

T 143 N

R 25 W

DEPT. OF AGRICULTURE
BUREAU OF BIRD PROTECTION

5th P.M.

ENGINEERING

FIELD BOOK

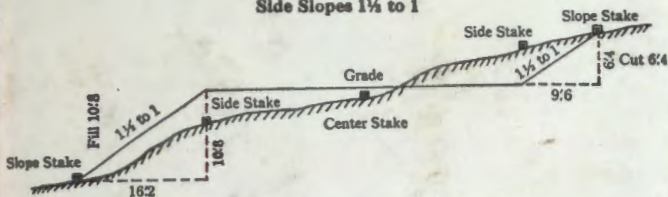
No. S400V

Book ♦ 3

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

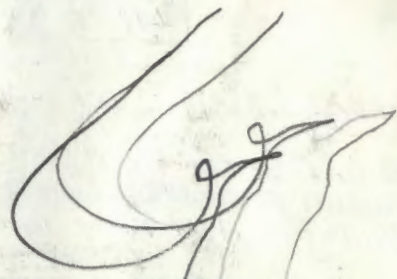
Roadway of any Width

Side Slopes 1 1/2 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 182, the distance from the side stake to the slope stake at the left.

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



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 U. S. Forest Service
 P. O. Box 308
 Deer River, MN 56636

Address _____

Phone 218-246-2123

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LASER orientation on E-W 1/4 line of Sec. 25 PP 203

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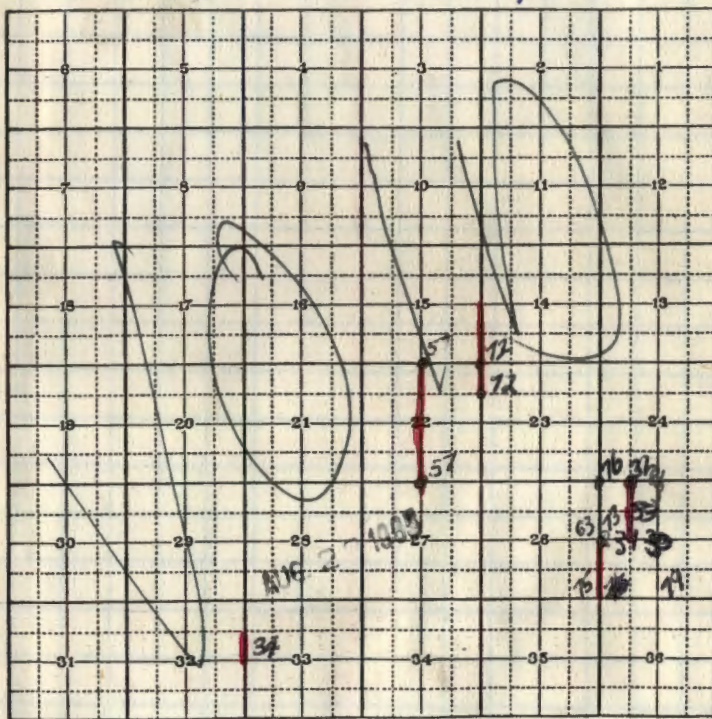
T143N R25W 5th P.M.

BOOK # 3

①

1 Link = 0.201168 m

T143N R25W 5th Principal



CASS COUNTY, MN USFS

E-W 1/4 line Section 25

Line Range Pole on E 1/4 cor

Receiver on W 1/4 cor

Left Gate only Center Right

Gate Left 280°00'

" 280°34'

280-14

280-24

280-04

280-14

280-24

280-14

280-04

280-10

280-05

280-09

280-09

280-09-30

280-10

280-08

280-07

(2)

2" Stick
0.9 feet

⊙

⊙ 60d spike

6" Basswood
4.82'

4" Maple
5.8'

555.1

⊙ BLM Aluminum Cap
W 1/4 cor Sec 25

555.1
5

Vernier

Right 280-07-30

Right 280-07-50

Center 280-08-00

Center 280-09-45

Center 280-09-50

Left 280-10-00

280-09-55

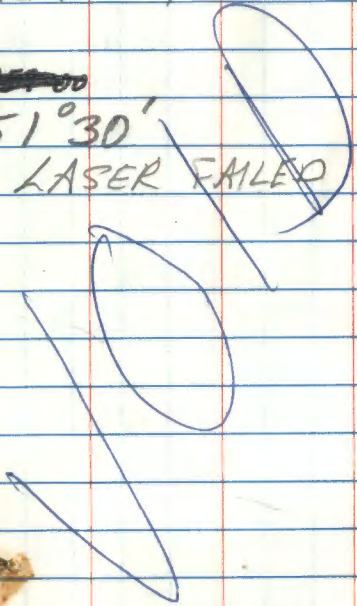
280-07-55

2

280-08-55

Received at NY car
Laser at sky car

~~2400~~
R-51°30'
LASER FAILED



Traverse Notes. Sec. 25

12/16/81 R. Oleson & Dave Roerick

Clear & Cold 4°F 29.9 in. Hg

T/A & Red 1 set - 4 P.P.M.

(5)

Ta 2 4°39'10"

To 1 94-39-30 277.82'

265-21-10 24,679 M

Ta 2

BS 1 0 00-00

FS 3 179-56-05 179-56-20

~~④ 359-45-15 359-45-40~~

mean 179-56-25

Ta 2 1°23'38"

To 3 88-26-30 499.26'

271-23-45 152,173 M

Ta 3

BS 2 0-00-00

FS 4 180-05-25

④ 0-22-15

mean 180-05-34'

T143N R25W

Point # 1 is the 1/4 corner of sec 24/25

Running South on random line

(Nail spike in stump) 5-22-84 BH

0° 22' 28"

Ta 4 2693715 453.73'

To 3 902210 ~~138.278~~ M

Ta 4

BS 3 0-00-00

FS 5 ① 179-55-15

④ 359-41-45

Mean 179-55-26 ✓

Ta 4 3° 24' 20"

To 5 863540 ~~209.887~~ M

2732420 688.61'

Ta 5

BS 4 0-00-00

FS 6 ① 179-59-40

③ 359-59-00

Mean 179-59-45 ✓

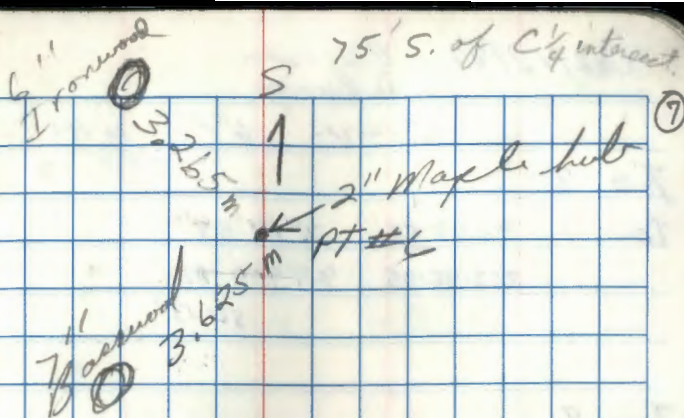
S
↑
By 1/4
1.095 m
1.49 m
7' Buck
6" Buck

TA 6 $0^{\circ}49'10''$
 To 5 89-11-50 ~~240.216~~ M
 270-48-10 788.11'

TA 6
 BS 5 0-00-00
 FS 7, 179-59-20
 ④ 359-57-10
 Mean 179-59-18"

TA 6 $2^{\circ}11'37''$
 To 7 874810 ~~304.446~~ M
 2721125 998.84'

TA 7
 BS 6 0-00-00
 FS 80 179-59-10
 ④ 359-57-25
 Mean ~~179-59-25~~ 179⁰59'21"



• Pt. #7 is Nail in 5" Birch stump 18" high

12/17/81

P. Olesen

D. Perick

Temp 6°F in Hg 29.7

PPM -3

T_a 8T_o 7 92-18-00 2°17'57"

267-42-05 97.900 M

521.19'

T_a 8

BS 7 0-00-00

FS 9 179-59-40

④ 359-59-05

Mean 179-59-46'

T_a 8T_o 9 89-49-10 388.24' 388.2347'

270-17-40 118.335 M

18.3347

T_a 9

BS 8 0-00-00

FS 10 180-01-40

④ 0°-06-40

Mean 180-01-40'

N#9 is Nail in 6" Birch Stump 2' H of

12/18/81 Olesen & Porrick

Temp 2°F in Hg 29.8

PPM -4

Ta 10

To 9 90-0830 0°08'30"

269-51-30 ~~198.094 M~~
649.91'

Ta 10

BS 9 0-00-00

FS 11 197-51-05

④ 71-25-00

Mean 197-51-15

Ta 10 2°24'15"

To 11 94-24-20 217.07'

265-35-50 ~~66.163 M~~

Ta 11

BS 10 0-00-00

FS 12 ① 72-40-20

④ 290-40-45

Mean 72-40-11

(9)

PT# 11 is 1/4 cor. of Sec 25 & 36

$\pi a 12$ $10^{\circ}36'08''$
To 11 100-36-30 127.20'
259-23-15 ~~38.770~~ M

$\pi a 12$
BS 11 0-00-00
FS 13 1 179-43-05
④ 358-52-25
Mean 179-43-06 ✓

$\pi a 12$ $2^{\circ}31'48''$
To 13 92-31-45 195.04'
267-28-10 ~~59.447~~ M

$\pi a 13$
BS 12 0-00-00
FS 14 1 179-50-40
④ 359-23-00
Mean 179-50-45 ✓

(10)

STA 12

4.25' 4.75'

60d SPIKE

10" BIRCH 8" BIRCH

Pa 14 $5^{\circ}39'57''$
To 13 84-20-00 ~~156-0636-11~~
~~277~~ 513.90'
275-39-55

To 14
BS 13 0-00-00
FS 15 @ 180-01-10
① 0-04-00
mm 180-01-00-

To 14 $0^{\circ}28'43''$
To 13 90-28-35 548.13'
269-31-10 ~~167.077-11~~

To 15
BS 14 0-00-00
FS 16 @ 179-59-00
① 359-57-05
mm 179-59-16 ✓

To 16 $1^{\circ}33'00''$
To 15 88-27-06 880.13'
271-33-00 ~~268.265~~ M

To 16
BS 15 0-00-00 0-00-00
FS 17 1 90-37-05 ① 90-37-00
4 2-27-20 ④ 2-27-05
Mean 90-36-50 Mean 90-36-46

$90^{\circ}36'48''$

To 16 $00^{\circ}03'25''$
To 17 89-56-30 1450.29'
270-03-20 ~~442.043~~ M

To 17
BS 16 0-00-00
FS 18 ① 184-11-20
④ 16-46-00
Mean 184-11-30 ✓

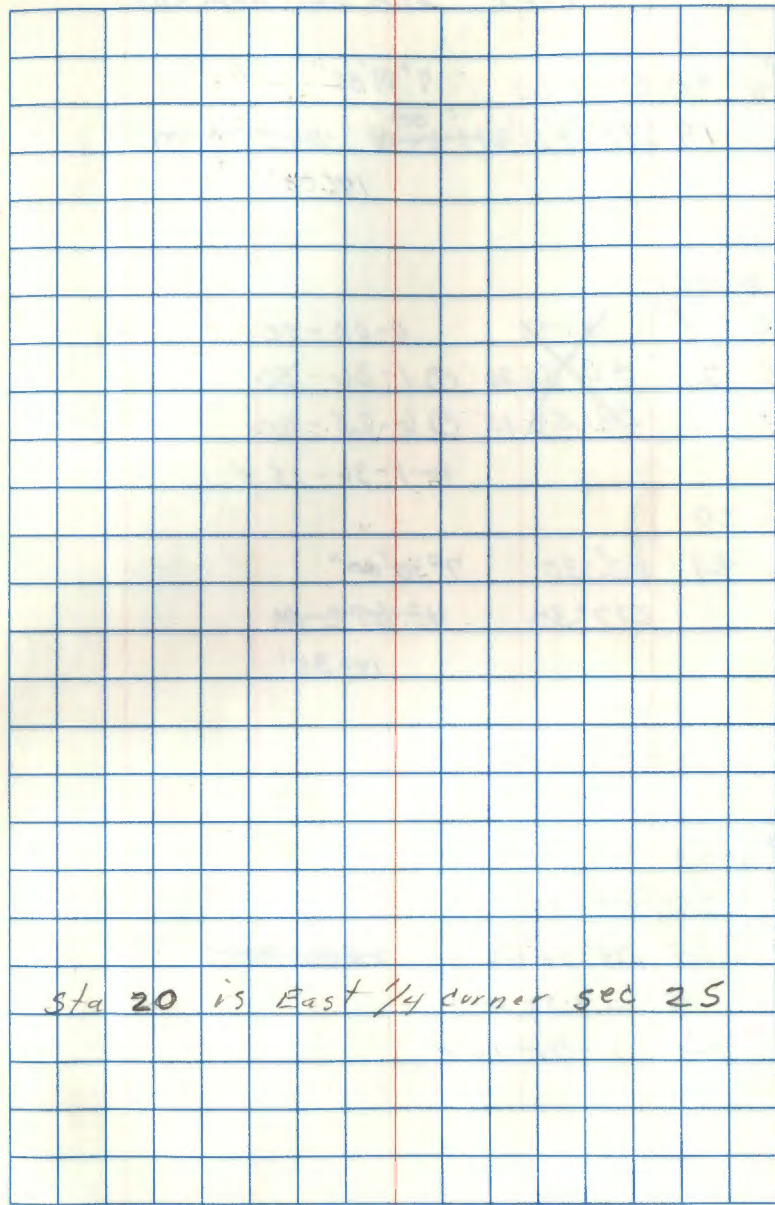
pt #16 is on shoulder ^{west} Hwy on side line
 $\frac{1}{2}''$ re rod (see page 27 & 35) See page 36

Pa 18 $1^{\circ}30'10''$
 To 17 ~~88-29-40~~
~~88-30-30~~ ~~356.059~~ M
 271-30-00 1168.11'

Pa 18
 BS 17 0-00-00 0-00-00 0-00-00
 FS 19 ~~264-46-55~~ ~~264-47-00~~ ① 264-46-55
~~264-21-40~~ ~~339-09-05~~ ④ 339-08-40
 $264^{\circ}47'10''$ M ~~264-47-12~~

Pa 18
 To 19 82-00-10 $7^{\circ}59'55''$
 278-00-00 ~~54.206~~ M
 177.84'

Pa 19
 BS-18 0-00-00
 FS-20 178-54-05
 355 37-15
 M ~~178-54-19~~ ✓



Sta 20 is East $\frac{1}{4}$ corner sec 25

2/2/82 Cloudy & Cold

+04°F 29.8 mmHg RRM-04

\bar{A}_a 20 82 29 30 7° 29' 52"

To 19 277° 29' 15" ~~277° 29' 15"~~ 44.520 m

146.06'

\bar{A}_a 20

BS 19 ~~00-00~~ 0-00-00

FS. 21 30 ~~36~~ 20 ① 1-36-30

08-58 15 ② 6-25-00

Mean 1-36-15 ✓

\bar{A}_a 20

To 21 82° 30' 7° 30' 00"

277° 30' 43.672 m

143.35'

\bar{A}_a 21

BS 20 0-00-00

FS. 22 179° 46' 55" ~~25~~

① 359.8705

Mean 179-46-46 ✓

(14)

①
T@ 22 3° 19' 5"
To 21 86 40 30 ~~102.857~~ M
273 19 00 337.46'

Ta 22
BS 21 0-00-00
FS 23 @ 180-34-15
④ 02°-17-05
Mean 180-34-16 ✓

Ta 22 470.5356
To 23 89 47 30 ~~143.422~~ M
270 17 00 470.54'

470.5415

Ta 23
BS 22 0-00-00
F.S. 24 @ 179-59-10
④ 359.5645
Mean 179-59-11 ✓

⑦⑤

sta 22 is 2" Hub w/ Nail

1°05'20"

Pa 24 184.446 M

To 23 88-54-20

271 05 00 605.14'

To 24

BS 23 0-00-00

FS 25 0 180-00-40

0 00 01 40

man 180-00-25 ✓

To 24 89-10-10 158.863 M

To 25 270 49 00

0°49'25" 521.20'

Pa 25

BS 24 0-00-00

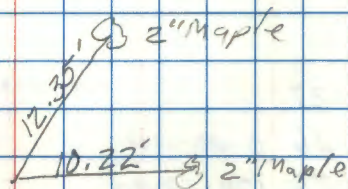
FS 26 0 180-00-40

0 0-01-45

man 180-00-26 ✓

16

Point # 25 is nail in 20" ASP in stump



PT. # 26

50' W. Appx.

