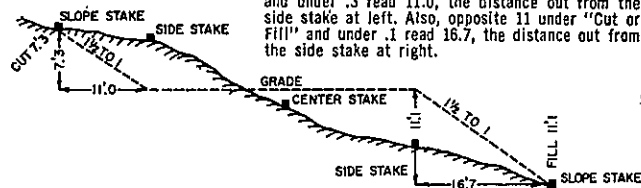


CWC Field Book
No. 3

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width. Side Slopes 1½ to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



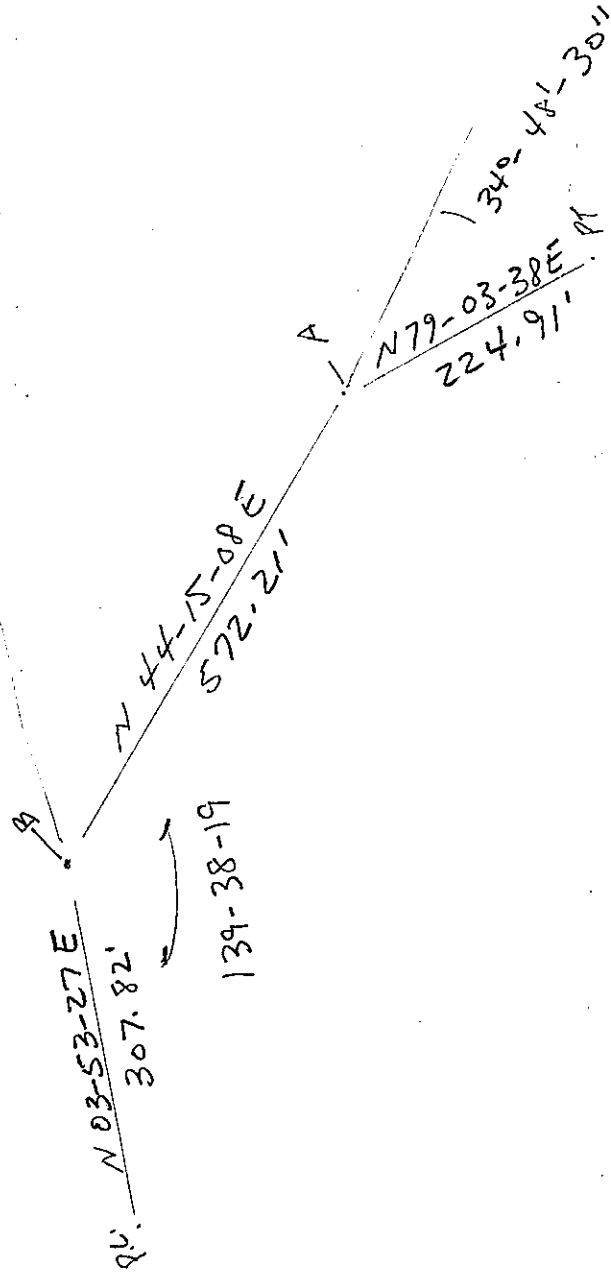
Cut or Fill	Distance out from Side or Shoulder Stake										Cut or Fill
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6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

443.74
145.16



The paper in this book is made of 50% high grade rag stock with a WATER RESISTING surface sizing.

KEUFFEL & ESSER CO.



CHD-83-04A

SEC. SUB. 33-43-28

TJB-S.G. 3/2/83 (Begin)

I, Terry J. BETLEY ON SAID
DATE FOUND A 8" X 8" CONC.
MON. SET AS A PERPETUATION
OF THE P.L.S. CORNER BY NELS
PETERSON R.I.S. IN 1918

ALSO FOUND TWO U.S.N.
THE DEEDS SET. IN 1980
I ALSO ESTABLISHED ADD.
TIES AS SHOWN ON NEXT
PAGE.

FOR ADDITIONAL ABSTRACT INFO
ON THIS CORNER SEE INDEX CARD

THE COUNTY SURVEYOR OFFICE
AND MYSELF ACCEPT THIS
MON. AS THE PERPETUATION
OF THE P.L.S. CORNER

Terry J. Betley
L.S. 4/15/81

ALSO WITNESSED BY STANLEY L.

SOUTHWEST COR. 5.33

CROW WING COUNTY

33-43-28
U.S.N. BT
P.O. 101 7"
WOODED

W. 1/2
S. 1/2
FENCE POST

N. 1/2
E. 1/2

S. 1/2
E. 1/2

U.S.N. B.T.
Brock

CORN FIELD

4-42-28

3-42-28

MORRISON COUNTY

NOTE: R.I.S. IN Good Shape Blazer
Good Solid Corn

CHD 83-04A

TDB-56.

3/2/83

(Lyle Reynolds)

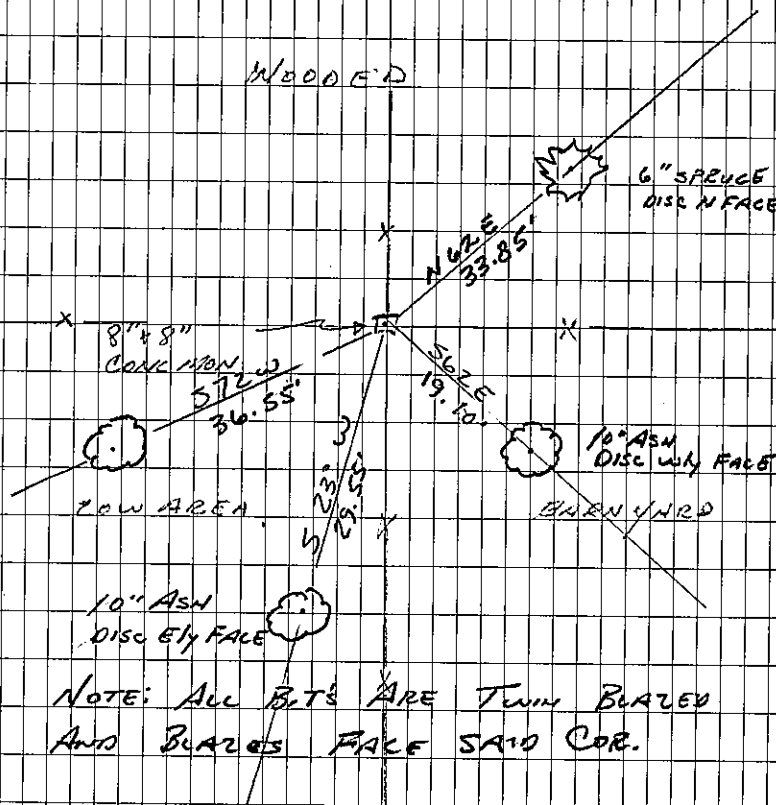
I, TERRY J. BETLEY, ON SAID
DATE FOUND THE CONCRETE
MONUMENT SET BY NELS
PETERSON R.L.S. 2 IN 1918
TO PERPETUATE THE P.L.S.
CORNER. NO TIES WERE FOUND
NEW TIES WERE TAKEN AS
SHOWN ON NEXT PAGE

