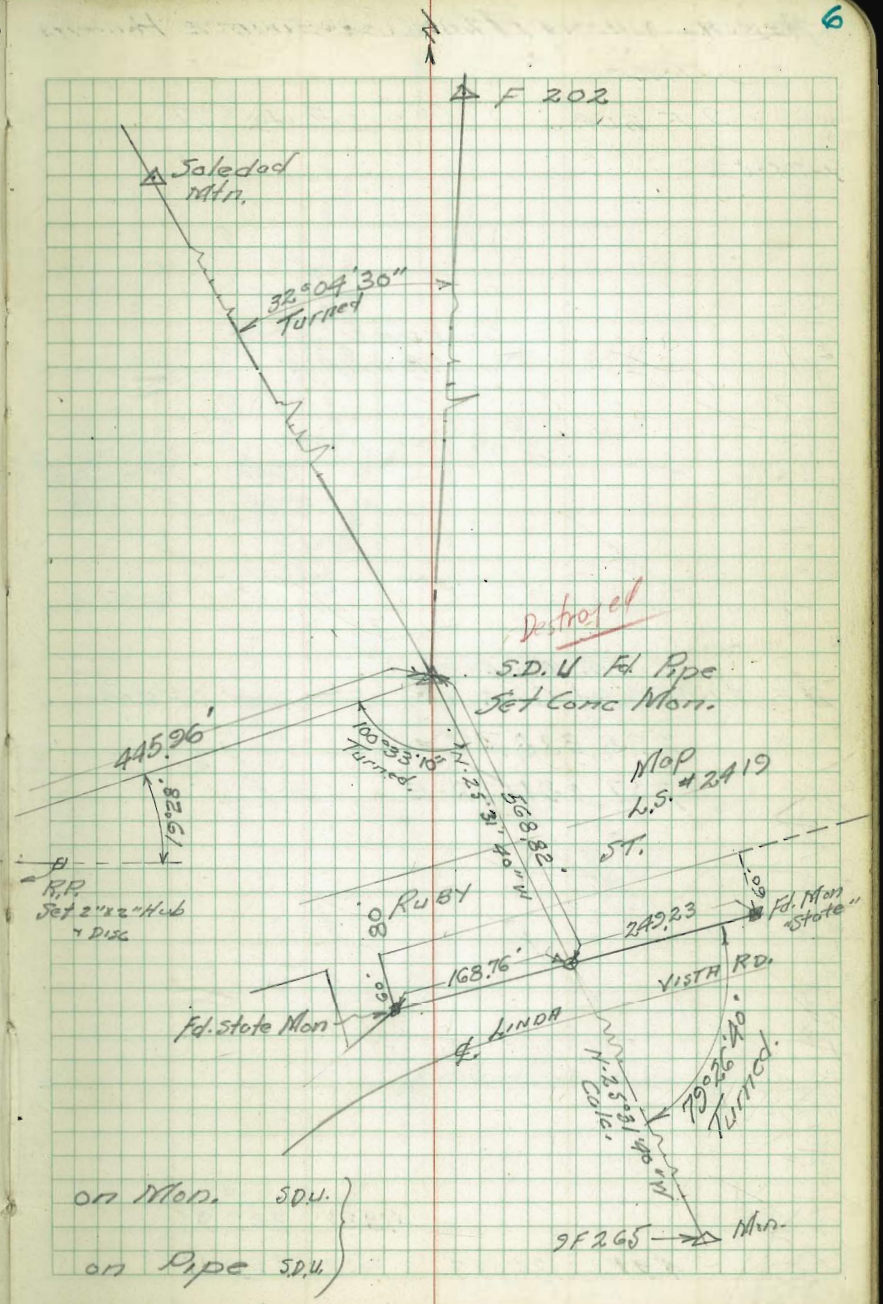
Photos 1-31

S.D.U. Fd. Pipe.
Set Conc. Mon.
220 795.44 N
1,710,036.54 E




SDU 5.02 200.00

5.02 200.00




on Mon. S.D.U.
on Pipe S.D.U.

AERIAL SURVEY PLANE COORDINATE POSITIONS

TIES

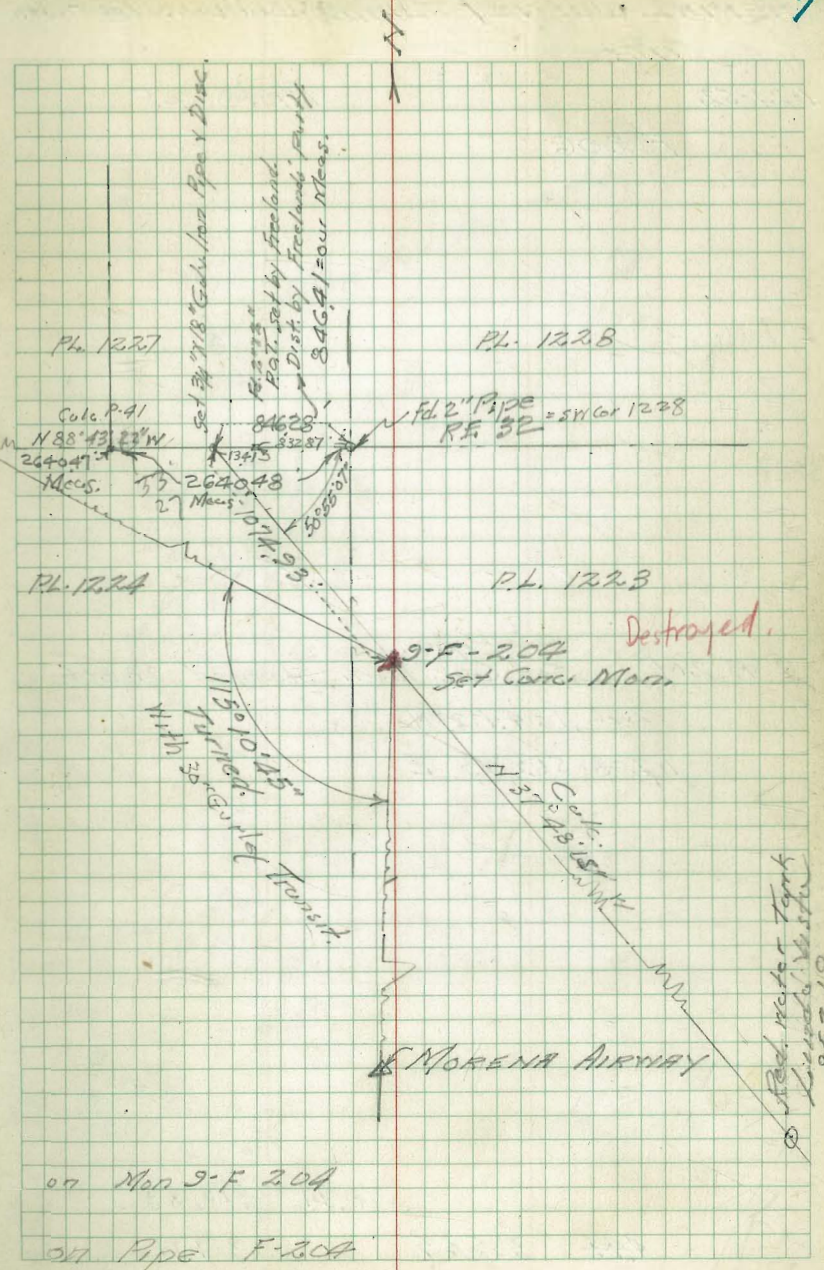
9 F 204 Photo 27

1-24-52

SOLEDAD MOUNTAIN

Fd. Pipe
9 F 204 Set Conc. Mon Stamped 9F204
238,388.67 N
1,707,691.28 E

| | | | |
|---|---|---|---|
| | | 4.92 | 322.95 |
| 4.72 | 334.87 | | 330.15 |



AERIAL SURVEY PLANE COORDINATE POSITIONS

Walker TIES

1-24-52 Photo 25

F 206

9 F 206 Fd. Pipe. Set Conc. Mon. Stamped 2F 206

246,134.72 N

1,708,563.33 E

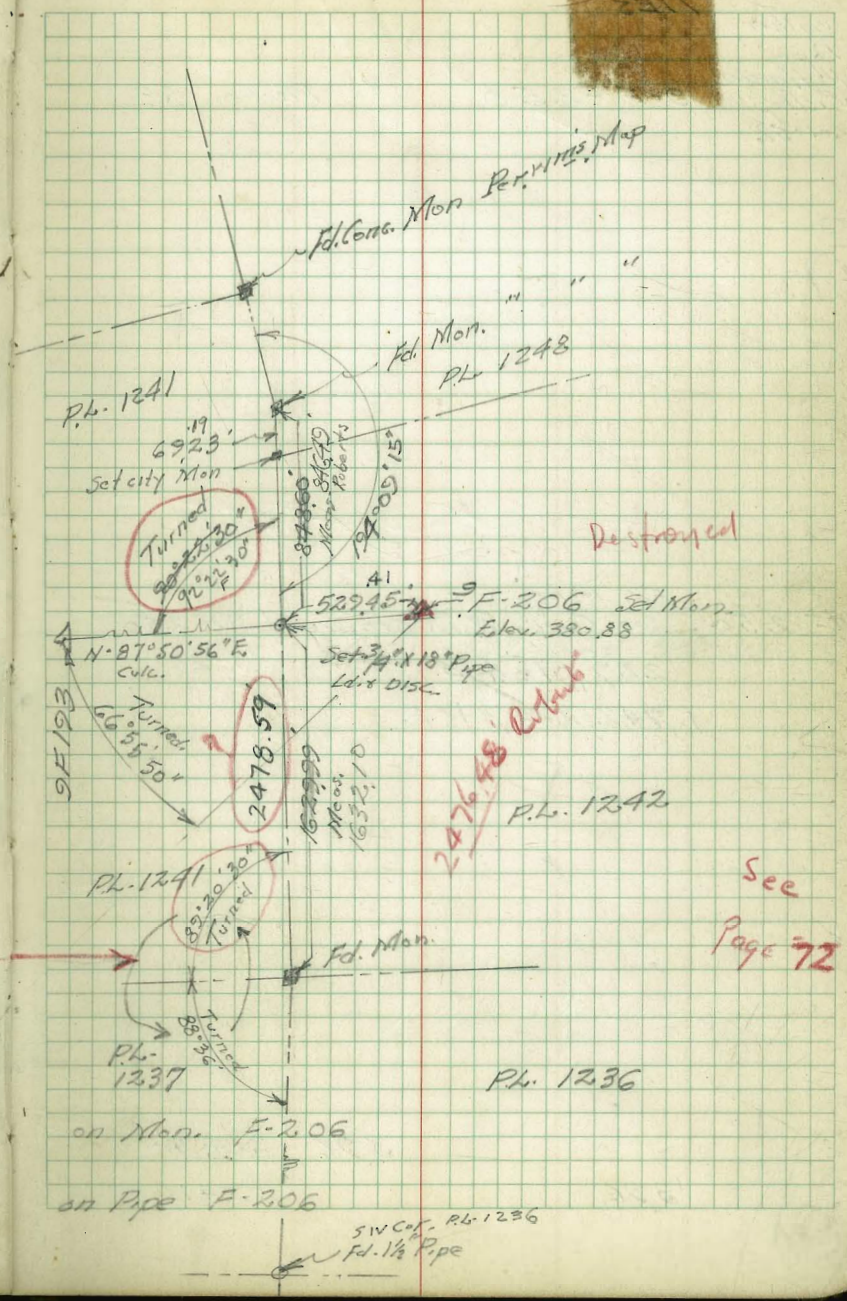
C.I. Dome

4.77 380.88

4.44 385.65 381.21

(Gurley 30" Transit #48198)

8



AERIAL SURVEY - PLANE COORDINATE POSITIONS

9

TIES

Walker
Pope
Hoffman
Bishop
2-1-52

9-F-250 Photo 83

9F 250 Fd. Pipe
set Conc. Mon. stamped 9F 250
229,078.42 N
1,742,224.31 E

Destroyed

Bronze
set Conc. Mon + Disc.
stamped "9-F-250

3.96 224.24

3.96 224.24

on Conc. Mon

on Pipe

AERIAL SURVEY - PLANE COORDINATE POSITIONS

~ TIES ~

Walker
Pope
Huffman
Bishop
2-1-52

9 F 256 Photo 89

9F 252
P-11

27557
P-11

9F 258-P-11

72°58'15"
P-11

Fd. 2" Iron Pipe
RE 32

9141-L
Map
90°00'

Meas.
2023.78'

Set Conc. Mon Marked
9-F 256

1050
Broadcasting
Station

600'
Map

99°01'50"
Turned

56°38'34"
Turned

Fd. 2" I.P.
RE 13141

25°36'36"
Calc.

X see
5X8 card
9F-256

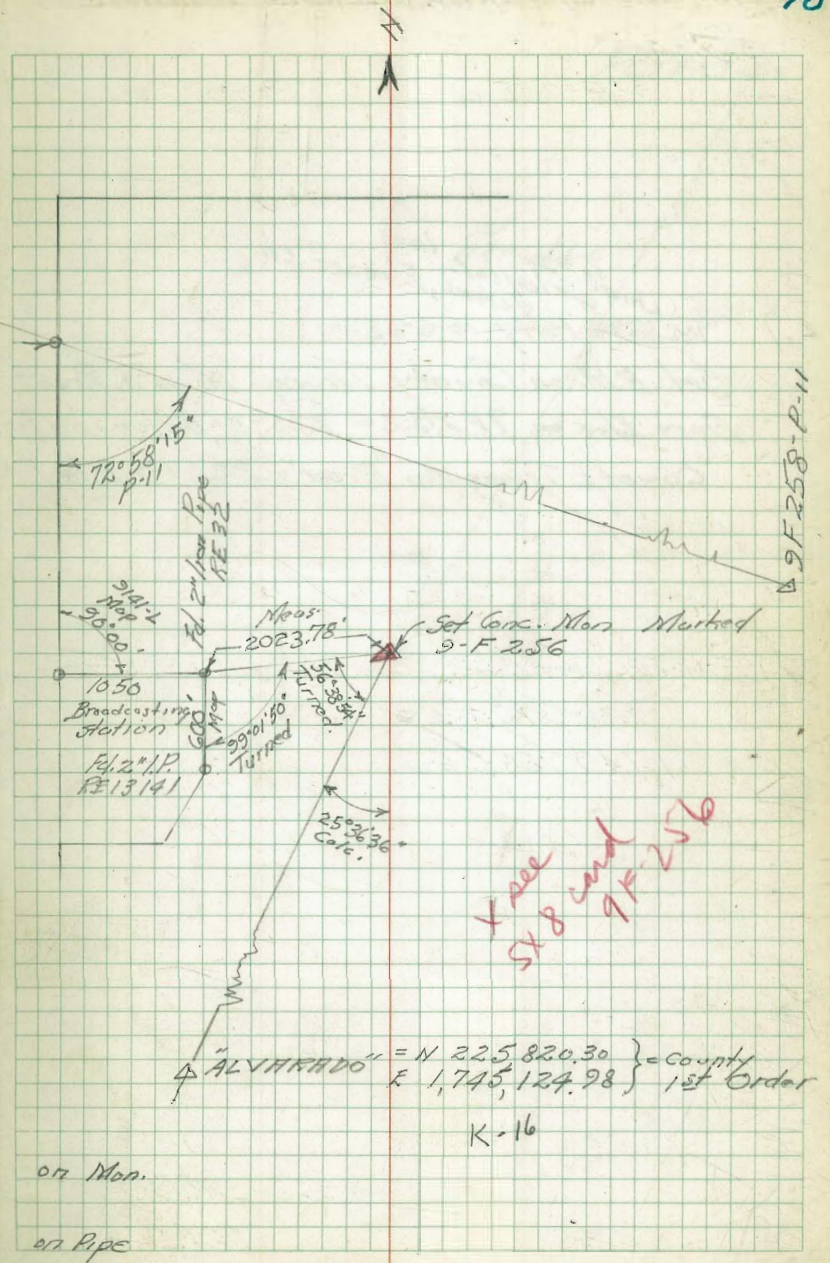
"ALVARADO" = N 225,820.30 } = County
E 1,745,124.98 } 1st Order

K-16

9 F 256 Fd. Pipe.
Set Conc. Mon Stamped 9F 256
230,321.57 N
1,747,282.58 E

1.96 351.48

1.96 351.48



on Mon.

on Pipe

AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

Walker 9-F-252 Photo 90
Pope Hoffman
Bishop
2-1-52

Chief: Taylor, Inst: Johns, Elmore, Ch.
Walker & Party 10-6-55

Set B.M. on County Triang. Mon △ "RIVER"
From Elev. on 9F 252 = 325.93 - Bottom This Pg.
County Triang Mon "River" = 326.19 Elev.

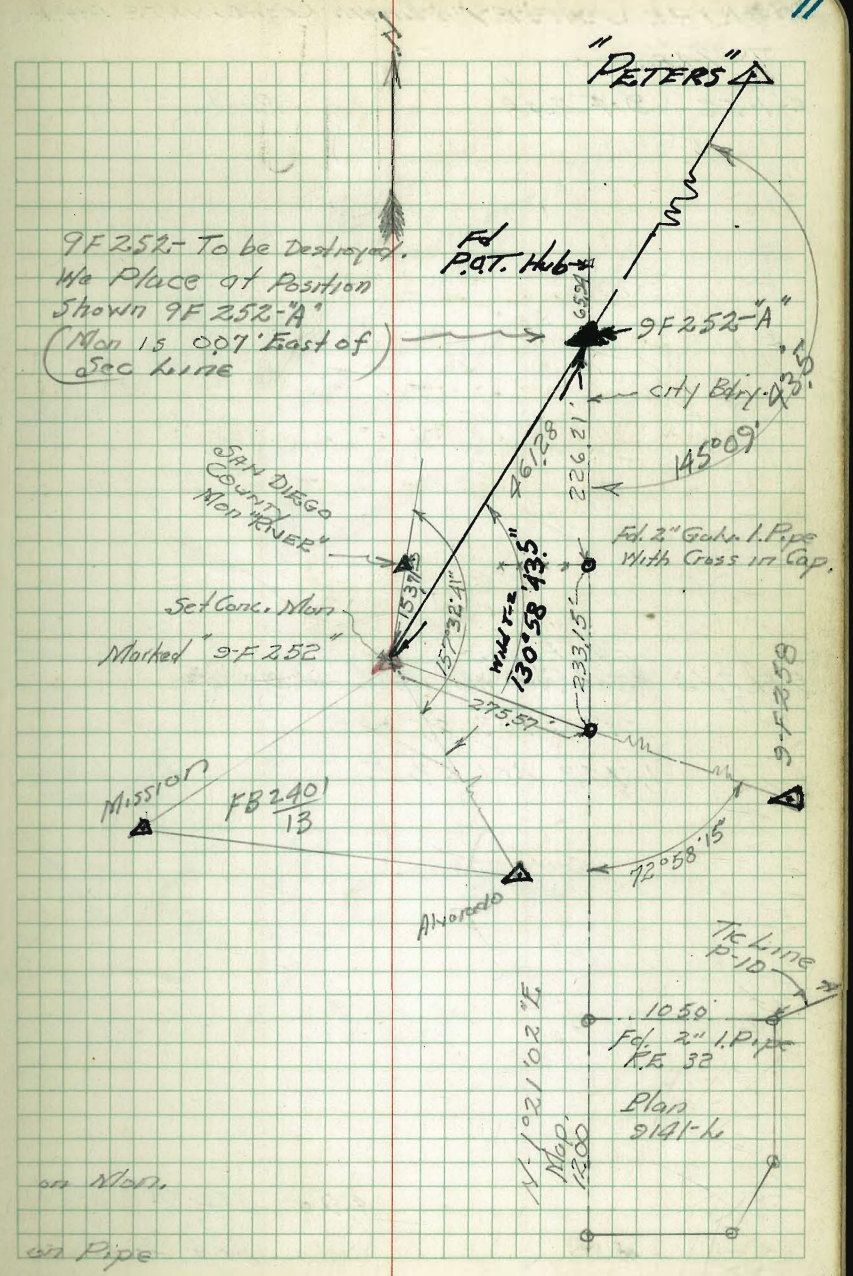
9-F-252 Set Conc. Mon. Marked 9-F-252
230,815.23 N
1,743,980.34 E

K-14

4.36 325.93

4.35 325.94





AERIAL SURVEY PLANE COORDINATE POSITIONS

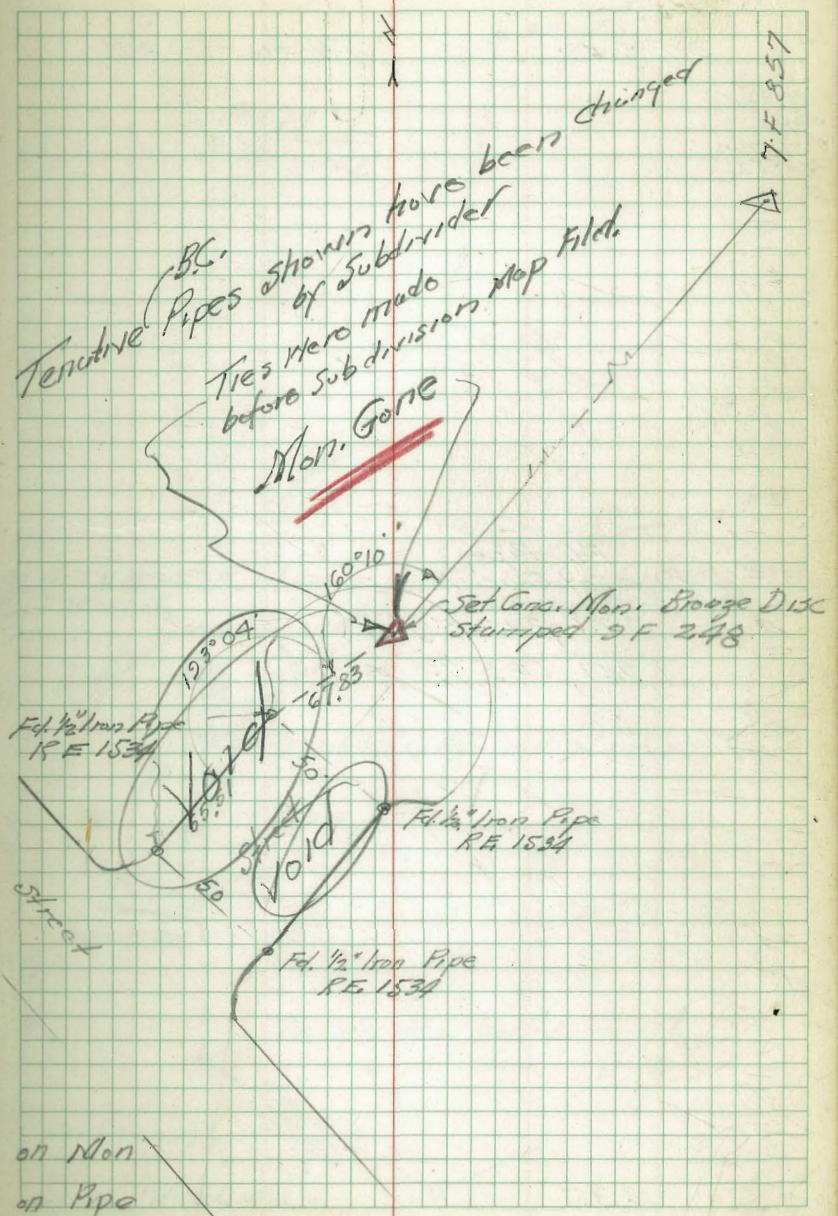
~TIES~

2-1-52 9-F 248 Photo 1- 88

9 F 248 Fd. Pipe.
Set Conc. Mon Stamped 9 F 248
222,703.85 N
1,742,401.63 E

4.90 384.04

4.80 384.14




on Mon

on Pipe

AERIAL SURVEY PLANE COORDINATE POSITION

~Ties~

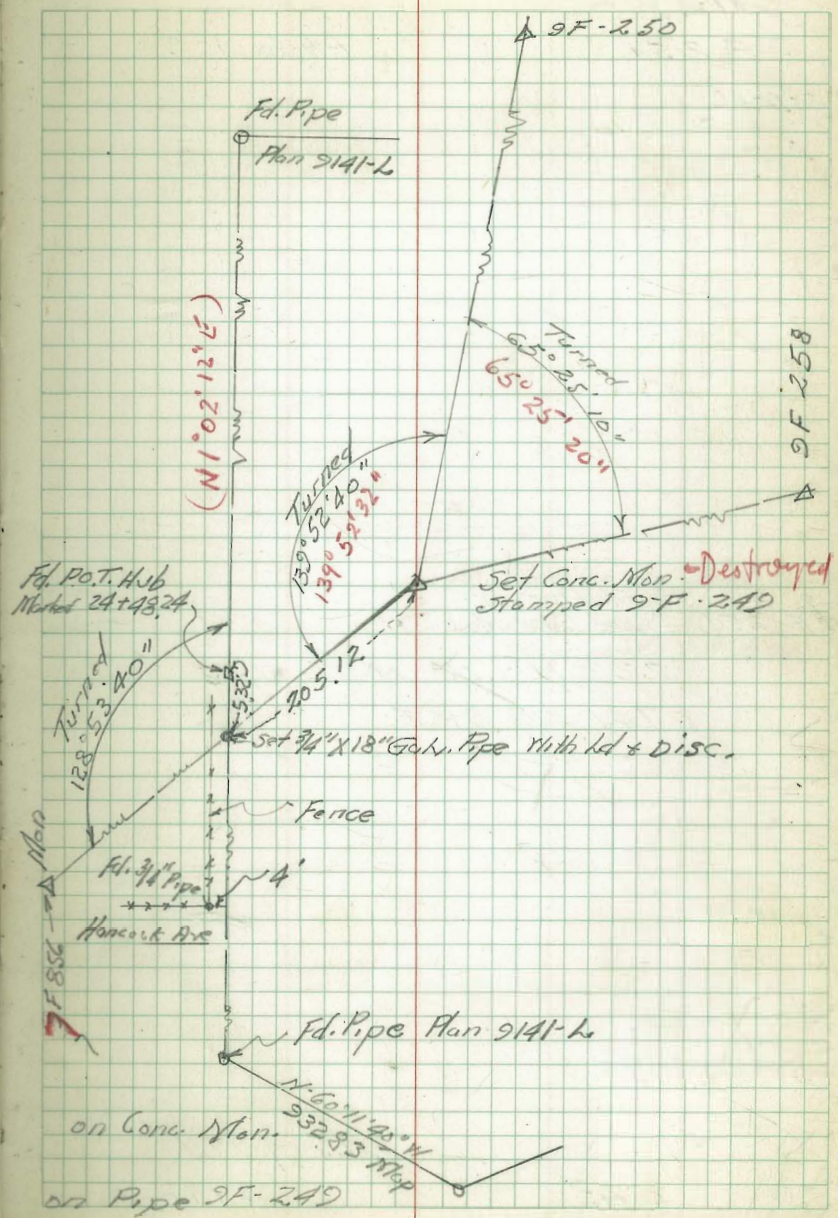
9-F 249 Photo 1-82

Walker
Pope
Hoffman
2-4-52.

9F 249 Fd. Pipe
Set Conc. Mon. Stamped 9F 249
226,313.59 N
1,741,635.73 E

4.37

4.35 250.48



AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

9F 251 Photo 1-90

2-6-82

9F 251 Fd. Pipe.
Set Conc. Mon

233,110.18 N

1,741 418.98 E

Fd. Pipe, (in Md. Sand 10' High)
Set Conc. Mon
Stamped 9F 251

0.25 97.70 on Mon

0.23 97.72 on Pipe

AERIAL SURVEY PLANE COORDINATE POSITIONS

~TIES~

9F-260 Photo 1-93

229,742.93 N
1,754,267.83 E

= S
COUNTY STATION
MURRAY

9F 258 Set ~~Bronze~~ Copper Disc. in Large Rock
Marked "City Eng."

Elev 822.88
228,437.48 N Photos 1-93
1,751,168.67 E

= COUNTY STA
"CITY"

9F-260 0.88 644.67
163 645.65 644.02

Stamped
9F 260
Set Conc. Mon.
20" Long 0.8
Above Nat. Ground.

Const. Mound Earth
0.8' High 3' Dia.
Top Ridge in Plowed
field.

9F 258

Destroyed
Existing Triang. Mon
L.S. 1880 - "Diane".
Dated Nov. 17-1938.
We stamped this No
9F 259

on Mon

on Pipe

AERIAL SURVEY BANK COORDINATE POSITIONS

— TIES —

9F 257 Photo 1-90

Walker
Pope
Huffman
2-6-52

9F 257 Fd. Pipe.
Set Conc. Mon Stamped 9F 257
233,729.43 N
1,747,704.24 E.