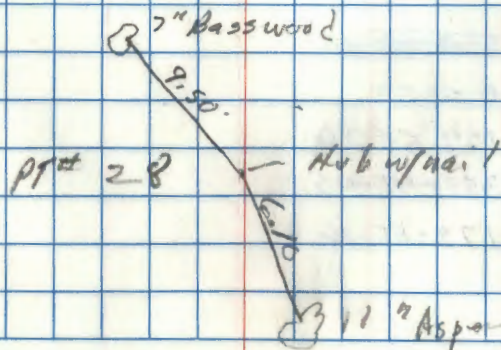
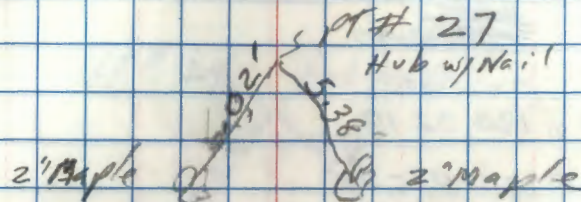
Center 1/4 Corner
of Sec

TA 26 $5^{\circ}31'25''$
To 25 95-31-00 642.44'
 264-28-10 195.816 M

TA 26
BS 25 0-00-00
FS 27 180-01-00
 ④ 0-03-05
Mean 180-00-46 ✓

TA 26 $3^{\circ}40'37''$
To 27 86-19-00 500.36'
 273-40-15 152.509 M

TA 27
BS 26 0-00-00
FS 28 179-58-30
 ④ 359-53-15
Mean 179-58-19 ✓



2/8/82 Olson Rorrick L Maki

Temp 0° Hg 29.5 BPM -3

T₀ 28 2° 28' 42" 697.36'

T₀ 27 92-28-30 272.556 ~~MA~~
267 31 05

T₀ 28 ~~3-28-20~~

BS 27 0-00-00

FS 29 @ 180 02 10

⊕ 00-08-30

mean ~~180-02-07~~ 180° 02' 08"

T₀ 28 00° 57' 45" 582.06'

T₀ 29 90 57 30 197.413 ~~MA~~
269 02 00

T₀ 29 ~~359-41-05~~

BS 28 0-00-00

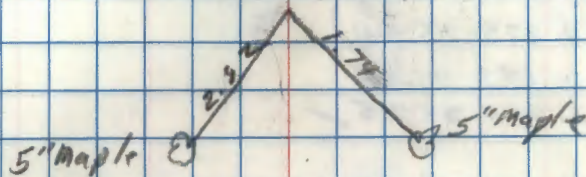
FS 30 @ 179 55 20

⊕ 359-41-05

mean 179-55-16 ✓

18

PT # 29 Hub w/ Vail



5-22-84 B.A.

All OK

$\pi @ 30$ $00^{\circ}34'30''$
To 29 89-25-00 ~~254.864~~ M
270 34 00
836.17'

$\pi @ 30$
BS 29 0-00-00
FS 31 @ 225-35 ~~40~~
@ 182 21 ~~30~~
mean 225 35 25 ✓

$\pi @ 30$ $1^{\circ}38'08''$
To 31 91-37-45 ~~188.423~~ M
268 21 30
618.19'

$\pi @ 31$
BS 30 0-00-00
FS 32 @ 215-43-00
@ 142-51-00
mean 215-42-45 ✓

(19)

Point # 30 is $\frac{1}{4}$ corner
#

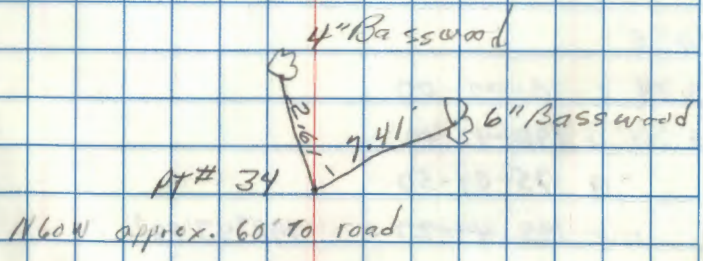
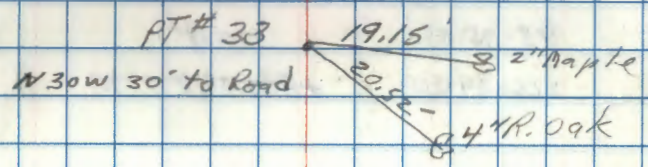
5-22-84 B.A.
Pt 31
5" Basswood
9.4'
5.00'
5" Basswood

T₃₂ 0°28'37"
 To 31 89-31-00 338.25'
 270-28-15 ~~103.099 M~~

T₃₂
 BS 31 0-00-00
 FS 33 ① 190-43-45
 ② 42-54-10
 min 190-43-33 ✓

T₃₂ 2°00'38"
 To 33 92-00-15 220.31'
 267-59-00 ~~67.149 M~~

T₃₃
 BS 32 0-00-00
 FS 34 ① 236-09-50
 ② 224-32-20
 min 236-09-35 ✓



Temp. 18°
Hg. 29.8

2-23-82 Oleson
+
Roerick

T₀ 34 0°50'20"

FS 33 89-09-30 609.24'
270-50-10 ~~185-697~~ M

T₀ 34

CS 33 0-00-00

FS 35 ① 122-26-10

② 129-44-15

M 122-26-04\

T₀ 34 3°35'18"

T-35 93-35-05 570.68'

266-24-30 ~~180-038~~ M

T₀ 35

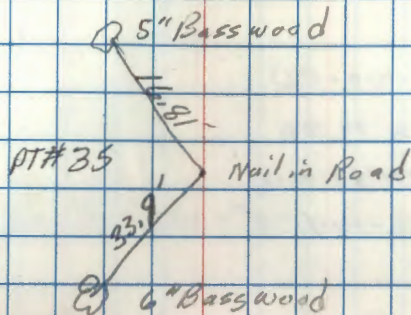
BS 34 0-00-00

FS 36 ① 198-47-40

② 75-69-50

M 198-47-27 198°47'28"

(21)



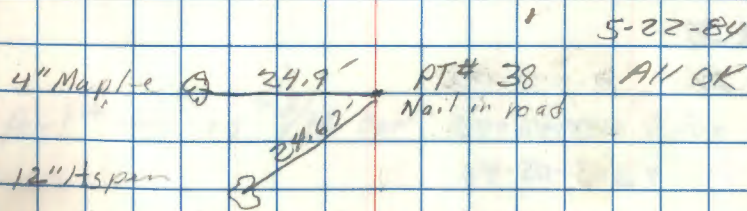
TA 36 $3^{\circ}44'20''$
To 35 86-15-20 ~~120, 231 M~~
273 44 00 394.46'

TA 36
BS 35 0-00-00
FS 37 ① 136 14 20
④ 184 57 00
Mean 136-14-15 ✓

TA 36 ~~36~~ $4^{\circ}09'45''$
To 37 94-09-30 ~~128, 886 M~~
265 50 00 406.45'

TA 37
BS 36 0-00-00
FS 38 ① 324-43-50
④ 218-54-55
Mean 324-43-44 ✓

PT
37 is section corner



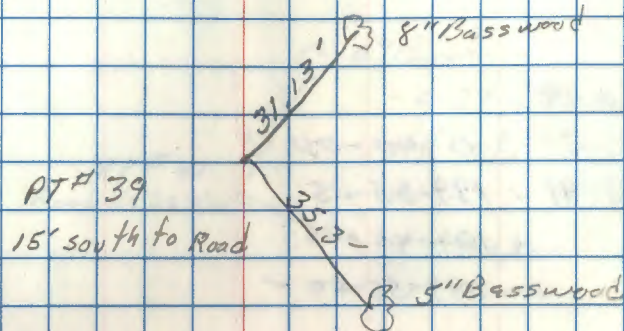
Ta 38 $2^{\circ}15'45''$
TS 37 92-15-30 506.46'
267-44-00 ~~1547369 M~~

Aa 38
BS 37 0-00-00
FS 39 90-44-35
4 2-58-05
men 90-44-31 ✓

Ta 38 $0^{\circ}37'20''$
T0 39 89-22-25 514.70'
270-37-05 ~~156,870 M~~

Aa 39
BS 39 0-00-00
FS 40 255-46-40
4 303-05-40
men ~~255-46-26~~ 255-46-25

23



point # HO is West
1/16 cor. sec. 24 & 25

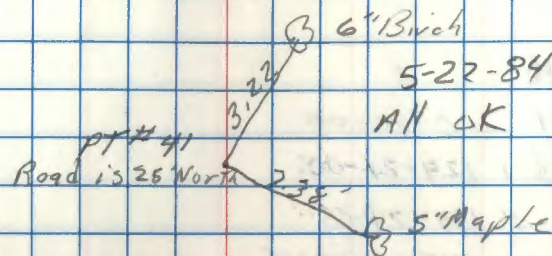
TA 40 $0^{\circ}43'45''$
TO 39 90-43-30 659.25'
269-16-00 ~~200.940 M~~

TA 40
BS 39 0-00-00
FS 41 199-55-75
4 79-40-00
mem 199-55-00 ✓

TA 40 $3^{\circ}32'55''$
TO 41 86-27-00 174.67'
273-32-50 ~~53.239 M~~

TA 41
BS 40 0-00-00
FS 42 161-08-05
4 284-32-50
mem 161-08-13 ✓

(29)



2/24/82 Oloson
Temp 18° Hg 30.0 PPM-2 F.M.M.
Maki

$\bar{A} @ 42$ 3°28'50"
To 41 86-30-50 394.53
273-28-30 ~~720.254 M~~

$\bar{A} @ 42$
BS 41 0-00-00
FS 43 1 124-21-00
4 137-24-05
Mean 124-21-01 ✓

$\bar{A} @ 42$ 3°22'57"
To 43 93-22-50 402.08'
266-36-55 ~~122.553 M~~

$\bar{A} @ 43$
BS 42 0-00-00
FS 44 1 215-38-05
4 142-32-00
Mean 215-38-00 ✓

25

$\pi @ 44$ $2^{\circ}23'38''$
To 43 92-23-15 390.89'
267-36-00 ~~119.142 m~~

$\pi @ 44$
BS 43 0-00-00
FS 1 203-04-00
92-14-55
~~203-03-43~~ $203^{\circ}03'44''$

$\pi @ 44$ $1^{\circ}58'15''$
To 1 91-58-00 116.84'
268-01-30 ~~35.622~~
~~35.614 m~~

$\pi a 1$
BS 44 0-00-00
FS. 2 1 248-36-00
4 274-23-00
men 248-35-45 ✓

26

Point #1 is $\frac{1}{4}$ corner sec 24 of 25

3-11-82 K. Whitehorn R. Olson

Tie in SW cor Sec 25 - T143N R25W

Sunny Calm

27.4" Hg 26°F 11:00 AM

-1 PPM Litz Red 2A, T60 D

IB 016

BS 017 0.00-00

FS 047 089-27-24

(3) 357-47-42

Mean \angle 89° 27' 26"

IB 47

5° 26' 36"

TO 016 95-26-48

264-33-36

276.37'

IB 047

BS 016 0.00-00

FS 048 180-17-00

(4) 1-07-12

Mean \angle 180-16-48

IB 047

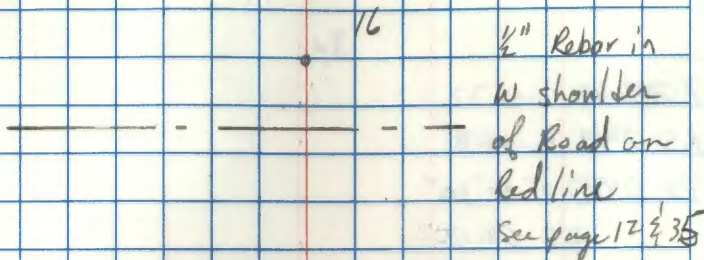
1° 52' 27"

TO 048 91-52-12

268-07-18

128.88'

(27)



TR 048

BS @ 47 0-00-00

FS @ 49 @ 2° 28' 30"

@ 9-54-12

Mean \bar{x} 2° 28' 33"

TR 049

1° 21' 27"

To @ 48 ~~91-21-06~~

147.16'

268-41-42

38-12

TR 049

BS @ 48 0-00-00

FS @ 50 @ 178-22-48

@ 353-38-36

Mean \bar{x} 178-22-39

TR @ 49 37-48

6° 37' 57"

To @ 50 96-42-18

224.62'

263-21-54

48

SE cor Sec 25

Itasca Co. Min.