THE COUNTY SURVEYORS OFFICE
AND MYSELF ACCEPT THIS
CORNER AS THE PERPETUATION
OF THE P.L.S. CORNER

Terry J. Betley
R.L.S. #1581P

Also Present STEVE CURIN
ENG. TECH. CHD

4
SOUTH 1/2 COR. S. 33 - 43-28



B.S.M-3

TeM-4 D 00-00-00 V 000 04-30

to SBCOR R 131-07-00 F 1224.16

R 311-07-00 M 373.125

D 180-00-00 H 1224.15

add 0.3' 1224.46

to MA D 00-00-00 V 359-59-00

R 87-32-00 F 2142.28

R 267-32-00 M 652.969

D 180-00-20 H 2142.27

87-31-50 add 0.3 2142.57

to G-1 D 00-00-00 V 000-09-30

R 21-49-40 F 1749.47

R 201-49-40 M 533.241

D 180-00-00 H 1749.46

add 0.3

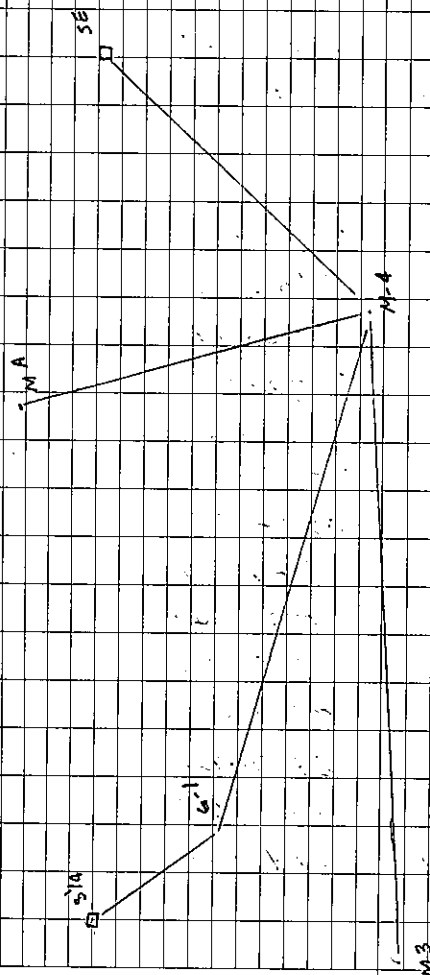
B.S.M-4 D 00-00-00 V 357-26

TeG-1 R 222-08-10 F 465.75

to 1/4 R 41-08-00 M 141.963

D 180 H 465.28

179-59-50 add 0.3'



BS M4 D 000-00-00 U= D—
 to MA R 222-04-40 F
 to EXL R -42-04-30 M 555.835
 D 179-59-50 H 1823.60'

BS M4 D 00-00-00 V 359-56-00
 to E1/4 R 66-22-55 F 1432.98
 to MB R 246-22-50 M 436.776
 D 180-00-00 H 1432.97'

BS E1/4 D 00-00-00 V 358-56-00
 to MB R 281-11-00 F 1104.79
 to MS R 101-11-00 M 336.742
 D 180-00-00 H 1104.60

BS ME D 00-00-00 V 359-32
 to ME R 100-16-50 F 2748.20'
 to M2 R 280-16-40 M 837.655
 D 179-59-50 H 2748.11

BS MS D 00-00-00 V 359-32-00
 to MB R 90-38-10 F 242.68
 to P.T. R 270-38-10 M 73.971
 D 180-00-00 H 242.67
 @ 60+00

BS M2 D 00-00-00
 to P.T. R 357-06-55
 to P.C. R 77-06-55
 D 180-00-10

3/3/83

TJB-26.

5 1/2 Cor S.33

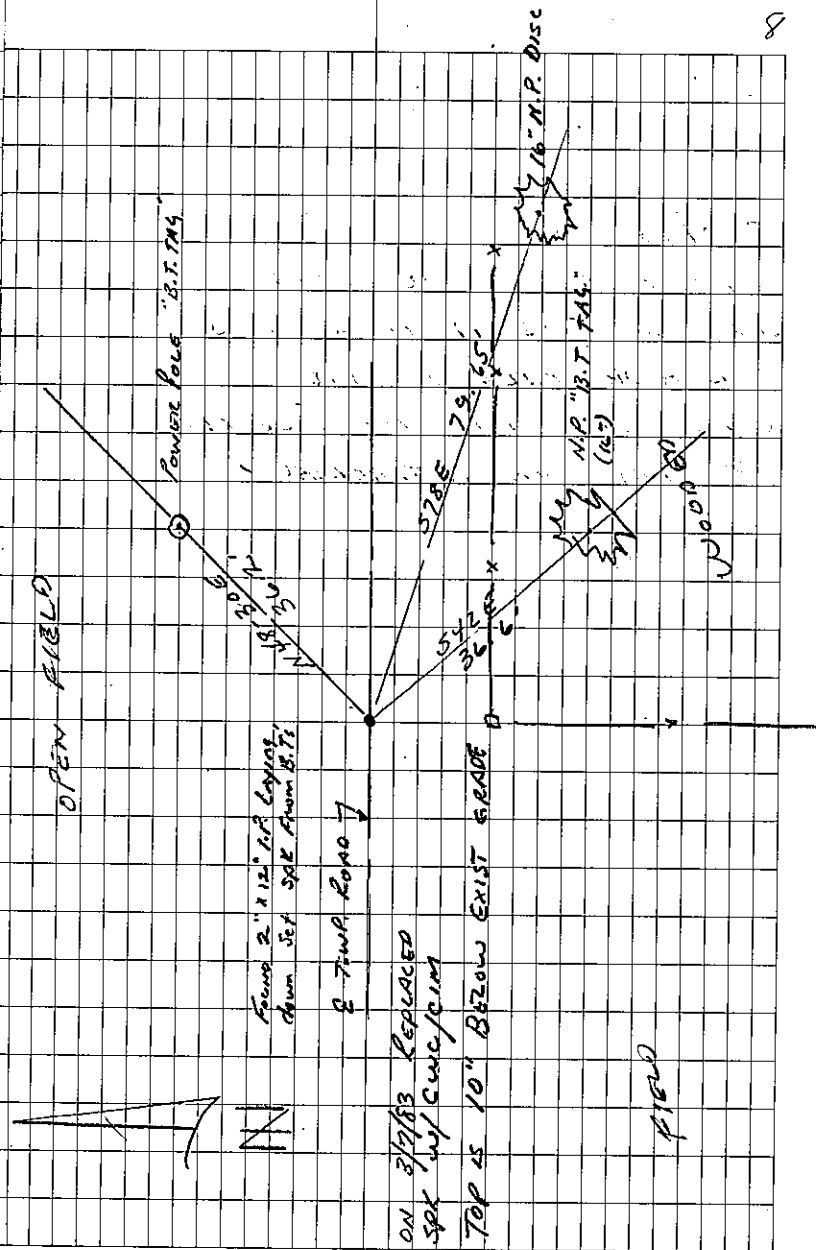
I, Terry J. Betley on said Day
Found a 2" x 14" Iron Pipe
Laying on S. DE., Also B.T. ESTAB
By D.M. Anderson in 1958
BECAUSE OF FROST TEMP. PLACED
A 9" x 3/8" SPK TO BE REPLACED @
A LATER DATE.

ON 3/7/83 I, TJB. SET A
STANDARD CIM AT THE AFORE
SAID LOCATION. TOP OF SAID
MONUMENT IS 10" BELOW EXIST.
GRADE I THEN PLACED A
9" SPK OVER TOP.

I ESTABLISHED ONE NEW B.T.
AND OPENED BLADES ON THE
OTHER.

THE COUNTY SURVEYORS OFFICE ACCEPTS
THIS LOCATION AS A PERP. OR PLS. COR.