0.18 341.16

0.21 341.13

Fd. Pipe
Set Conc. Mon
Stamped 9F 257

on Mon.

on Pipe

AERIAL SURVEY PLANE COORDINATE POSITIONS

TIES

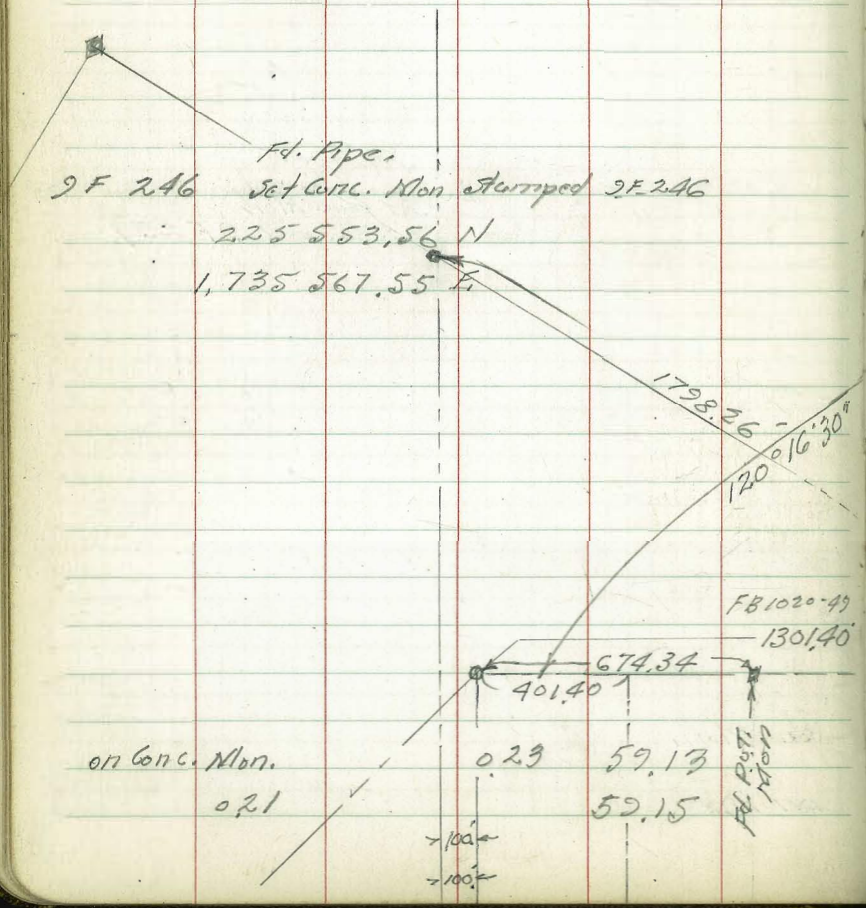
Walker
Pope
Hoffman

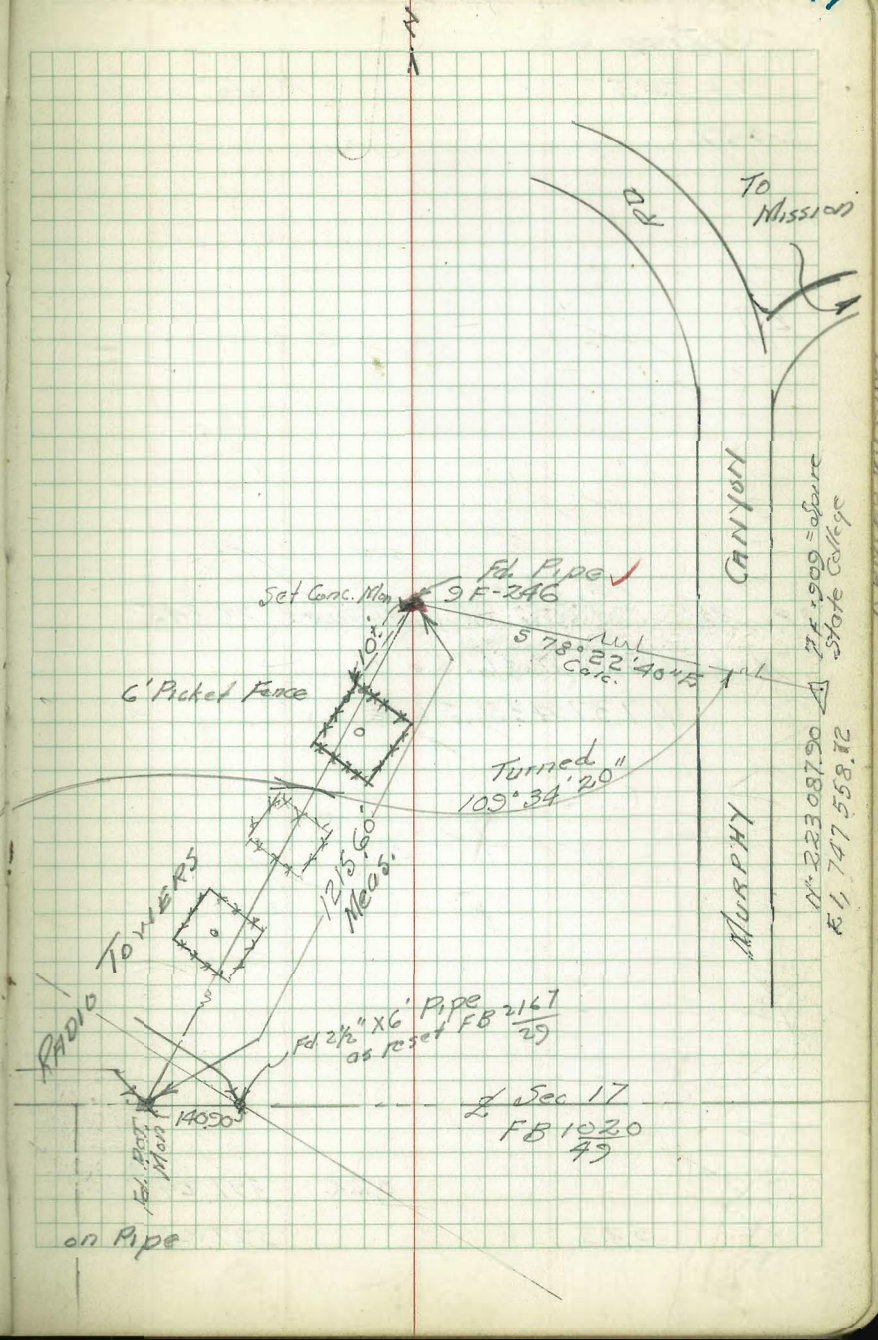
9F 246

Photo 1-83

2-6-52

Ties Made 8-26-52
Walker
Hardin
Hoffman
Presley



AERIAL SURVEY PLANE COORDINATE POSITIONS

TIES

9F 245 Photo 1-80

2-6-52

9F 245 Fd. Pipe. Set Conc. Mon. stamped 9F 245

230,486.66 N

1,737 435.56 E

0.22 397.24

0.23 397.23

Fd. Pipe

Set Conc. Mon Stamped "9F-245"

on Mon

on Pipe

AERIAL SURVEY PLANE COORDINATE POSITIONS

TIES

9F 243 Photo 1-68

2-6-52

9F 243 Fd. Pipe, Set Conc. Mon. Stamped 9F 243

246,136.97 N

1,731,258.48 E

0.42

0.43 424.67

N

19

9F 243 Fd Pipe

Set Conc Mon Stamped 9F 243

on Mon

on Pipe

AERIAL SURVEY PLANE COORDINATE POSITIONS

TIES

9F230 Photo 1-42

2-6-52

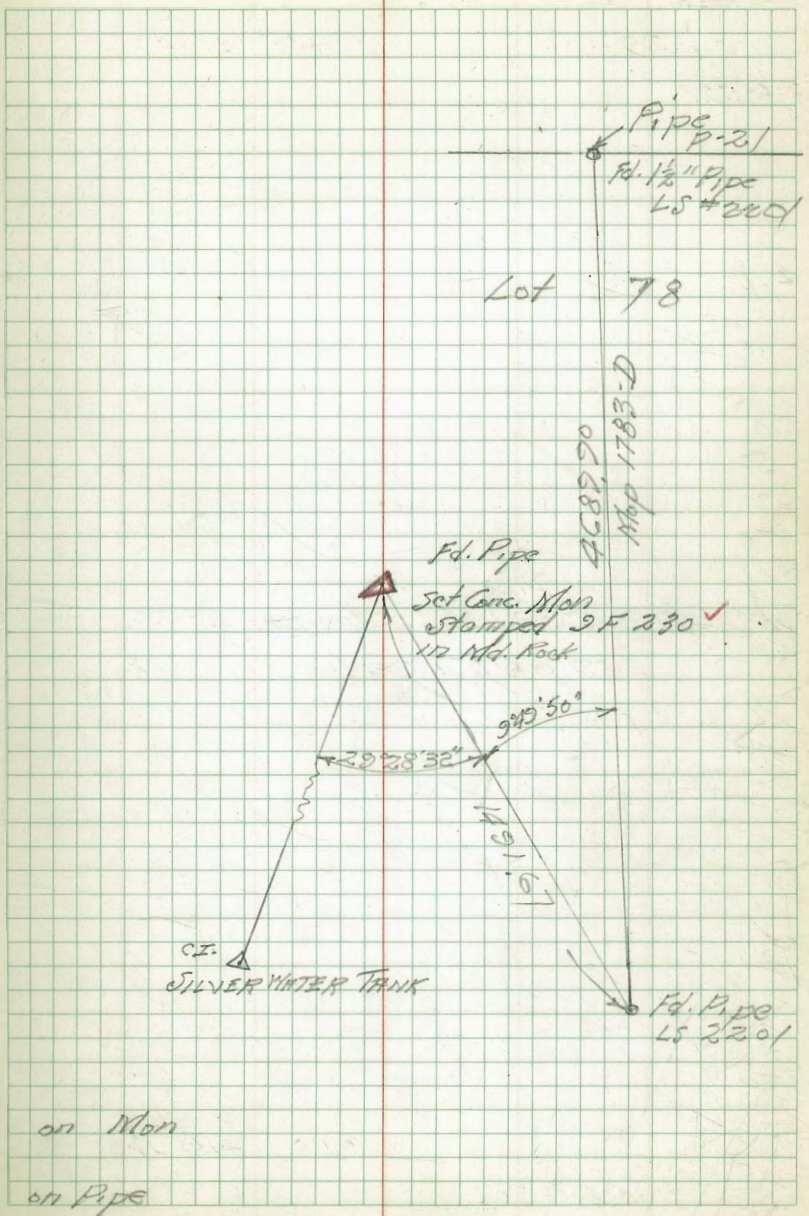
9F 230 Fd. Pipe. Set Conc. Mon. Stamped 9F 230

245,394.23 N

1,726,432.89 E

0,00 407.46 ~~406.24~~

0,61 407.46 406.85




on Mon

on Pipe

AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

9F-229 Photo 1-41

2-6-52

Fd. Pipe.

9F 229 Set Conc. Mon. Stamped 9F-229

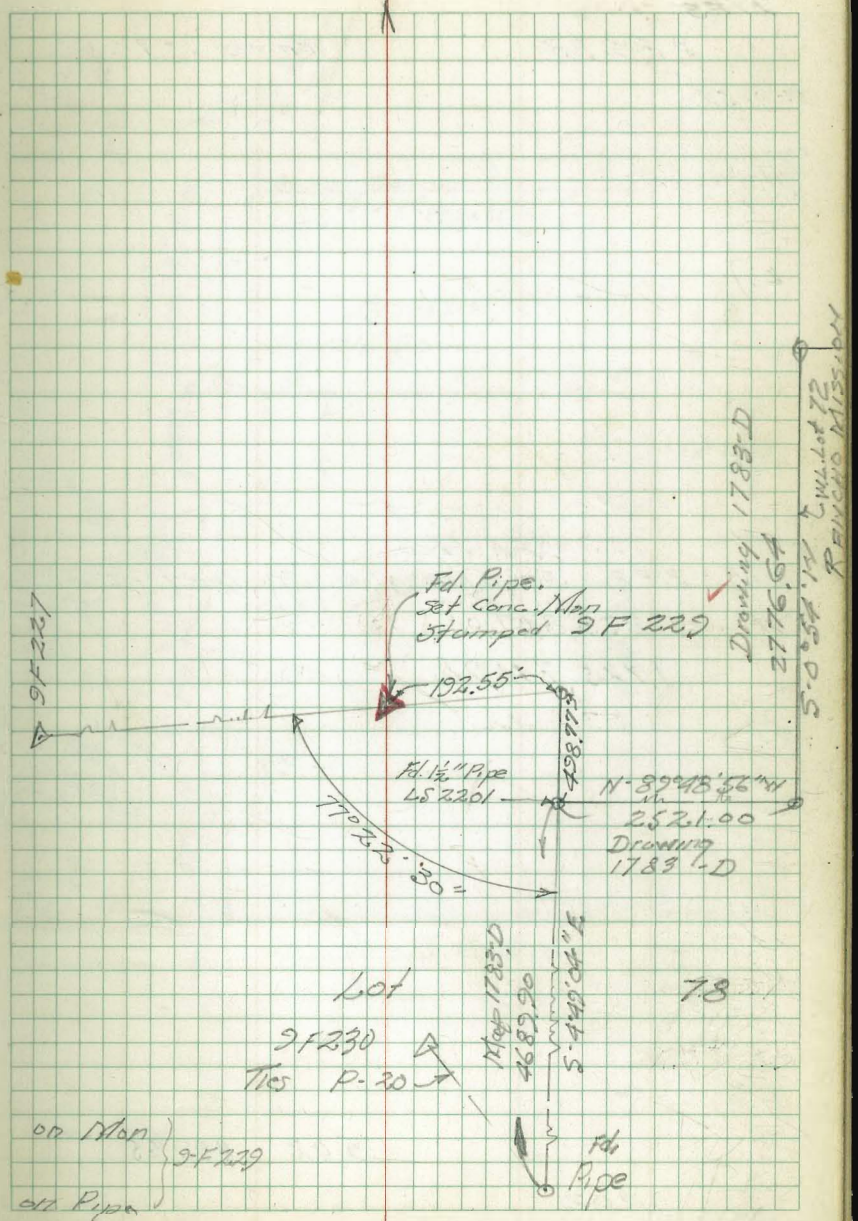
249,067.15 N

1,726,221.25 E

0.00 416.35

0.00





AERIAL SURVEY PLANE COORDINATE POSITIONS

TIES

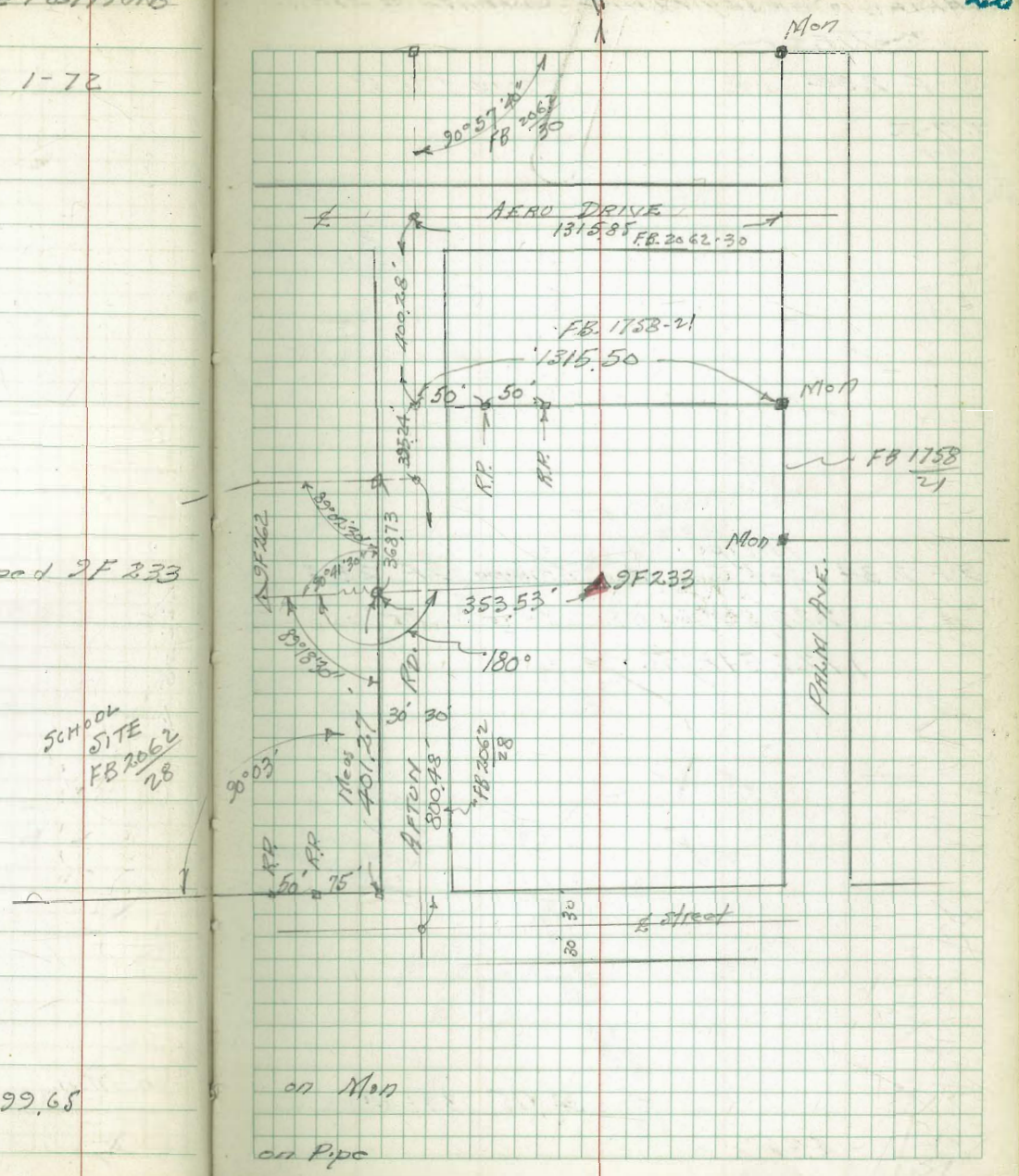
9F 233 Photo 1-72

2-7-52
Walker
Pope
Huffman
Bishop

Fd. Pipe
9 F 233 Set Conc Mon. stamped 9F 233
233,807.05
1,725,741.97

5.02 399.65

5.02



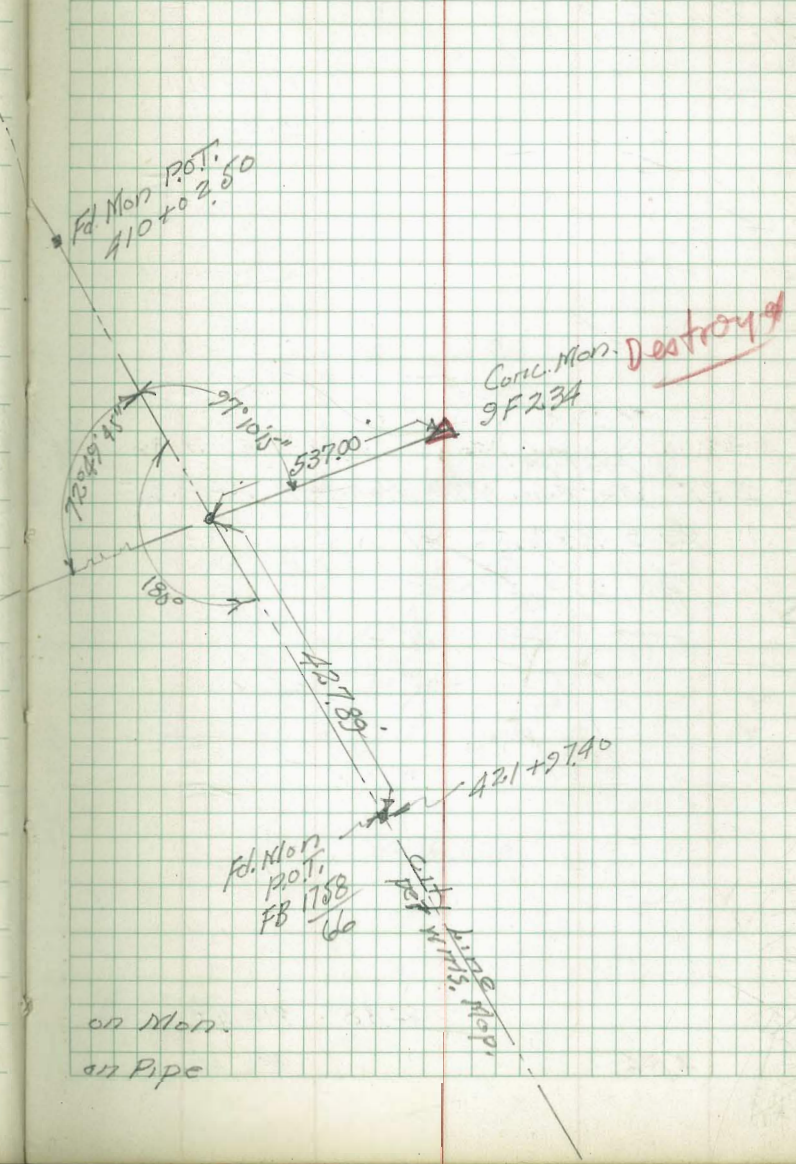

SCHOOL SITE FB 2062/28

AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

9-F 234 Photo 1-74

2-7-52
Walker
Hoffman
Bishop




9 F 234 Fd. Pipe. Set Conc. Mon Stamped 9F 234

229,849.80

1,725,578.56

4.65 397.64

4.65

AERIAL SURVEY PLANE COORDINATE POSITIONS

~Ties~

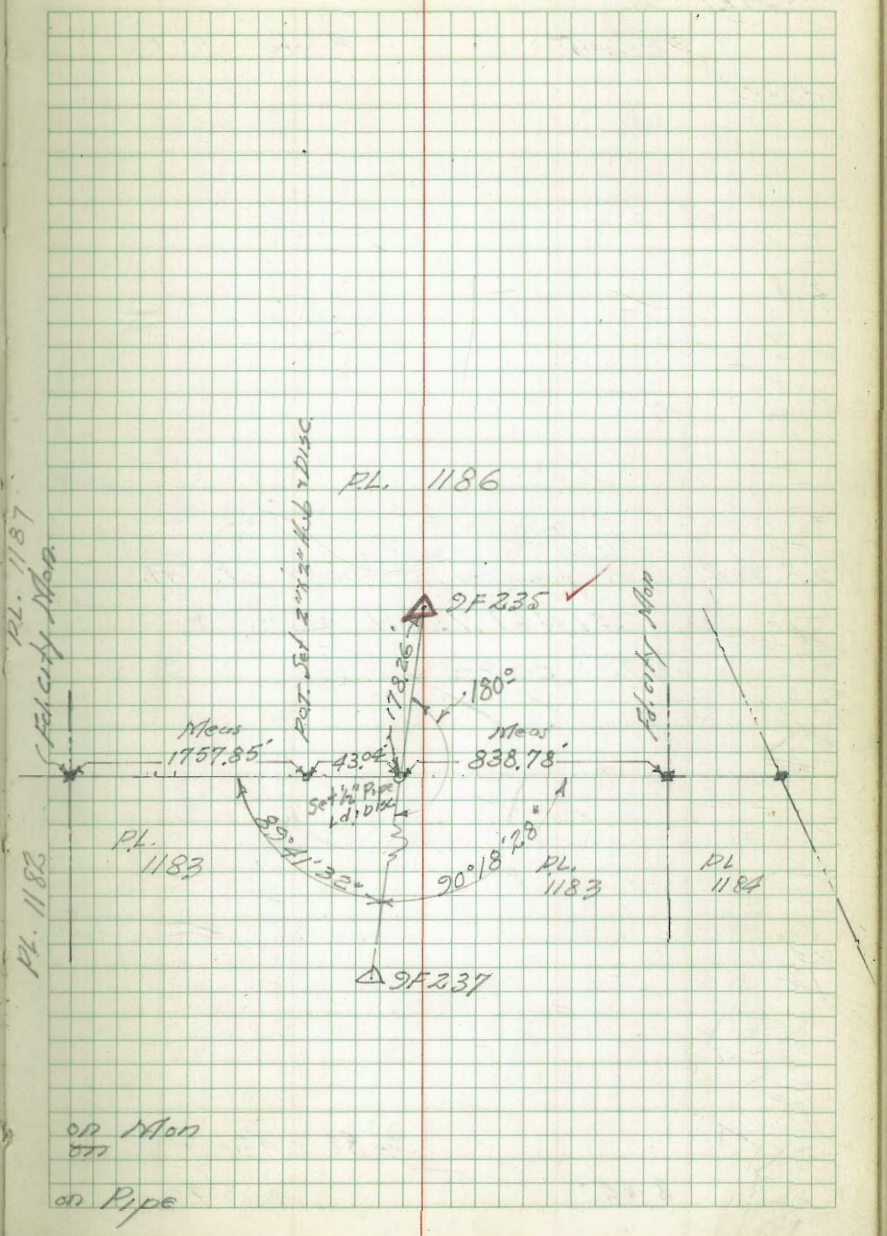
9 F 235 Photo 1-73

2-7-52

Ties Made 3-10-53
Walker
Pope
Brayton

9 F 235 Fd. Pipe. Set Conc. Mon stamped 9F235
225,882.56 N
1,725,394.92 E

9F235 2.88 390.84
2.86 390.86



AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

9F 242 Photo 1-70

2-7-52

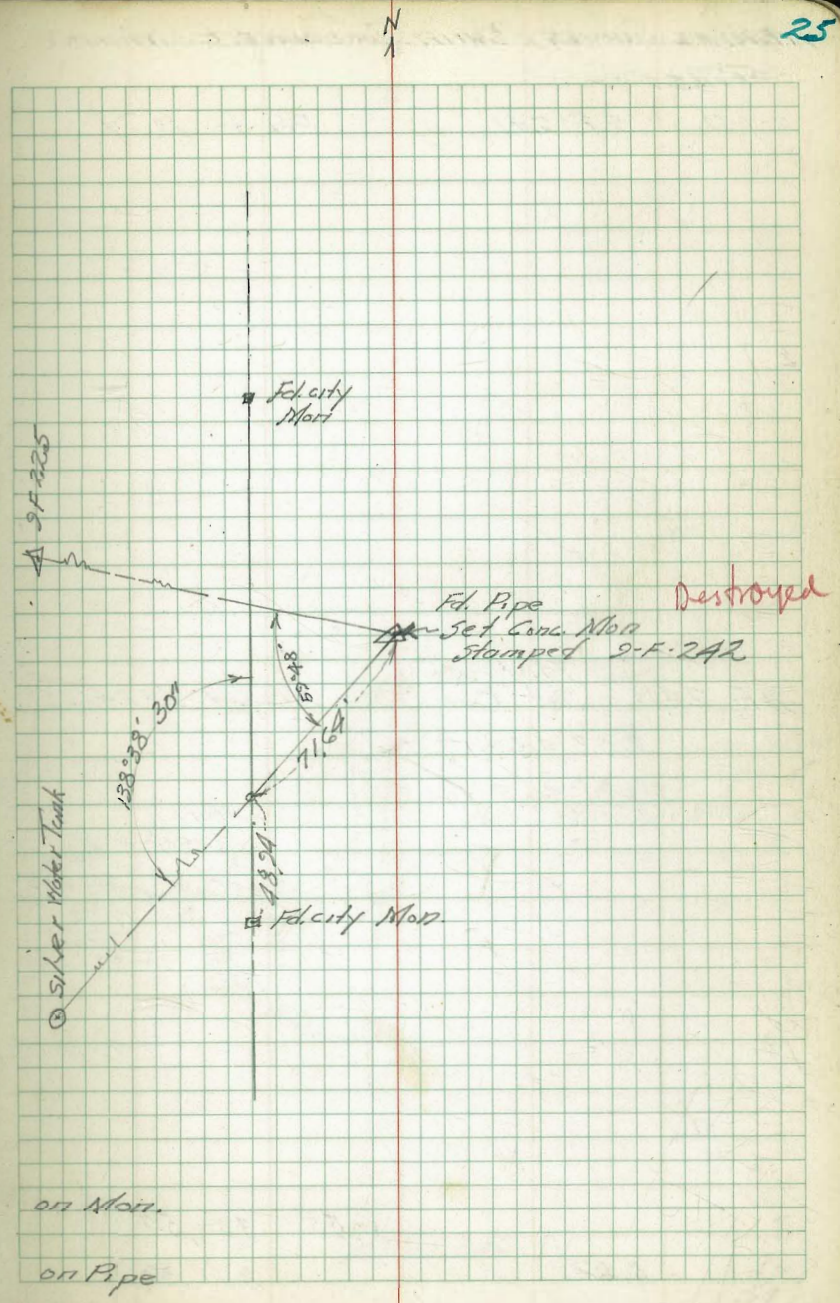
9 F 242 Fd. Pipe. Set Conc. Mon. Stamped 9 F 242

241,461.75 N

1,731,004.50 E

3.45 42639

3.44 42640



AERIAL SURVEY PLANE COORDINATE POSITIONS

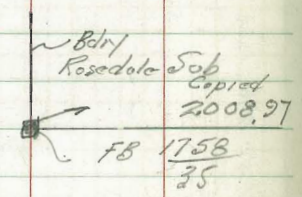
~TIES~

2-7-52 9F 241 Photo 1-71

9F 241 Ft. Pipe. Set Conc. Mon stamped 9F241.