16d spike

47

on red line

49

Set 16d spike
on west edge of
knoll

18 50

BS 49 0.00.00

FS 17 268-04-24

352-1642

Mean \angle 268-04-11

10

18 50

$0^{\circ}03'24''$

To 17 290-03-12 89-56-24 1439.55'

18 017

BS 050 0.00.00

FS 16 1-20-48

5-23-06

Mean \angle $1^{\circ}20'47''$

(21)

50 1

Set 60d spike

6' East of edge of

Bituminous of

Avy #6 9'

North of Red line

of south line of

Sec 25

17 2

16d spike on

West shoulder

3.5' W of edge of Bt

42' ^{WSW} from CSAH 452

sign post w/arrow

59.6' NW of yellow

fence pos

10-25-82 Replaced

16d spike with 1/4 inch

rebar - down 0.5 ft

T-23

Mar 15, 1982 Set Center 1/4 corner

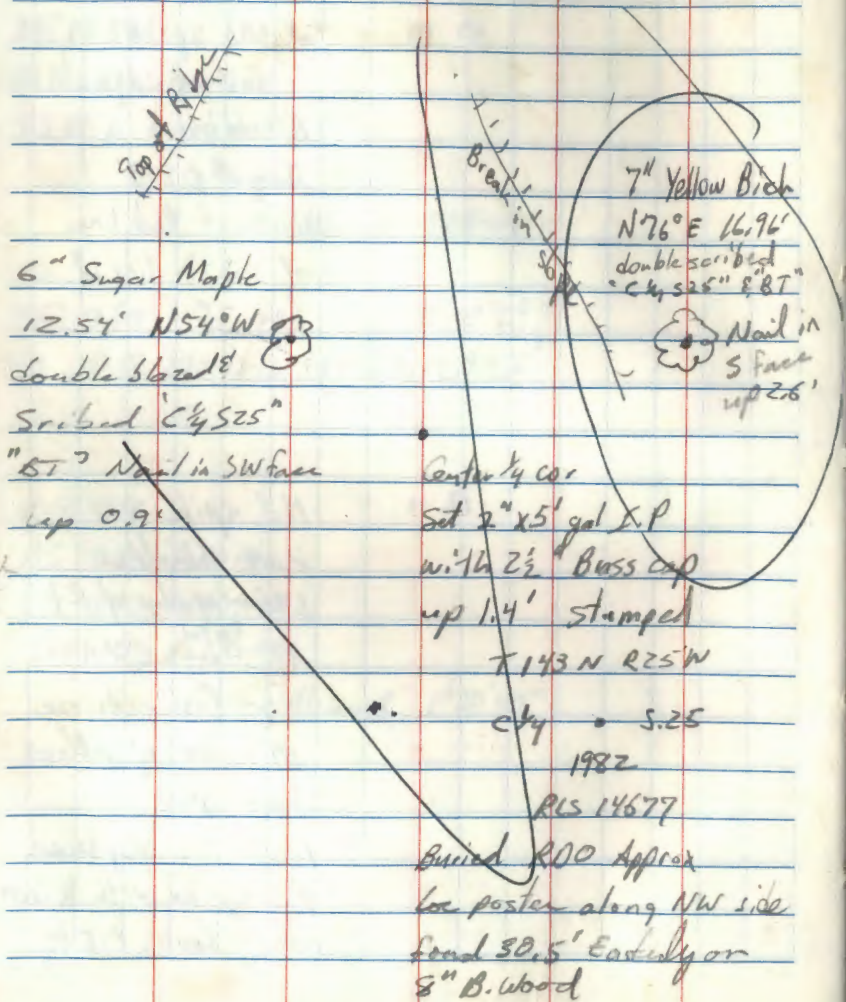
Sec. 25, T143 N R25 W

K. Whitehorn

Mostly Cloudy

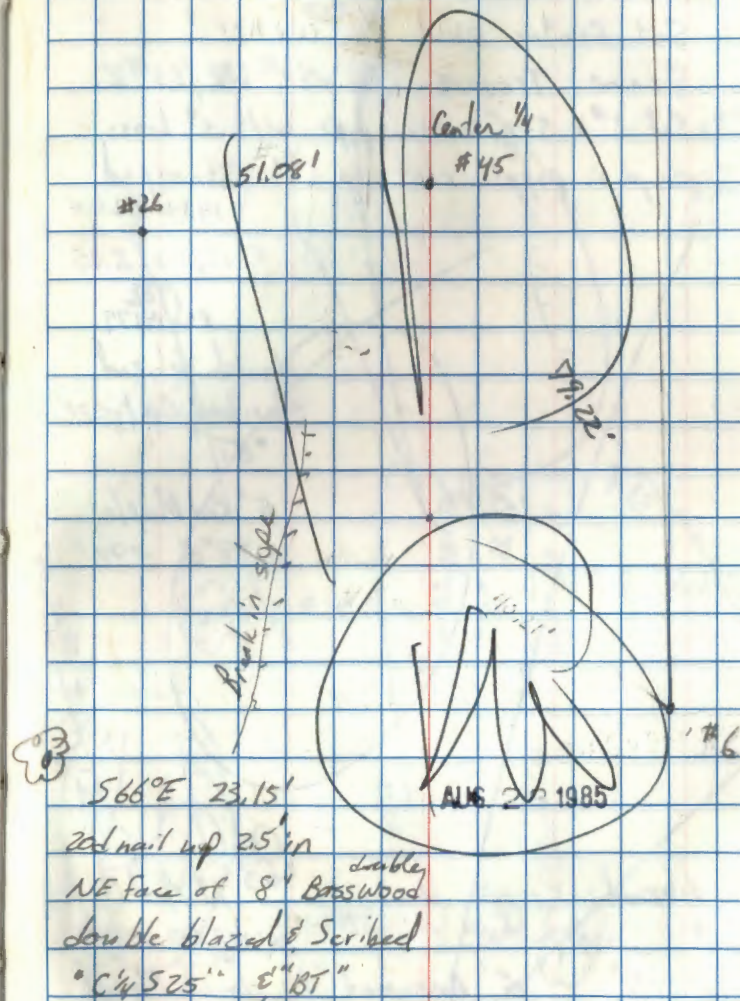
R. Oleson

Breezy



(30)

SEE Pg 42 This book #5



121'
L23

T-22

Mar 15, 1982 K. Whitehorn R. Oleson
Cloudy/breezy

Set center West 1/16 corner
from Traverse Point #28/BS #27
Set 2" x 5' galv iron pipe w/2.5" brass
cap in popple root up 1.5' Stamped
T143N R25W

CW 1/16 S.25

1982
RLS 14177

double blazed
Scribed CW 1/16 S25"
"BT"

5" Red Maple
N78°E 392'

(X)

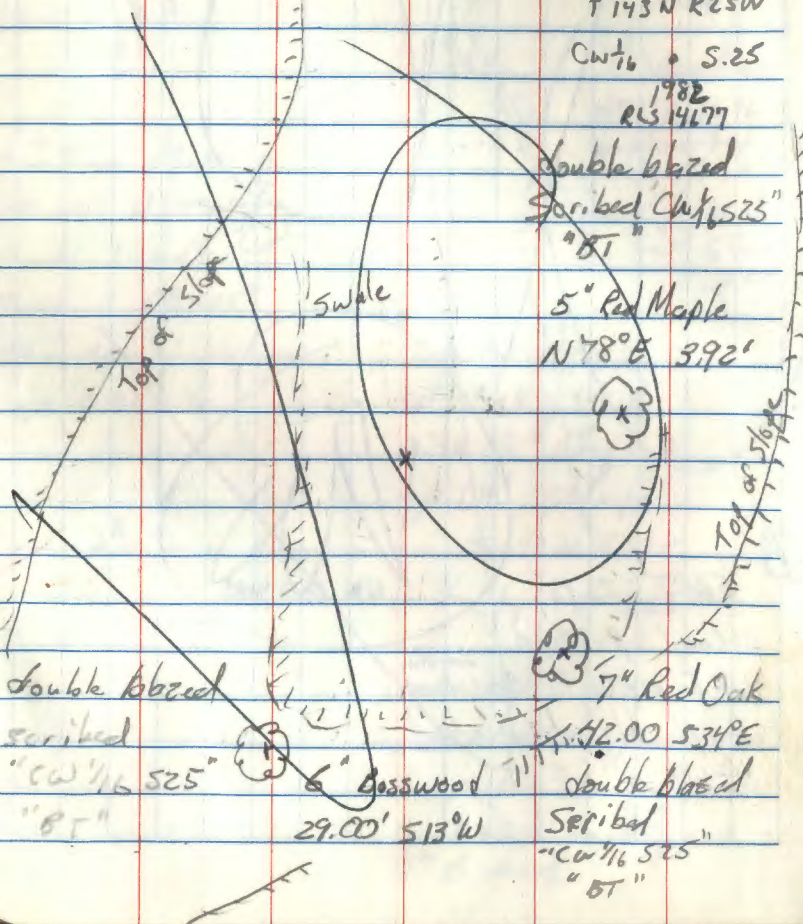
(X) 7" Red Oak

N72.00 S34°E

double blazed
scribed
"CW 1/16 S25"
"BT"

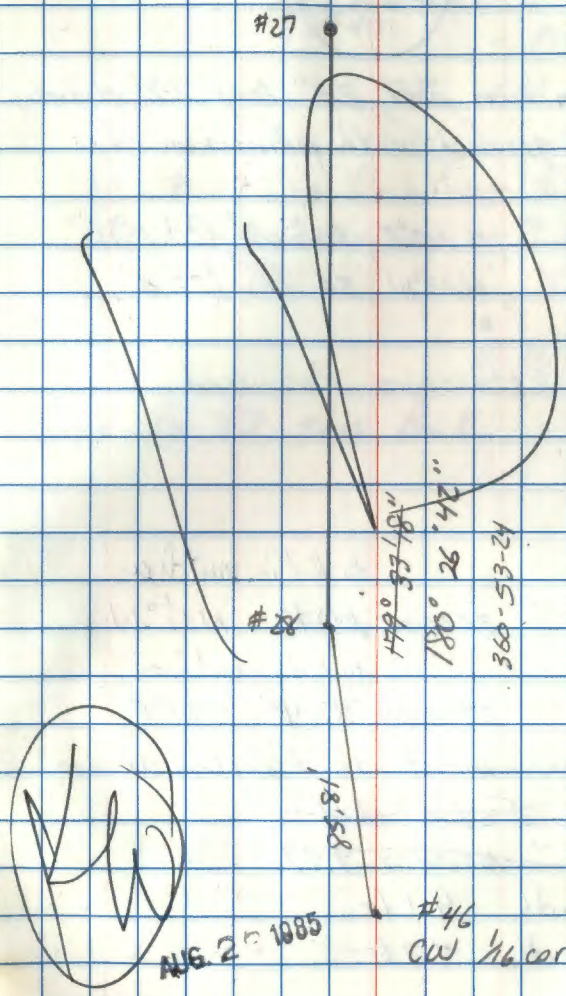
6" Gosswood
29.00' S13°W

double blazed
scribed
"CW 1/16 S25"
"BT"



(31)

Cont. on Pg 43 this Book



180-26-42
26-42
360-53-24

180-26-42
26-42
360-53-24

N62° 1085

#46
CW 1/16 cor

R-22
1976 BLM Dependent Resurvey

T143N R25W

W^{1/4} $\frac{S24}{S25}$
1976

Set an aluminum post, 28" long, 2 $\frac{1}{2}$ " diam.,
24" in the ground, with aluminum cap

From which:

ash, 6", S15°E, 30 $\frac{1}{2}$ ft (20.1')

birch, 6", N02°W, 34 ft (22.4')

References Recovered

41 AS

40 X

to 16d in west face
basswood 8.4" 32-05-55 R0100 N3 $\frac{1}{2}$ °W

to 16d in east face
birch 6.8" 229-05-09 22.40 S21°E

found monument as described above

Established

~~birch 7" 168-54-39 9.97~~

Post North 4.1 ft

Post South 4.3 ft

(32)

July 14, 1982

Ptly cldy, warm, breeze

PC 50 X G. Kosenko

Airks - D. Roerick

- D. Kaiser

T-2 SN 265184

find BLM Z in Aluminum Monument with
3/4 in Aluminum cap up 0.7 ft stamped:

T143N R25W

W^{1/4} $\frac{S24}{S25}$

SEE Pg 77 this Book

1976

T143N R25W Sec 25 Subdivision

Angle at property corner to property line

STA HAROLD HAERD

~~41~~
39

40 ~~53-28-10~~ 53-28-10

46

41 BS

40

July 14, 1982

33

60 d spike ^{2A} see pg 25
for ties
T143N R25W

STA 40 = $\frac{529}{525}$
1976

STA 46 = see pg 31

PC T of B. Kosenko

Andres - D. Roerick

D. Kaiser

FZ S/N 265184

intersected corner
3 feet east

T143N R25W Sec 32 + 30

Angles at property corners to property line

STA H~~X~~ V H~~X~~

1

2

180-43-00
~~179-27-00~~ 180-43-00

10 1

10 2 267-19-00

10 3

July 15, 1982

34

PLT ~~ED~~ G. Kosenko Cloudy, warm breeze

Aides - D. Roerick

D. Kaiser

T-2 S/N 265184

STA 1 =

S 1116
532 533
1976

STA 2 =

4
S 32 533
1964

STA 3 =

N 1116
532 533
1976

Intersected 1116 corner
approx 1.5 east

STA 101 =

S 19
536
1976

will need

LRP orientation

G. Kosenko 7-15-82

STA 102 =

19 20
50 21
1976

STA 103 =

N 1116
530 529
1976

4-14-83

K. Whitehorn

B. Ausk

Cloudy/Windy

29.10" Hg

20° F

A. WilTZ SN: 265184

Lite Red 9A SN: 4863

Prism Constant 30 mm

52 to 53 268-18-44 91-41-29 327.02 91°41'23" 326.88

53 to ~~52~~⁵⁴ 271-34-42 88-25-25 327.009 88°25'22" 326.88

53 to 51 269-48-51 90-11-27 3301.44 90-11-18 3301.42

164-49-57

BS 52 ~~164-50-4~~ 344-50-07 164-50-08 344-50-09FS 54 00-00-~~34~~¹⁵ 180-00-20 00-00-19 180-00-15+ BS 52 164-49-~~42~~⁴² 164-49-47 164-49-49 164-49-49

Mean of 164-49 - 47

BS 52 165-28-~~00~~⁰⁸ 345-28-12 165-28-19 345-28-05FS 54 00-00-~~34~~¹⁵ 180-00-20 00-00-19 180-00-15+ BS 53 165-27-~~46~~⁵³ 165-27-52 165-28-00 165-27-50

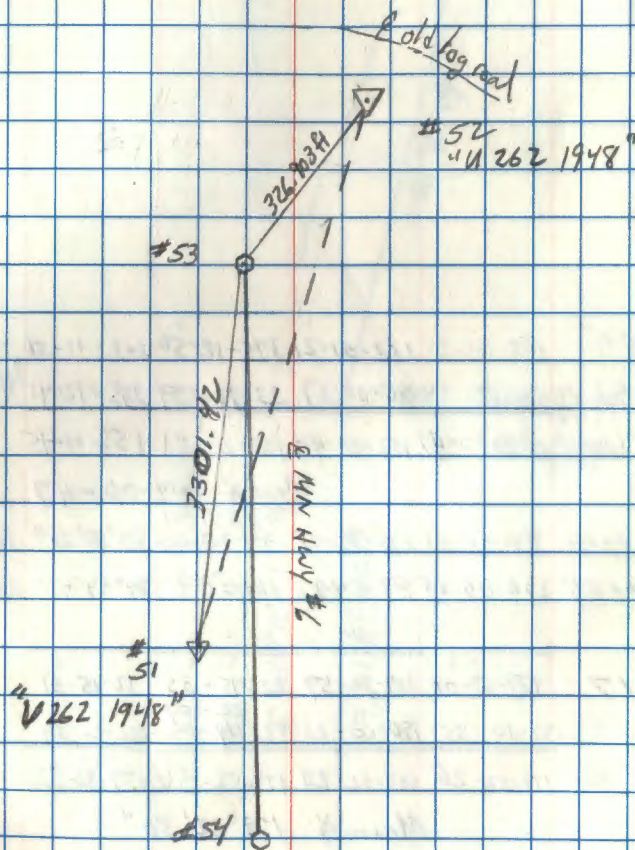
Mean of 165°28'54"