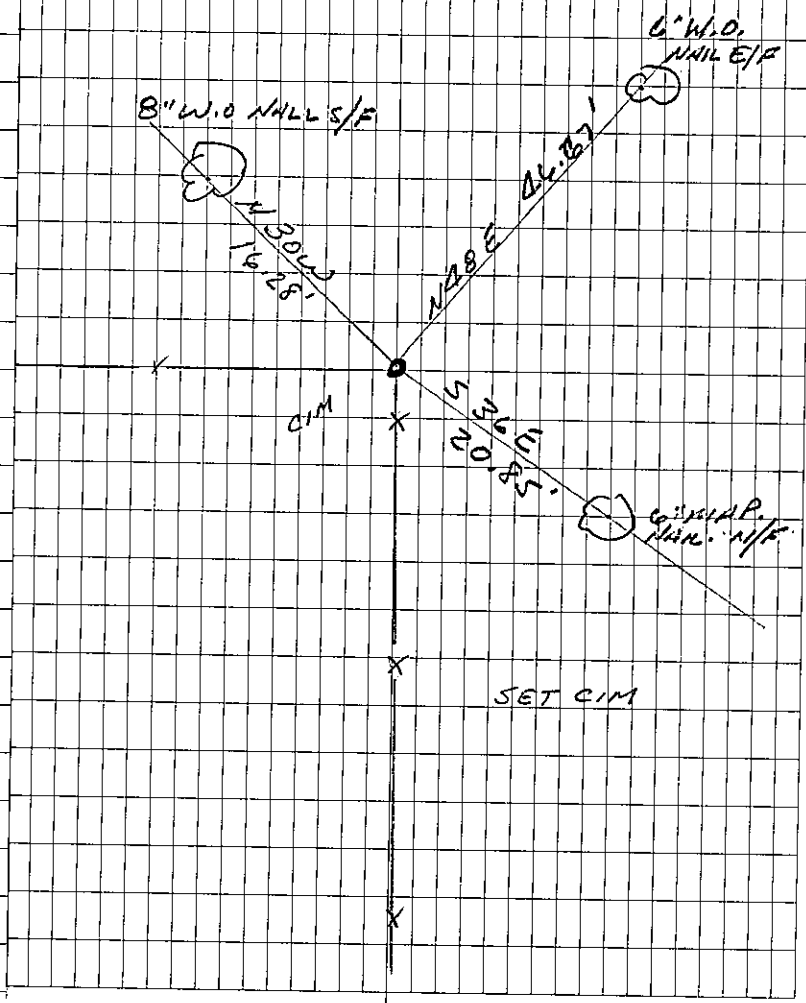
TJB-26 RLS 1584



TIES TO W^{1/4} S.33-43-28

3/10/83

SET CIM @ LOC. DMA USED
IN 1958 SURVEY FOUND HIS
OLD HUB, PULLED AND SET
CIM - LEFT HUB IN HOLE NEXT
TO CIM FOR MEMORIAL



TRESTO W.I.C. 34/35
3/2

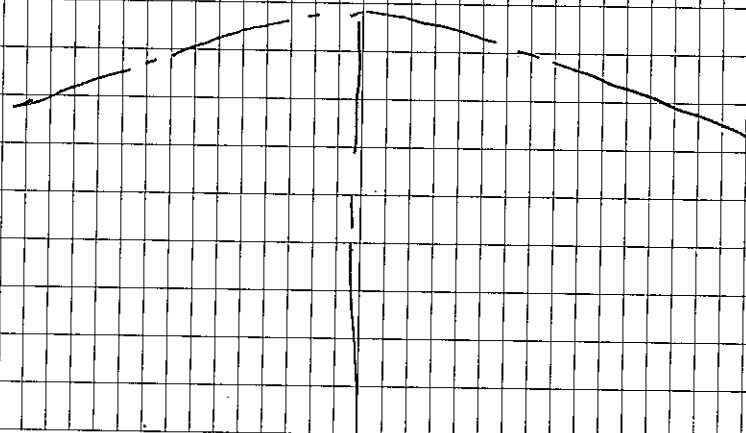
10

CO. 2 IN LAKE

*

*

6793



3/21/83

TERRY-STEVE

CHD-83-06 C.S.A.H. No. 1

B.S. P.T. D 00-00-00

To P.L. 901409⁶ R 222-17'-00"

to P.O.L. R 42-17-00

(SEC. COR D 180-00-00

NW ✓ 0 —

+4 to P.L. F 3352.03

PC to 1/4 cor 145. M 1021.703

Should BE 3351.64

B.S. P1 D 00-00-00

To NW R 177-51-25

to temp 1/4 R 357-51-15

D 180-00-05

M 51-18 ✓ 359-51-00

F 2669.45

M 813.652

B.S. SEC. COR D 00-00-00 ✓ 359-50-00

To T. 1/4 R 180-32-80 F 2200.70

to A R 0-32-15 M 670.775

D 180-00-05 H 2200.69

B.S. Emp/4 D 00-00-00 V 359-30

To A spk R 140-36-40/40 F 572.23

to B spk R 320-36-35/40 M 174.418

D 180-00-00/00 H 572.21 ✓

B.S. A spk D 00-00-00 V 359-33-00

To B spk R 133-00-00 F 2275.10

to W/4 Cor R 313-00-00 M 693.452

D 180-00-00 H 2275.03' ✓

B.S. B spk D 00-00-00 V 359-49-00

To 1/4 Cor R 178-54-40 F 1352.65

to P.O.L R 358-54-40 M 412.289

D 180-00-00 H 1352.64

To P.O.L (180°) V 358-47

to P.T F 592.91

M 180.721

H 592.78

683.8'

Yagun⁺

3/22/83

TJB, SG.

B.S. SEC. CORE D 00-00-00 ON 2.50'

TO TEMP/R R 302-43-51

TO 1/4 COR R 122-43-50

D 180-00-00

SET A 6" X 3/8" SPK FLUSH

WITH BOTTOM OF BIT.

WILL REPLACE W/ A CIM LATER

B.S. B D 00-00-00 ON 224.91'

TO A R 214-48-30

TO P.T. R 34-48-30

D 180-00-00

B.S. A D 00-00-00 ON 307.82

TO B R 139-38-20

TO P.L. R 319-38-20

D 180-00-00

B.S. P.O.L D 00-00-00 V 358-46
 To P.T. R 196-58-51 F 580.74
 to "C" R 16-59-00 M 177.011
 X D 180-00-00 H 580.60"

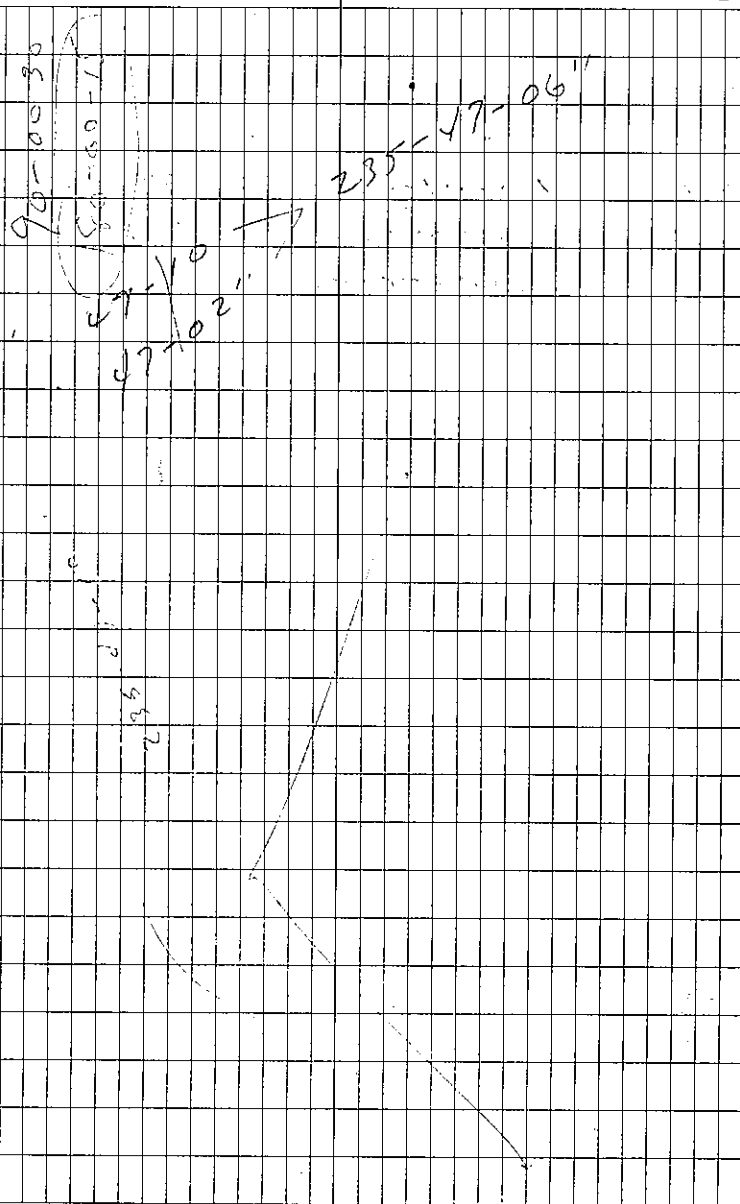
B.S. PT D 00-00-00 V 000-30-00
 To "C" R 235-47-10 E 537.20
 to P.C. R 55-47-16 M 163.739
 D 180-00-14 H 537.17