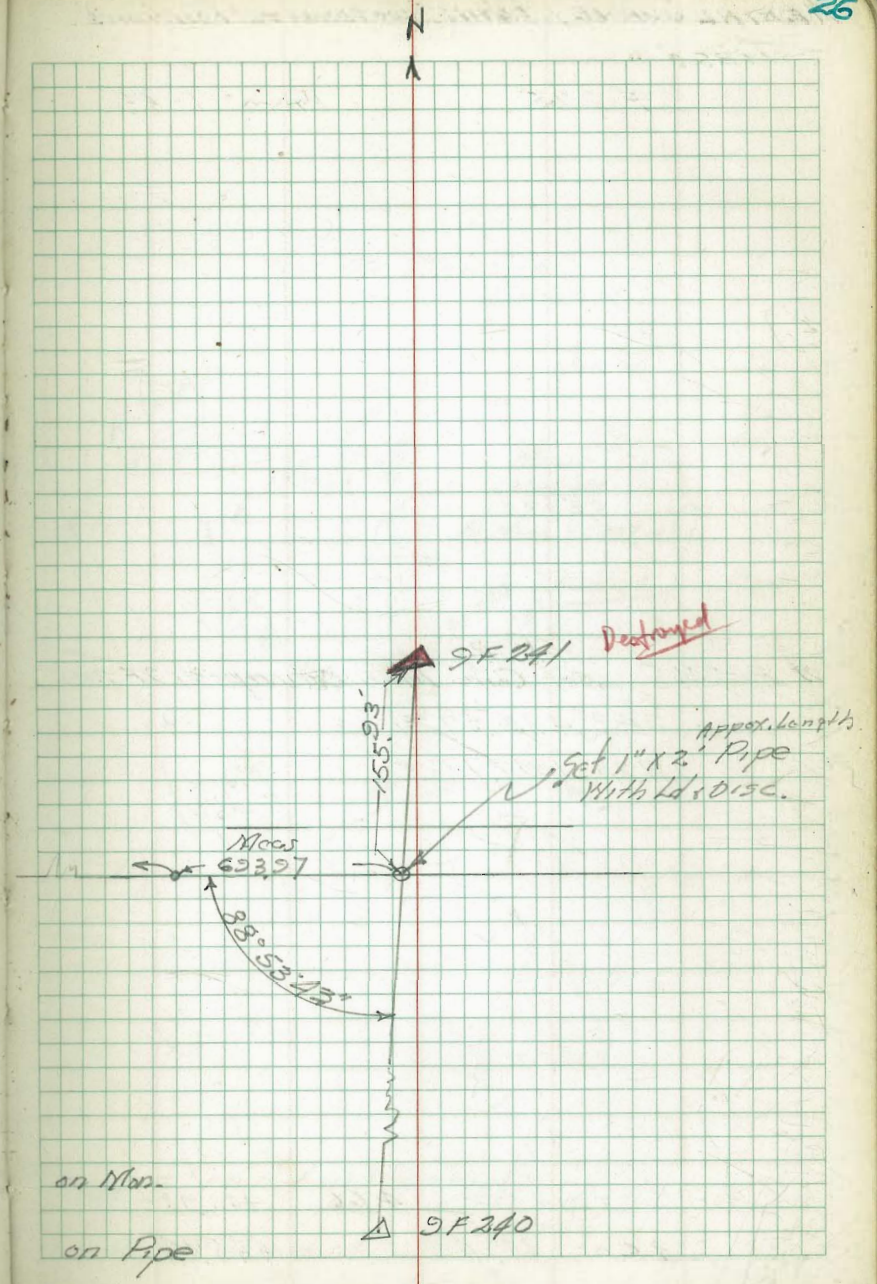
233,457.17 N

1,731,665.14 E




4.58 390.54

4.62 390.56



AERIAL SURVEY PLANE COORDINATE POSITIONS

~TIES~

9 F 225 Photo 1-43

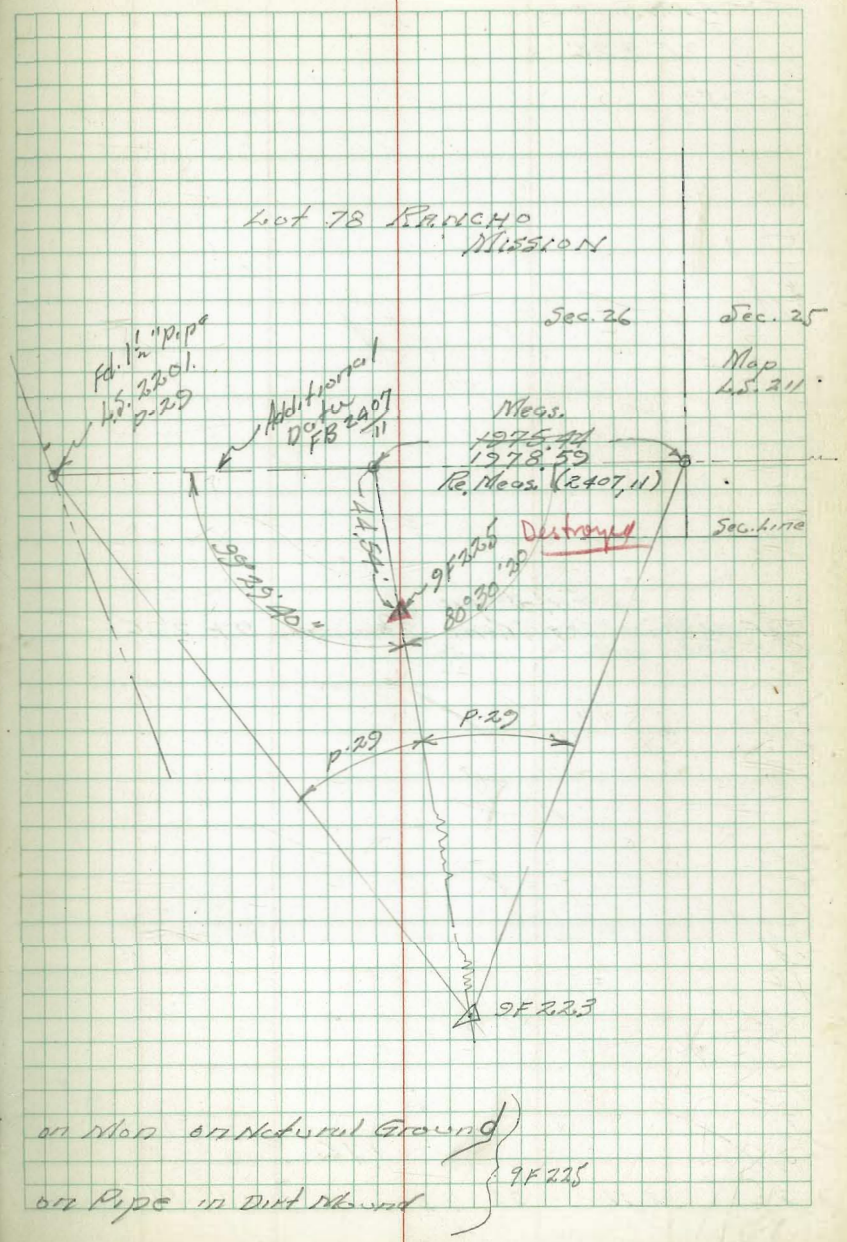
9 F 225 Fd. Pipe Set Conc. Mon. Stamped 9F 225

243,478.57 N

1,721,101.77 E

set Mon to this → 4.66 444.78 = Mon.

3.60 449.44 445.84




on Mon on Natural Ground } 9F 225

on Pipe in Dirt Mound

AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

9F226

2-7-52

9 F 226 Fd. Pipe Set Mon. Stamped 9 F 226

176

2.11

Set Conc. Mon
in Hard Pan Mound
Approx 7' Above Natl. Ground.

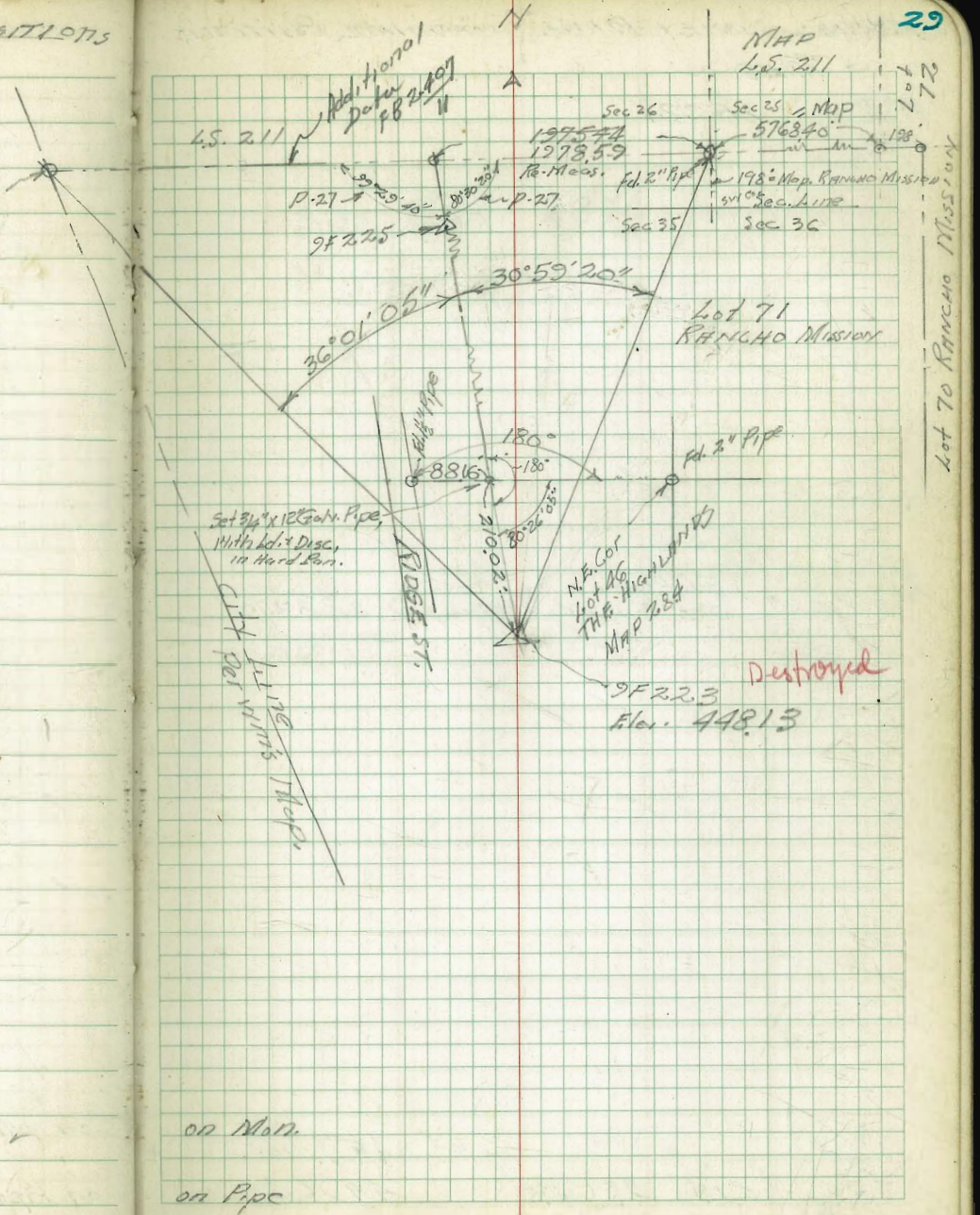
on Mon.

on Pipe

AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

| | | | | |
|---|---|---|---|---|
| 2-8-52 Walker Huffman Pope | 9-F-223 | | | |
| 9 F 223 | Fd Pipe. Set Conc. Mon Stamped | | | 9F223 |
| | | | 2.81 | 448.13 |
| | 2.80 | 450.94 | | 448.14 |



AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

2-8-52 9F227

Walker
Huffman
Pope

9 F 227 Fd. Pipe. Set Conc. Mon Stamped 9 F 227

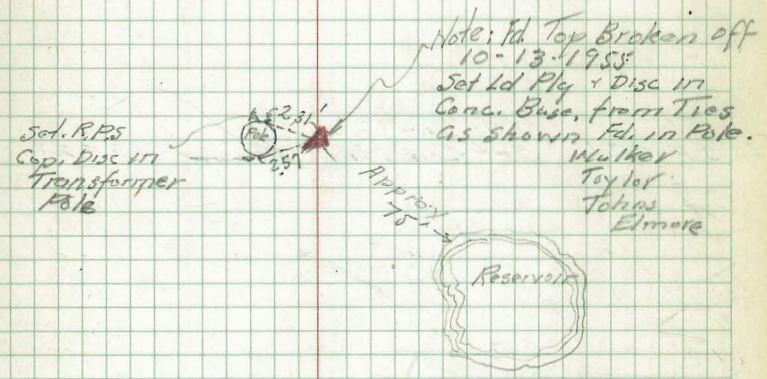
6,21 449.62

6,19 455.83 449.64



N

See Book 2396 page 11
for 9F-227 Ecc




on Mon.

on Pipe

AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

9 F 221

2-7-52

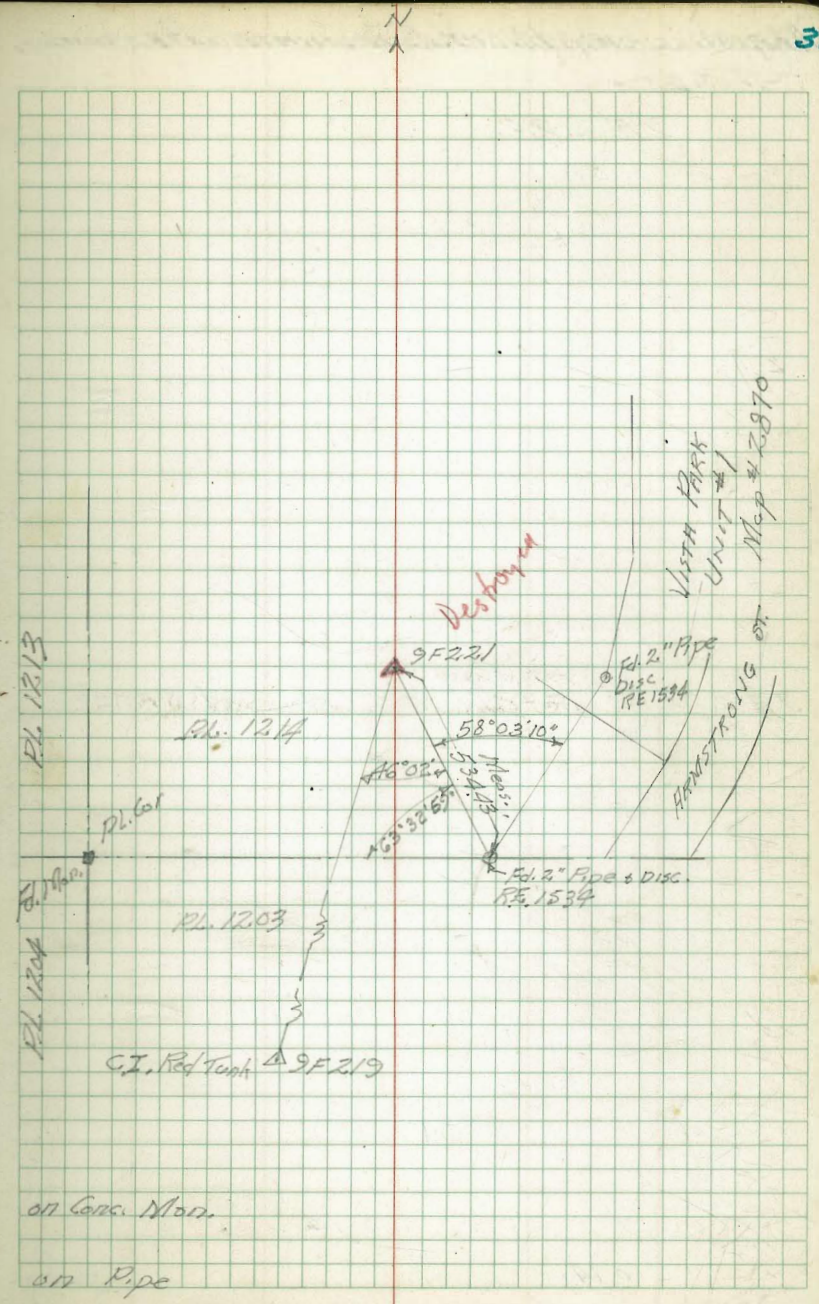
Ties Made To Sub. 3-10-58

Walker
Pope
Brayton

9 F 221 Fd. Pipe. Set Conc. Mon stamped 9 F 221

0.18

0.16



AERIAL SURVEY PLANE COORDINATE POSITIONS

~TIES~

9F222

9F222 Fd. Pipe
Set Conc. Mon. Stamped 9F222

0.14

0.14



N

Destroyed

on Mon

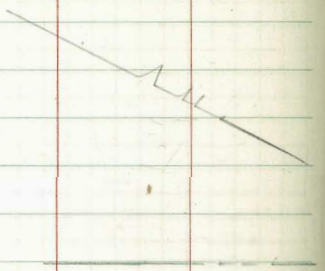
on Pipe

AERIAL SURVEY PLANE COORDINATE POSITIONS

~TIES~

9F209

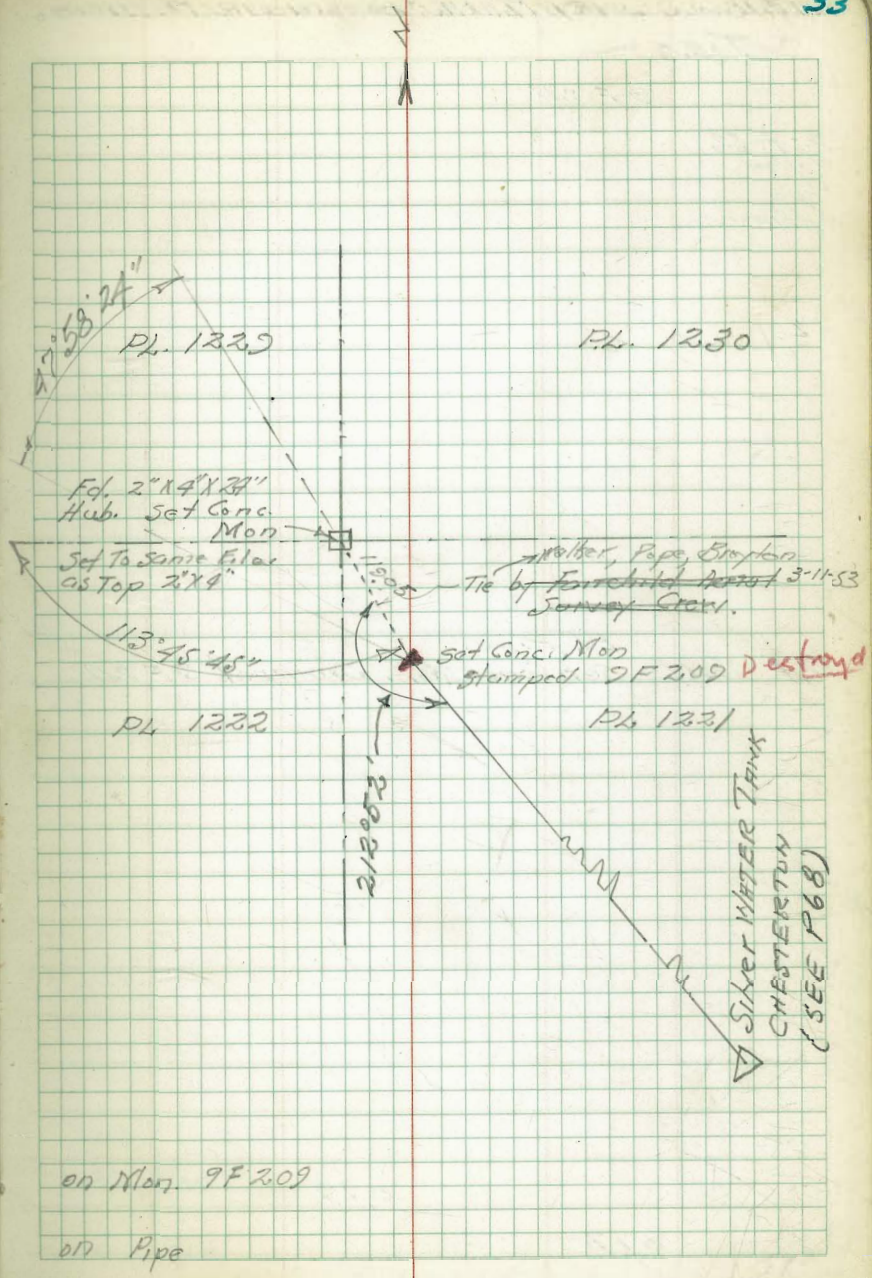
2-7-52



Fd. Pipe.
9F209 Set Conc. Mon Stamped 9F209

0.10 379.09

0.10 379.09



AERIAL SURVEY BLANK COORDINATE POSITIONS

~TIES~

| | | | | | |
|---|---|---|---|---|---|
| | 9 F 211 | | | | |
| 2-7-52<br>Walker<br>Papa<br>Huffman | | | | | |
| 9 F 211 | Fd. Pipe.<br>Set Conc. Mon. stamped 9 F 211 | | | | |
| | | | 0.19 | | |
| | 0.17 | | | | |

on Mon

on Pipe

AERIAL SURVEY PARTY COORDINATE POSITIONS

~ TIES ~

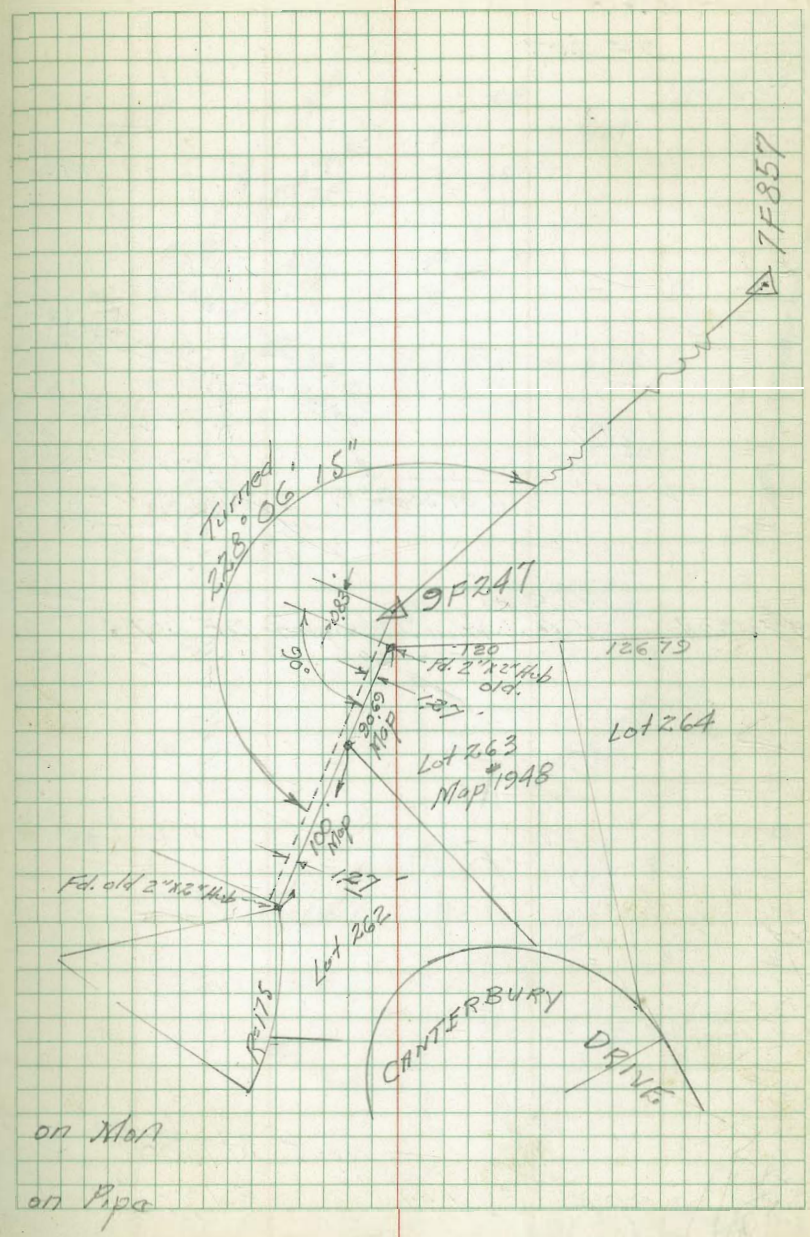
9F 247

2-7-52:

9F 247 Fd. Pipe.
Set Conc. Mon Stamped 9F 247
0 Brick Gate Woven Wire Fence
Residence 41 of Palisades Drive
Near Canterbury Drive

0.24

0.24




on Mon

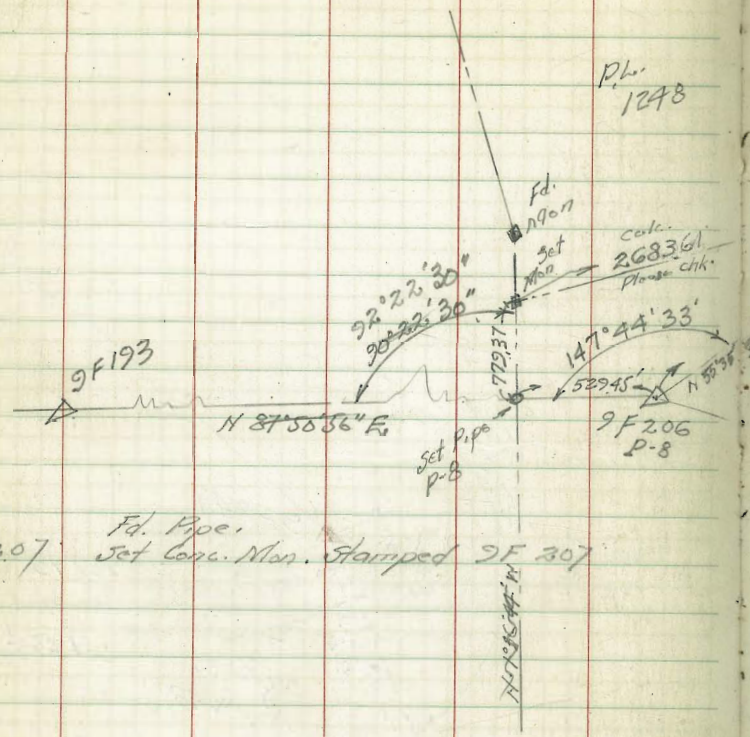
on Pipe

# AERIAL SURVEY PLANE COORDINATE POSITIONS

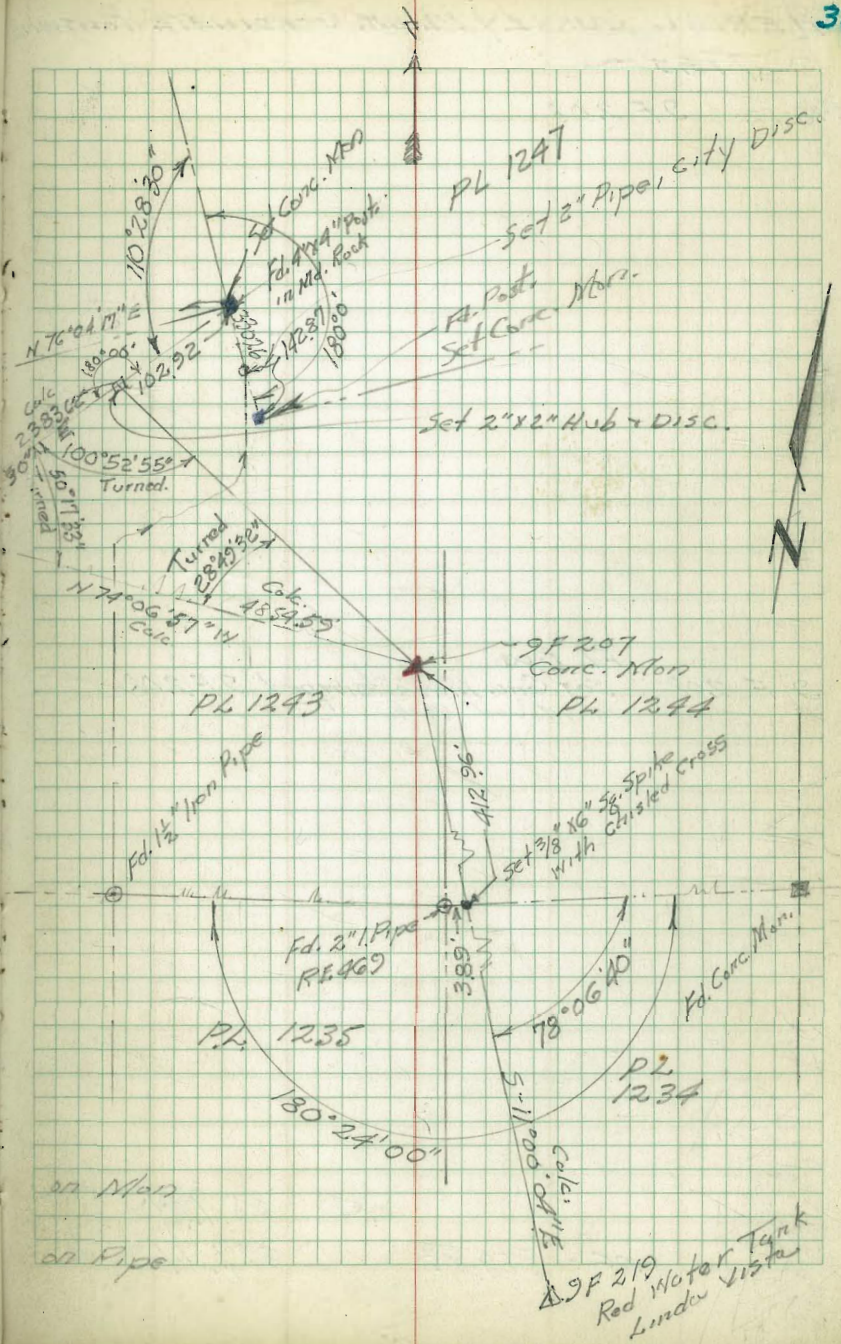
~TIES~

Walker
Huffman
Bishop
2-18-52

9F 207




9F 207 Fd. Pipe. Set Conc. Mon. Stamped 9F 207




| | | | |
|---|---|---|---|
| | | 0.05 | 379.36 |
| 0.07 | 379.41 | | 379.34 |

on Mon

on Pipe

AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

2-18-52 9F208

9 F 208 Fd. Pipe
Set Conc. Mon Stamped 9F208
in Mound Rock

0.03 359.86 on Mon.

0.06 359.83 359.77 on Pipe

AERIAL SURVEY PLANE COORDINATE POSITIONS

~TIES~

2-19-52 9F 210

9 F 210 Fd. Pipe Stamped
Set Conc. Mon 9F 210
in Mound of Rock

0.35

0.56

on Mon.

on Pipe

# AERIAL SURVEY PLANE COORDINATE POSITIONS

~TIES~

Walker
Huffman
Bishop
2-19-52

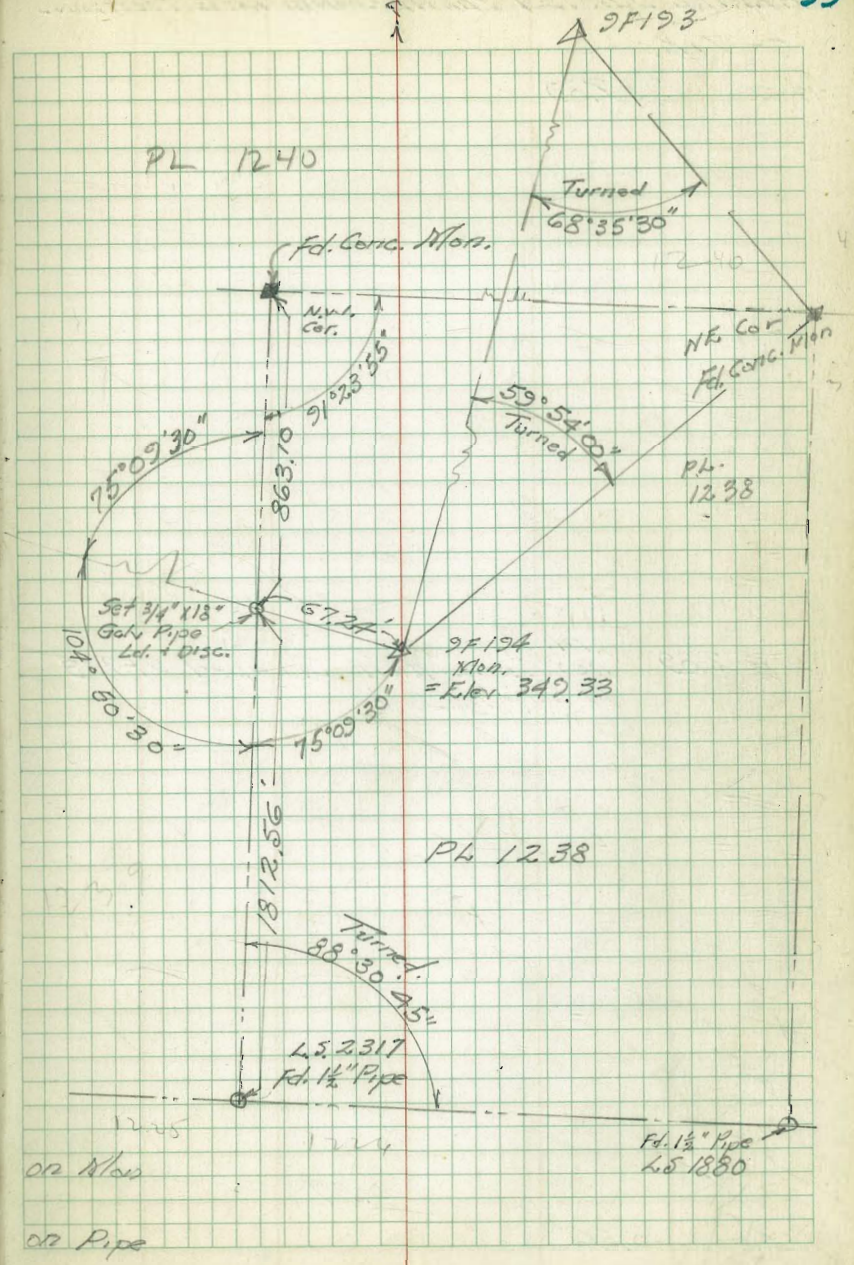
9F194

9F287

N 72° 52' 37" W
Calc.