53 to ~~54~~⁵² 269-48-08 90-12-14 3472.59 90°12'03" 3472.57

54 to 53 270-10-55 89-47-27 3472.60 89°49'16" 3472.58

54 to 54

35



4-14-83

ψ K. Whitehorn

x D B. Ansk

Cloudy/Windy

cold

25% 29.10" Hg

FS 55 152-01-21 332-01-21 175-12-50 203-11-54

BS 53 00-00-39 180-00-37 23-11-59 385-12-41

T 54 152-00-47 152-00-44 152-00-51 152-00-45

Mean \bar{x} 152-00-47

54 #16 89-50-31 270-09-45 1665.09 89°50'23" 1665.08

16 #54 270-05-25 89-54-47 1665.09 89°54'41" 1665.09

FS 17 179-53-01 359-52-59 222-45-35 42-15-31

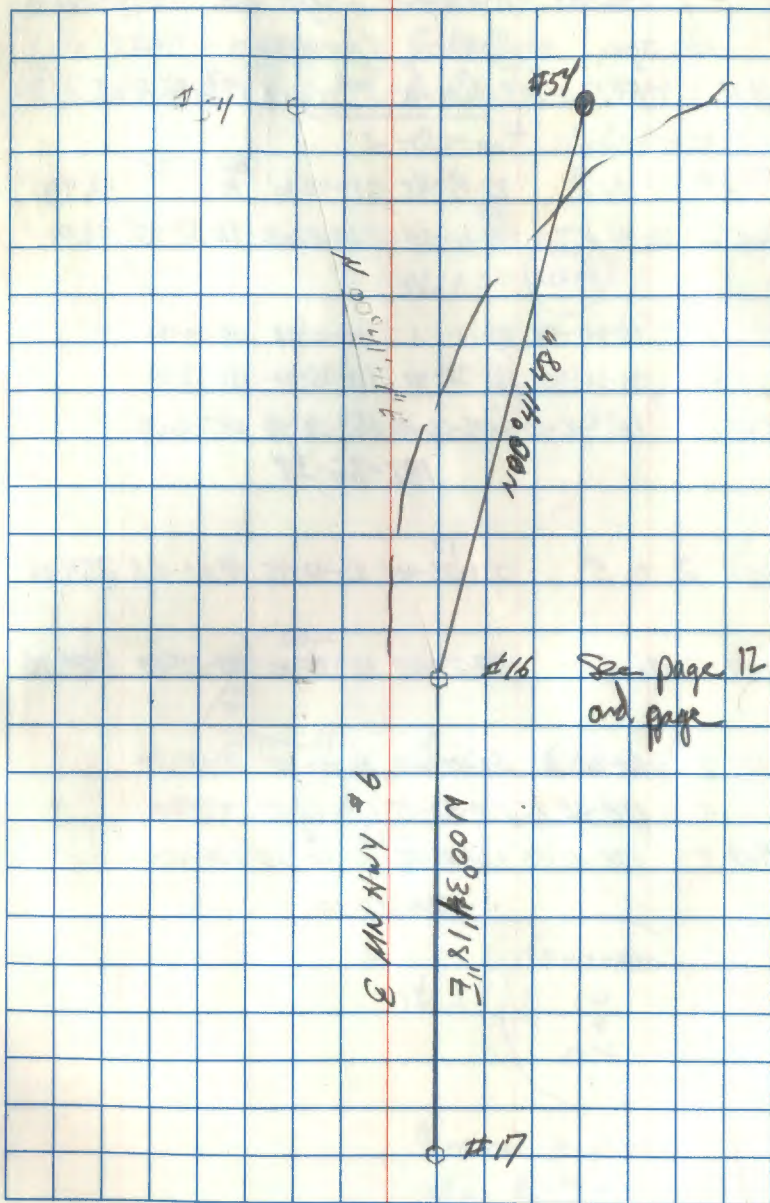
BS 54 00-00-35 180-00-23 42-24-07 222-22-59

#B 16 179-52-26 159-52-29 179-52-36 179-52-32

Mean \bar{x} 179°52'30"

F0

(36)



T 143N R25W Sugar Lk. Project

Open traverse

STA 1st H&D 2nd H&D 3rd H&D 4th H&R S. Dist

H 4

Dist 1 to 2 82-15-45 277-44-00 ⁸²⁻¹⁵⁻⁵³ 42.94

Dist 2 to 1 ⁷⁸ 82-31-30 261-27-20 98-32-05 43.01

BS 1 00-00-00 00-00-00 00-00-00 00-00-30

FS 3 188-36-46 188-36-40 188-36-40 188-37-00

T@2 188-36-40 188-36-40 188-36-40 188-36-30

188-36-38

Dist 2 to 3 ¹⁷ 277-23-00 82-42-45 82-42-53 254.06

Dist 3 to 2 97-25-00 162-35-00 97-25-00 254.16

BS 2 00-00-00 00-00-30 00-00-00 00-00-30

FS 4 178-42-15 178-42-15 178-42-30 178-43-00

T@3 178-42-15 178-41-45 ¹⁷⁸⁻⁴² 178-42-30 178-42-30

178-42-30

Instruments

March 16, 1983

Litz T600 158816

G. Kosenko party Boss

Red IA 4863

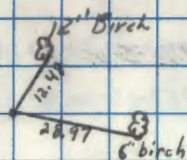
G. Robertson TMM

Overcast, slight breeze,
30°

Sta 1 =

ALS
12604

3/4" iron pipe



Sta 2 = 60 d nail

Sta 3 =

T 143N R25W
1/4 533
34
1976

Aluminum monument
set by BLM

T/43N R25W Sugar Lk Project

Open traverse cont'd from pg. 37

STA 1st H&R 2nd H&R 3rd H&R 4th H&R 5. Dist

H 4

Dist 3 to 4 87-48-30 272-11-15 87-48-37 529.60

Dist 4 to 3 92-15-00 267-44-45 92-15-08 529.64

BS 3 00-00-00 60-00-00 00-00-00 00-00-30

FS 5 179-35-45
~~178-57-20~~ 179-36-00 179-35-45 179-36-40

T@ 4 179-35-45 179-36-00 179-35-45 179-36-10

179-35-55

Dist 4 to 5 87-08-30 272-57-15 87-08-38 347.44

Dist 5 to 4 92-56-45 267-03-00 92-56-52 347.48

BS 4 00-00-00 00-00-30 00-00-00 00-00-30

FS 6 181-22-20 181-23-00 181-22-20 181-28-00

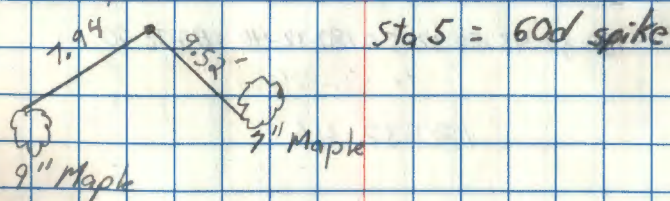
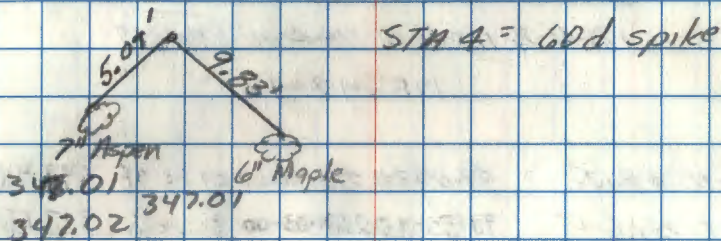
T@ 5 181-22-20 181-22-30 181-22-20 181-22-30

181-22-25

38

529.21- 11-28

529.23- 15



T143N R25W Sugar Lake Project

Open Traverse cont. from pg 38

STA 1st HxO 2nd HxO R 3rd HxD 4th HxR 5. Dist

Hx

Dist 5 to 6 ~~98-14-20~~ 261-45-00 98-14-00 197.14

Dist 6 to 5 81-55-15 278-04-30 81-55-30 197.07

BS 5 00-00-00 00-00-00 00-00-00 00-00-00

FS 7 178-42-20 178-42-15 178-42-20 178-42-15

T@ 6 178-42-20 178-42-15 178-42-20 178-42-15

178-42-18

Dist 6 to 7 89-05-30 270-54-15 89-05-38 372.63

Dist 7 to 6 90-59-00²⁹ 269-30-00 90-29-30 372.66

BS 6 00-00-00 00-00-30 00-00-00 00-00-30

FS B 180-32-45 180-33-20 180-32-40 180-33-20

T@ 7 180-32-45 180-32-50 180-32-40 180-32-50

180-32-46

March 16, 1983

(39)

3/4" iron pipe

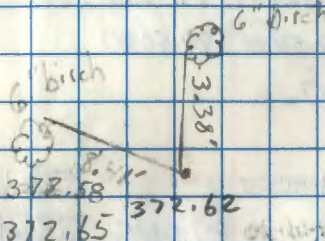
195.10

STA 6 =

RLS
12684

195.12

195.11



STA 7 = 60d spike

372.58

372.62

372.65

T/43 N R25W Sugar Lake Project

Open Traverse Cont. from pg. 39

STA 1st H & D 2nd H & R 3rd H & D 4th H & R S. Dist
H 4

Dist. 7 to 8 273-45-00 86-24-30 303.13'

Dist. 8 to 7 266-17-45 93-42-00 93-42-08 303.72

BS 7 00-00-00 00-00-03 00-00-00 00-00-30

FS 9 179-50-00 179-50-30 179-50-00 179-50-30

T @ 8 179-50-00 179-50-27 179-50-00 179-50-00

179-50-07

Dist. 8 to 9 266-55-30 93-40-00 343.25

Dist. 7 to 8 272-58-00 87-01-20 87-01-40 343.21

BS 8 00-00-00 00-00-00 00-00-00 00-00-00

FS 10 179-58-00 179-58-15 179-58-00 179-58-20

T @ 9 179-58-00 179-58-15 179-58-00 179-58-20

179-58-09

March 17, 1983

(40)

G. Kasenka: crew chief

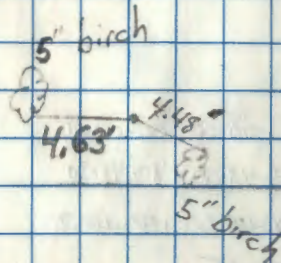
B. Avsk:

G. Robertson: T T

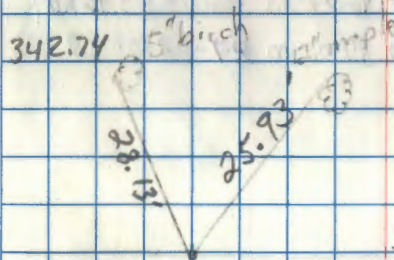
Overcast, calm,

30°F, Snowing

302.59



STA 8 = 60 d spike



STA 9 = 60 d spike

T143 N R25W Sugar Lake Project

Open Traverse Cont. from pg. 40

STA 1st H4 D 2nd H4 R 3rd H4 D 4th H4 R S. O. dist. (M)

H 4

Dist. 9 to 10 270-09-45 89-50-00 ~~89-50-00~~ 405.47'

Dist. 10 to 9 269-45-00 90-14-40 90-14-50 405.48'

BS 9 00-00-00 00-00-00 00-00-00 00-00-00

FS 11 180-48-15 180-48-15 180-48-00 180-48-30

T @ 10 180-48-15 180-48-15 180-48-00 180-48-30

180-48-15

Dist. 10 to 11 263-49-45 96-09-30 96-09-53 169.09

Dist. 11 to 10 ²⁷⁵170-56-40 84-52-00 ~~84-02-40~~ 169.02

BS 10

FS 12

T @ 11

March 17, 1983

41

405.47 5.33 3' maple

405.48

STA 10 = 60d spike

3.13-
8' maple

168.11

168.11

T143 NR25W RE-Sub.

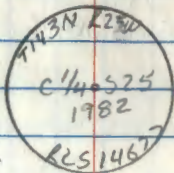
SEC. 25 RESET C'1/4

REFER to Pg 30 This Book

FS 1000 177-58-22 357-58-29 177-58-26 357-58-35

BS 27 00-00-²¹/₃₆ 180-00-27 00-00-24 180-00-20X@26 177-58-⁰¹/₄₄ 177-58-12 177-58-02 177-58-15

Decl. 50°E

REFER to Pg 30 This
Book

Set in Root of 12" Maple

SAME MONUMENT AS BEFORE Up 16 ft.
from which:BIRCH 7.5" N84°E 43.95' to 16d NAIL ON
60d SPIKE Bottom BLAZEMAPLE 15.2" N41°E 29.55' to 16d NAIL ON
60d SPIKE Bottom BLAZEMAPLE 14.7" S78°E 8.33' to 16d NAIL ON
60d SPIKE Bottom BLAZE

STEEL SIGN POST North 5.0ft w/54-2

STEEL SIGN POST EAST 3.0ft w/54-2-549

Sunny & Hot
Wild TR SN/265184
Mucho Bugs

5-31-84

B. AUSK

G. ROBERTSON

chained dist. 23.85

S FACE Double BLAZE SCR "C'1/4 S25 E"

SE FACE Double BLAZE SCR "C'1/4 S25 E"

N FACE Double BLAZE SCR "C'1/4 S25 E"

7143N R25W RESUB.