235-47-00

D 90-00-00

B.S. "C" D 500-00-00 V 359-28
 To P.C. R 194-33-40 F 2022.31
 to P.I. R 14-33-40 M 616.404
 1 1/2' South D 180-00-05 H 2022.23
 of 1/4 Cor

B.S. P.C. D 00-00-00 V 000-18'-00
 To P.I. R 181-08'-35" F 2676.62
 to SEC. Cor R 01-08'-35" M 815.837
 D 190-00-05 H 2676.58'



3/24/83

178-06-57

B.S. P.I D 00-00-00 2000-39-00
 TO SEC. Cor R 178-07-00 F 545.74
 to P.O.L R 358-06-53 M 166.343
 D 180-00-00 H 545.70'

B.S. SEC. Cor D 00-00-00 V 180-11-00
 TO P.O.L R 180-00-00 F 2209.75
 to 1/4 Cor R 360-00-00 M 673.34
 D 180-00-00 H 2209.74

B.S. P.O.L D 00-00-00 V 179-56-00
 TO 1/4 Cor R 181-50-10 F 2562.82
 to C/I/M R 01-50-00 M 781.151
 D 180-00-00 H 2562.81'

181-50-05

B.S. 1/4 Cor D 00-00-00 V 359-11-00
 TO SEC. Cor R 180-08-05 F 2657.10
 to 1/4 ³⁶/₁ R 0-08-00 M 809.886
 138-29 D 179-59 55 H 2656.83

3/23/cont.

17

B.S. SEC D 00-00-00 V 358-2500
 To P.O.L R 180-28-00 F 640.70
 to P.O.L R 00-28-00 M 195.290
 D 180-00-00 H 640.46

to SEC D V 000-20-00
 To P.O.L F 2027.94
 to SEC CAR M 618.118
 H 2027.90'

2668.36'

3/29/83 D 00-00-00 V 179-24
 B.S. P.O.L R 179-54-00 F 1113.83
 To SEC CAR R 359-54-00 M 339.497
 to P.O.L D 180-00-00 H 1113.77

THIS IS PLAN & FROM 193977B

B.S. S.C. D 00-00-00 V 359-55-00
 To P.O.L R 180-00-00 F 1124.36
 to P.O.L R 360-00-00 M 342.707
 D 180-00-00 H 1124.36'

3/29/83

18

B.S. P.O.L D 00-00-00 V 358°48'
 To P.O.L R 180-00-00 F 418.68
 to temp 1/4 Cor R 360-00-00 M 127.14
 D 180-00-00 H 418.58

NEED 2657.30 For '39 DIST.

*

B.S. P.O.L D 00-00-00 V 000-03-00
 To 1/4 temp R 179-37-43" E ~~264~~ 2639.43'
 to Sec C. R 359-37-47" M 804.502
 D 180-00-04 H 2639.43'

Should BE 179-31-00

DIST SHOULD BE 2641.90' } 1939 DIST.

BSTEMP D 00-00-00 V 359-36-00
 To Sec Cor R 179-38-00 E 2642.48'
 to TEMP R 359-37-50 M 805.431
 To 1/4 temp D 180-00-05 H 2642.42'

179-37-53

3/29/83

19

B.S. SEC. COR D 000-00-00

TEMP COR R 180-01-30

Lo SEC. COR R 0-01-30

0+00 D 180-00-00

U 359-14

F = 2654.20

M = 809.003

H = 2653.96

3/31/83

77B, S.G.

SET SOUTH $\frac{1}{4}$ COR.

TO S. 34-138-29

B.S. SECOR D 00-00-00 CH. 5-80'

To True $\frac{1}{4}$ R 185-43-47to True $\frac{1}{4}$ R 5-43-50 $\checkmark$

D 180-00-00

L. TERRY J. BETLEY REG. LAND SURVEYOR
 SET A CORNER AT SAID QUARTER CORNER
 PILOWAY ALSO ON LINE BETWEEN THE
 SW & SE CORNERS OF SAID SEC. 34.

SEE Pg 23

3/5

N 84-20-47 E

5-80'

185° 43' 47"

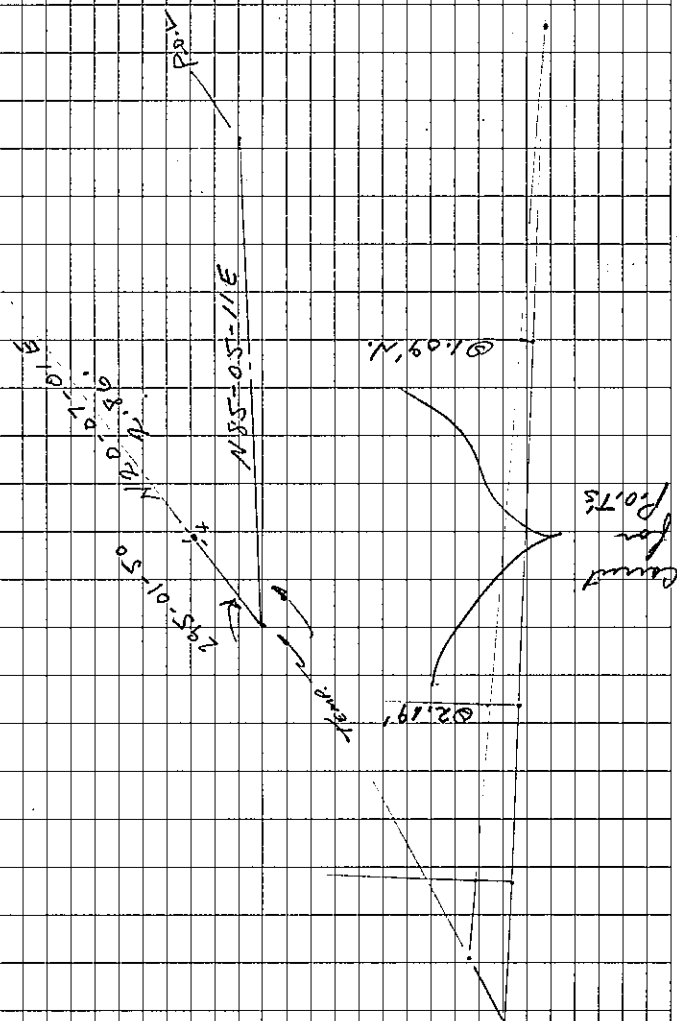
N 87-55-26 W

3/31/83

7B-SE.

Ser South 1/4 Cor 5.33

T. 13E, R. 29W



CHD-83-06

LAND COR. TIES.

Z-13-138-29

I, TERRY J. BETLEY, R.L.S. #15811
ON 4/5/83 FOUND SAID 1 1/2" I.P. IN
PLACE AS SHOWN ON NEXT PAGE.