9F194 Fd. Pipe.
Set Conc. Mon Stamped 9F194
in Md. of Rock

| | | | |
|---|---|---|---|
| | | 0.36 | 349.33 |
| 0.33 | 349.69 | | 349.36 |



AERIAL SURVEY PLANE COORDINATE POSITIONS

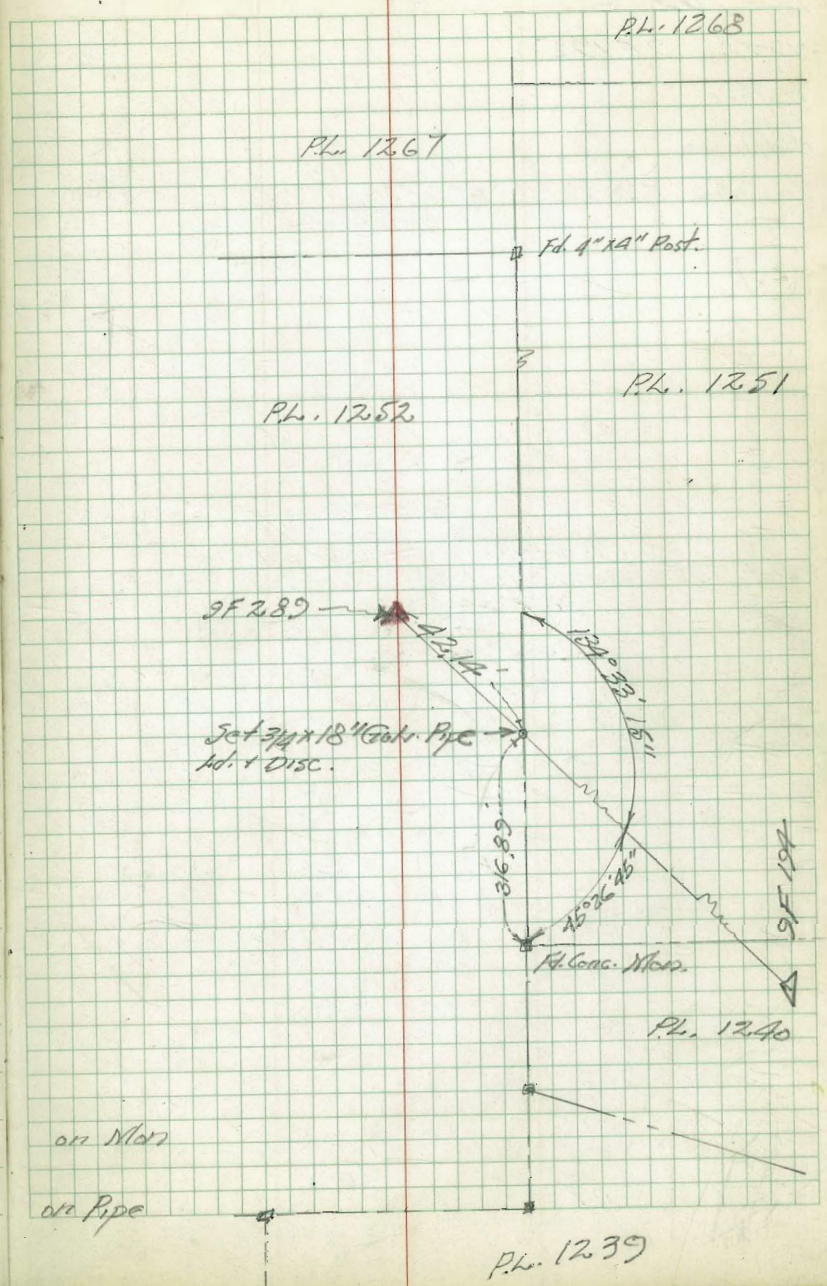
~ TIES ~

2-19-52 9F289

9 F 289 Fd. Pipe.
Set Conc. Mon. Stamped 9F289
in Large Md. Rock

0.57

0.56



AERIAL SURVEY PLANE COORDINATE POSITION

~TIES~

2-19-52 9F195

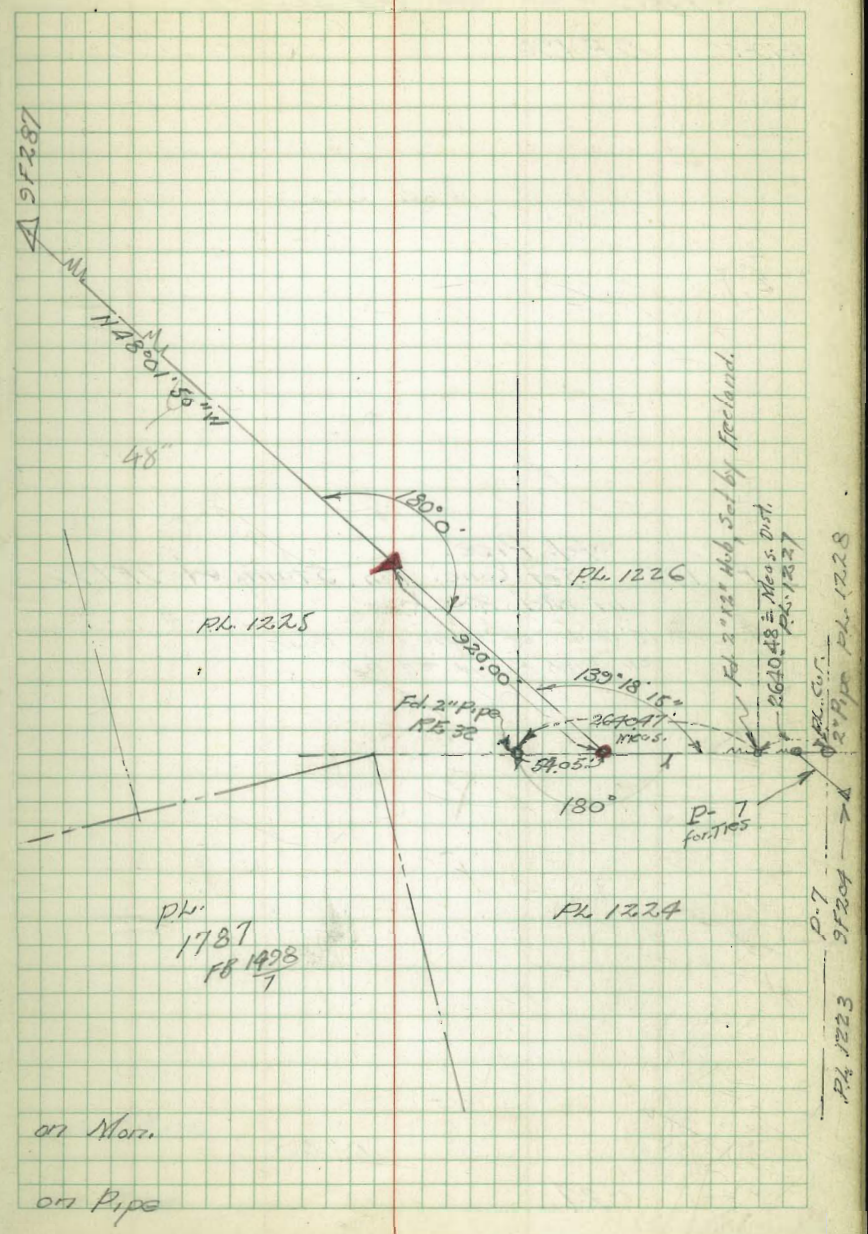
Walker
Pope
Huffman

(Ties Made 5-16-52) • = Set 3/4 x 18" G.L. Pipe With Ld & Copper Disc.

9F195 Fd. Pipe. Set Conc. Mon Stamped 9F195 in Md. Rock

0,37

0,39



AERIAL SURVEY PLANE COORDINATE POSITIONS
~TIES~ See FB 2229-57

2-19-52 9F196 Photo 1-9

9 F 196 Fd. Pipe.
Set Conc. Mon. Stamped 9F196
in Md. Rock
15' South of Lone oak Bush
on High Point of hill

0.28

0.21

on Mon.

on Pipe

AERIAL SURVEY PLANE COORDINATE

~ TIES ~

Walker
Pope
Hoffman
Bishop 2-20-52

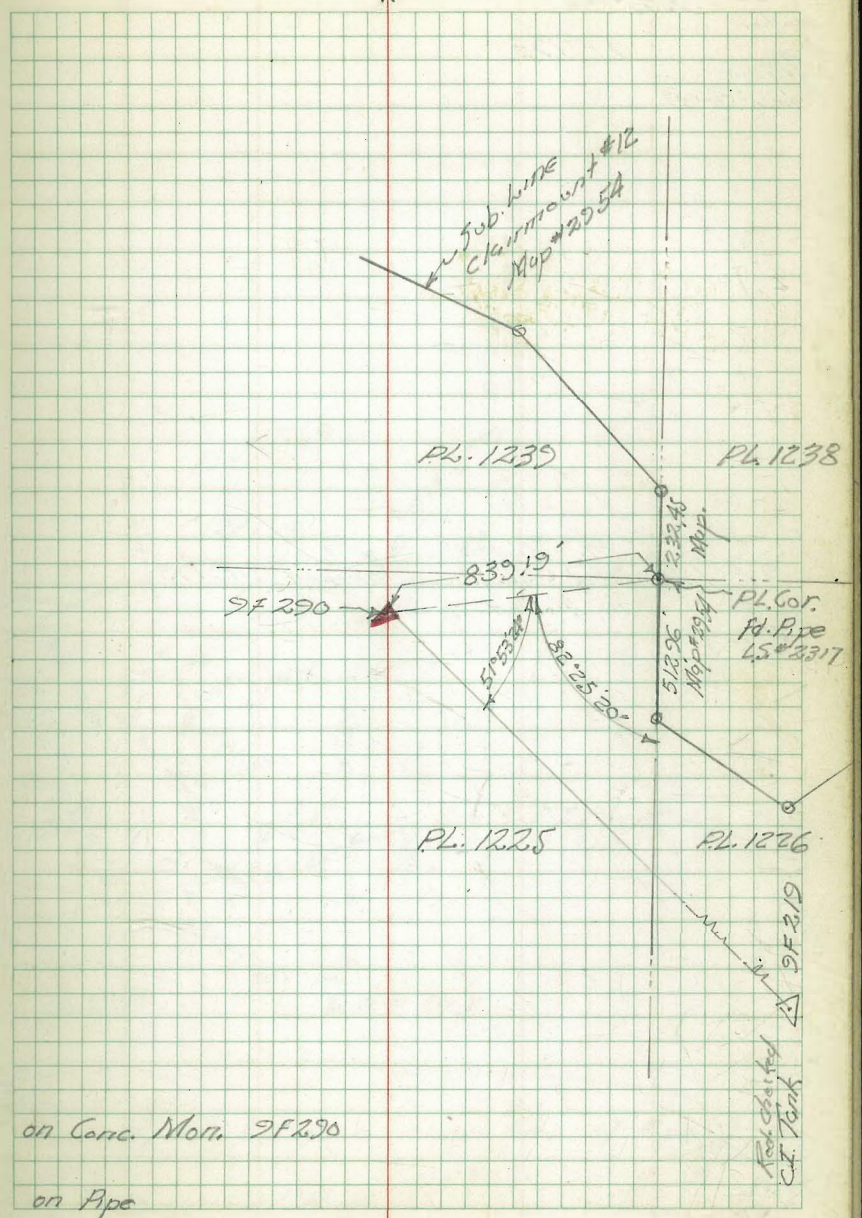
9F 2.90

9F 2.90 Fd. Pipe
Set Conc. Mon Stamped 9F 2.90
in Mch. Rock

0.10

0.05

POSITIONS




on Conc. Mon. 9F2.90

on Pipe

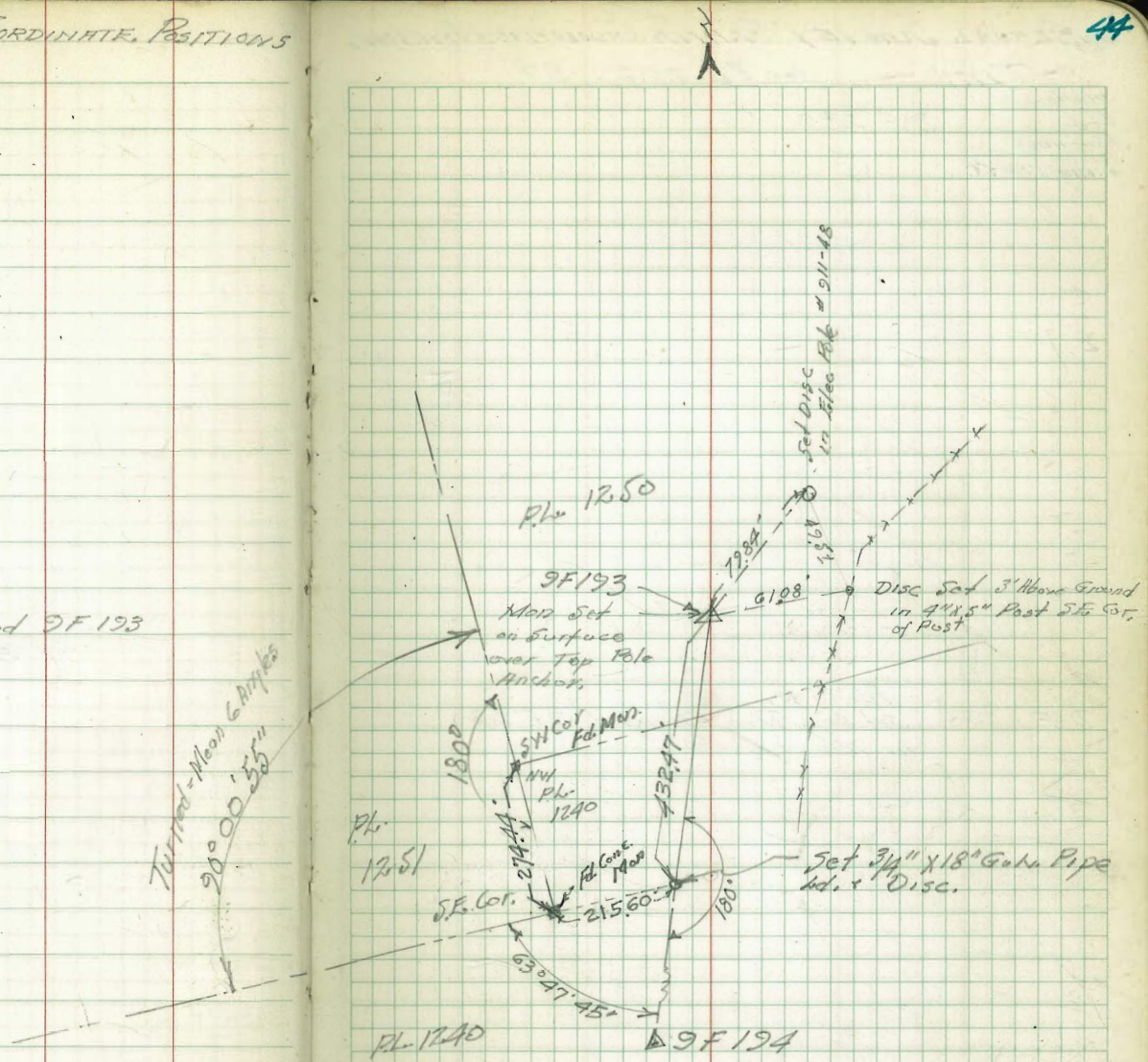
AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

Walker
Pope
Huffman
Bishop 2-20-52

9F 193

9F 193 Fd. Pipe.
Set Conc. Mon. Stamped 9F 193
in Mound of Rock




Note 9F 193
Mon Approx 0.5 Above orig. Elev. of Pipe
on Pipe in Soft Hole
over Pole Anchor

+SEE PAGE 72

AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~ SEE FB 2229-57

Walker
Pope
Hoffman
Bishop 2-26-52

9 F 280

9 F 280 Fd. Pipe.
Set Conc. Mon Stamped 9F 280
in Mound of Rock

0.13

0.23

on Mon

on Pipe

AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

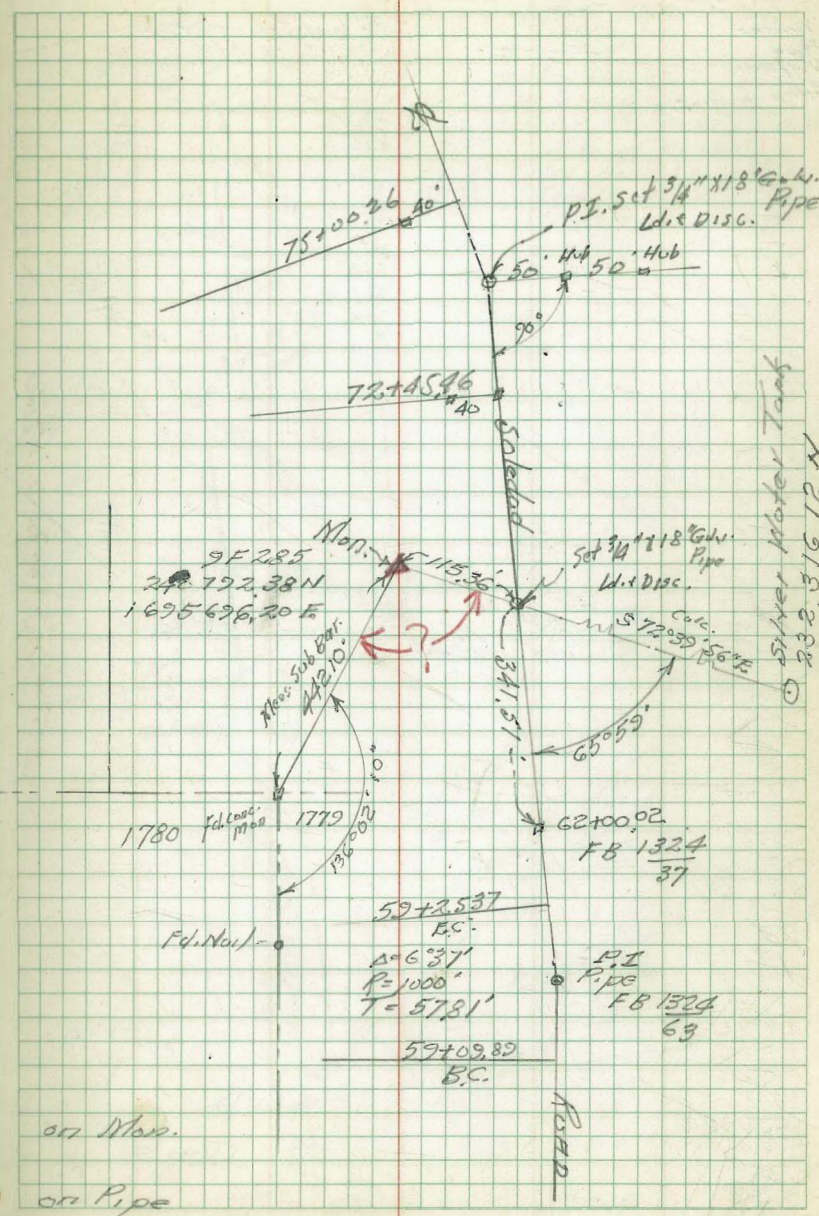
Walker
Pope
Huffman
Bishop 2-20-52

9F 285

9F 285 Fd. Pipe. Set Conc. Mon. Stamped 9F 285 in Mound Rock

0.15

0.23



AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

Walker
Pope
Huffman
Bishop 2-25-52

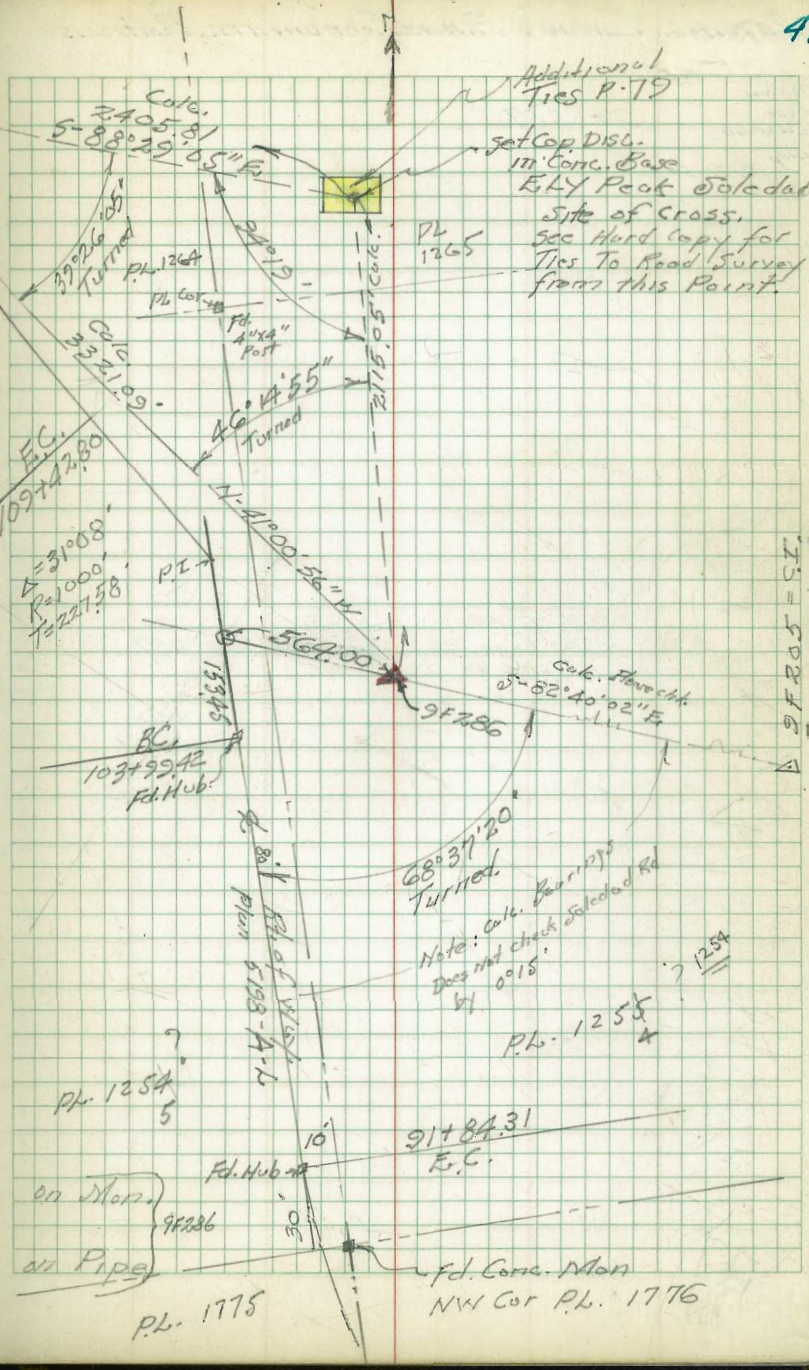
~~9 F 286~~

Soledad
U.S. Gov't. Mon.

9 F 286 Fd. Pipe Set Conc. Mon stamped 9 F 286 in Md. Rock.

0.08

0.23



AERIAL SURVEY PLANE COORDINATE POSITIONS

TIES in

Walker
Pope
Hoffman
Bishop 2-20-52

9F 287

9F 287 Fd. Pipe, Set Conc. Mon. Stamped 9F 287 in Md. Rock

0.31

0.40

on Mon.

on Pipe

AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

Walker
Pope
Huffman
Bishop 2-20-52

9 F 284

10 F 700
P-78

9 F 284 Fd. Pipe. Set Conc. Mon Stamped 9 F 284

P.L. 1781

228.27' cal

Conc Mon SWCor P.L. 1780

0.24

0.20



Gurley #481980
30"

LADRILLO

9 F 284

P.L. 1780

657.33 cal

156.30'

115°32'40"

Fd 2" Pipe RE 4847

Fd 1½" Pipe RE 4847

N.W. Cor.

P.L. 1784

P.L. 1785

885.60 Wm Map ?

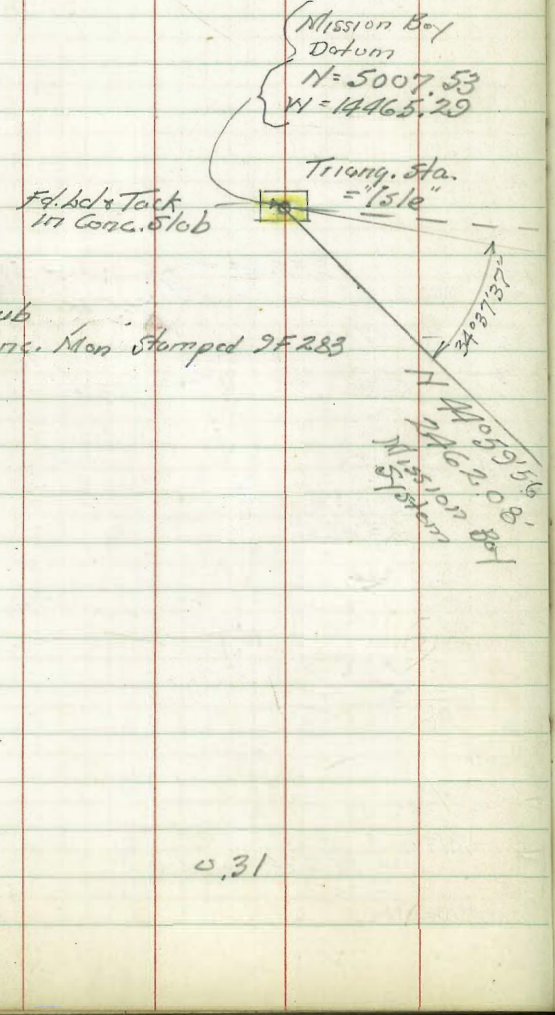
on Mon } 9 F 284
on Pipe }

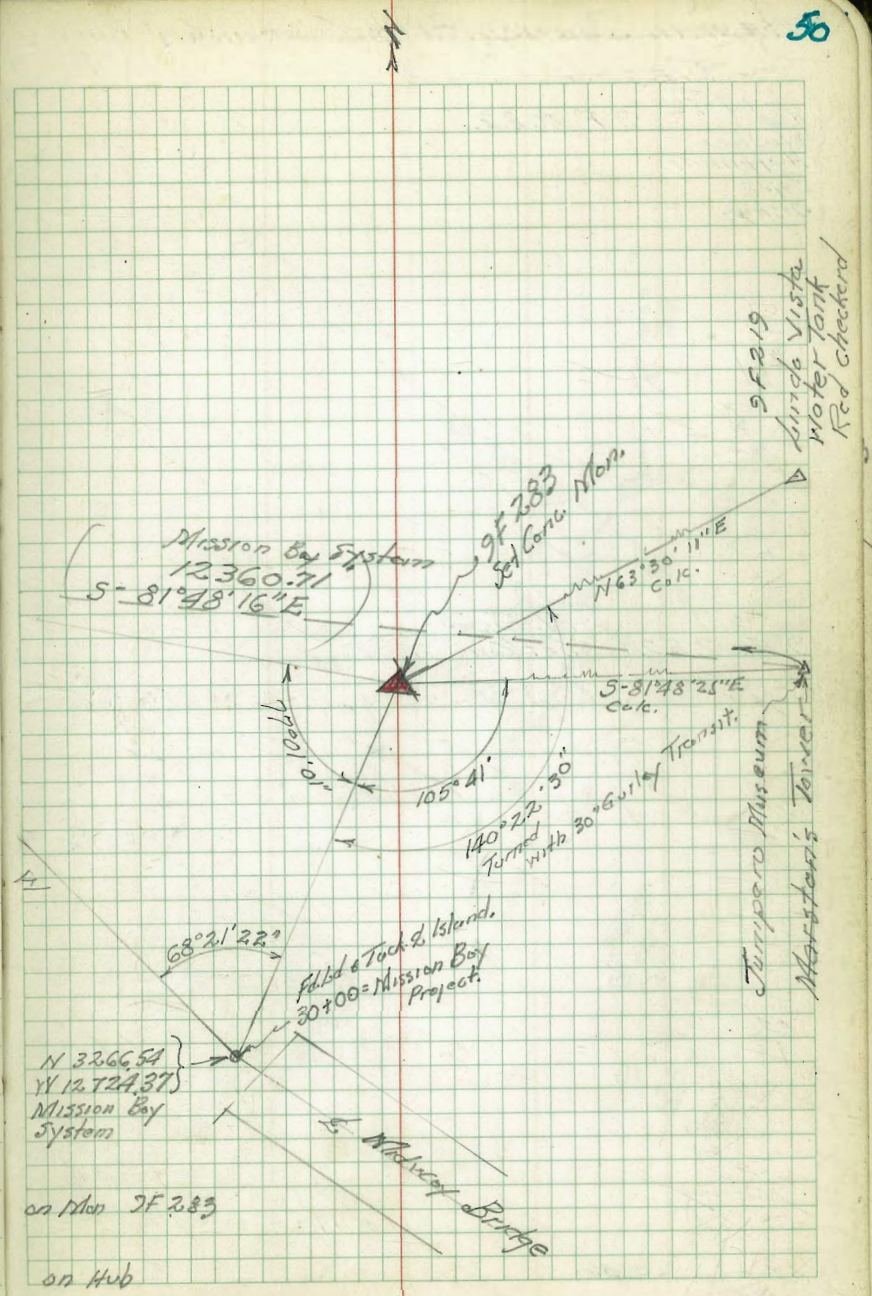
# AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

Walker
Pope
Huffman
Bishop
2-5-52

9F 283



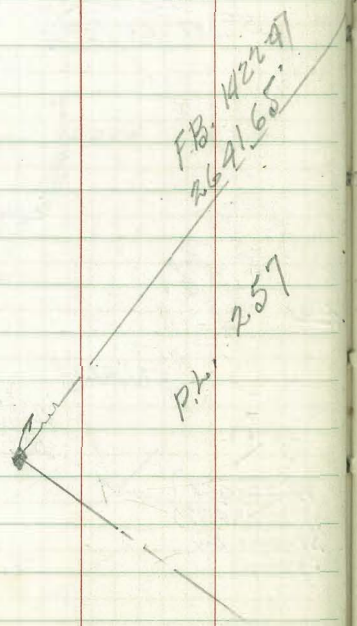
AERIAL SURVEY PLANE COORDINATE POSITIONS

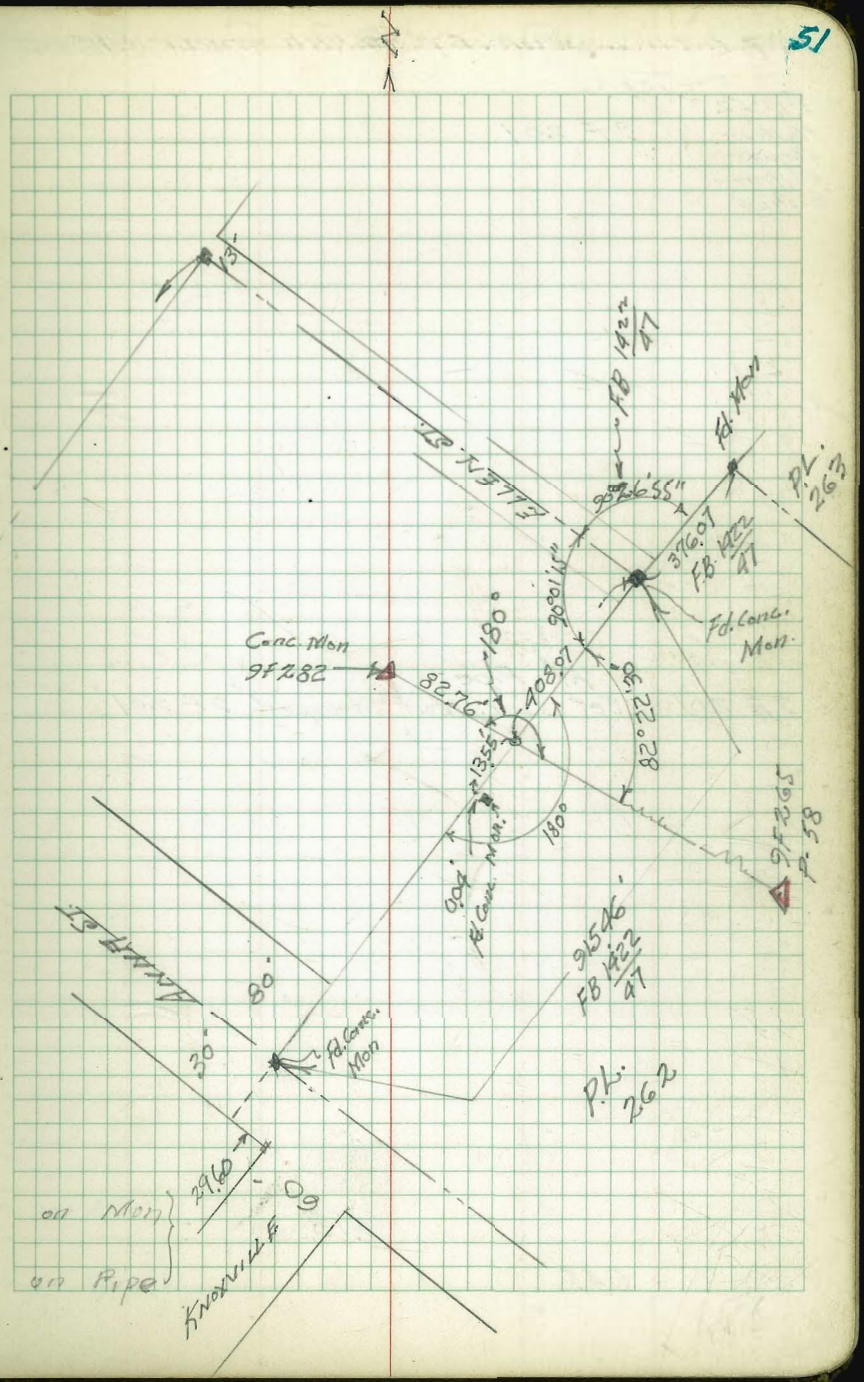
— TIES —

3-17-52 9F 282

Walker
Huffman
Pope
Bishop.