Sec. 25 REGRET CN 1/16 S

REFER to Pg 31 This book

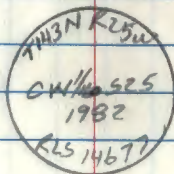
FS 2000 359-35-00 179-34-47 359-35-06 179-34-42

BS 29 00-00-25 180-00-30 00-00-33 180-00-32

π@ 28 359-34-35 359-34-17 359-34-27 359-34-10

Decl. $5^{\circ}E$

up 1.5'



SAME MONUMENT AS BEFORE
FROM WHICH

ASPEN $N20^{\circ}E$ 10.4" 8.22 16d NAIL ON

60d SPIKE BOTTOM BLAZE

ASPEN $S41^{\circ}E$ 9.7" 12.44 16d NAIL ON

60d SPIKE BOTTOM BLAZE

ASPEN $N61^{\circ}W$ 10.0" 15.79 16d NAIL ON

60d SPIKE BOTTOM BLAZE

STEEL SIGN POST NORTH 3.0 FT W/542+54.9

STEEL SIGN POST WEST 3.0 FT W/542

POSTS + BTS PAINTED RED

SUNNY + HOT

5-31-84

WILD TR SN/265184

B AUSK

TOO MANY BUGS

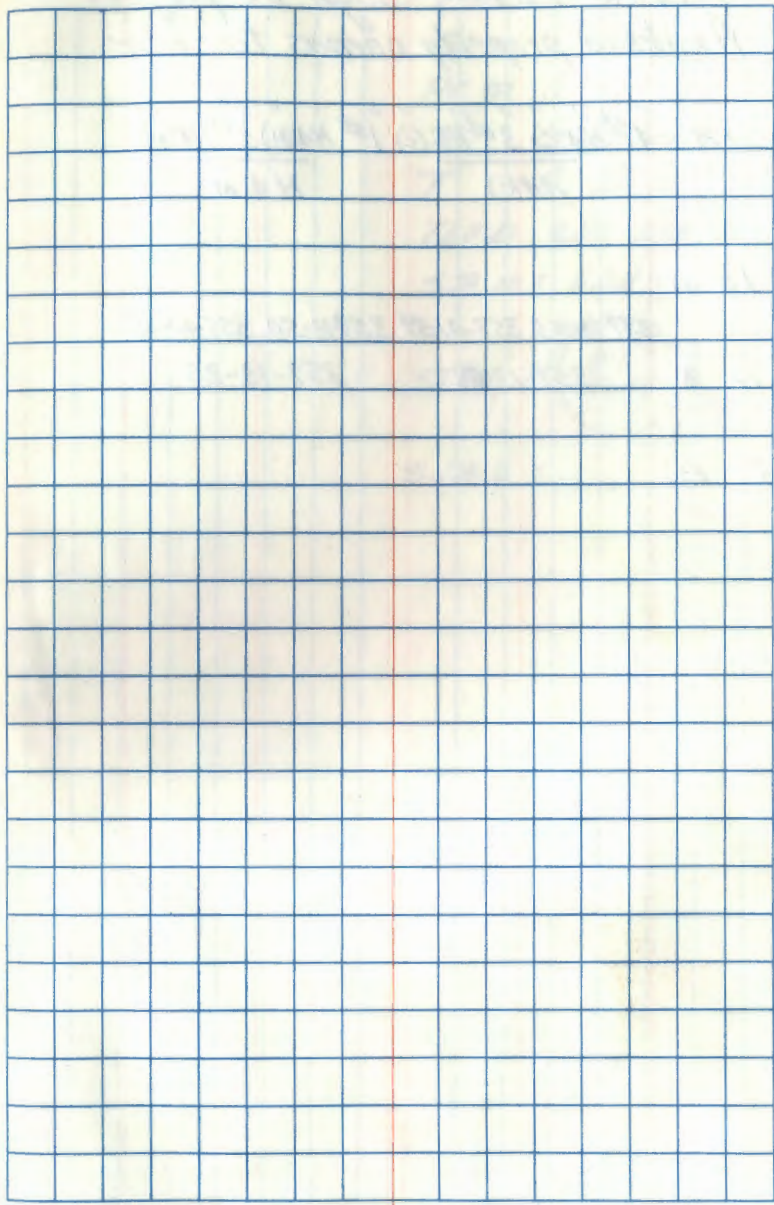
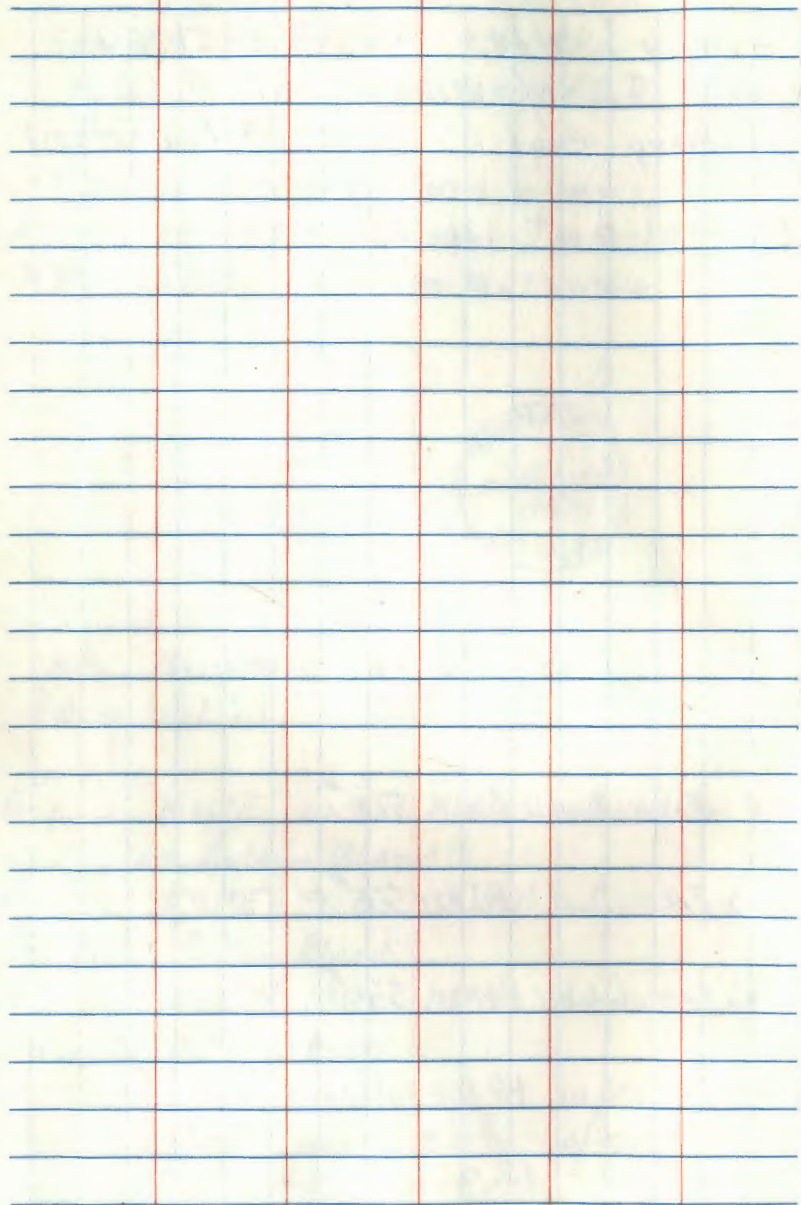
G. ROBERTSON

CHAINED DIST 126.02'

SE FACE DOUBLE BLAZE SCR. "

SW FACE DOUBLE BLAZE SCR. "

SW FACE DOUBLE BLAZE SCR. "



T 143 N R25W Sugar Lk project
Angles @ property corners to Line

STA 1°H\&C 3°H\&C 1°H\&M 3°H\&M
H&C H&M

10 BS

359-13-53 357-91-39 359-13-50 357-40-45

11 T

359-13-~~53~~

359-13-35

3 FS

March 17, 1983

Snow (heavy)

PC ~~at~~ G. Kosenko

T G. Robertson

T B. Ausk

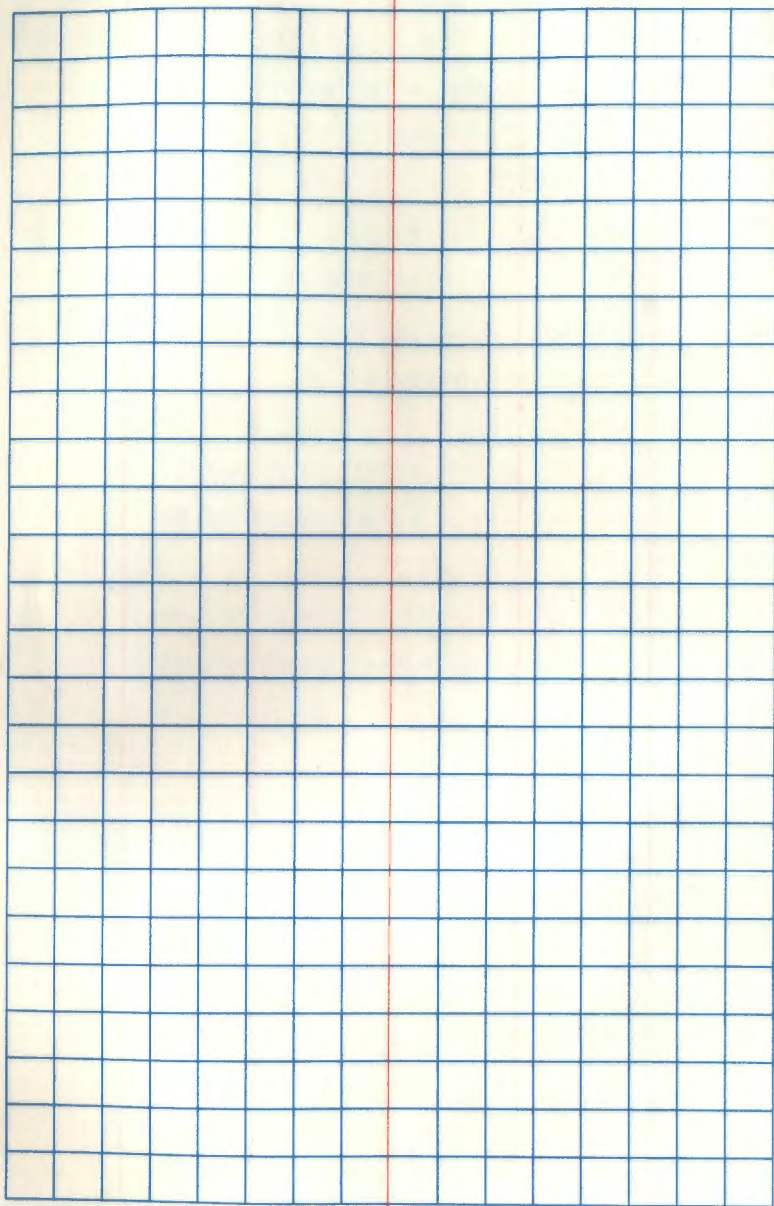
T60D S/N 159816

STA 10 = 60d spike

STA 11 =

RLS
12684

STA 3 =



A blank page with blue horizontal ruling and three vertical red margin lines. The page is otherwise empty.

A page with a blue grid pattern and a vertical red margin line. The page is otherwise empty.

T143N P25W

Traverse for N & S center line sec 22

STA 1st H&R 2nd H&R 3rd H&R 4th H&R

H&R

FS 3 117-12-44³ 297-12-35 117-12-43 297-12-37

BS 1 00-00-17 180-00-07 00-00-12 180-00-03

FO 2 117-12-27 117-12-28 117-12-31 117-12-34

117-12-30

Dist 1-2 87-32-32 272-27-24 272-27-26 151.91 151.77

Dist 2-1 92-41-52 267-17-57 267-18-03 151.94 151.77

FS 1 157-05-07⁴ 337-04-59 157-05-05⁵ 337-04-58

BS 2 00-00-28 180-00-19 00-00-24 180-00-20

FO 3 157-04-39 157-04-40 157-04-41 157-04-38

157-04-40

Dist 2-3 89-55-55 270-04-05 270-04-05 258.89 258.89

Dist 3-2 90-12-27 269-47-28 269-47-31 258.89 258.89

H&R 9-27-83

9/26/83

clear, calm, warm

Hg 29.8 60°F

E.C.F. = 0

#8

G. Kosenko P.C. T & M

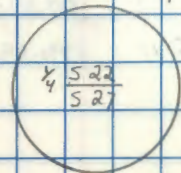
B. Ausk Aid M

G. Robertson Aid M

Wild T2 #

Lietz Red 1A # 4863

BLM Brass Cap



STA 1 =

151.77'

258.89'

T143NR25W

TRAVERSE BOX N&S CENTER LINE SEC. 22

STA 1st H&D 2nd H&R 3rd H&D 4th H&RFS 5 ⁵⁴⁻⁵⁶ 179-53-50 179-53-53 179-53-54 179-53-57 179-53-56BS 3 00-00-~~29~~²⁹ 180-00-20 00-00-~~32~~³⁰ 180-00-17X@4 179-53-~~30~~³¹ 179-53-34 179-53-~~27~~²⁷ 179-53-39

179-53-33

Dist 3-4 91-50-38 268-09-13 268-09-18 556.40 556.11

Dist 4-3 88-13-09 ~~261-36-00~~²⁷¹⁻⁴⁶⁻⁴⁷ 271-46-49 556.37 556.10FS 6 180-41-11 00-41-09 180-41-~~31~~³⁰ 00-41-~~26~~²²BS 4 00-00-32 180-00-32 00-00-47 180-00-~~37~~³⁶X@5 180-40-39 180-40-37 180-40-44 180-40-~~49~~⁴⁶

180-40-42

Dist. 4+05 98-23-54 ~~271-46-47~~²⁶¹⁻³⁶⁻⁰⁰ 261-36-03 431.17 426.55

Dist 5+04 81-40-55 278-18-57 278-19-01 431.11 426.58

JPR
9-27-83 ✓

426.5760

49

556.11'

426.56

T143N R25W

TRAVERSE FOR N+S CENTER LINE SEC. 22

STA. 1st H&R 2nd H&R 3rd H&R 4th H&R

FS 7 177-29-19 357-29-11 177-29-18 357-29-08

BS 5 00-00-19 180-00-06 00-00-18 180-00-07

T@ 6 177-29-00 177-29-05 177-29-00 177-29-01

177-29-02

Dist. 5-6 93-08-46 266-51-10 266-51-12 230.21 229.86'

Dist. 6-5 87-00-46 272-59-13 272-59-14 230.17 229.86'

FS 8 181-49-59 01-49-50 181-49-50 01-49-56

BS 6 00-00-29 180-00-22 00-00-27 180-00-29

Sta@ 7 181-49-30 181-49-28 181-49-37 181-49-27

181-49-31

Dist. 6-7 90-58-08 269-01-49 269-01-51 129.64 129.62

Dist. 7-6 89-18-41 270-41-19 270-41-19 129.66 129.665

218R
927-83 ✓

229.86'

129.64 ✓

T143N R25W

Cont. From PAGE 51

FS 11 179-36-26 359-36⁵09 179-36-18 359-36-07

BS 9 180-00-25 180-00-16 180-00-24 180-00-13

T@ 10 179-36-01 179-35-53 179-35-54 179-35-54

179-35-56

Dist 9 to 10 88-25-22 271-34-36 271-34-37 319.09 318.97

Dist 10-9 91-41-26 268-18-36 268-18-35 319.10 318.96

FS 12 180-15-12 180-15-06 180-15-10 180-15-00

BS 10 180-00-24 180-00-13 180-00-22 180-00-10

T@ 11 180-14-48 180-14-53 180-14-48 180-14-50

180-14-50

Dist 10-11 88-55-36 271-04-13 271-04-19 329.62 329.56

Dist 11-10 91-10-49 268-49-01 268-49-06 329.65 329.58

JHR
9-27-85
✓

318.97

329.57

T143N R25W

Cont. from Page 52

FS 13 180-00-45 00-00-~~29~~³¹ 180-00-53 00-00-45BS 11 00-00-32 180-00-~~39~~³⁶ 00-00-45 180-00-43T@ 12 180-00-13 ~~179-57-50~~¹⁸⁰⁻⁰⁰⁻⁰⁵ 180-00-08 180-00-02