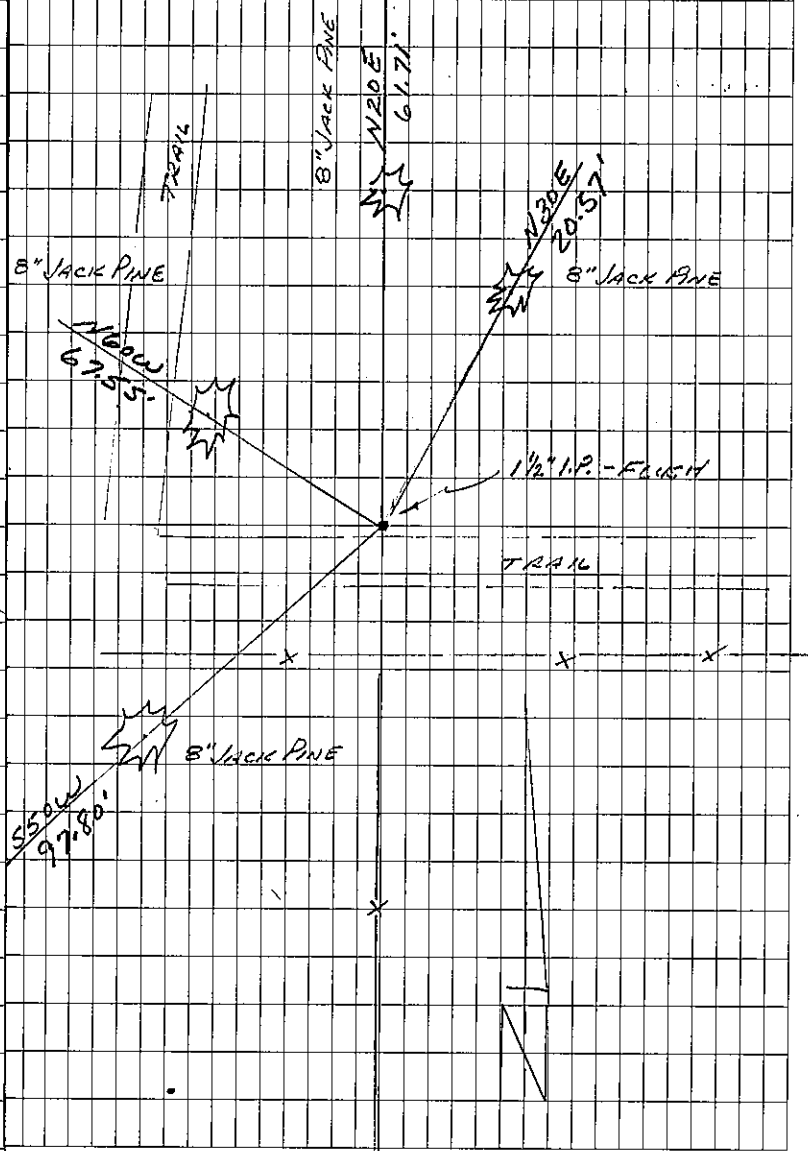
Also Found Wood Post (Leaving Balow),

Also Found Lindeckers S-116 1981

TIES INTACT ALL TIES CHECK.

NO ADDITIONAL TIES WERE SET.

TJ Betley



CND-83-06

4/4/83

TERRY BETLEY

STEVE GRIMM

Z-15, 138, 29

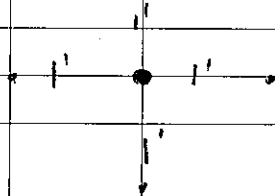
5/4 5.34

I, TERRY J. BETLEY, ON SAID DATE
SET A C.W.C./C.I.M 1/4 COR MIDWAY
AND ON A STRAIGHT LINE BETWEEN
Z-13 & Z-17, ACCORDING TO 1939
R/W INFO. C.S.A.M. No.1

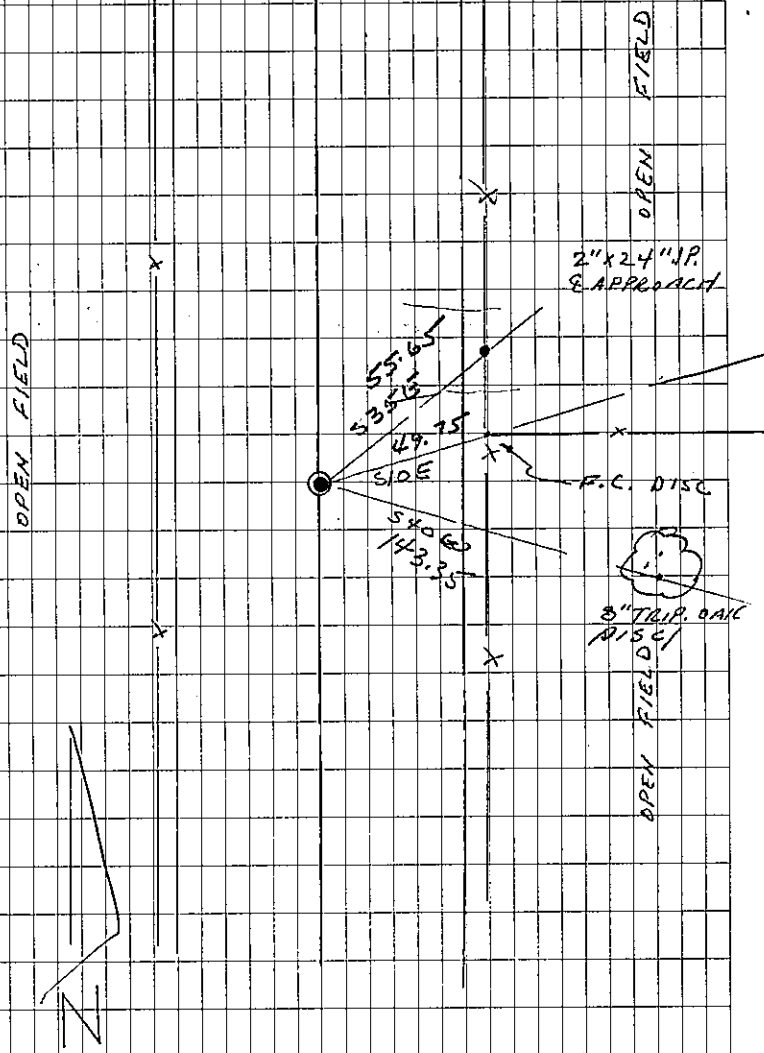
Terry J. Betley

FOR ADD. INFO SEE FILE 83-06

ON 7/13/83 I, TERRY J. BETLEY PLACED
A 3"x3/8" SPR DIRECTLY OVER SAID
CIM TOP OF SPR IS FLUSH WITH
NEW RT. OVERLAY. ALSO SET FOUR
DISCS N, S, E & W



23.



2-13. 138-29

4/18/83

TJB, SG

I, TERRY J. BETLEY, ON SAID DATE
FOUND THE 1 1/2" I.P. THAT HAS
BEEN PERPETUATED AS THE GOV'T
CORNER, ALONG WITH THREE DIM. A
SITE MARKER CERT #56.

I THEN LOWERED SAID 1 1/2" I.P. &
PLACED A STANDARD CIM. SO TOP
OF CIM IS UP 0.1'

SAID I.P. IS 48" LONG SET IN
CONC. AND HAD A 3/4" ANCHOR
BAR. I BELIEVE CULD
SET THIS CORNER OVER L.E.
GERRISON MONUMENTATION.
BECAUSE THERE WAS WOOD
FRAGMENTS OF A POST BELOW
CONCRETE.

