

PT. NE 2-14-1W BOWMAN EST.
(0241WA)

1380

Mike Bowman 839-2982
Jerry " 539-4873

Before May 30

200
125 plat

Pt. NE 4 2-14-1M
(0241M4) BOWMAN EST.

137/353 Kella to Chas. Halley Pt. SE⁴ 9 pt. S²NE⁴ 35-15-1W

* Beg. at E² mi. stone; ^{456.06} N 6.91 ch. to $\perp$ R/W T.H. & I. RR. Co.,
SWLY on $\perp$ 28.87 ch. to $\perp$ NE⁴; cont. SWLY on $\perp$ 3.56 ch.
to $\perp$ N. Belleville; S 21° E on $\perp$ 3.63 ch.; S 49° W 10.12 ch.
to $\perp$ SE⁴; S on $\perp$ 33.33 ch. to $\perp$ Sec. 35; E 40.11 ch. to
SE cor. sec.; N on sec. line 40-30 ch. to beg. 166.78 ac. $\pm$.
EXC. Beg. at point on $\perp$ RR orig. R/W at $\perp$ sec. 35; 50' SELY
from $\perp$ radially to orig $\perp$ R.R.; S'wardly on $\perp$ sec.
74.7' to point 362.3' D, men on $\perp$, from SE cor. NE⁴;
W'wardly at an angle of 104° 24' from last line 211.2'
to point in Leonidas Ford's line 138.9' S'wardly $\perp$ $\perp$;
N'wardly by last line at angle of 91° 42' from last
course 161.9' to $\perp$ RR 70' SLY $\perp$ $\perp$; ELY $\perp$ last course
= $\perp$ 770.5'; NLY at angle of 105° 36' from last course
20.8' to cor. 50' SLY $\perp$ $\perp$; ELY = $\perp$ 1367.1' to beg.

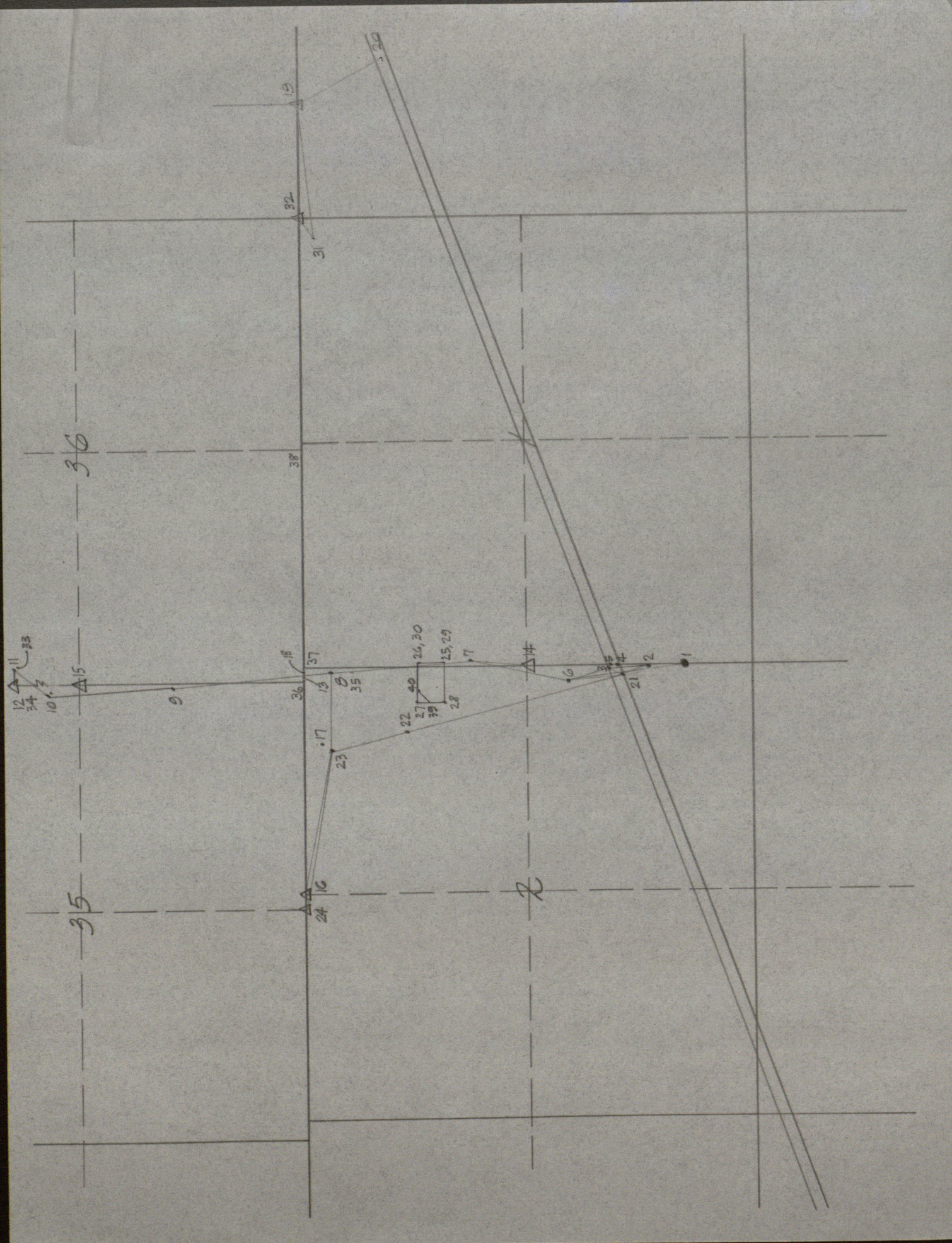
216 Alkasa to Lynn 1 Feb. 1971 Beg. at SE cor. 35; N 731.7' to
63 P.O.B.; N 125'; W 160'; S 125'; E 160' to beg. 0.46 ac.