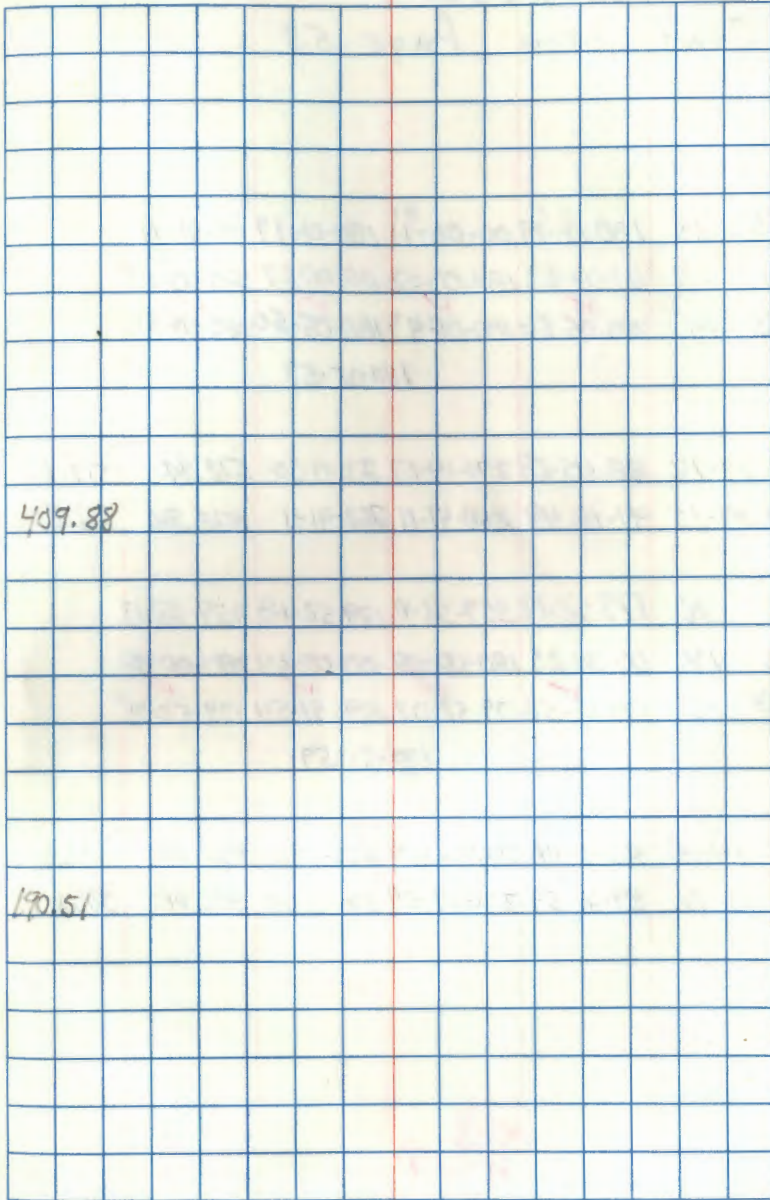
180-00-07

Dist 11-12 90-49-04 269-10-52 ~~269-10-54~~ 409.93 409.89Dist 12-11 89-16-15 270-43-40 ~~270-43-43~~ 409.91 409.88FS 14 179-58-17 359-58-02 ~~179-58-02~~⁵² 359-57-53

BS 12 00-00-24 180-00-11 00-00-18 180-00-05

T@ 13 179-57-53 179-57-51 ~~179-57-44~~⁴⁴ 179-57-48

179-57-49

Dist. 12-13 84-38-44 275-21-27 ~~275-21-22~~ 191.34 190.50Dist. 13-12 95-32-58 264-27-05 ~~264-27-04~~ 191.42 190.52AJR
9-27-83

409.88

190.51

T143N R25W

CONT FROM PAGE 53

FS 15 180-06-19 00-06-11 180-06-17 00-06-11

BS 13 00-00-23 180-00-22 00-00-27 180-00-15

T@ 14 180-05-56 180-05-49 180-05-50 180-05-56

180-05-53

Dist 13-14 88-45-28 271-14-27 271-14-30 512.94 ⁷⁸⁶⁶ 512.82

Dist 14-13 91-18-49 268-41-11 268-41-11 512.94 512.81

FS 16 179-52-19 359-52-10 179-52-18 359-52-13

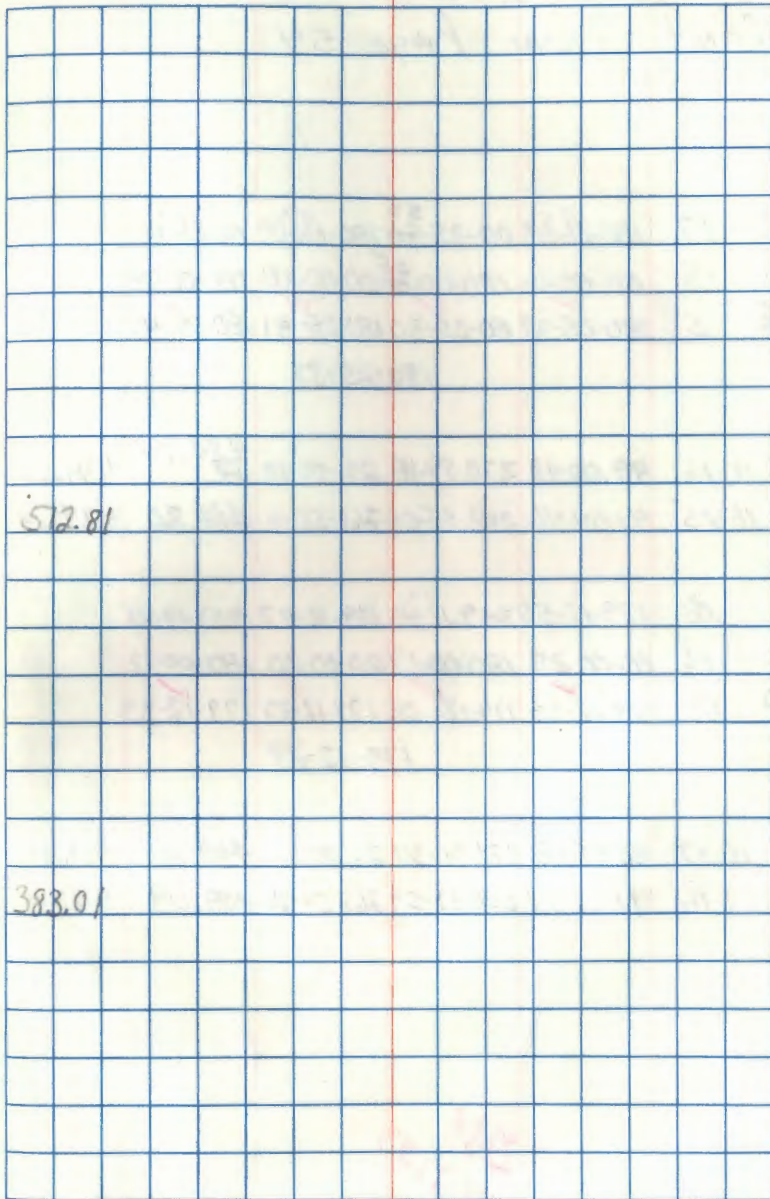
BS 14 00-00-23 180-00-08 00-00-24 180-00-08

T@ 15 179-51-56 179-52-02 179-51-54 179-52-05

179-51-59

Dist 14-15 90-18-48 269-41-09 269-41-11 383.02 383.01

Dist 15-14 89-46-54 270-13-09 270-13-08 383.01 383.01

JHR
9-27-83
✓

T143N R25W

Cont. FROM PAGE 55

FS 19	84-35-09	264-35-01	84-35-09	264-35-05
BS 17	20-00-29	180-00-15	00-00-27	180-00-14
TR 8	84-34-40	84-34-46	84-34-42	84-34-51
		84-34-45		

Dist. 17-18 92-20-52 267-29-08 267-34-08 398.97 398.61

Dist. 18-17 87-44-36 ²⁷²⁻¹⁵⁻³¹~~180-00-15~~ 272-15-18 398.94 398.63

FS 18-19	91-01-05	268-58-47	268-58-51	206.55	206.52
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BS 20-19	89-09-23	270-50-27	270-50-30	206.55	206.53
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398.62

STA ¹⁹20=

1/2 S. 15
1/2 S. 22

206.53

T143N R25W

Angles at property corners to Line
N & S center line of sec 22

STA 1st H&D 2nd H&D

H 4

FS 19 274-~~38~~³⁶-54 94-36-46

BS 2 359-59-34 179-59-30

T@ 1 274-37-20 274-37-16

274-37-18

FS 1 96-21-~~46~~⁴⁷ 276-21-57BS 18 00-00-~~23~~ 179-59-57

T@ 19 96-21-24 96-22-00

Oct 3, 1983

cloudy, rain, cold

P.M. G. Kosenko

T B. Ausk

T G. Robertson

T-2 S/N 265184

STA 1 =

T143N R25W	
1/4	522
4	527
1983	

STA 19 =

T143N R25W	
1/4	515
4	522
1983	

T143N R25W Sec 25

Traverse from SW Sec 25 to N 1/4 Sec 25

STA 1st H&D 2nd H&R 3rd H&D 4th H&R

H&R

^{100'}
Dist 1-2 89-37-48 270-22-08 270-22-10 206.13 206.13

Dist 2-100 90-33-00 269-27-03 269-27-02 206.13 206.12

FS 3 178-23-19 358-23-15 178-23-22 358-23-14

^{100'}
BS ~~7~~ 100-00-26 180-00-20 00-00-35 180-00-24

T@ 2 178-22-53 178-22-55 178-22-47 178-22-50

178-22-51

Dist 2-3 88-00-24 271-59-21 271-59-29 552.22 551.89

Dist 3-2 92-03-42 267-56-12 267-56-15 552.22 551.86

FS 4 179-55-47 359-55-40 179-55-47 359-55-41

BS 2 00-00-12 180-00-00 00-00-11 180-00-00

T@ 3 179-55-35 179-55-40 179-55-36 179-55-41

179-55-38

Dist 3-4 91-01-38 268-58-18 268-58-20 824.29' 824.16

Dist 4-3 89-01-14 270-58-40 270-58-43 824.29 824.16

 9/27/83
 9-27-83
 ✓

Happy Birthday Greg!!

Sept 27, 1983

overcast, windy, mild

SW 265184

PC G. Robertson

Red 1 A S/N 4863

T@ G. Kosenko

206.13

^{100'}
STA 7 =

 T143N R25W
 S24 S25
 S35 S36
 1983

Aluminum capped BLM

STA 2 = 60d spike

551.87

824.16

T143N R25W Sec 25

Traverse cont'd from pg 58

STA 1st H&R 2nd H&R 3rd H&R 4th H&R

H 4

FS 5 180-11-06 00-10-57 180-11-10 00-10-59

BS 3 00-00-20 180-00-18 00-00-27 180-00-21

T@ 4 180-10-46 180-10-39 180-10-43 180-10-38

180-10-42

Dist 4-5 87-08-57 272-50-59 272-51-01 428.28 427.75

Dist 5-4 92-56-31 267-03-36 267-03-33 428.28 427.72

FS 6 179-42-16 359-42-03 179-42-12 359-42-09

BS 4 00-00-27 180-00-25 00-00-30 180-00-30

T@ 5 179-41-49 179-41-38 179-41-42 179-41-39

179-41-42

Dist 5-6 91-01-28 268-58-31 268-58-32 600.56 600.46

Dist 6-5 89-02-26 270-57-36 270-57-35 600.56 600.49

JBR
9-27-83

Sept. 27, 1983

STA 4 = Good spike

427.74

STA 5 = BLM Hub # N.3
(in clearcut)