TJB

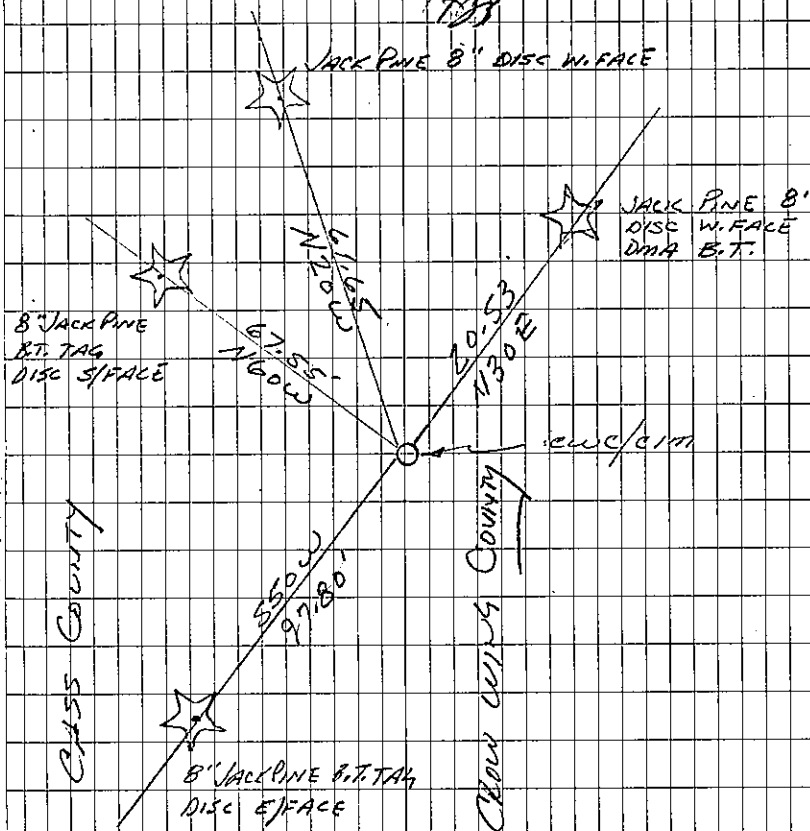
4/18/83

24

SW COR. S. 34, T. 138N, R. 29W,

ON 7/13/83

TJB



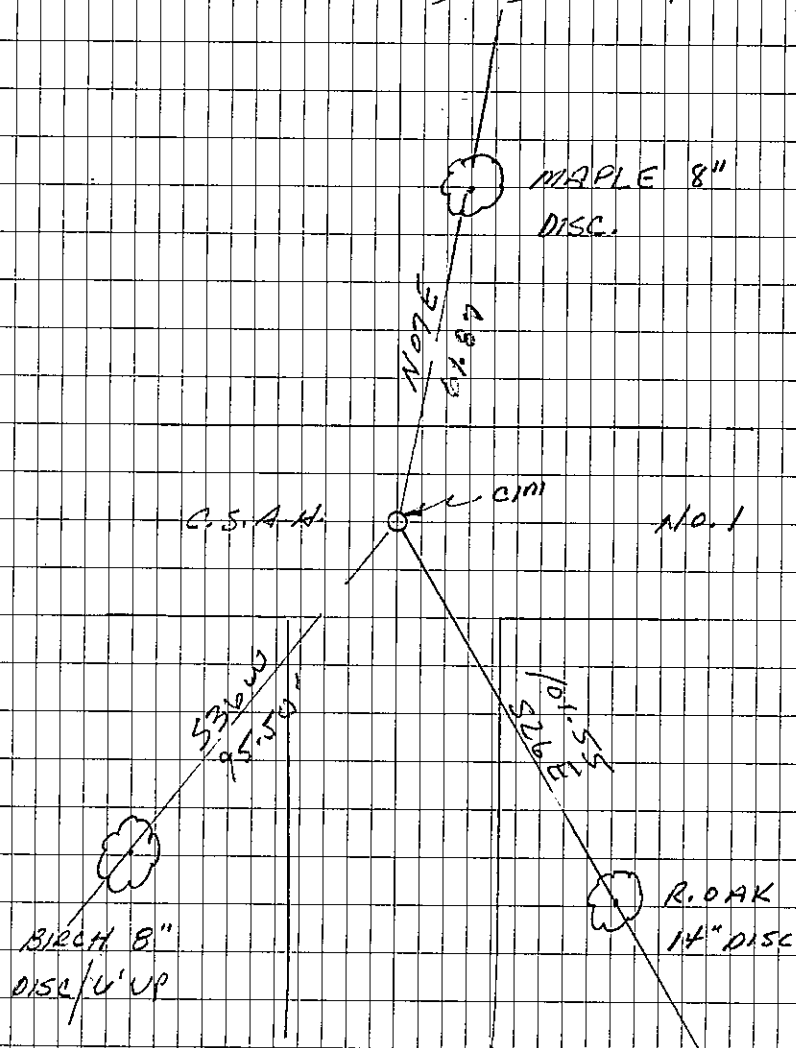
2-17-138-29

4/18/83

MB, 89.

25

SE COR. S. 34, 138, 29, 57. PM.