9F 282 Fd. Pipe
Set Conc. Mon



AERIAL SURVEY PLANE COORDINATE — POSITIONS

~ TIES ~

3-17-52
Walker
Pope
Hoffman
Bishop

| | | | | |
|---|---|---|---|---|
| | 9F 201 | | | |
| 9F 201 | Fd. Pipe. Set Conc. Mon Stamped "9F 201" | | | |
| | | | 0.18 | |
| | 0.45 | | | |

on Mon.

on Pipe

AERIAL SURVEY PLANE COORDINATE POSITIONS.

~ TIES ~

Walker
Pope
Hoffman
Bishop.
3-17-52

9F 213

9F 213 Fd. Pipe.
Set Conc. Mon. stamped 9F 213

0.33

0.50



on Mon.

on Pipe

AERIAL SURVEY PLANE COORDINATE POSITIONS.

~ TIES ~

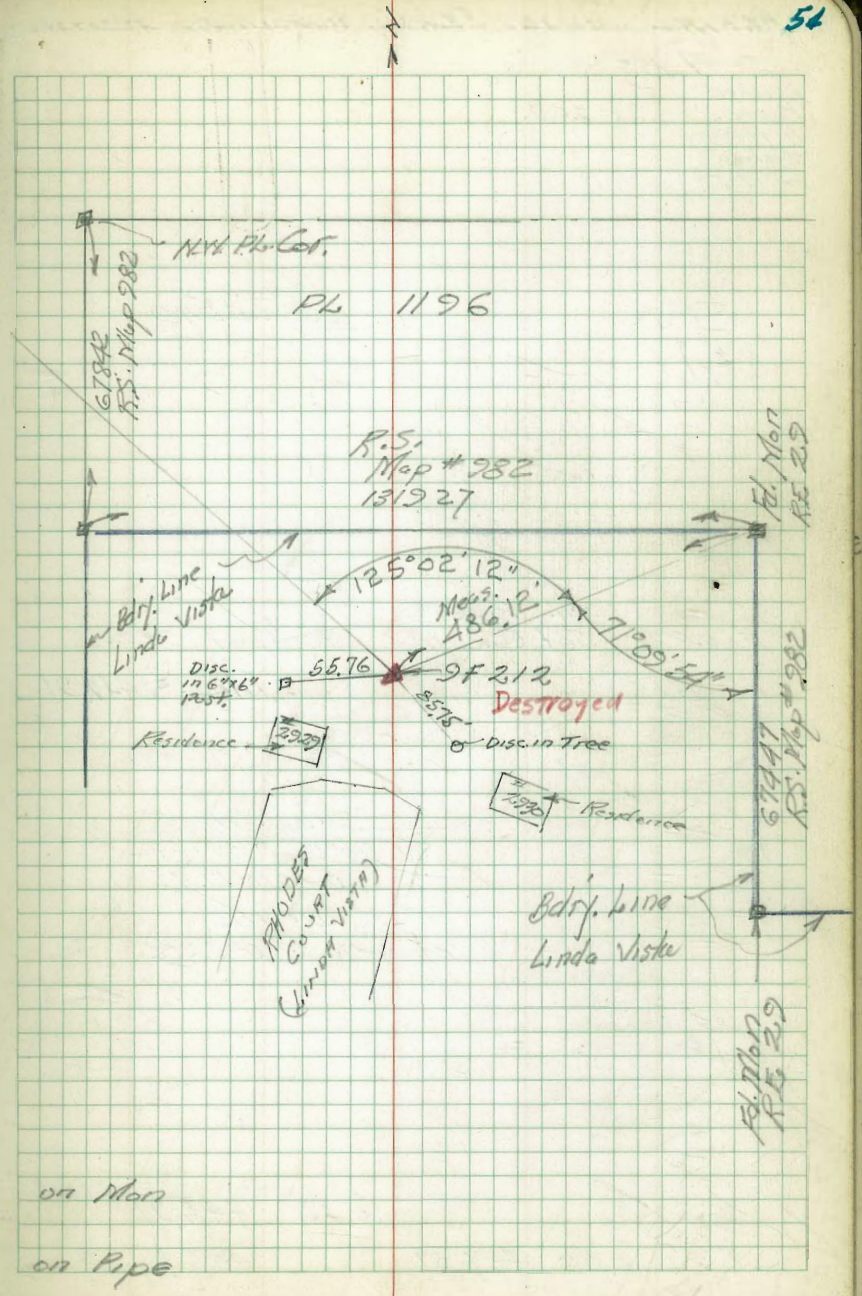
9F 212

SOLEDHD

9F 212 Fd. Pipe. Set Conc. Mon. Stamped 9F 212.

0.29

0.29



AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

Walker
Pope
Huffman
Bishop
3-17-52

9F 262

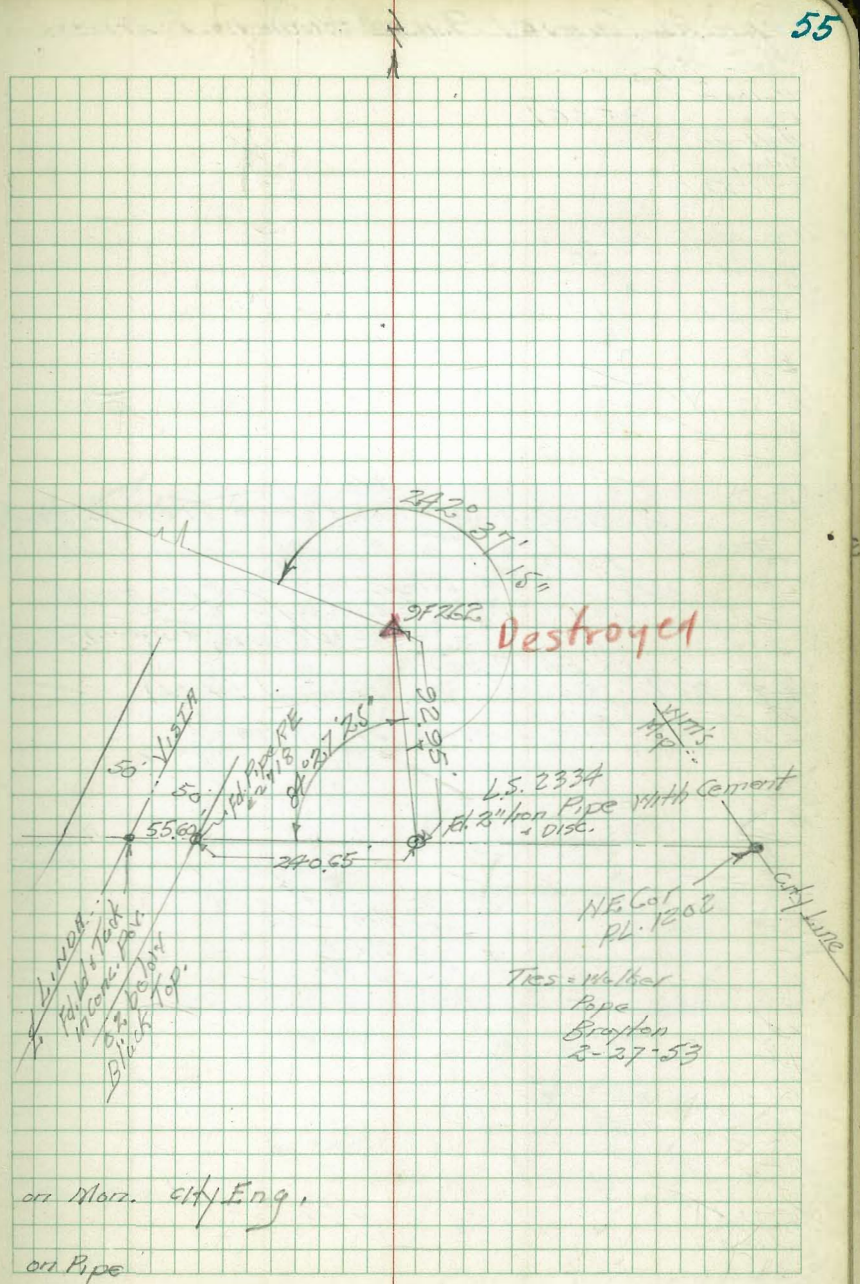
"SOLEDAD"

9F 262. Fd. Pipe
Set Conc. Mon stamped 9F 262
Elev. = 446.91

Sub. Line
N Line P.L. 1202
MAGNOLIA
DOWNS
Sub. Map #2864

0.46 446.91

0.50 447.37 446.87



AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

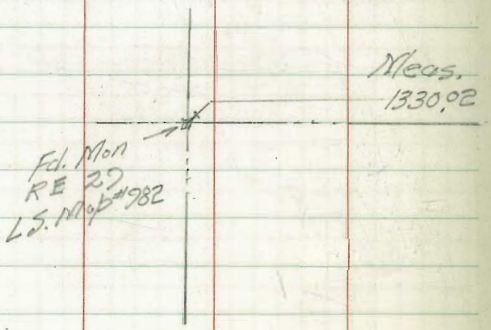
Walker
Pope
Huffman
Bishop.
3-17-52

9F 261

Ties Made 3-9-53
Walker
Pope
Brayton.

Note: Top Graded off. - We Reset from Ties as shown
To Exactly Same Location,
But Elev. Will Not be good
C.B. Walker
Johns, Elmore, June 19-1956

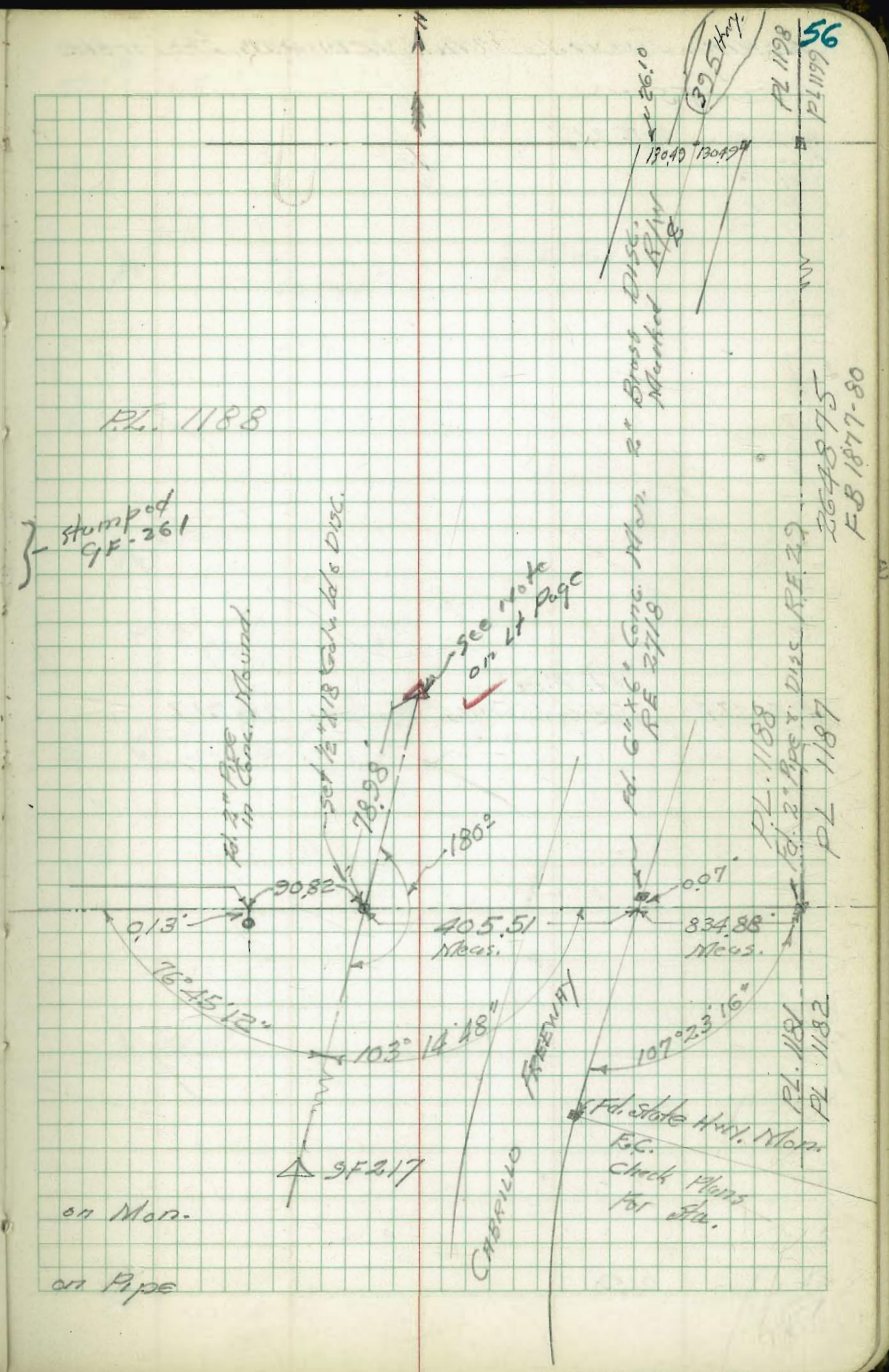
9F 261 Fd. Pipe.
Set Conc. Mon. stamped 9F 261
Ft. of Judson St. on knoll




9F 261 0.13

0.12





AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

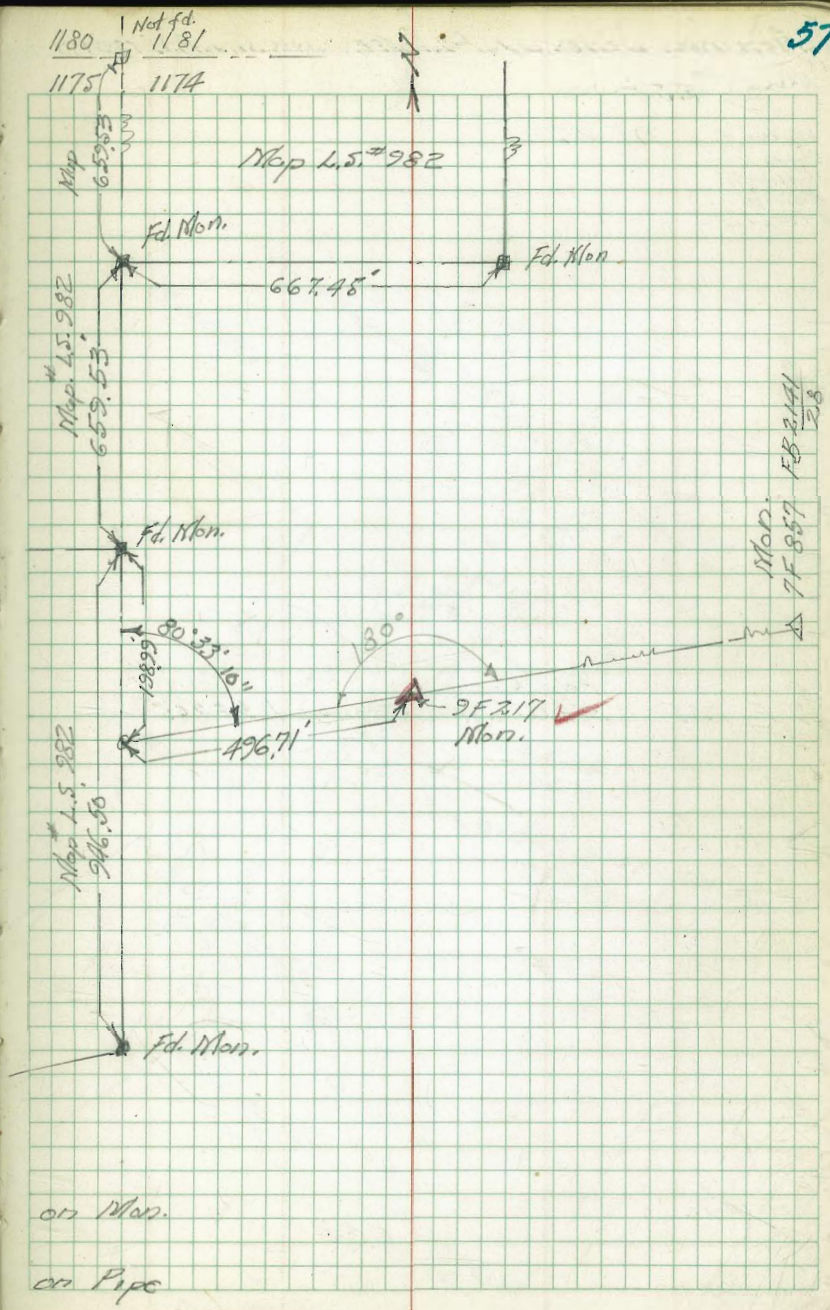
Walker
Pope
Hoffman
Bishop
8-17-52

9F 217

9F 217 — Fd. Pipe
Set Conc. Mon. stamped 9F 217

0.61

0.50



AERIAL SURVEY PLANE COORDINATE POSITIONS

~ TIES ~

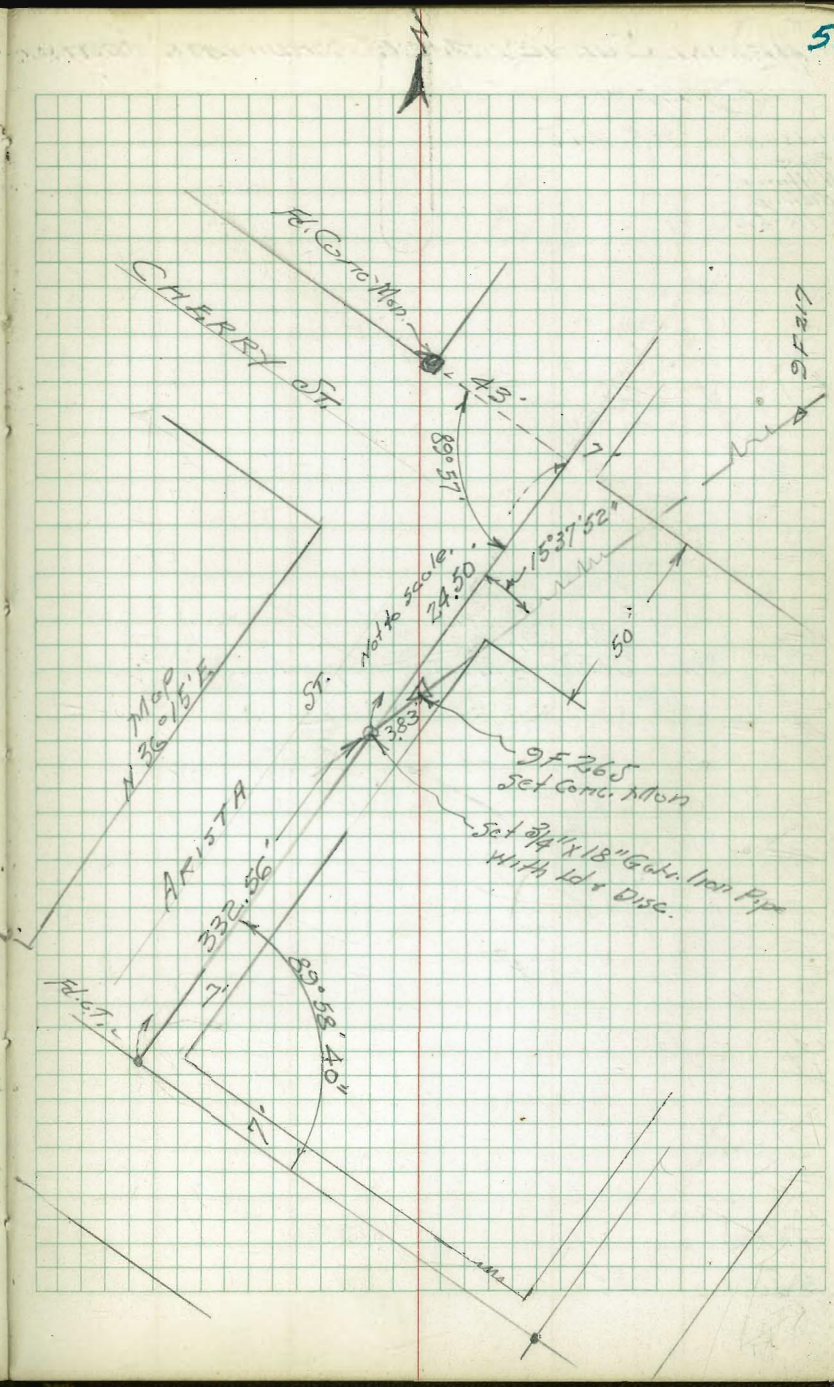
Walker
Pope
Huffman
Bishop
3-17-52

9F 265

9F 265 — Fd. Pipe, set Conc. Mon. stamped 9F265

on Mon. 0.43

on Pipe 0.40

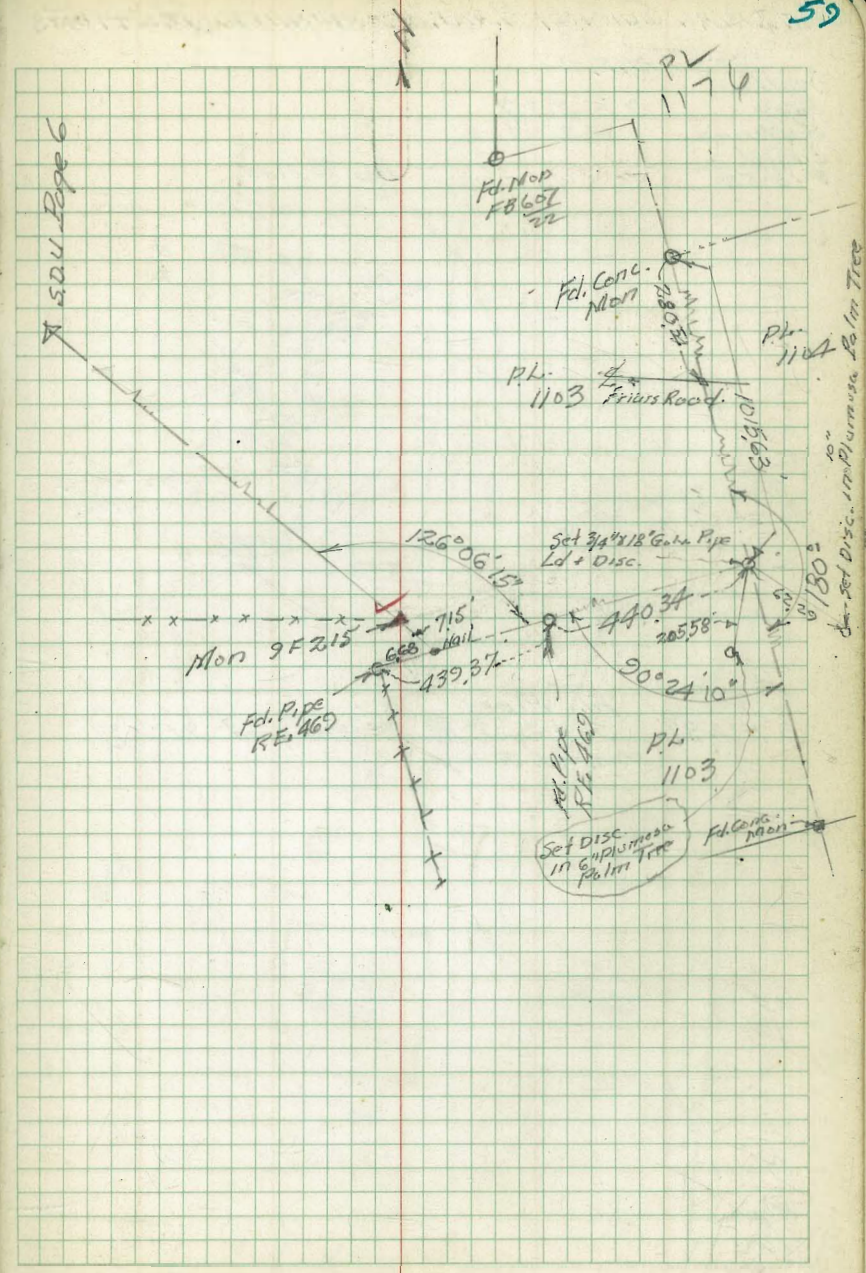


AERIAL SURVEY PLANE COORDINATE POSITIONS

~TIES~

Walker
Pope
Hoffman
Bishop
3-18-52

| | | | |
|---|---|---|---|
| | 9 F 215 | | |
| 9 F 215 | Fd. Pipe Set Conc. Mon. Stamped 9 F 215 | | |
| Mon. | | 033 | |
| Pipe | 035 | | |