227/31 Bowman to Daugherty 27 Apr. 1973 Pt. SE⁴ 9 pt. S²NE⁴ 35;
Beg. at NE cor. SE⁴ (an I.P. set in C.R. 200E & 2659.8' N of SE
cor. which is marked by a stone); S on $\perp$ 585.54' to a
nail (wit. by I.P. with marker 25' W); W $\perp$ to sec. line 850.00
to I.P. with marker; N = $\perp$ 748.78' to I.P. in $\perp$ RR; N 75° 24' 40" E
on $\perp$ 878.32' to $\perp$ sec. (a nail wit. by I.P. S 75° 24' 40" W 25.83');
S on $\perp$ 384.46' to beg. 16.77 ac.

* This first appeared in 99/56 dated 19 Feb. 1906

78/425 to Hammond (detailed desc. of Belleville Out Rote).

258
386 to Jerry Bowman S 490' of SE⁴ 35-15-1W. 1979



Bowman Est. in 2-14-1W

- 1 I.P. on sec. line at NE cor. O.L. 11 ~~Recessed~~ set by me 27 June 1946 700.37' N 1/4 sec.
- 2 Temp. point (nail & cap)
- 3 " " (" " ")
- 4 notch on sec. line in S. curb U.S. 40 cut by me 23 March 1950
- 5 " " " " " N. " " " " " " " " "
- 6 Temp. point (nail & cap)
- 7 " " (" " ")
- 8 " " (" " ")
- 9 " " (" " ")
- 10 " " (" " ")
- 11 " " (unmarked)
- 12 Stone at NE cor. 35-15-1W
- 13 Temp point marked by stone loose on the ground
- 14 E² Mile Stone 2-14-1W
- 15 " " " 35-15-1W
- 16 N² " " 2-14-1W
- 17 Temp. point (unmarked)
- 18 " " (" ")
- 19 Stone
- 20 R.R. spk. - Point 170 of Carlisle survey
- 21 nail & cap
- 22 Temp. point in wheat field
- 23 " " " Corn "
- 24 S² Mile Stone 35-15-1W
- 25 Temp. point for approx. SE cor. surveyed parcel
- 26 " " " " NE " " "
- 27 I.P. flush at NW cor. surveyed parcel
- 28 I.P. " " SW " " "
- 29 final SE cor. surveyed parcel
- 30 " NE " " "
- 31 Temp. point (unmarked) - Point 145 of Carlisle survey
- 32 + on stone at SE cor. 36-15-1W - Point 179 " "

- 33 temp. point (unmarked) near 11
- 34 adjusted coords. of point 12 "
- 35 closure on point 8
- 36 SE cor. 35-15-1W by single proportionate meas. along latitudinal curve
- 37 NE cor. 2-14-1W 98 links (64.68') E of 36 on latitudinal curve
- 38 S²W 36-15-1W by single prop. meas. along curve (unmarked)
- 39 S. cor. of proposed easement
- 40 E. " " " "
- 41 point 136 of the Corliss survey
- 42 " 137 " " "
- 43 " 140 " " "
- 44 " 142 " " "
- 45 " 143 " " "
- 46 " 144 " " "
- 47 SE cor. Lynn(?) parcel
- 48 NE " " "
- 49 NW " " "
- 50 SW " " "
- 51 NW " parcel to be retained by Jerry Bowman
- 52 SW " " " " " " "

Here starts the Jerry Bowman survey 1980
(File 3551WD in 35-15-1W)

AZIMUTHS

1	***
1 [0.000	***
2	***
4	***
340.0000	***
514.857	***
2 [483.807	***
-176.091	***
324.1301	***
848.992	***
6 [1172.541	***
-672.512	***
0.3354	***
965.157	***
7 [2137.651	***
-662.995	***
162.2548	***
283.753	***
14 [1867.135	***
-577.338	***
2	***
5	***
1 [0.000	***
0.000	***
14-1 [162.4904	***
1954.358	***

Rotate 17° 10' 56" CW.