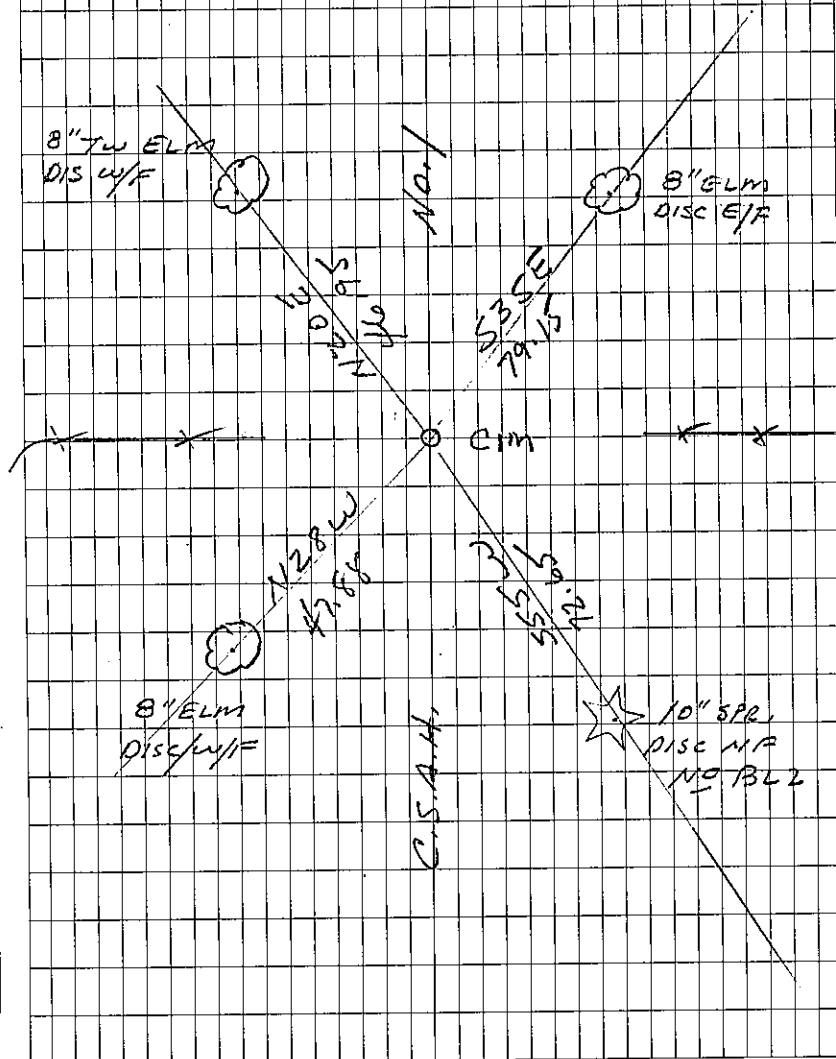
2-19-138-29

4/18-83

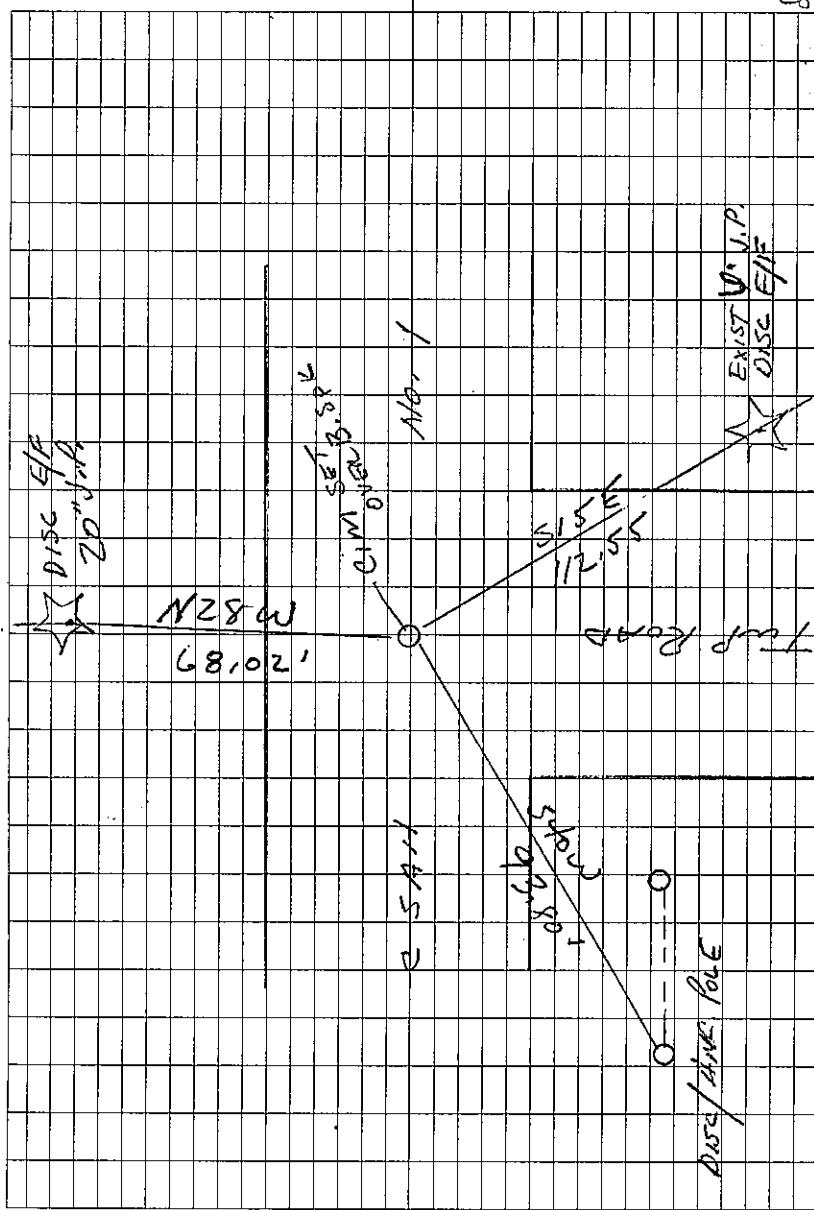
DB-59

26

5 1/2 - 35 - 138-29



DB-56.



V-15-138-28

4/18/83

TJB-54

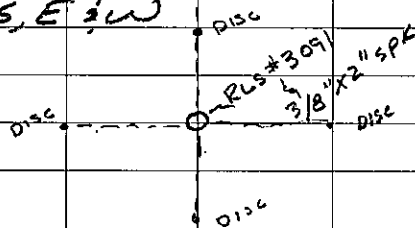
SET CWC/CIM OVER REMAINS
OF L.E.G. POST - FOUND 3 1/2
FEET DOWN.

NO FIND DWA MON. OR
DWA TIES -

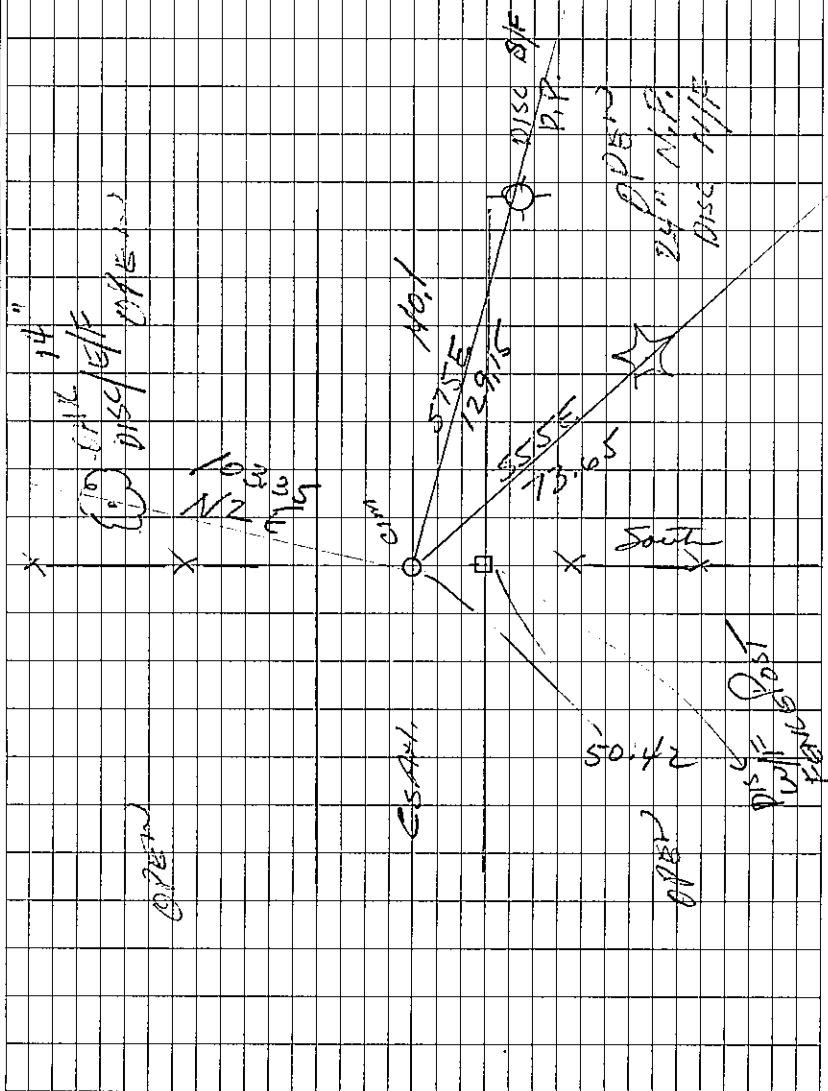
TJB-54

ON 7/13/83 I, T.J. BETLEY
FOUND SAID CIM 2" BELOW
NEW BIT. OVERLAY SET
A 2" x 3/8" SPK. W RLS 3091
PLASTIC CAP OVER 4 OF SAID
CIM AND PUT 1.00' STRAOLE
UNTILS N, S, E & W