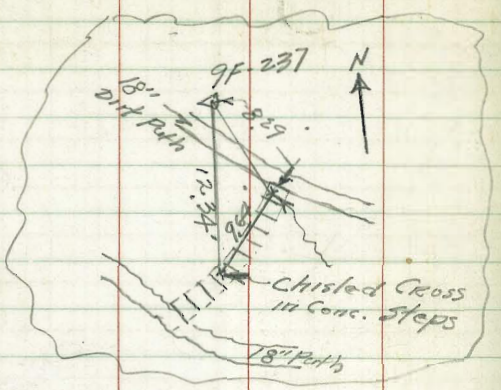
AERIAL SURVEY, PLANE COORDINATE POSITIONS

~ TIES. ~

Walker
Pope
Hoffman
Bishop.
3-18-52

9F 237

Ties To Find

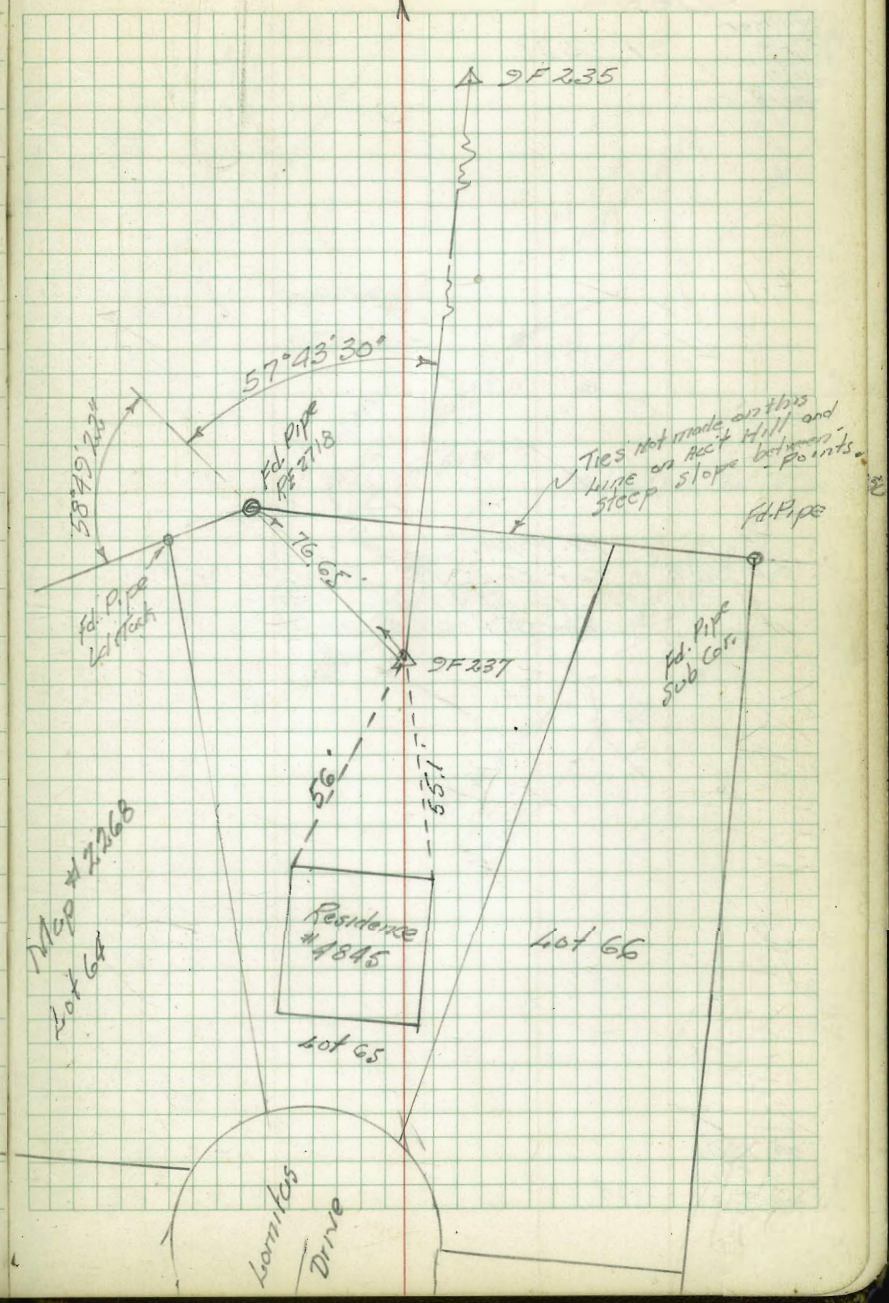



9 F 237 Fd. Pipe. Set Conc. Mon. Stamped 9F 237
(Mon. in 1st Terrace)

Mon 0.40

Pipe 0.30



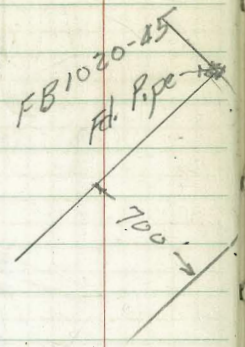


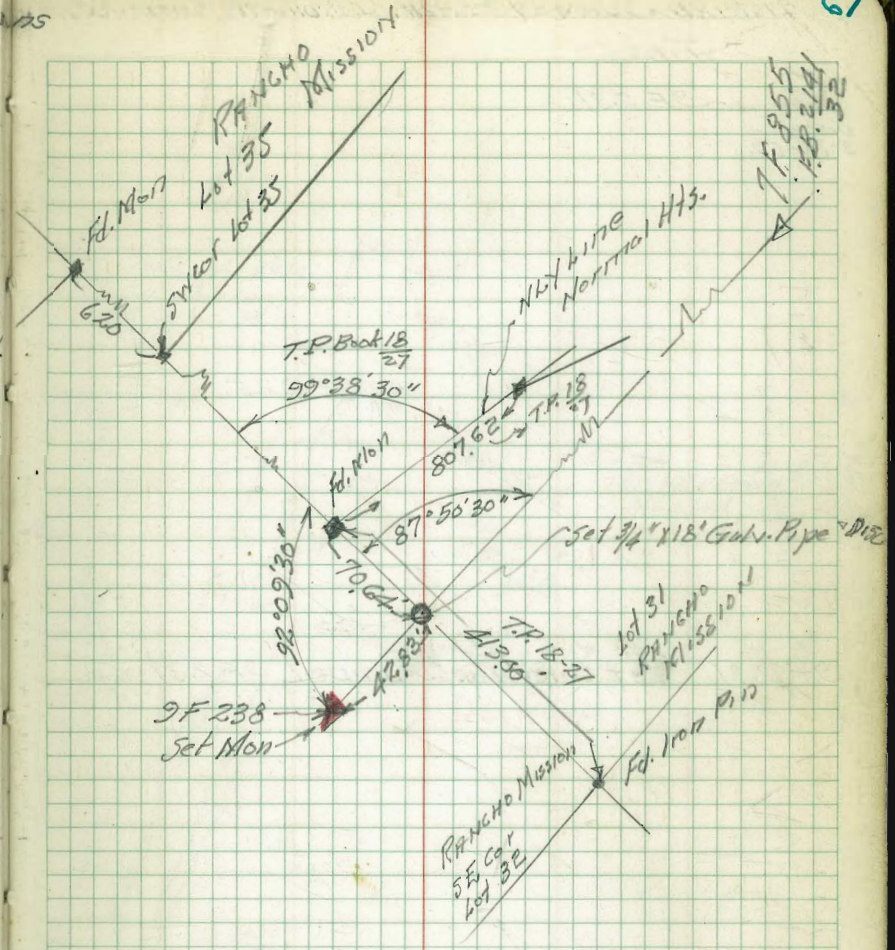
# AERIAL SURVEY PLANE COORDINATE POSITIONS

## ~ Ties ~

Walker
Pipe
Hoffman
Bishop
3-18-52

9 F 2.38




9 F 2.38 Fd. Pipe.
Set Conc. Mon. Stamped 9 F 238
Approx 600' NW from N.W. end 34th St
on Same Ridge as Residence # 5174 34th St.

on Mon. 0.32

on Pipe 0.34

# AERIAL SURVEY PLANE COORDINATE POSITIONS

~TIES~

Walker
Pope
Hoffman
Bistrop.
3-18-52

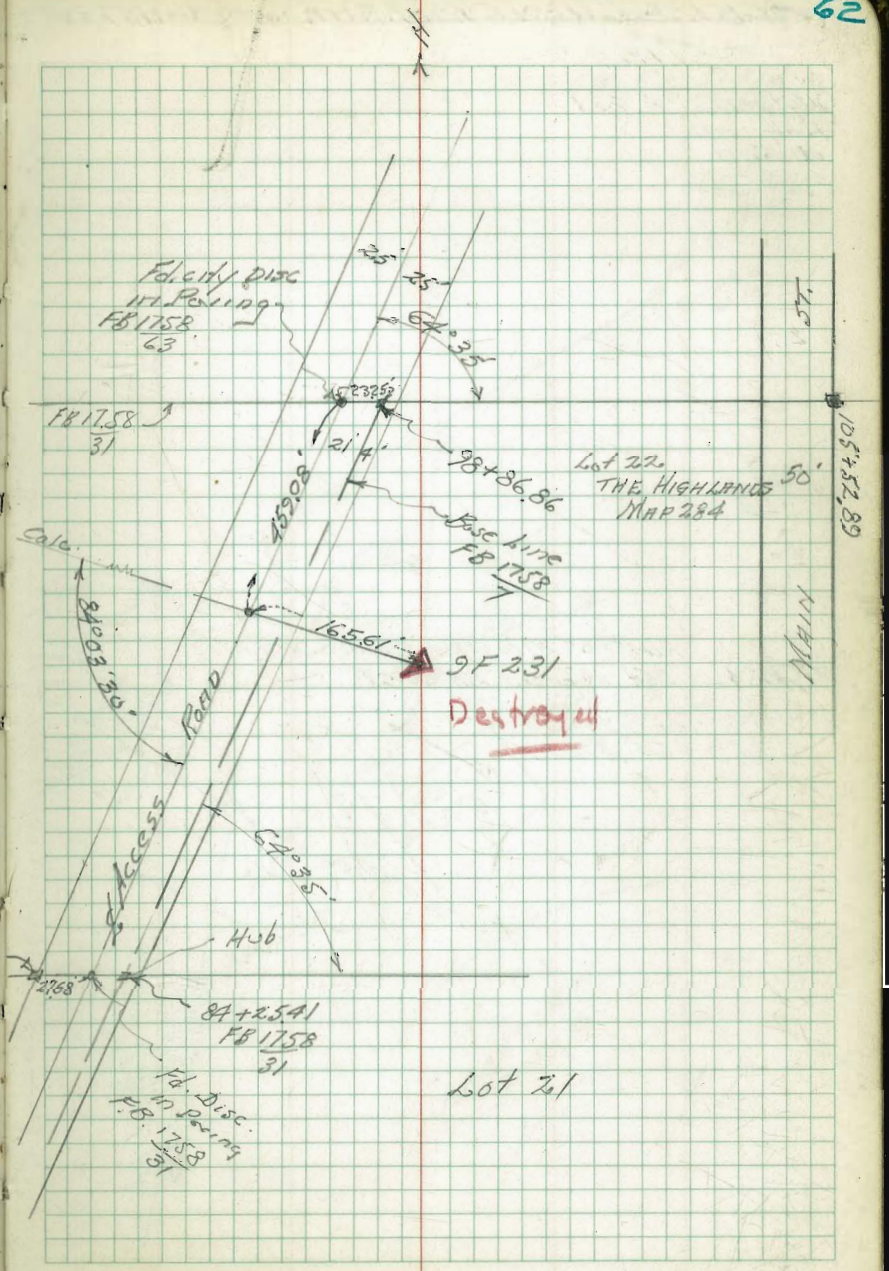
9F 231

9F 225

N 70°-38'-80"

9F 231 Fd. Hub.
Set Conc. Mon stamped 9F 231

| | | | | |
|---|---|---|---|---|
| Mon | | | 0.40 | 406.10 |
| Pipe | 0.20 | 406.50 | | 406.30 |



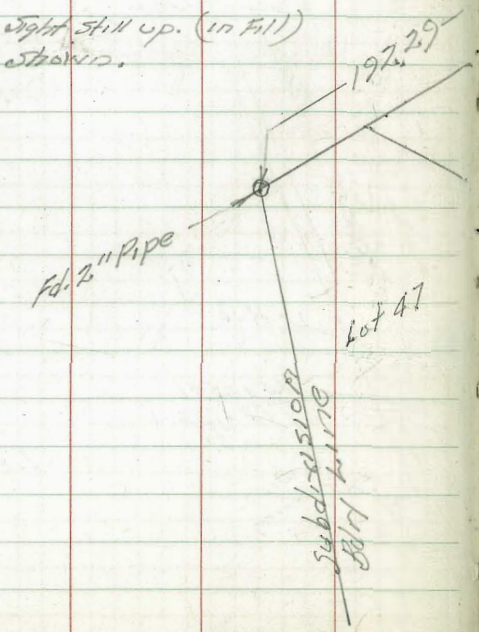
# AERIAL SURVEY PLANE COORDINATE - POSITIONS

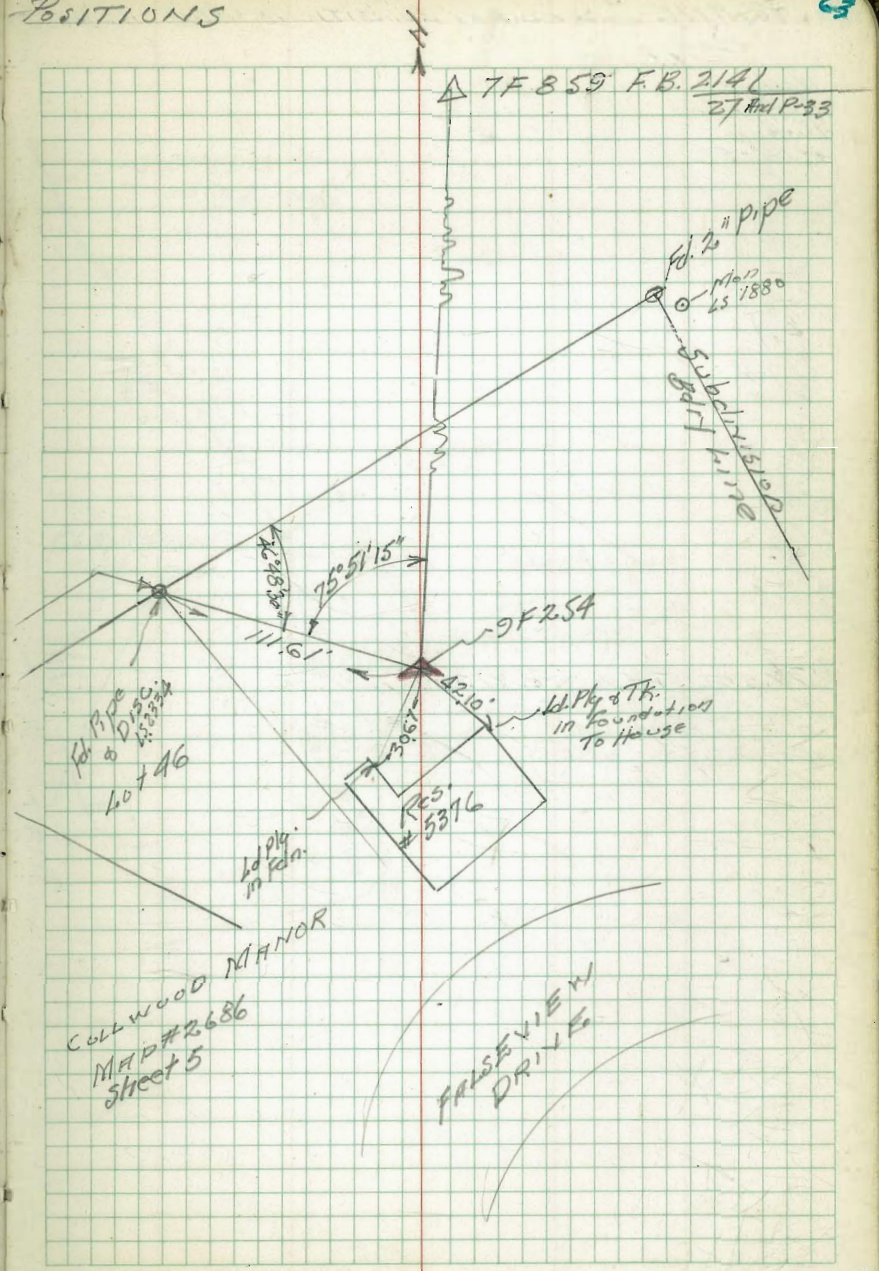
## ~ TIES ~

Walker
Huffman
Bishop
4-14-52

9F 254 — Fd. 1"x2" with sight still up. (in Fill)
Set Ref. as shown.

222,952.23 N
1,749,454.42 E



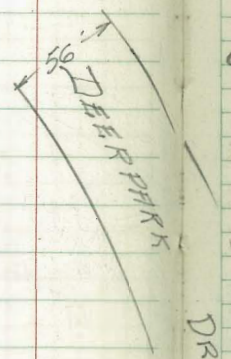
PLANE COORDINATE POSITIONS - AERIAL SURVEY

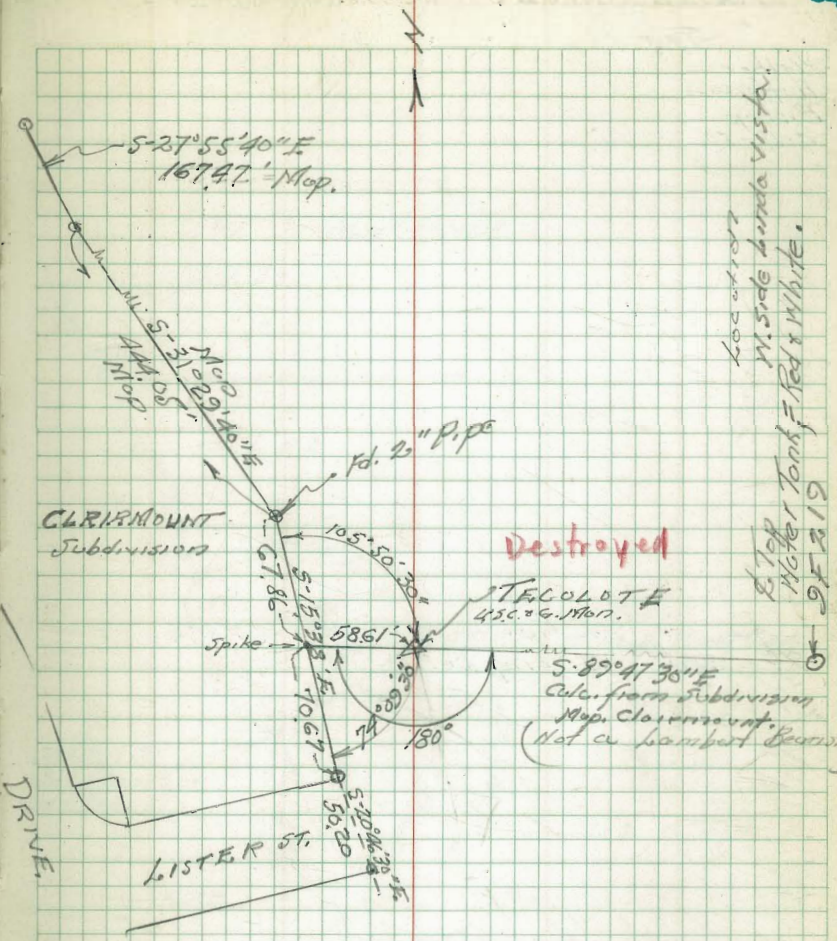
TIES

Walker
Huffman
Bishop
4-16-52

TECOLOTE. Fd. U.S.C.&G. Mon

Control Angles
FB 22.80
11



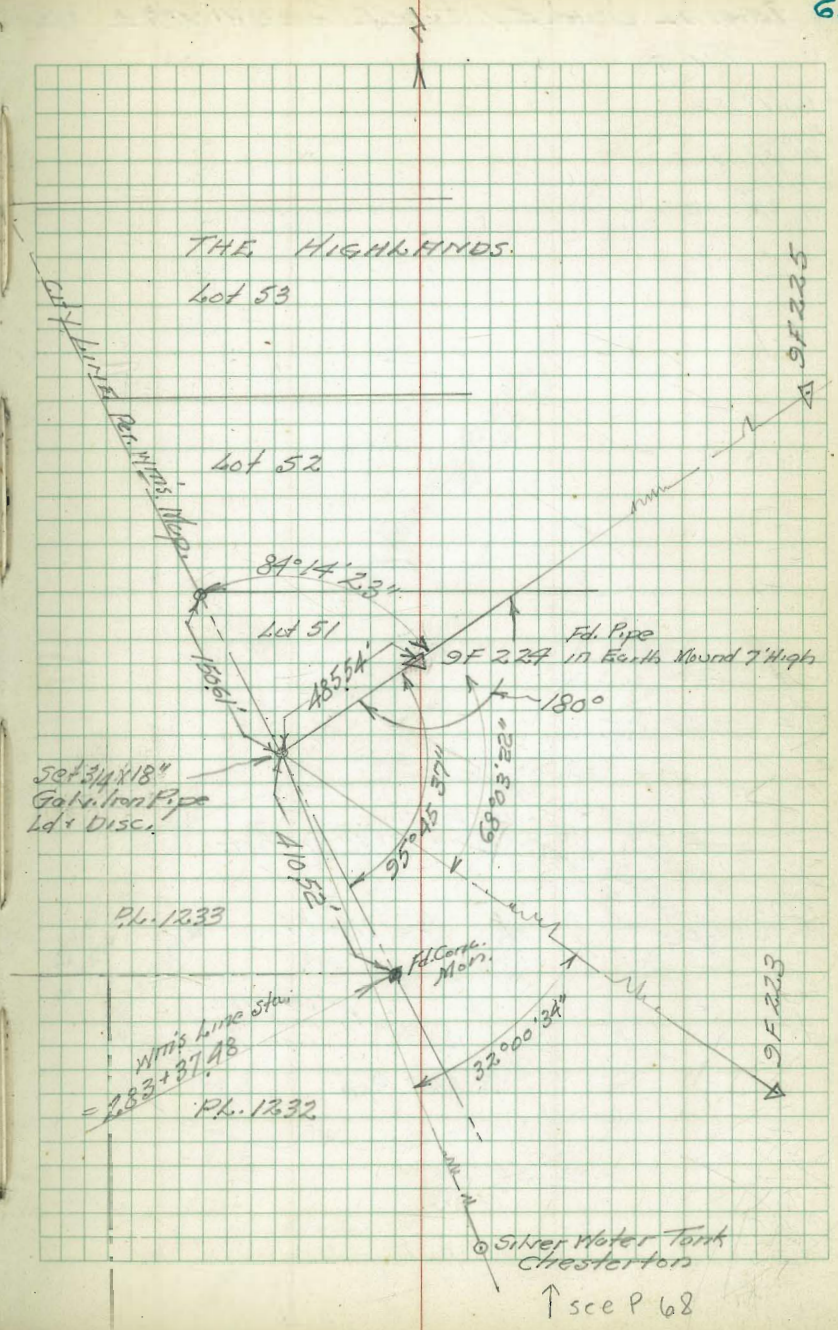



AERIAL SURVEY PLANE COORDINATE POSITIONS.

TIES.

Walker
Huffman
Bishop
4-18-52

C.I.
9F 224 Fd. Pipe in Earth Mound 7' High.
Nothing Set.




↑ see P 68

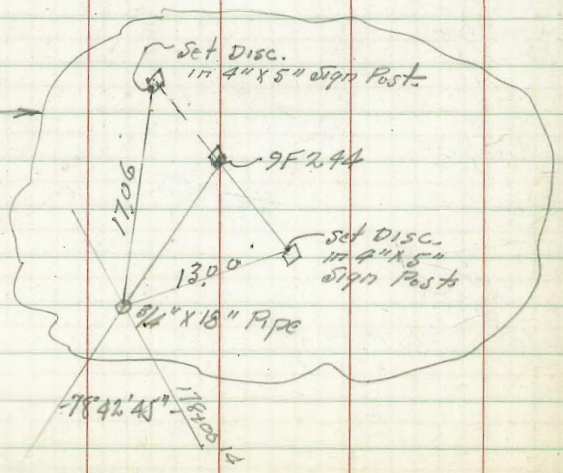
# AERIAL SURVEY PLANE COORDINATE POSITIONS

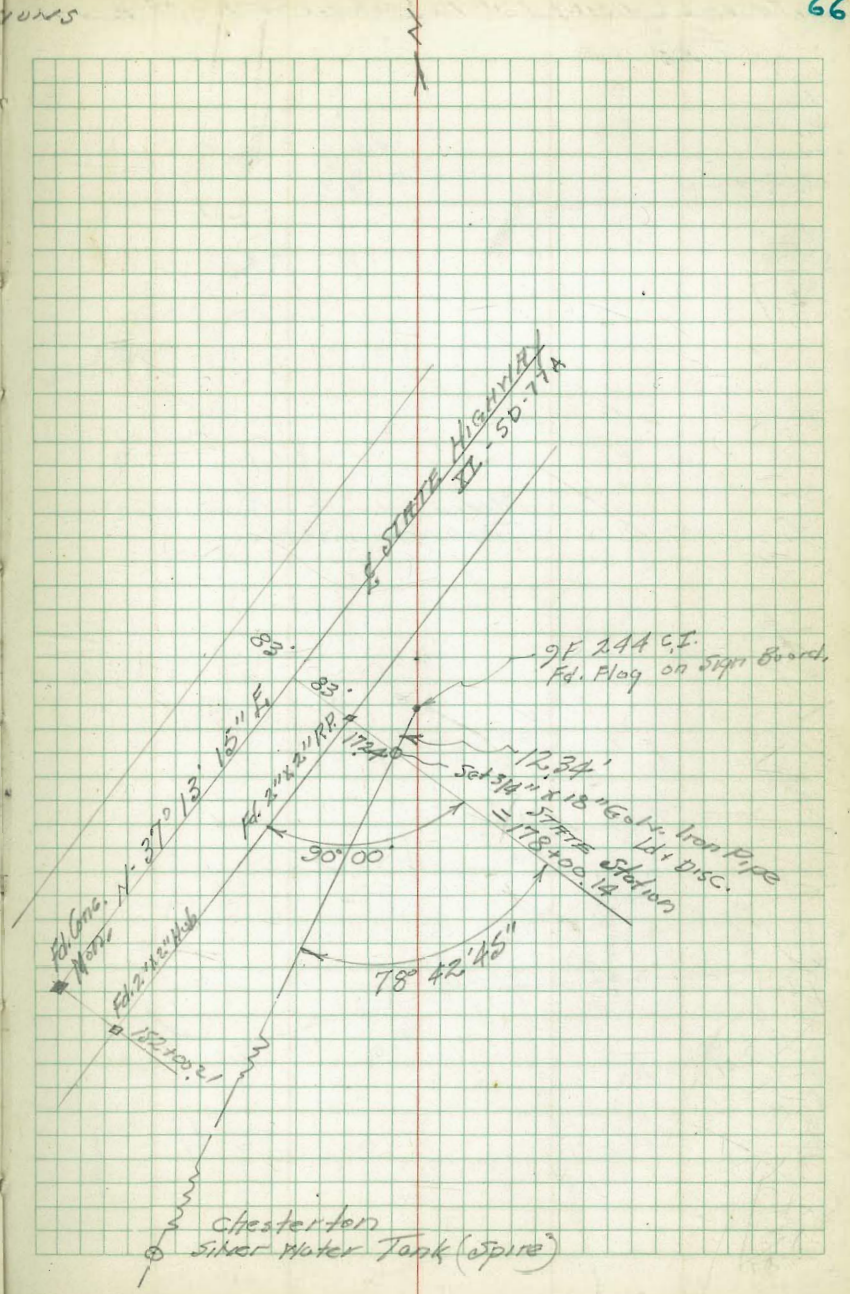
## TIES

Walker
Pope
Hoffman
Bishop
4-22-52

9F 244 C.I.

Detail Ties To R.P. Pipe



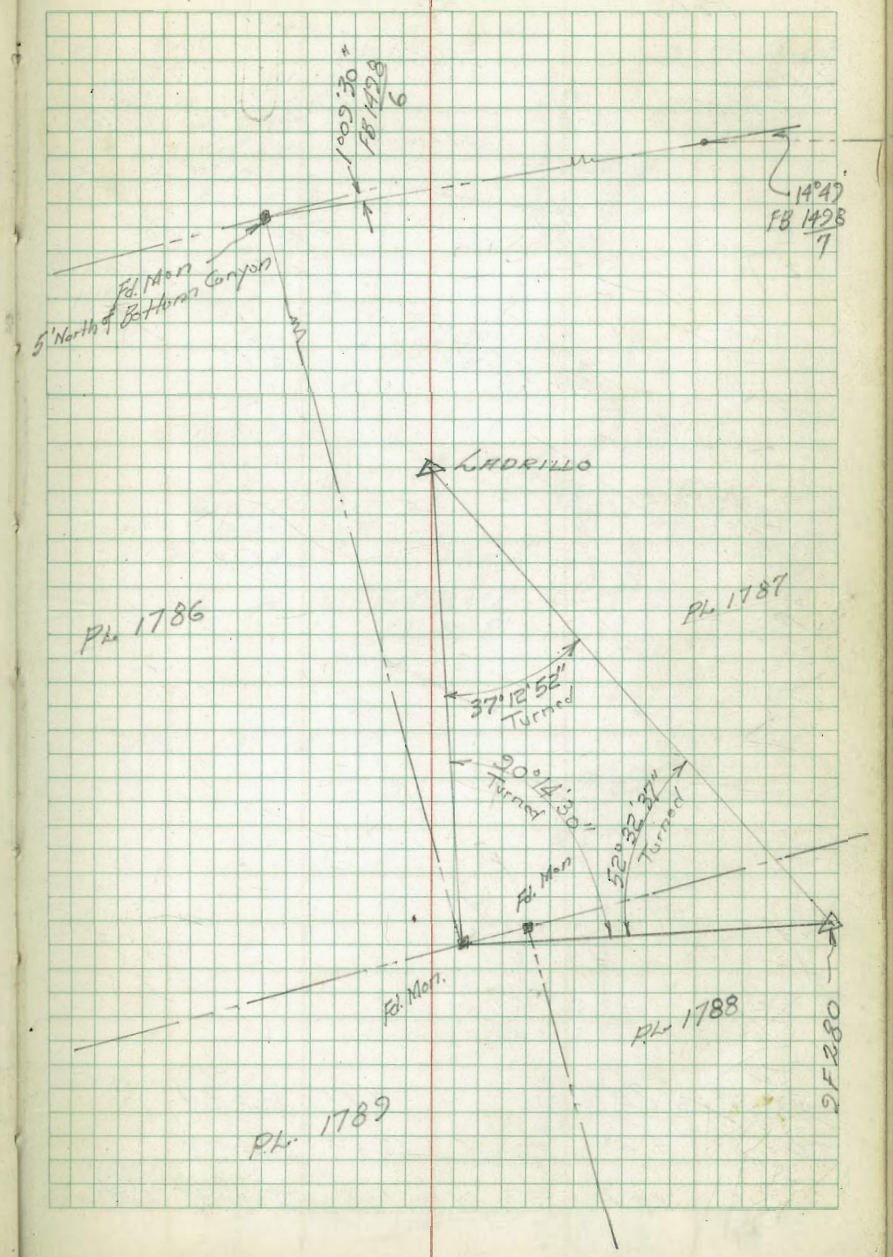



AERIAL SURVEY PLANE COORDINATE POSITIONS

TIES

Walker
Pope
Huffman
Bishop
4-23-52

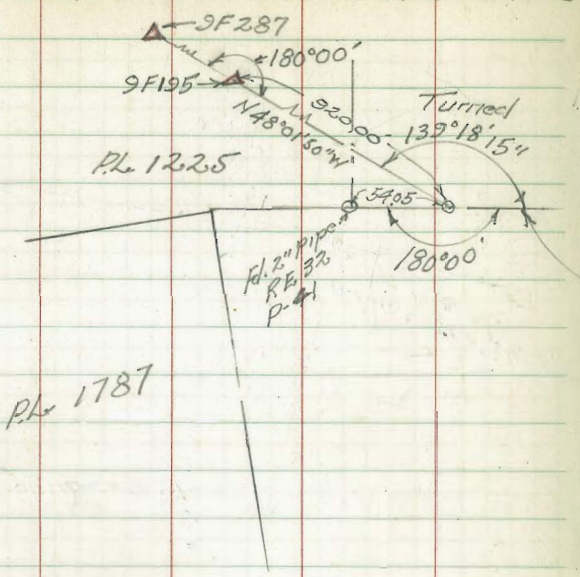
LADRILLO — Fd. U.S. COAST & GEODETIC TRIANG. MON.