600.47

T143N R25W Sec 25
 Travel cont'd from pg 59

FS 7 225-34-51 45-34-40 225-34-56 45-34-45

BS 5 00-00-23 180-00-10 00-00-17 180-00-10

T@6 225-34-34 225-34-34 225-34-39 225-34-35

225-34-36

Dist 6-7 87-01-52 272-58-16 272-58-12 55.14 55.07

Dist 7-6 93-39-28 266-20-28 266-20-30 55.³⁰13 55.02

FS 8

BS 6

T@7

Dist 7-8

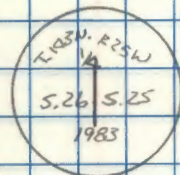
Dist 8-7

9/27/83
 9-27-83

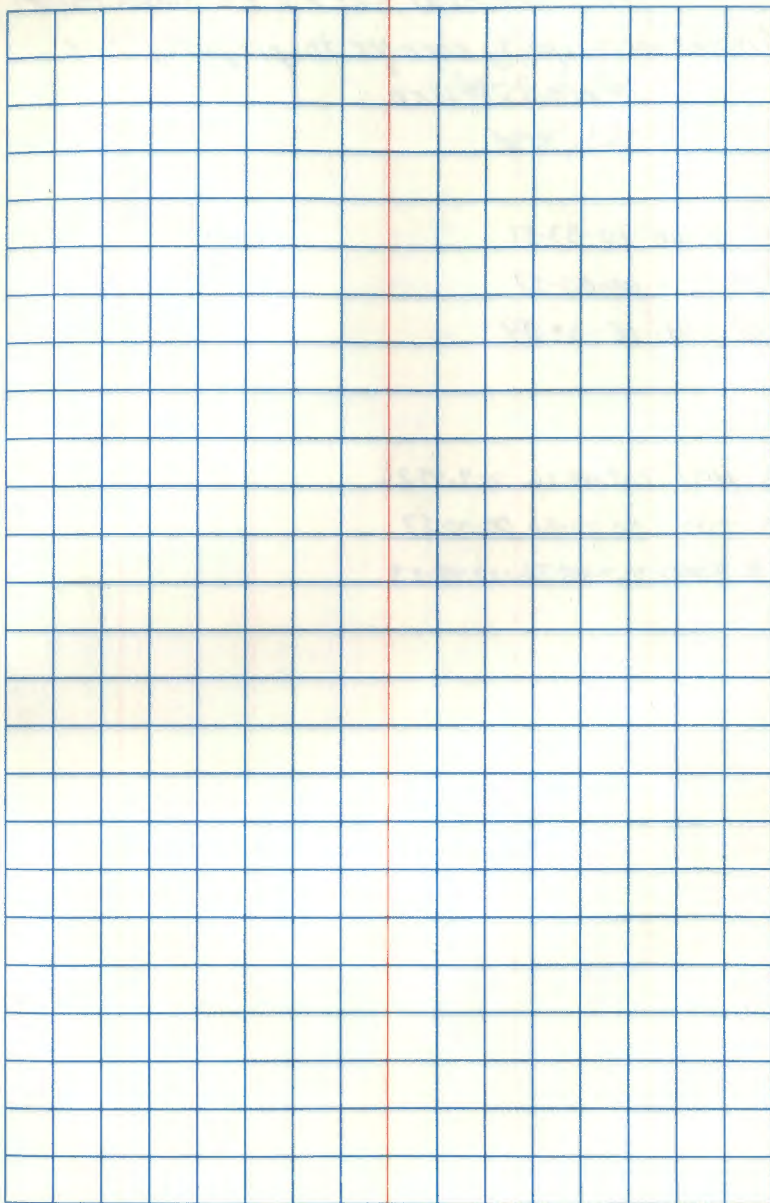
STA 6 = 60d spike
 near BLM STA 114

55.05

STA 7 =



Aluminum cap BLM



T143N R25W Sec 25 Re-subdivision

Angles of Property corners to property line

STA 1st H&D 2nd H&P

H X

FS 1000 10-33-51

BS 28 00-00-57

T@ 101 10-32-54

FS 401 269-49-16 269-49-26

BS 28 00-00-50 00-00-57

T@ 2000 269-48-26 269-48-23

7-24-84

K. Whitehorn

B. Ausk

G. Robertson

T143 N R25W

Angles at PROPERTY CORNERS to
LINE N&S SEC. 25 & 26

FS 1 315-33-04 / 135-33-01

BS 6 00-00-21 / 00-22-22

T0 7 315-32-43 / 315-32-49

~~315-32-46~~

360

135

495

180

315

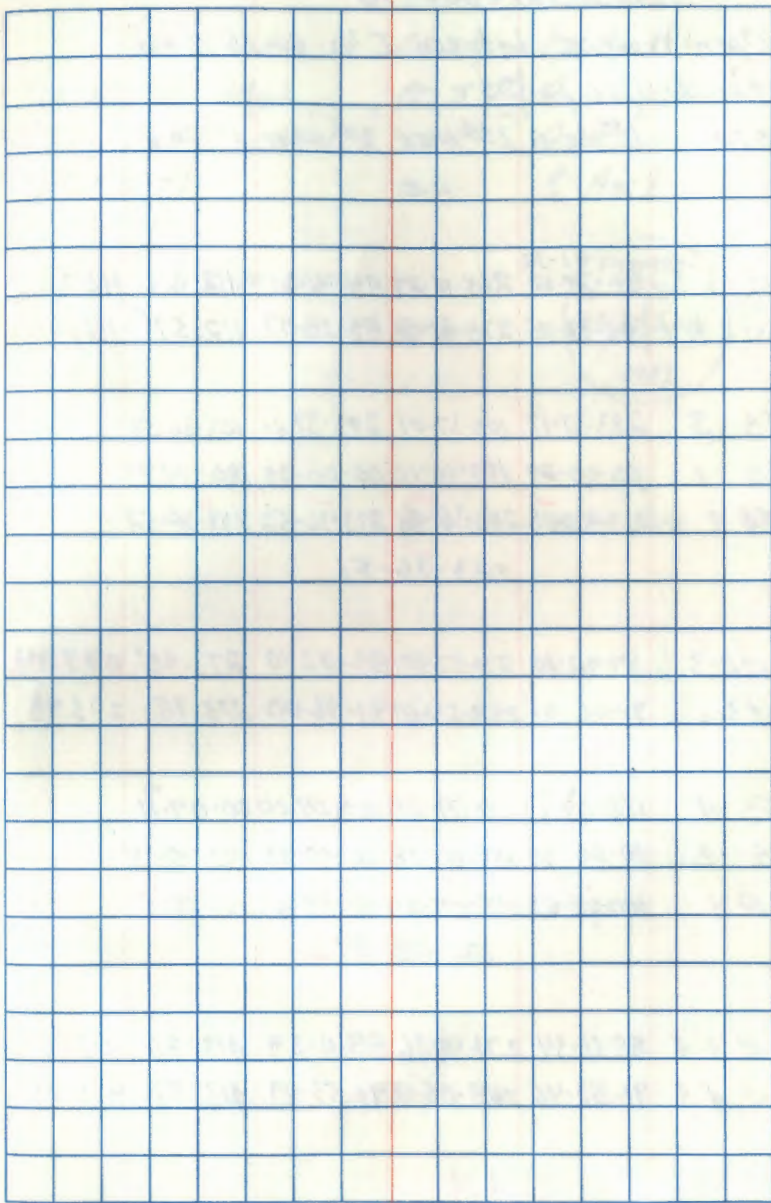
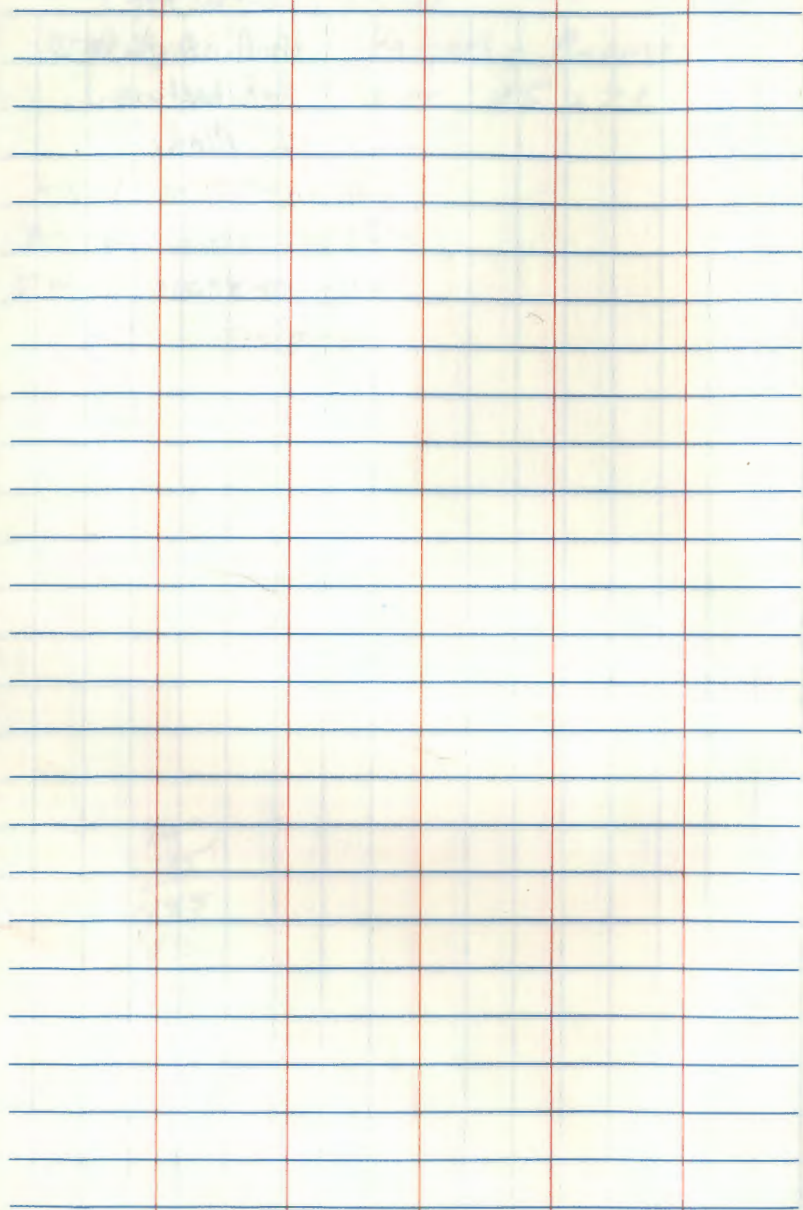
✓ OK for 10-19-83

Oct. 6, 1983

B. AUSK PC T0

G. ROBERTSON

L. MAKI



65

T143N R25W Sec 16

Open traverse between E 1/4 Sec 16 and
the N 1/16 22 23STA 1st 4x0 2nd 4xR 3rd 4x0 4th 4xR

H4

Dist 1 to 2 ⁴¹⁻³² 94-31-42 265-18-27 94-41-31 112.63 112.25

Dist 2 to 1 85-38-05 274-21-50 85-38-07 112.57' 112.24

FS 3 283-37-17 103-37-01 283-37-20 103-36-59

BS 1 00-00-29 180-00-10 00-00-28 180-00-07

T@ 2 283-36-48 283-36-51 283-36-52 283-36-52

283-36-51

Dist 2-3 89-02-10 270-57-50 89-02-10 273.98' 273.94

Dist 3-2 91-06-01 268-54-01 91-06-00 273.98 273.93

FS 4 180-09-23 00-09-08 180-09-20 00-09-11

BS 2 00-00-30 180-00-18 00-00-33 180-00-18

T@ 3 180-08-53 180-08-50 180-08-47 180-08-53

180-08-51 ✓

Dist 3-4 88-11-34 271-48-36 88-11-29 413.36 413.15

Dist 4-3 91-53-46 268-06-08 91-53-49 413.37 413.14

CK BA

10-17-83

Oct 17, 1983

TZ S/N 265184

Clear, cool, calm

RadIA S/N 9863

PC T T G. Kosenko

Temp = 40°F BPR = 29.9

G. Robertson

ECF = -1

S. Ausk

Bib 1-2 = N71-00-00E

112.25

STA 1 =

T143N R25W

Y4

S.155.14

1983

STA 2 = BAM Hub

273.94

STA 3 = 60d spike

413.15

66

T143N R25W Sec. 16

Open Traverse between E 1/4 Sec. 16 and
The N 1/4

STA

FS 5 179-48-36 359-48-30 179-48-52 359-48-40

BS 3 00-00-28 180-00-06 00-00-18 180-00-06

π @ 4 179-48-28 179-48-34 179-48-34 179-48-34
 179-48-33

Dist. 4-5 88-52-04 271-08-03 88-52-01 462.25 462.16

Dist. 5-4 91-12-51 268-47-16 91-12-48 462.26 462.16

FS 6 180-06-49 00-06-35 180-06-45 00-06-35

BS 4 00-00-34 180-00-20 00-00-32 180-00-17

π @ 5 180-06-15 180-06-15 180-06-13 180-06-18
 180-06-15

Dist. 5-6 89-23-35 270-36-30 89-23-33 515.30 515.27

Dist. 6-5 90-40-49 269-19-12 90-40-49 515.30 515.26

CK BA

10-17-83

Oct 17, 1983

STA 4 = BCM Hub

462.16

STA 5 = BCM Hub 4N

515.27

67

T143N R25W

OPEN TRAVERSE BETWEEN E 1/4 S.16

and the N 1/4

STA.

FS 7 180-07-30 00-07-2 180-07-35 00-07-20

BS 5 00-00-29 180-00-10 00-00-26 180-00-17

T@ 6 180-07-01 180-07-11 180-07-09 180-07-03

180-07-06

Dist. 89-43-46 270-16-18 89-43-44 365.83 365.83

Dist. 90-22-35 269-37-30 90-22-23 365.82 365.81

FS 8 179-57-02 179-56-31 179-57-01 179-56-50

BS 6 00-00-32 180-00-13 00-00-28 180-00-15

T@ 7 179-56-30 179-56-38 179-56-33 179-56-35

179-56-34

Dist. 7-8 89-52-52 270-07-15 89-52-49 560.67 560.67

Dist. 8-7 90-11-13 269-48-47 90-11-13 560.66 560.66

VOK 66 10-17-83

Oct 17, 1983

STA 6 = BLM Hub

365.82

STA 7 = BLM Hub NZ

560.66

T143N R25W

OPEN TRAVERSE BETWEEN E¹⁵/₄ S. ¹⁵/₁₆TO N ¹¹/₁₆

STA

FS 9 248-37-34 68-37-23 248-37-35 68-37-23

BS 7 00-00-36 180-00-18 00-00-37 180-00-22

T@ 8 248-36-58 248-37-05 248-36-58 248-³⁷⁻⁰¹35-01

248-37-01 ✓

Dist. 8-9 89-06-54 270-53-11 89-06-52 221.91 221.88

Dist. 9-8 91-03-24 268-56-38 91-03-23 221.92 221.88

FS 10 185-53-50 05-53-40 185-53-55 05-53-42

BS 7 00-00-30 180-00-15 00-00-28 180-00-13

T@ 8 185-53-20 185-53-25 185-53-27 185-53-29

185-53-25 ✓

Dist. 8-10 91-⁰²00-55 268-57-10 91-02-52 350.83 350.77

Dist. 10-8 89-03-24 270-56-36 89-03-24 350.81 350.76

✓ IK PL 10-17-83

Side shot to SEC. COR.

221.88

STA 8 BLMH.6 N1

350.77

CORNELL DIST.

69

T143 N R25W

Open Traverse between E. 1/4 Sec 16
to N. 1/4

STA

FS 11 179-51-38 359-51-23 179-51-34 359-51-20

BS 8 20-00-27 180-00-07 00-00-26 180-00-04

X@ 10 179-51-11 179-51-16 179-51-08 179-51-16

179-51-13 ✓

Dist. 10-11 90-35-50 269-24-10 90-35-50 535.73 535.70

Dist. 11-10 89-28-26 270-31-35 89-28-26 535.71 535.69

FS 12 184-29-52 04-29-40 184-29-52 04-29-35

BS 10 20-00-26 180-00-08 00-00-22 180-00-05

X@ 11 184-29-26 184-29-32 184-29-30 184-29-30

184-29-30 ✓

Dist. 11-12 92-14-43 267-45-18 92-14-43 284.77 284.55

Dist. 12-11 87-57-11 ~~26~~²⁷ 06-51 87-53-10 284.74 284.55

✓ OK 10-17-83

Oct 17, 1983

STA 10 = 60d spike

535.69

BLM STA, 25

284.55

T143N R25W

OPEN TRAVERSE BETWEEN E¹/₄ S. 16to N¹/₆

STA

FS 13 176-13-02^{2.5} 356-12-46 176-13-00^{2.5} 356-12-40BS 11 00-00-28 180-00-16 00-00-28^{2.2} 180-00-10

T@ 12 176-12-34 176-12-30 176-12-33 176-12-30

176-12-33 ✓

Dist. 12-13 92-38-53 267-21-20 92-38-47 247.66 247.40

Dist. 13-12 87-30-19 272-29-43 87-30-18 247.61 247.38

FS 14 268-13-05⁵ 268-12-52 268-13-04⁶ 268-12-50

BS 12 10-00-36 180-00-23 00-00-30 180-00-21

T@ 13 268-12-29 268-12-29 268-12-34 268-12-29 ✓

268-12-30 ✓

Dist. 13-14 90-37-00 269-23-03 90-36-59 207.69 207.68

Dist. 14-13 89-34-05 270-26-04 89-34-01 207.68 207.67

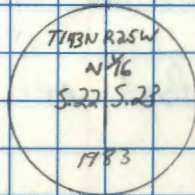
VOK H 10-17-83

BLM STA 3S

247.39

STA 13 = BLM STA 4S

207.68



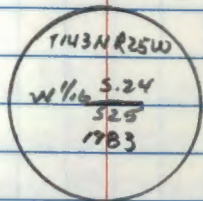
71

T143NR25W S25 Sub.
TIES to New Monument
Cont. From Pg 77

CARD

5° Decl.