TJB-54



V-15-138-28 57A. 29



TIES TO 1/4 COR

S. 31-32, 44-29-44

OCTOBER 11, 1983

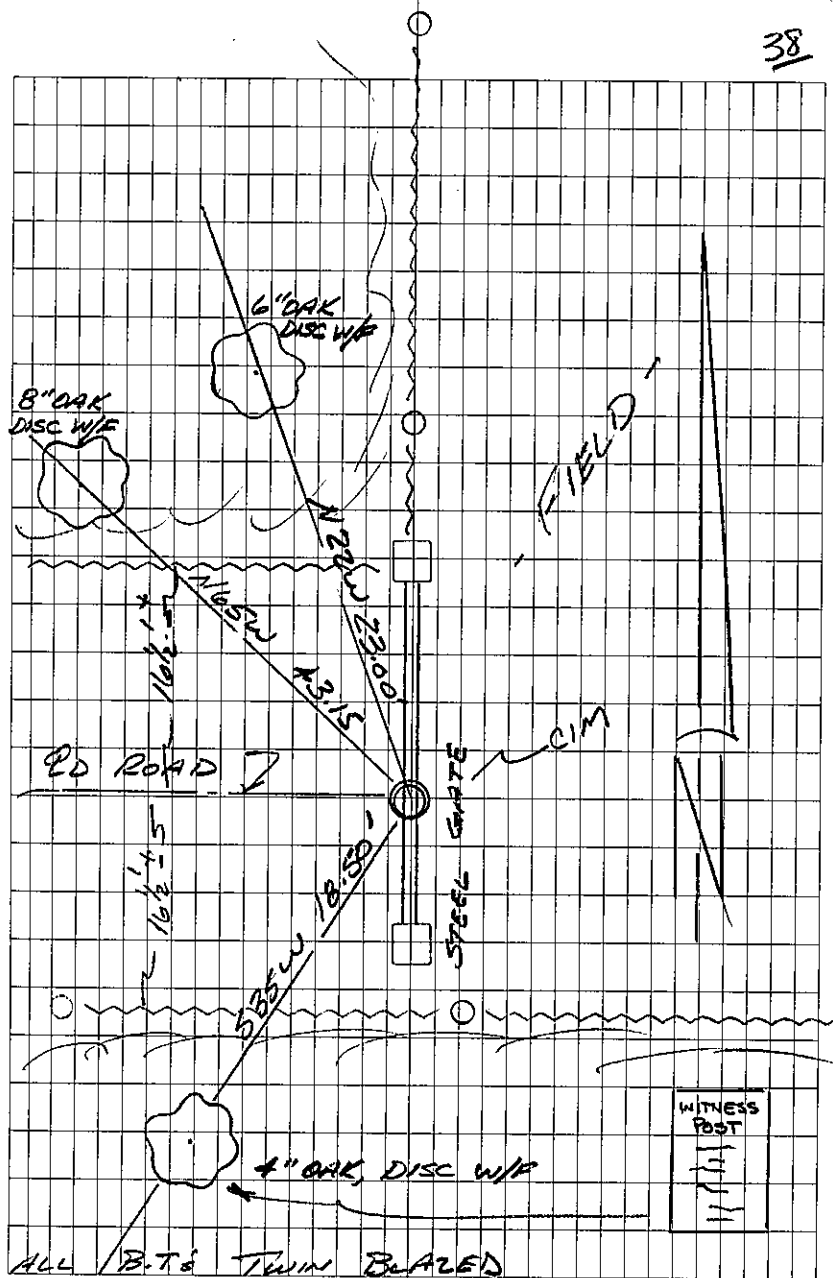
TJB RDU

Replaced a found $1\frac{1}{2}$ " x 36"
iron pipe set by J.W. Curo
with a CWC/cim.

No ties found; established
3 new reference ties as
shown on next page.

by Betty

Note hole was surrounded
by large rocks in a 24"
Diameter Circle all rocks
were found below the existing
Sod. also there was a
distinct mound formed by
the rocks like a Comstock
trail of J.W. Curo's



LANDS DEPARTMENT
BURSTALLER TRESPASS
5.19-136-25 & 24-136-26

4-2-85

B.S. SW COR. OF SEC. 19

To SE COR. OF SEC. 19

< DIST TO SW COR

to "A" D) 00-00-12/12 V) 270-20-01
R) 88-46-44/42 E) 1356.43
R) 268-46-58/56 H) 1856.40
D) 180-00-33/31
V) 270-10-25
E) 3979.42
H) 3979.41

88-46-28

B.S. SE COR D) 00-00-12/12 V) 268-46-10
To A R) 181-16-56/56 E) 1317.24
to DNR-10 R) 1-17-07/09 H) 1317.23
D) 180-00-39/41 8777.1181
42

"A" IS A 1" X 6" GALV. STEEL BOLT

TIES: (COR. FENCE POST SW 6.90')
(NAIL & DISC. IN TOP OF POST)

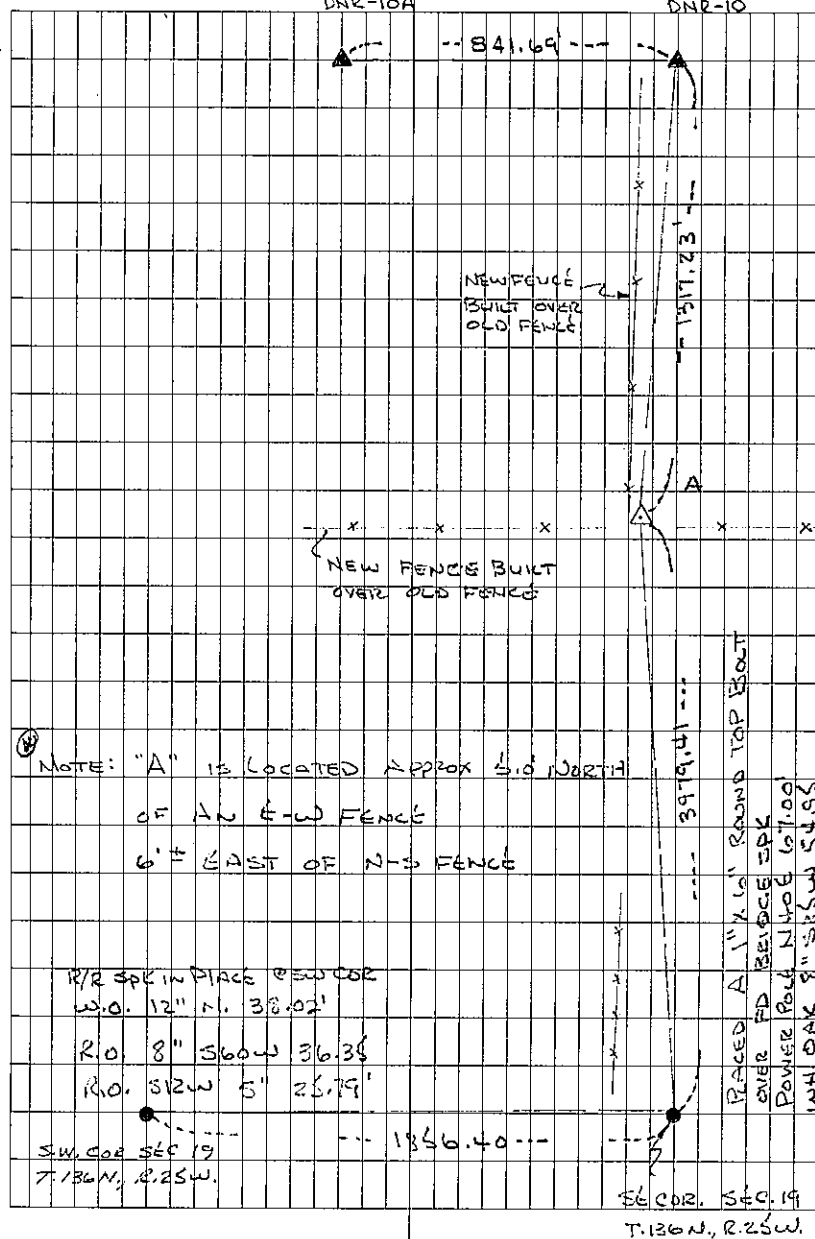
(FENCE POST SW 562 DISC IN TOP)

181-16-26

DNR-10A

DNR-10

42



NOTE: "A" IS LOCATED APPROX 5.0 NORTH
OF AN E-W FENCE
6" EAST OF N-S FENCE

R/R SPR IN PLACE @ SW COR
W.O. 12" T. 38.02'

R.O. 8" 560 W 36.35'

R.O. 312 W 5" 26.79'

SW COR SEC 19
T. 136 N., R. 25 W.

PLACED A 1" X 6" RAILROAD TOP BOLT
OVER FD FENCE 2PK
POWER BOLT N 110° 00'
W 110° 00' 8" 565 W 54.93'
W 110° 00' 8" 510 E 53.98'

SE COR. SEC. 19
T. 136 N., R. 25 W.

89-46-01

B.S. "A"

To DNR-10 D) 00-00-01/03 V) 270-08-02

To DNR-10A R) 89-46-05/05 S1) 841.69

R) 289-46-22/20 H) 841.69

D) 180-00-22/22

NOTE REPLACED DNR SPIKE WITH 1"x6" GALV. BOLT

AND TOOK FOLLOWING TIES:

30" RED OAK SE 11.0'

(DISC E. FACE 2.0' UP)

8" RED OAK SW 37.90'

(DISC W. FACE 2.0' UP!)



DRR INFO AS GIVEN OVER PHONE BY

JOHN WALKER

B.S. 10

To 10A 168°-44'-45" LT 581.621'

to MIC