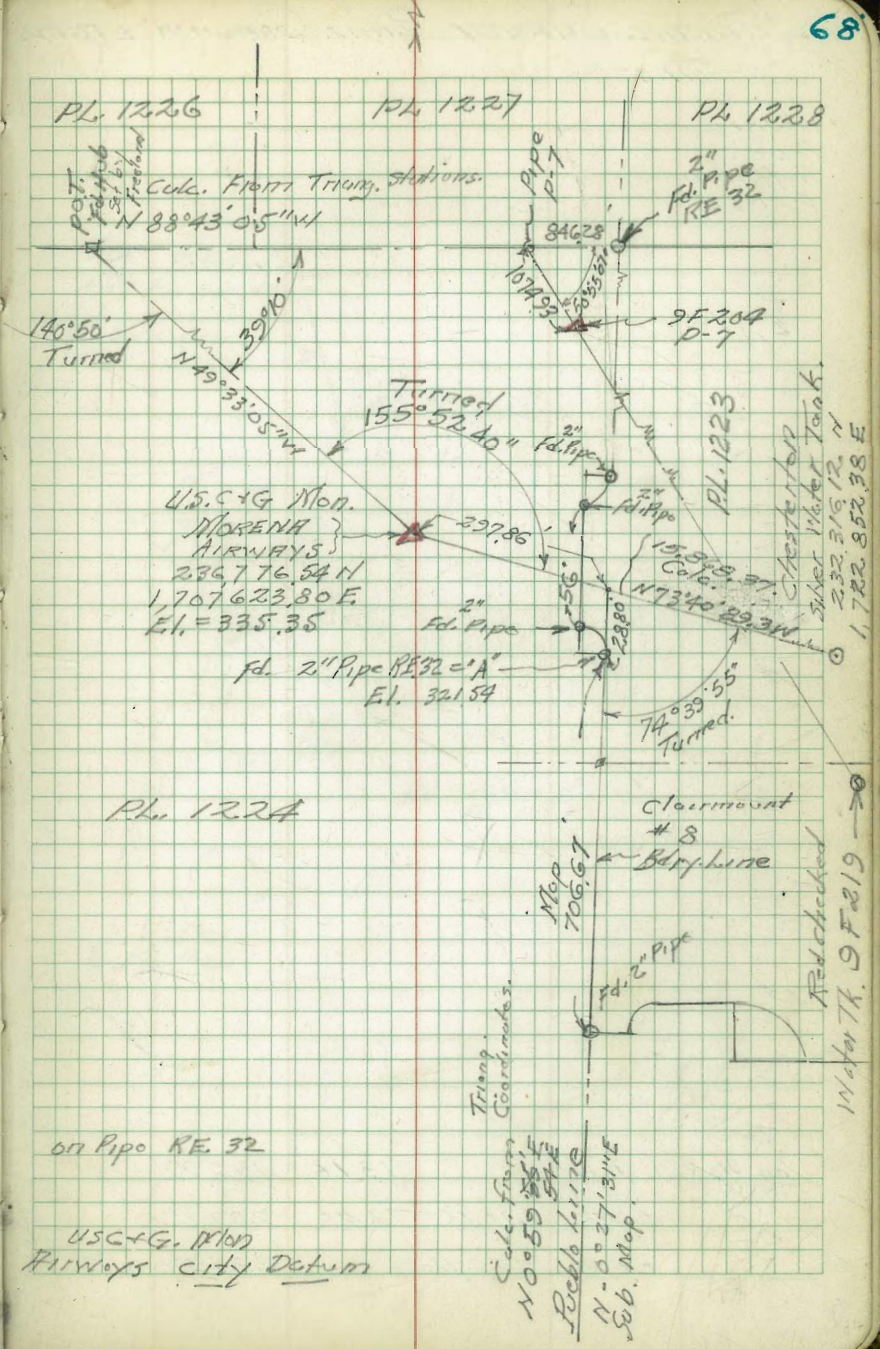


AERIAL SURVEY PLANE COORDINATE POSITIONS

T.I.E.S.

Walker, Pope
Huffman
5-16-52



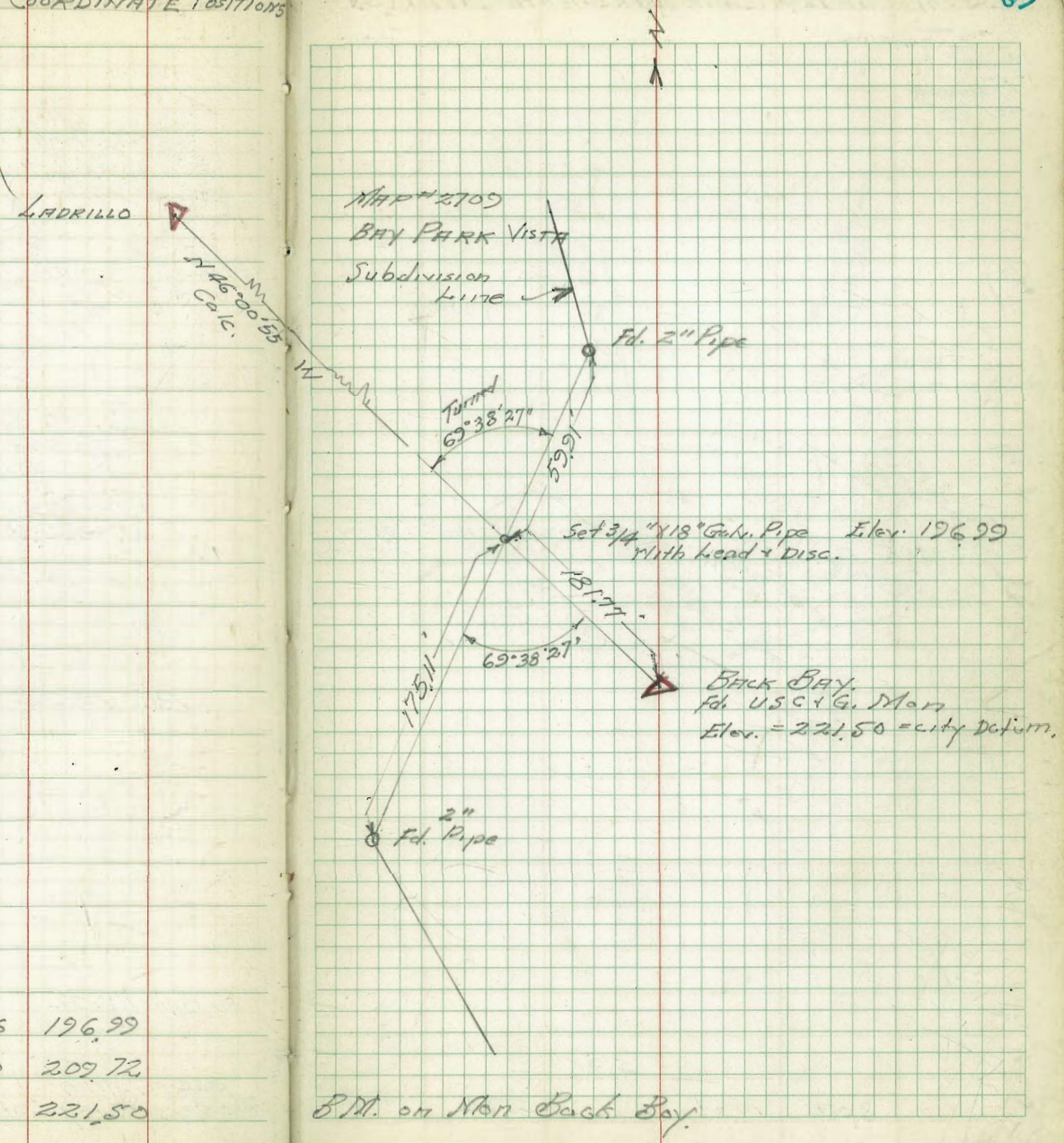

| | | | | | |
|---|---|---|---|---|---|
| on Pipe "A" | | | 7.41 | 321.54 | |
| T.P. | 4.20 | 328.95 | 12.41 | 324.75 | |
| | 1.81 | 337.16 | | 335.35 | B.M. Morena |

on Pipe RE 32

USC&G. Mon
Airways City Datum

AERIAL SURVEY PLANE COORDINATE POSITIONS
TIES

Walker
Pope
Huffman
5-21-52




| | | | | |
|---|---|---|---|---|
| on 3/4 Galv. Pipe | | | 13.16 | 196.99 |
| | 0.93 | 210.15 | 12.40 | 209.72 |
| | 0.62 | 222.12 | | 221.50 |

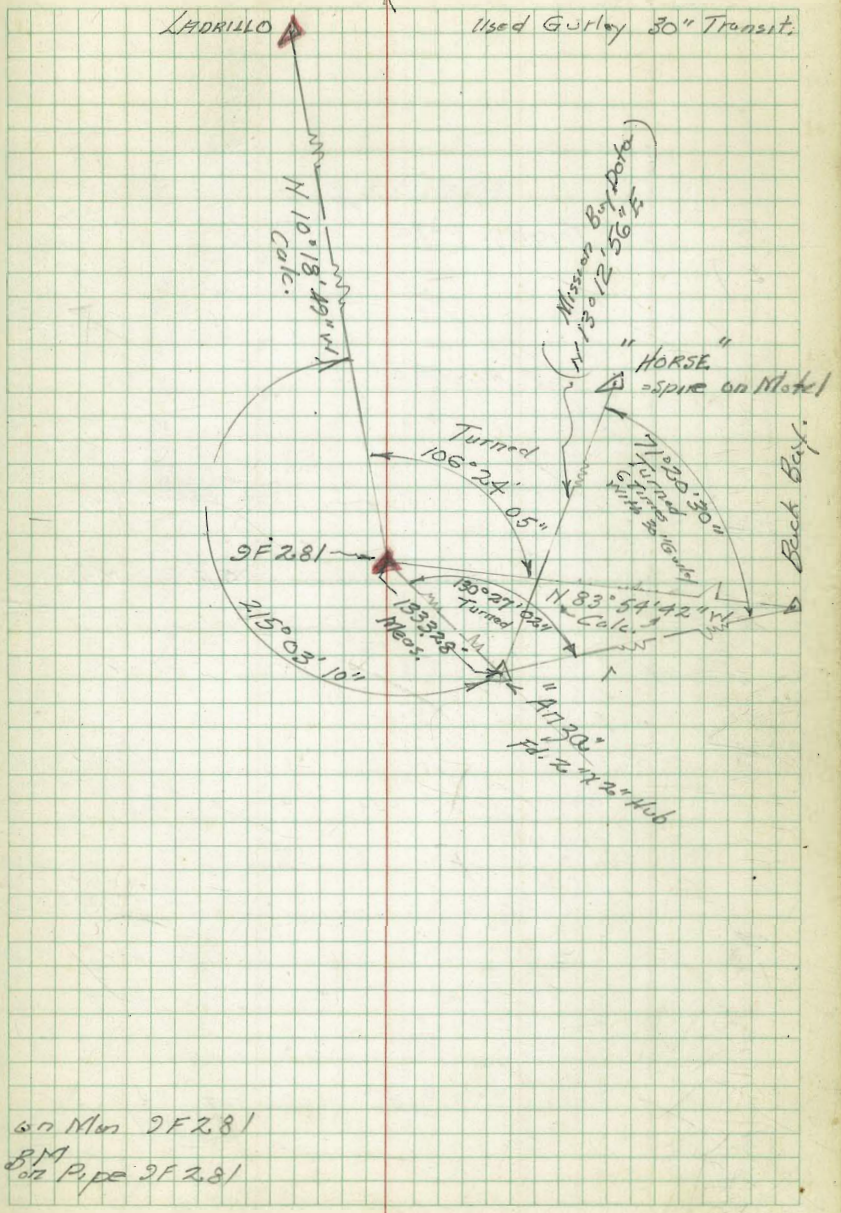
BM. on Mon Back Bay.

AERIAL SURVEY PLANE COORDINATE POSITIONS

TIES

Walker
Pope
Hoffman
5-21-52

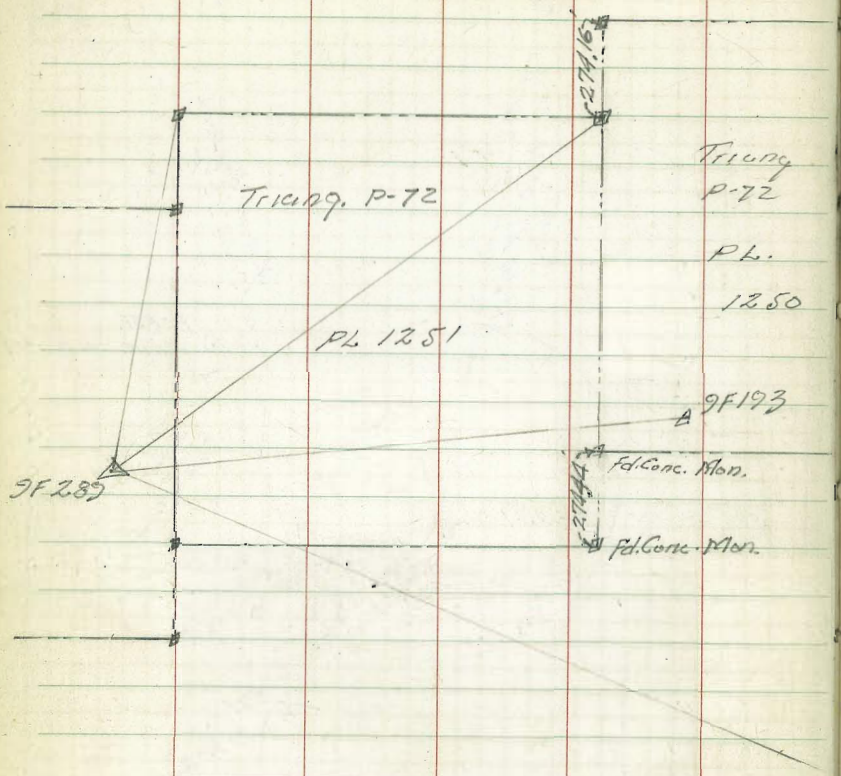
| | | | | |
|---|---|---|---|---|
| 9F281 | Fd. Pipe Left in. | 3' Decp. | Set Conc. Mon. 0.5' Below Surface Stamped "9F281" | |
| | | | 5.36 | |
| 8.07 | 1061 | | | 2.54 |