BLM Copper clad
Monument 1 ft
Below Road



Basswood 7.2" S35°W 39.61' to 16d nail on

Balsam Spruce 6.8" N07°E 33.75' to 16d nail on

Established

Birch 7.1" N70°E 19.18 to 16d nail on

Metal Fence Post North 12.0' W/54-2054-9

BT's + Post ARE Painted Red

7-26-84

Sunny Hot Humid

K. Whitehorn

B. Ausk

G. Robertson

E FACE Double BLAZE SCR "W 1/4 S 25 BT"
60d SPIKE Bottom BLAZE

E FACE Double BLAZE SCR "W 1/4 S 24 BT"
60d SPIKE Bottom BLAZE

N FACE Double BLAZE SCR "W 1/4 S 24 BT"
60d SPIKE Bottom BLAZE

72

T143N R25W

Angles @ property corners to property line

STA 1st H&D 2nd H&R

H &

FS 9 272-40-20 92-40-05

BS 13 00-00-12 179-59-52

T@ 14 272-40-08 272-40-53

272-40-31 ✓

FS 1 293-28-00 113-27-54

BS 8 00-00-46 180-00-03 ✓

T@ 9 293-27-14 293-27-51

293-27-33 ✓

✓ OK Rk 10-19-83

October 18, 1983

Cloudy, cool, windy

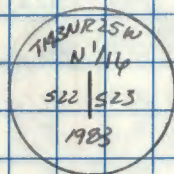
T-2 S/N 265184

PC TO G. Kasenko

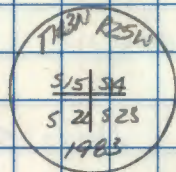
T G. Robertson

T B. Ausk

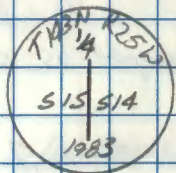
STA 14 =



STA 9 =



STA 1 =



73

T143N R25W sec 25 Re-sid

Tying in the moved BLM corners

STA 1st H&D 2nd H&R 3rd H&D 4th H&R

H&R

FS 301 ³¹² ~~212~~-17-46 ⁴⁴ 132-18-13 ⁴ 312-18-07 132-17-52

BS 31 00-00-19 180-00-14 00-00-13 180-00-17

R0 30 312-17-27 ⁵⁸ 312-17-59 ³² 312-17-54 132-17-35

312-17-43

Dist 30-301 53.83

Decl = 5° East

Recovered a 2½ inch outside diameter aluminum pipe with a 3 inch diameter aluminum cap, stamped as shown, up 6 inches from which:

Sugar Maple, 7.9 in, ^{N87°E} ~~S89°E~~ 73.70 ft to 16d nail in

Sugar Maple, 9.2 in, N53°W, 10.45 ft to 16d nail in

Metal fence post, east, 2.85 ft, w/54-2, 54-9

Metal fence post, south, 2.90 ft, w/54-2

T-21
Card filed

clear, cool

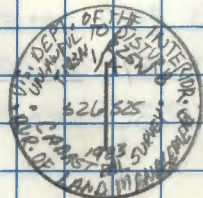
May 29, 1984

G. Kasenko

B. Ausk

G. Robertson

Wild T2 #



STA 301 =

chained

SW face, single blazed "110525 BT" w/6d spike
 NE face, double blazed, sur: 110526 BT w/6d spike

74

T143N R25W Sec 25 Resub.

Tieing in Traverse to SW Sec Co
 STA 1st HAD 2nd HXR 3rd HAD 4th HXR
 HX

FS 3000 ~~289.54-36~~ 109.54-32 289.54-36 109.54-26

BS 31 00-00-20 180-00-16 00-00-18 180-00-18

TP@ 30 289.54-16 289.54-16 289.54-18 289.54-22

289.54-18 ✓

Dist 30-3000 100.97 ft taped

FS 3001 112-34-⁵⁶~~59~~ ²⁹²~~293~~-34-57 112-34-58 292-34-58

BS 30 00-00-²¹~~24~~ ¹⁸⁰⁻⁰⁰⁻³²~~292-34-57~~ 00-00-26 180-00-21

TP@ 3000 112-34-³⁵~~43~~ 112-34-²⁷~~37~~ 112-34-32 112-34-37

112-34-33 ✓

Same date, crew, &
 instrument as preceding
 page

STA 30 = 60d at
 1976 BLM corner
 position

STA 3000 = 60d spike
 near BLM STA 4N

76

T143N R25W Sec 25 Re-sub
 Recovery notes for SW corner of sec 25

Recovered a 2 1/2 inch outside diameter aluminum
 pipe with a 3 inch diameter aluminum cap
 stamped as shown, up above swamp 3 inches.
 This corner was re-set in 1983 by BLM



Decl = 5° East

FROM WHICH

ASPEN 10.1" S60°W 53.11' 60d spike (Single Blaze)
 B. Rch 9.3" S38°E 22.28' 60d spike
 ASPEN 16.3" N77°E 39.55' 60d spike (Double Blaze)

METAL FENCE POST WEST 2.5' w/ 54.2 & 54.9

METAL FENCE POST NORTH 3.1' w/ 54.2

V-21
Cards filed

May 29, 1984

Clear, cool, calm

PC G. Kasenko

B. Ask

G. Robertson

All BT's and metal fence posts
 are painted red.

SCR "T143N R25W S35 BT" TO 16d NAIL SE FACE
 SCR "T143N R25W S36 BT" TO 16d NAIL NE FACE
 SCR "T143N R25W S25 BT" TO 16d NAIL N FACE

76

T143N R25W Sec 25 Re-sub

Tying and Recovery info for NW Sec cor
of section 25STA 1st H&D 2nd H&R 3rd H&D 4th H&R

H X

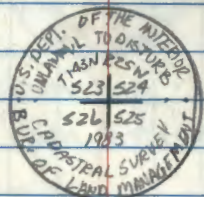
FS 371 149-25-⁴⁴37 329-25-20 149-25-30 329-25-30BS 38 00-00-³³23 180-00-31 00-00-32 180-00-28

T@37 149-25-12 149-24-49 149-24-58 149-25-02

149-25-00 ✓

Dist 37 to 371 7734.56 282.24-36 77-35-10 105.89 32.276 m

Decl = 5° East

Recovered a 2½ inch outside diameter Aluminum
pipe with a 3 inch diameter aluminum cap
stamped as shown, up 4 inches, from which;

Sugar Maple 5.6 in N46°E 25.48 ft to 1/2 nail in

Sugar Maple 4.8 in S84°E 17.98 ft to 1/2 nail in

Sugar Maple 6.4 in S08°W 6.13 ft to 1/2 nail in

Sugar Maple 4.2 in N66°W 16.32 ft to 1/2 nail in

Metal fence post, west, 3.0 ft N/54-9

✓ OK Re spots

P-21 Card filed

May 29, 1984

Clear, cool, calm

PC G. Kasenko

B. Ausk

G. Robertson

TR SN 265184

(ET)
H. Dist

103.41 ✓

All BT's and post are painted
redNW cor, double blazed, scri: "T143NR25W24BT" w/60d spike
north face, double blazed, scri: "X BT" w/60d spike
east face, double blazed, scri: "T143NR25W26BT" w/60d spike
north face, double blazed, scri: "X BT" w/60d spike

77

T143N R25W Sec 25 Resub

Tieing in Recovery notes for W1/16 Sec 24+25

STA 1st H&D 2nd H&R 3rd H&D 4th H&R

H&R

FS 401 142-43-20 322-43-27 142-43-29 322-43-33

BS 41 00-00-30 180-00-31 00-00-37 180-00-29

T@ 40 142-42-50 142-42-54 142-42-52 142-43-04

142-42-56

Dist 40-401 99-07-08 260-50-19 99-09-25 78.75 24,005 M

Decl = 5° East

✓ OK Pl. 5/30/89

May 29, 1984

Clear, cool, calm

P.C. B. Kosenko

* G. Robertson
B. Husk

T-2 5/1/265184

STA 401 =

T 14310 R25W
5 30
5 25
1983

Found Standard BLM

Copper Clad Mon. 1'± Below Road

SEE pg 71 This Book

77.75 ✓

78

T143N R25W Sec 25 Re-sub

Ticing and monumentation info for

N 1/4 Sec 25

STA 1st H&D 2nd H&R 3rd H&D 4th H&R

H&D

FS 101 91-14-31 271-14-29 91-14-26 271-14-~~23~~²⁹BS 2 10-00-25 100-00-12 00-00-16 100-00-~~24~~³¹T@1 91-14-06 91-14-17 91-14-10 91-13-~~49~~⁵³

91-14-08

Dist 1-101 85-16-03 274-42-39 85-17-02 15,580 M ~~51.13~~^{51.13}

Decl = 5° east



✓ OK CR 5/30/84

May 29, 1984

clear, cool, calm

PC B. Kosenko

H. Dist

T-2/461265184 G. Robertson

B. Husk

~~60.92~~ 50.96

79

T143N R25N SEC 25 Re-sub
 Tiernan and Monumentation info
 for S 114 section 25

STA 1st H40 2nd H42 3rd H40 4th H42

H4

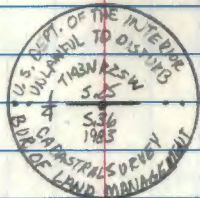
FS 111 182-22-47 02-20-36 182-19-42 02-23-53

BS 12 00-00-22 180-00-23 00-00-24 180-00-15

#11 182-22-25 182-20-13 182-19-18 182-23-38 ✓

182-21-24 ✓

Decl = 5° East



Recovered a 2½ inch outside diameter aluminum
 pipe with a 3 inch diameter aluminum cap
 stamped as shown, up benches from which:

Basswood 7.6 in N19°E 18.80 ft to 16d nail in SW
 W. Birch 8.4 in west 7.82 ft to 16d nail in south
 Metal fence post, east 5.80 ft N/54-2, 54-4

V-23
Card filed

May 29, 1989

Clear, cool, calm

PA G. Kosenko

Aides B. Ausk

G. Robertson

H. Dist

3.44

All BT's and fence posts are painted
 red

face, single blaze, ser "14536 BT" w/60d spike
 face, single blaze, ser: "145²⁵36 BT" w/60d spike

80

T143N R25W Ext. Sub Sec. 15

Side shot to W 1/4 S15+522

2181

FS W 1/4 189-02-14 09-02-02 189-02-14 09-02-02

BS 217 10-10-18 180-00-09 00-00-20 180-00-09

T@ 218 189-01-56 189-01-53 189-01-54 189-01-53

189° 01' 54"

Dist. 218-2181 86-07-38 273-52-38 86-07-33 174.55 Feet

53.204 Meters

(174554)

3-22-84

174.151	}	174.153
174.155		

81

7143N R25W Resub. Sec 25

N 1/4 BLM RESET CORNER

→ 5-30-84

Found standard BLM

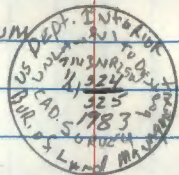
B. Ausk

2 1/2" Iron Pipe w/ 3" Aluminum

G. Roberts

CAP STAD. AS SHOWN =

Up



CARD

From which =

MAPLE^{BLM} 3.9" S07°E 21.21' 16d nail on W FACE

Double BLAZE SCR "X BT" w/ wood spike & BLM S-9 BT TAG

MAPLE^{BLM} 6" N 19°W 5.41' 16d nail on W FACE

Double BLAZE SCR. 1/4 524 BT w/ wood spike & BLM S-9 BT TAG

MAPLE^{USFS} 6.4" S85°W 38.80' 16d nail on N FACE

Double BLAZE SCR. 1/4 525 BT w/ wood spike w/ 54-3

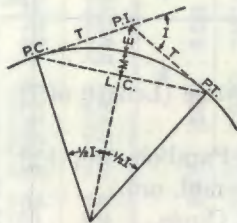
Steel sign Post North 3.0' w/ 54-2 & 54-9

Steel sign Post South 3.0' w/ 54-2

REFER to BOOK 1 Pg 61

CURVE AND REDUCTION TABLES

Published by Eugene Dietzgen Co.



CURVE FORMULAS

- Radius : $R = \frac{50}{\sin D/2}$
- Degree of Curve: $D = 100 \frac{I}{L}$. Also, $\sin D/2 = \frac{50}{R}$
- Tangent : $T = R \tan \frac{1}{2} I$. Also, $T = \frac{T \text{ for } 1^\circ \text{ curve}}{D} + C$.
- Length of Curve: $L = 100 \frac{I}{D}$
- Long Chord : $L.C. = 2R \sin \frac{1}{2} I$.
- Middle Ordinate: $M = R (1 - \cos \frac{1}{2} I)$
- External : $E = \frac{R}{\cos \frac{1}{2} I} - R$. Also, $E = T \tan \frac{1}{4} I$.

EXPLANATION AND USE OF TABLES

Given P.I. Sta. 83+40.7, $I = 45^\circ 20'$ and $D = 6^\circ 30'$ find:Stations - P.C. = P.I. - T. $T = \frac{T \text{ for } 1^\circ \text{ Curve}}{D} + C$. From Tables V and VI $T = \frac{2392.8}{6.5} + .197 = 368.32 = 3 + 68.32$. Sta. P. C. = 83+40.7 - (3+68.32) = 79+72.38.P. T. = P. C. + L, and $L = 100 \frac{I}{D} = 100 \frac{45.33}{6.5} = 697.38$. Therefore, P. T. = (79+72.38) + (6+97.38) = 86+69.76.Offsets - Tangent offsets vary (approximately) directly with D and with the square of the distance. From Table III Tangent Offset for 100 feet = 5.669 feet. Distance = 80 - Sta. P. C. = 27.62. Hence offset = $5.66 \times \left(\frac{27.62}{100}\right)^2 = .432$ ft. Also, square of any distance, divided by twice the radius equals (approximately) the distance from tangent to curve. Thus $(27.62)^2 \div (2 \times 881.95) = .432$ ft.Deflections - Deflection angle = $\frac{1}{2} D$ for 100 ft., $\frac{1}{4} D$ for 50 ft., etc. For "X" ft., Deflection Angle (in minutes) = $.3 \times X \times D$. For Sta. 80 of above curve Deflection Angle = $.3 \times 27.62 \times 6.5 = 53.86'$. Also Deflection Angle = dfl. for 1 ft. from Table III $\times X = 1.95 \times 27.62 = 53.86'$. For Sta. 181 Deflection Angle = $53.86' + \frac{6^\circ 30'}{2} = 4^\circ 8.86'$.Externals - From Table V for 1° curve, with central angle of $45^\circ 20'$, $E = 479.6$. Therefore, for $6^\circ 30'$ curve, $E = \frac{479.6}{6.5} + \text{Correction from Table VI} = 7.378 + .039 = 7.417$.