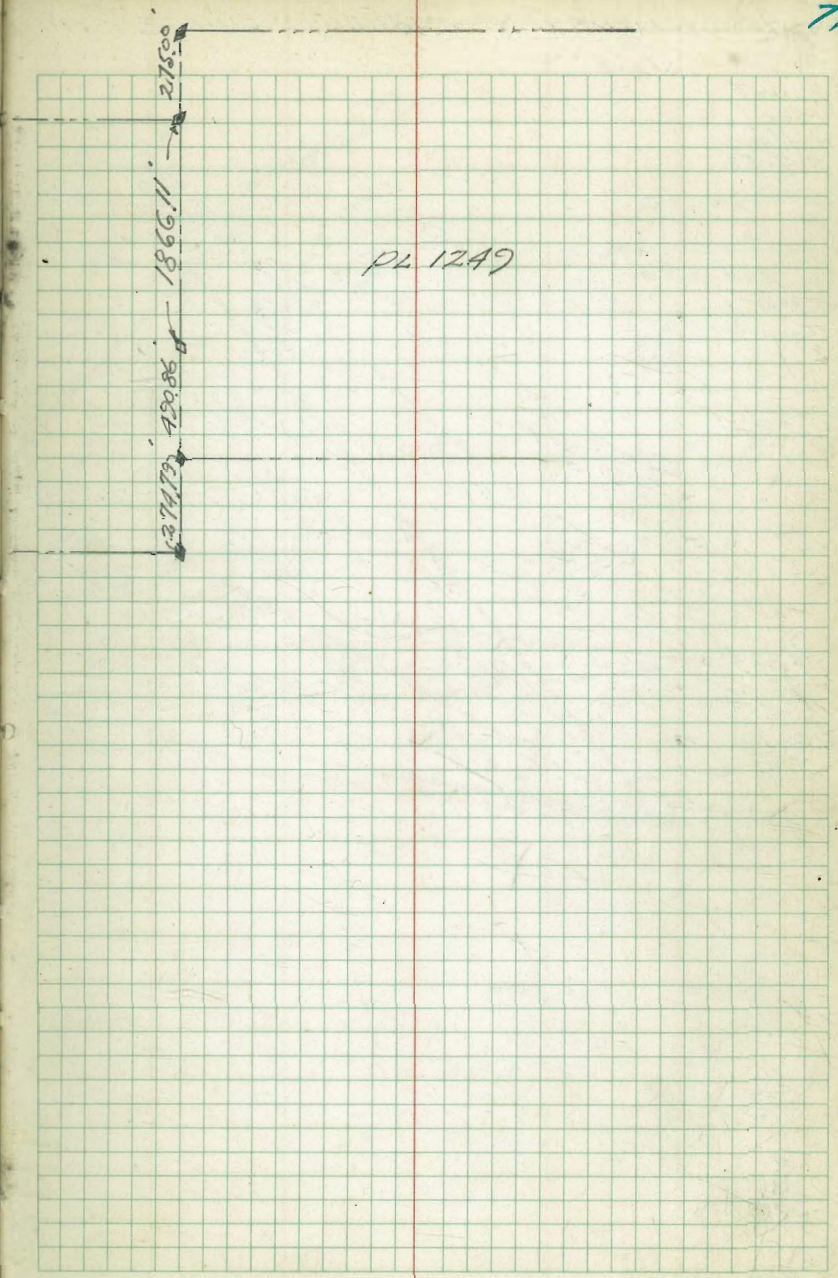



on Mon 9F281
BM
on Pipe 9F281

~ AERIAL SURVEY ~

PL. 1250, 1251

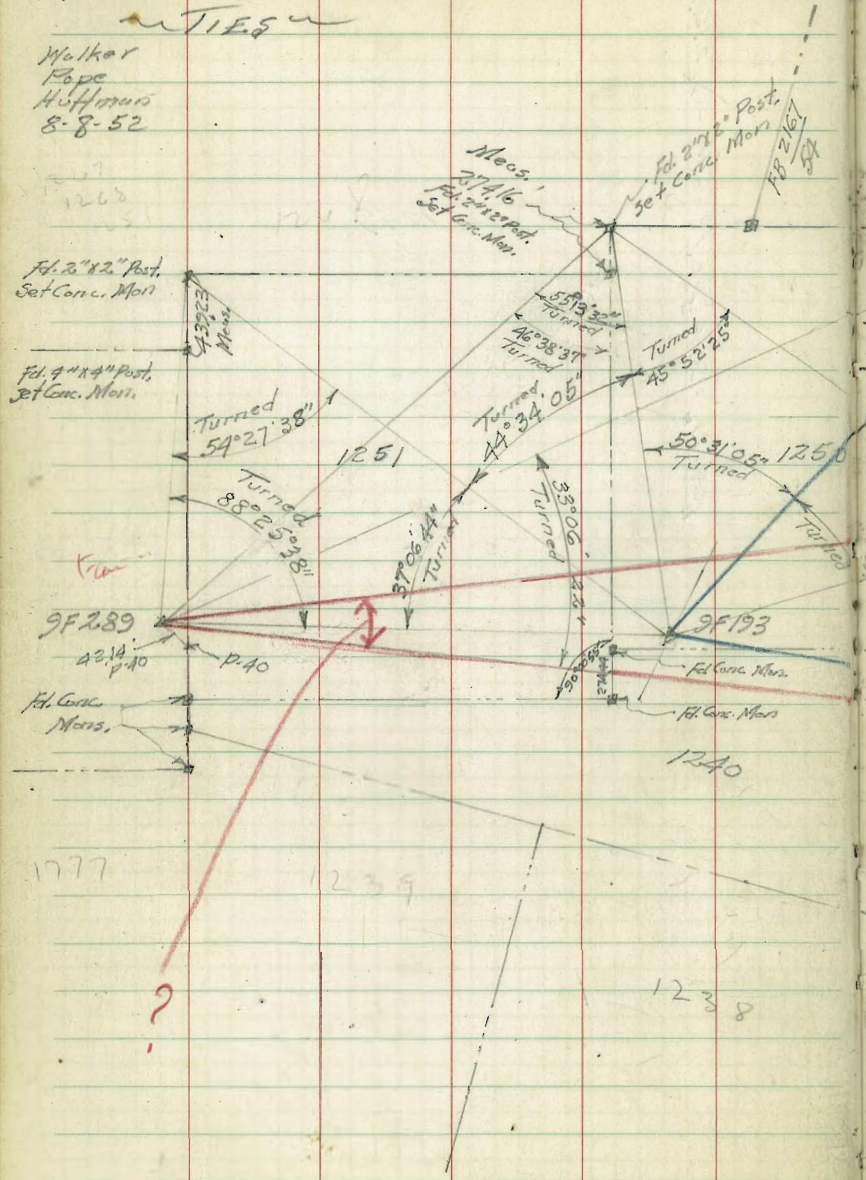


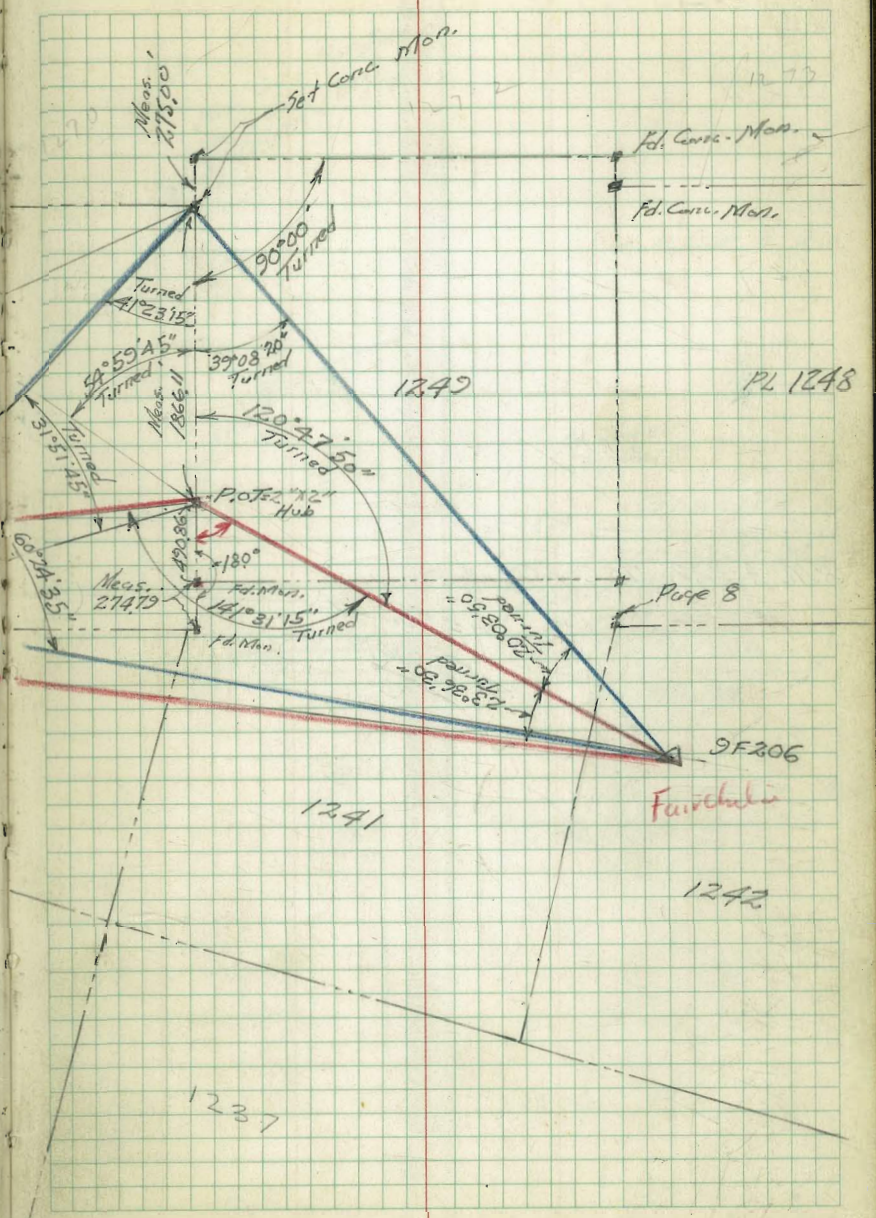



# AERIAL SURVEY - PLANE COORDINATE POSITIONS

## ~TIES~

Walker
Pope
Hoffman
8-8-52



AERIAL SURVEY PLANE COORDINATE POSITIONS

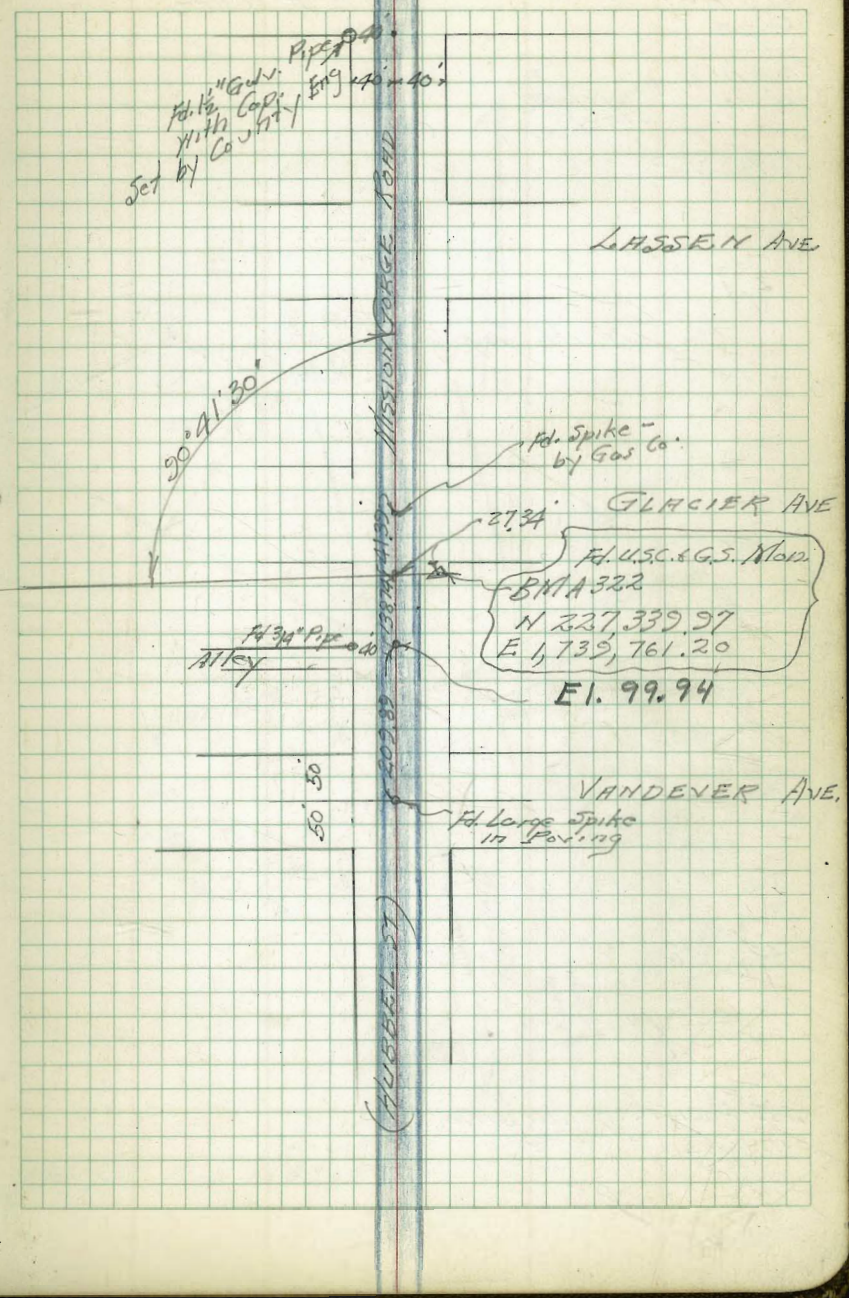
TIES

B.M. A 322 USC & GS

TF 855

FB 2141/32

ORCUTT



Aerial Survey / 10-F-702

Walker
Pope

(Brennan
Hunter) Fairchild
Crew

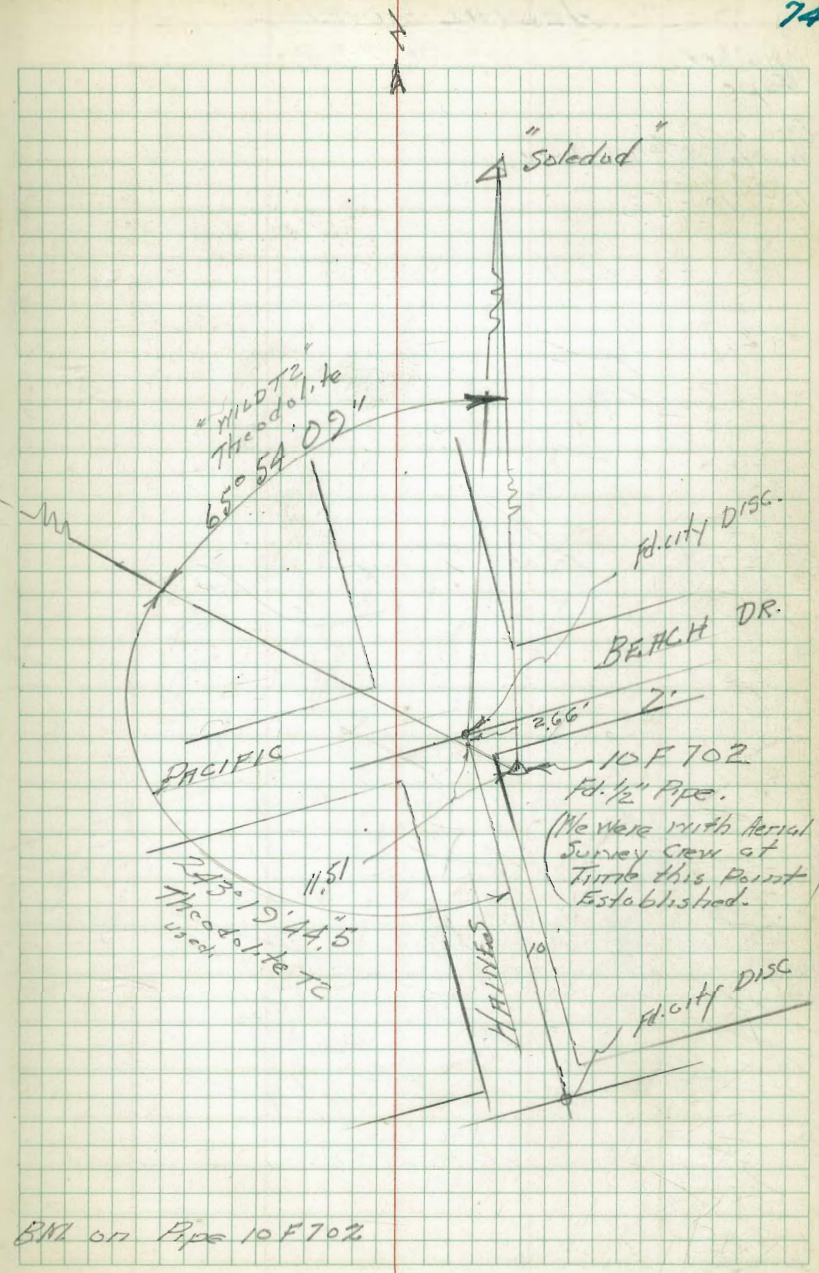
1-70-53

North Cupla Crystal Pier

SE Pacific Beach Drive
on Disc & Haines

522

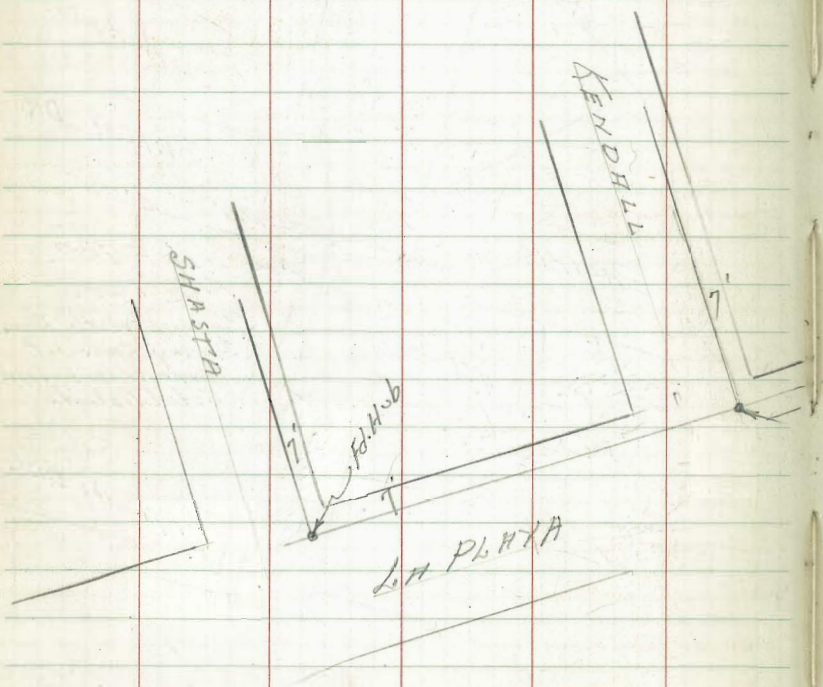
185

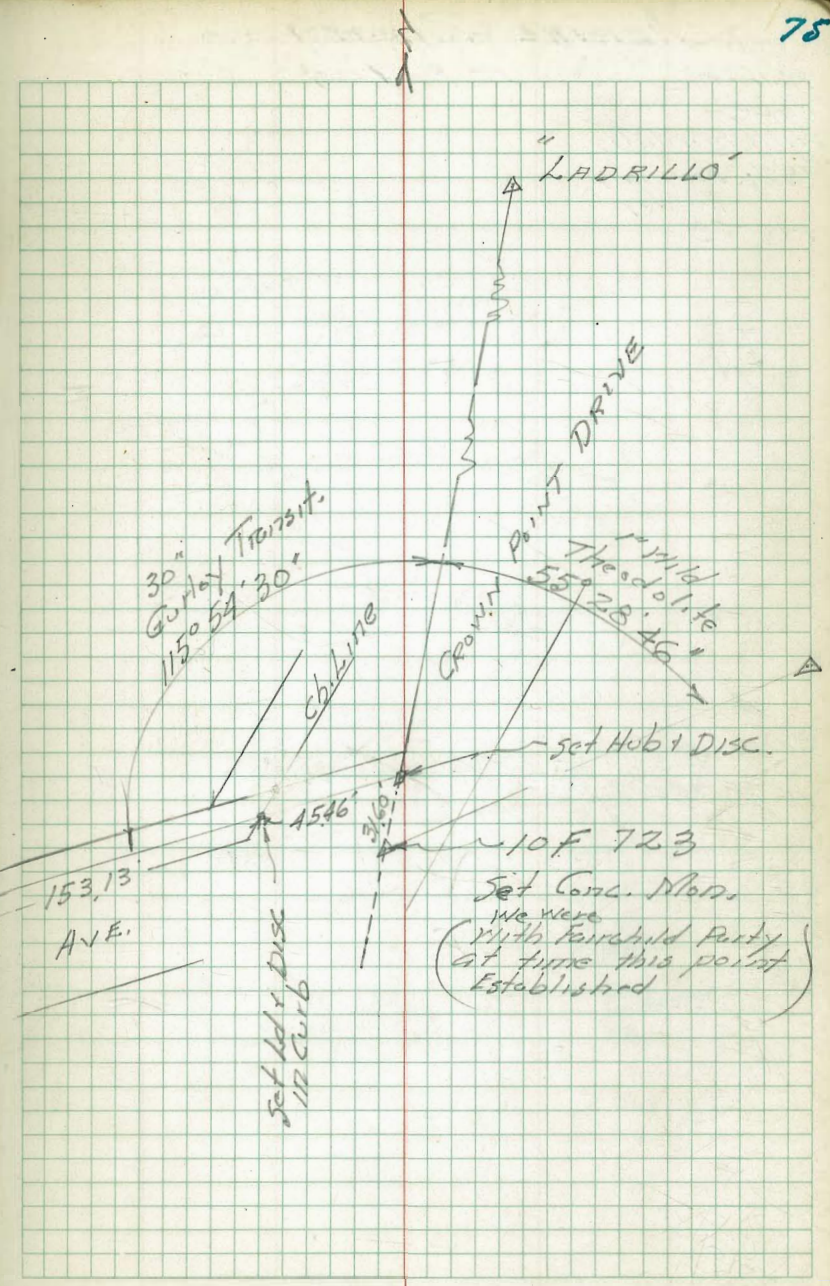



BM on Pipe 10 F 702

~ AERIAL SURVEY ~

Walker
Pope
(Brennan, Hunter) = Fairchild crew
1 - 10 - 52



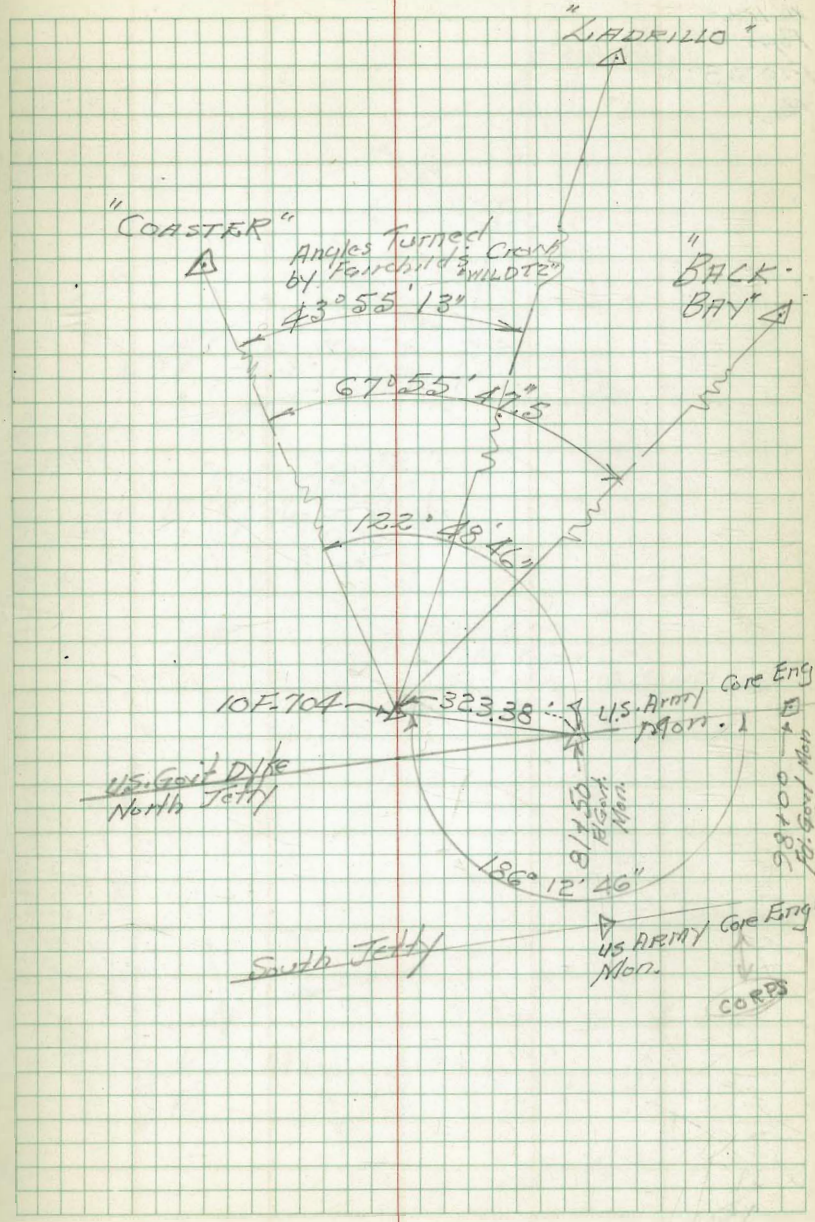
AERIAL SURVEY

10 F. 704

Walker
Pope –
with Fairchild's
Crew. – Brennan
Hunter
1-10-53

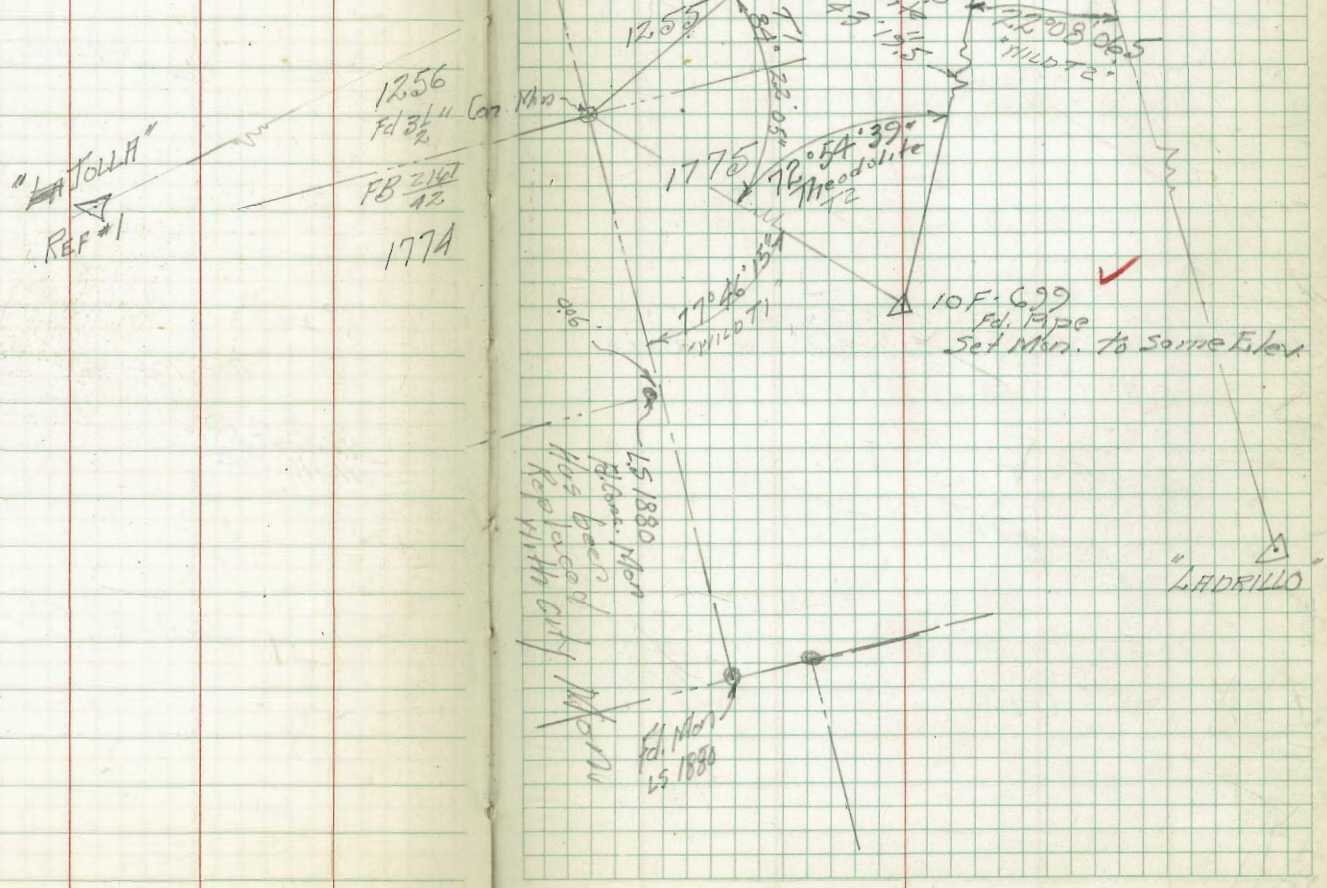
10 F 704 Set Conc. Mon.





AERIAL SURVEY

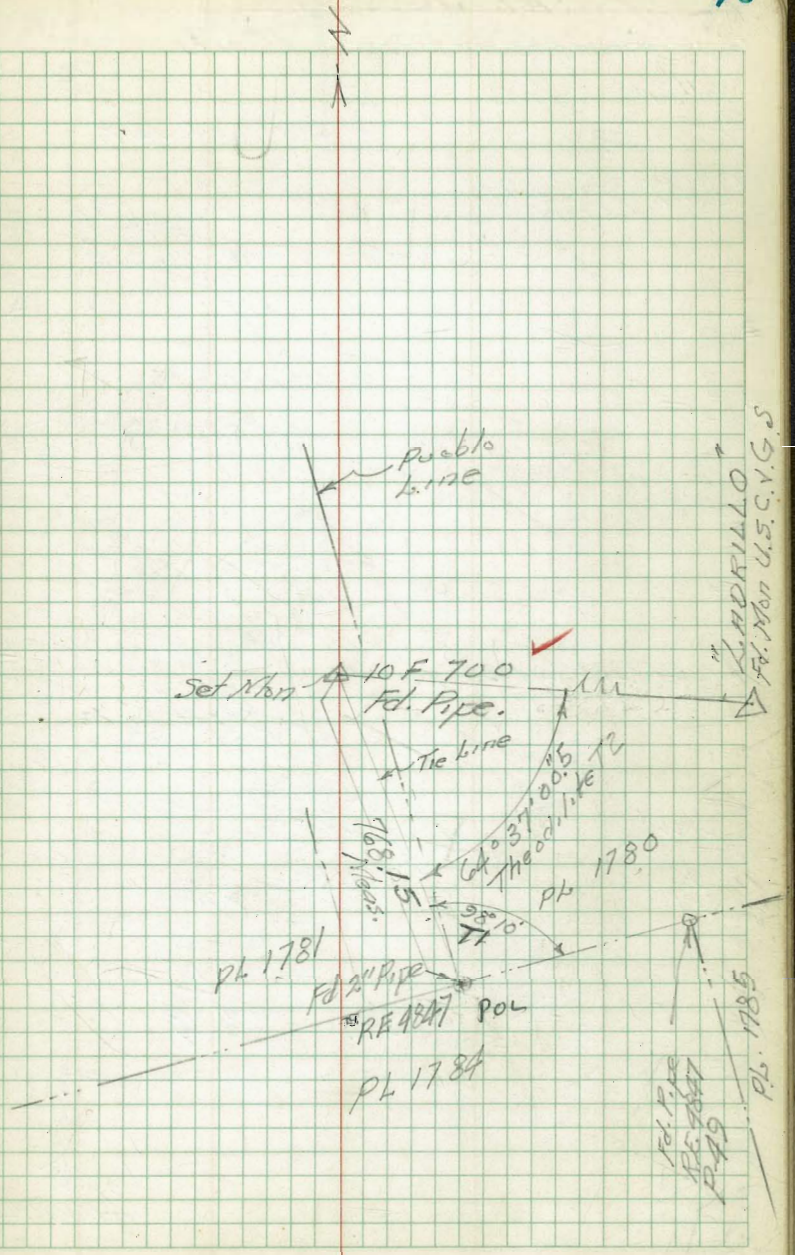
Walker
Pope
1-10-53
P.m.



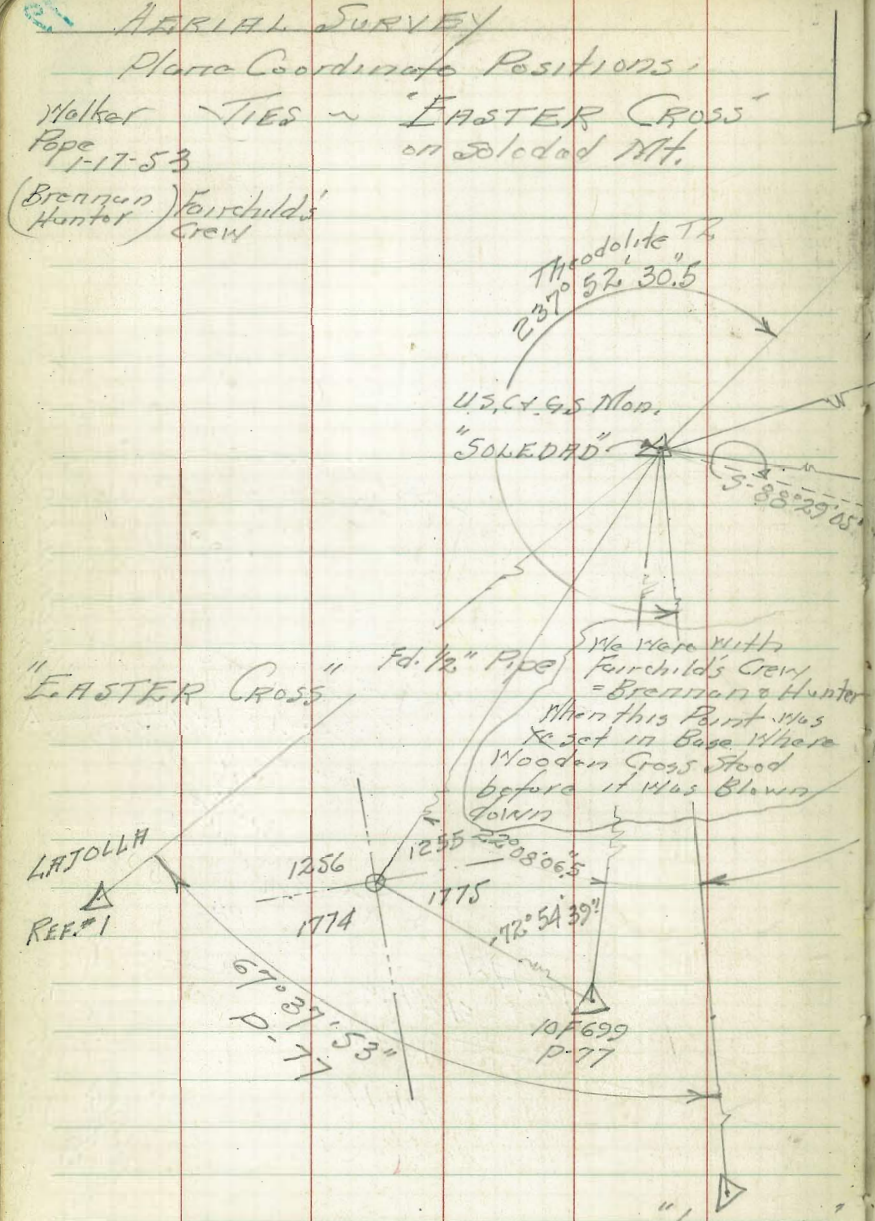
Walker AERIAL SURVEY
Pope 10F-700
1-10-53

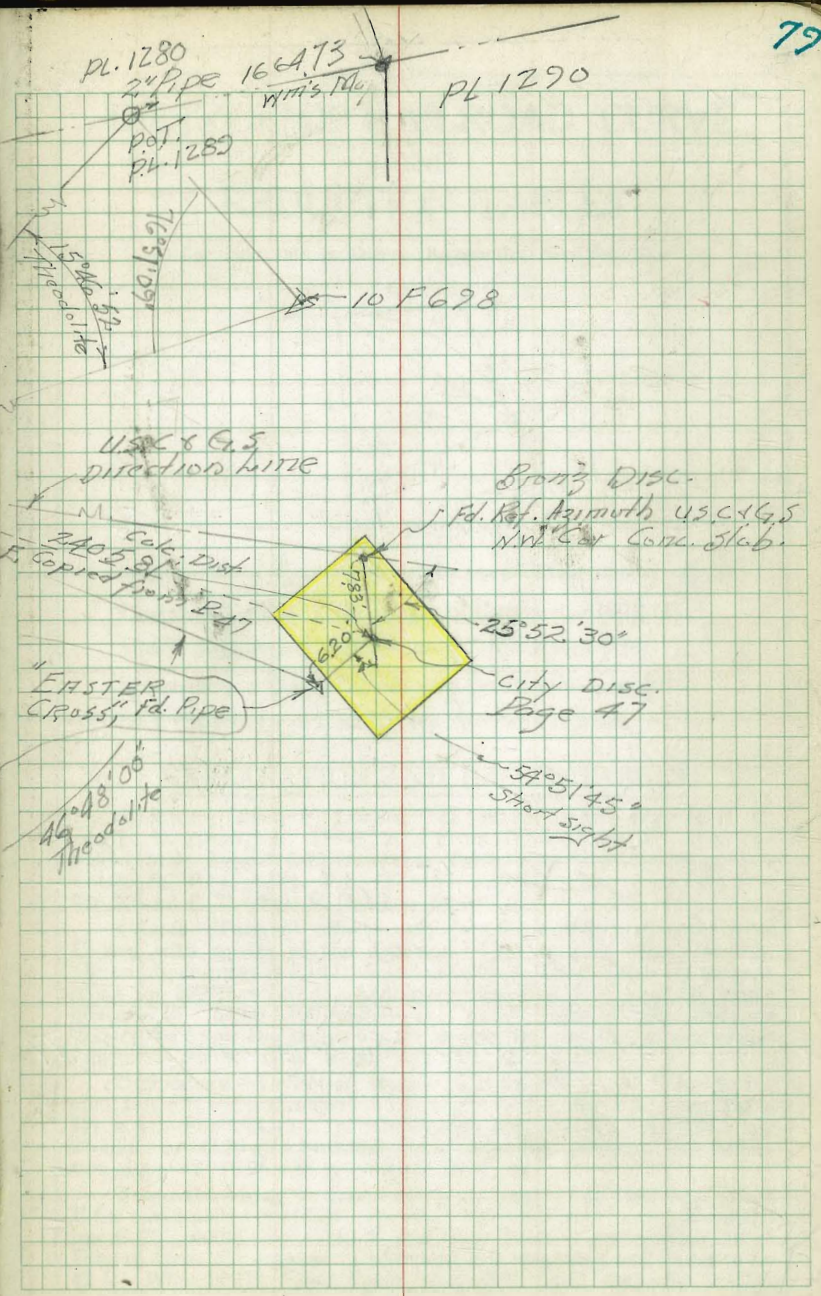
10F 700 Fd 1/2" Pipe. Set Mon. to Same Elev.





AERIAL SURVEY
Plane Coordinate Positions:
Walker TIES ~ "EASTER CROSS"
on Soledad Mt.
Pope 1-17-53
(Brennan Hunter) Fairchild's Crew



80 AERIAL SURVEY

Walker alone 2-26-53 PLANE COORDINATE POSITIONS

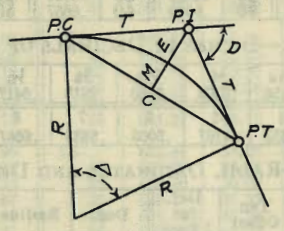
9F 228 Fd. Pipe Set Conc. Mon To 0.29 Above = 393.59

9F 240 Fd. Pipe. Set Conc. Mon To Same Elev. = 362.77



# DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

Copyright, 1914, by Eugene Dietzgen Co., New York City




## CURVE FORMULAS

Radius$=R=\frac{50}{\sin. D/2}$ (1) Degree of Curve$=D$ and $\sin. \frac{D}{2}=\frac{50}{R}$ (2)

Tangent$=T=R\tan\frac{\Delta}{2}$ (3) Length of Curve$=L=100\frac{\Delta}{D}$ (4)

Middle ordinate$=M=R(1-\cos. \frac{\Delta}{2})$ (5)$=R\text{vers}\ \frac{\Delta}{2}$ (6)

External$=E=T\tan\frac{\Delta}{4}$ (7)$=R \div \cos.\frac{\Delta}{2}-R$ (8)$=R\text{x}\sec\frac{\Delta}{2}$ (9)

Long Chord$=C=2\ R \sin.\frac{\Delta}{2}$ (10) $\Delta$=Central Angle

## EXPLANATION AND USE OF TABLES

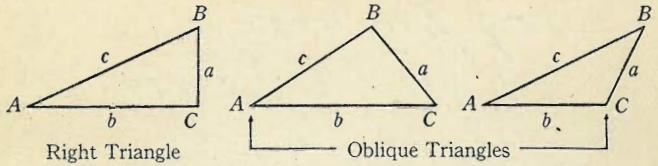
**Stations.**—Given P. I.=Sta. 161+60.35 to find Sta. of P. C. and P. T. $\Delta=62° 10'$ $D=8° 20'$. From Table IV for 1° curve T=3454.1 and $\div 8\frac{1}{3}$=414.49 ft. From Table V correction=.36 or T=414.85 ft. P. C.=Sta. P.I.—T=157 +45.50. Also from (4) L=746.00 and P. T.=Sta. P. C.+L=164+91.50.

**Offsets.**—Tangent offsets vary (approximately) directly with D and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft.=7.27 ft. Distance=158—Sta. P. C.=54.50, hence offset=7.27 $(54.50 \div 100)^2$=2.16 ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus $(54.50)^2 \div (2 \text{ x } 688.26)$=2.16 ft.

**Deflections.**—Deflection angle=½ D for 100 ft., ¼ D for 50 ft., etc. For c ft.=(in minutes) .3 x C x D° or=defl. for 1 ft. from Table III x C. For Sta. 158 of above curve=.3 x 54.5 x $8\frac{1}{3}$=136.2′ or 2° 16.2′, or=2.50 x 54.5=136.2′ from Table III. For Sta. 159 deflection angle=2° 16.2′ +8° 20′ ÷2=6° 26.2′, etc.

**Externals.**—May be found in similar manner to tangents. Thus E for curve above is 115.37. For from Table IV for 1° curve E=960.6 for 8° 20′=960.6 $\div 8\frac{1}{3}$=115.27 and from Table V correction=.10 or E=115.37 ft. Or suppose $\Delta$=32° and E is measured and found to be 42 ft. What is D? From Table IV E=230.9 and ÷42=5.5 or D=5° 30′.

# TRIGONOMETRIC FORMULÆ




## Solution of Right Triangles

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

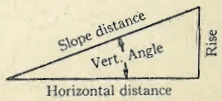
| Given | Required | |
|---|---|---|
| $a, b$ | $A, B, c$ | $\tan A = \frac{a}{b} = \cot B,\ c = \sqrt{a^2+b^2} = a\sqrt{1+\frac{b^2}{a^2}}$ |
| $a, c$ | $A, B, b$ | $\sin A = \frac{a}{c} = \cos B, b = \sqrt{(c+a)\,c-a)} = c\sqrt{1-\frac{a^2}{c^2}}$ |
| $A, a$ | $B, b, c$ | $B = 90°-A,\ b = a \cot A,\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

## Solution of Oblique Triangles

| Given | Required | |
|---|---|---|
| $A, B, a$ | $b, c, C$ | $b = \frac{a \sin B}{\sin A},\ C = 180°-(A+B),\ c = \frac{a \sin C}{\sin A}$ |
| $A, a, b$ | $B, c, C$ | $\sin B = \frac{b \sin A}{a},\ C = 180°-(A+B),\ c = \frac{a \sin C}{\sin A}$ |
| $a, b, C$ | $A, B, c$ | $A+B = 180°-C, \tan\frac{1}{2}(A-B) = \frac{(a-b)\tan\frac{1}{2}(A+B)}{a+b}$ <br> $c = \frac{a \sin C}{\sin A}$ |
| $a, b, c$ | $A, B, C$ | $s = \frac{a+b+c}{2},\ \sin\frac{1}{2}A = \sqrt{\frac{(s-b)(s-c),}{b\,c}}$ <br> $\sin\frac{1}{2}B = \sqrt{\frac{(s-a)(s-c)}{a\,c}},\ C = 180°-(A+B)$ |
| $a, b, c$ | Area | $s = \frac{a+b+c}{2},\ \text{area} = \sqrt{s(s-a)\ (s-b)\ (s-c)}$ |
| $A, b, c$ | Area | $\text{area} = \frac{b\,c \sin A}{2}$ |
| $A, B, C, a$ | Area | $\text{area} = \frac{a^2 \sin B \sin C}{2 \sin A}$ |

# REDUCTION TO HORIZONTAL

Horizontal distance = slope distance multiplied by the cosine of the vertical angle. Thus, for a slope distance of 403.6 ft. and a vertical angle of 4° 40′—the cosine of 4° 40′, taken from a table of natural trigonometrical functions, = .9967, and horizontal distance = 403.6 x .9967 = 402.27 ft.




Horizontal distance also = Slope distance minus slope distance times (1 — cosine of vertical angle). Using the same figures as in the preceding example — Cos. 4° 40′ = .9967. 1 — .9967 = .0033. 403.6 x .0033 = 1.33 ft. Horizontal dist. = 403.6 – 1.33 = 402.27 ft.

When the rise is known, the horizontal distance may be found by the following approximate rule:— the slope distance less the square of the rise divided by twice the slope distance. Thus, for a slope distance of 372.5 ft., and a rise of 15 ft. the horizontal distance =

$$372.5 - \frac{15 \times 15}{2 \times 372.5} = 372.5 - .30 = 372.2 \text{ ft.}$$

Return To:-
City Engineer
Civic Center
San Diego
Calif.

10 F 698
2 98 825
253 39 22.5
237 52 30.5
15 46 52.0
253-39 22.5"

2823
1948

66

9744
678
7952
7798
6820
58 x 6 x 32
6606 x 3
55.5
21.5

863
84
2
45
3 4 2
30 4 9
69
72 4