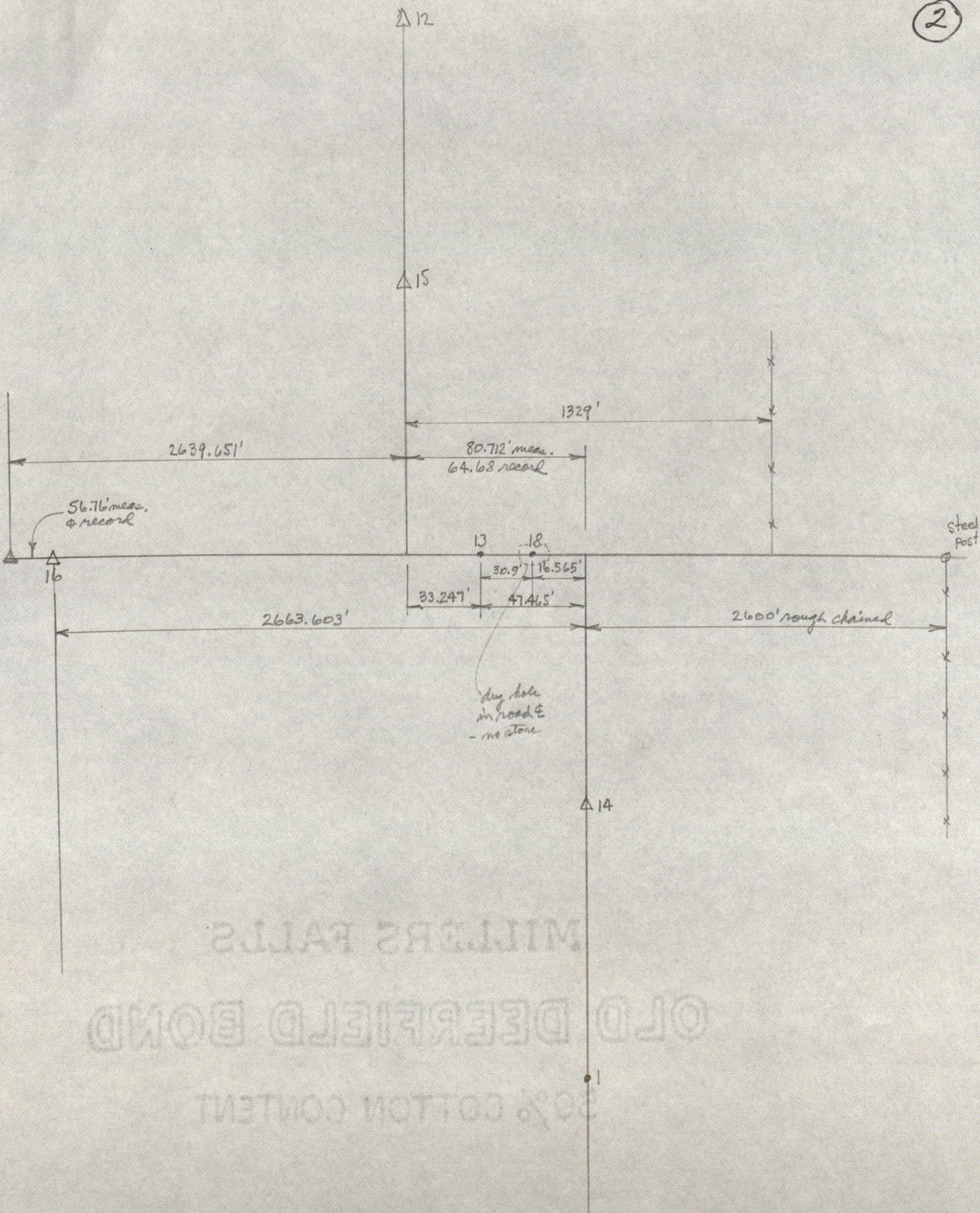
1	***
1 [0.000	***
0.000	***
2	***
4	***
357.1056	***
514.857	***
2 [514.235	***
-25.310	***
341.2357	***
848.992	***
6 [1318.878	***
-296.116	***
17.4450	***
965.157	***
7 [2238.104	***
-1.918	***
179.3644	***
283.753	***
14 [1954.358	***
0.000	***
2	***
5	***
1 [0.000	***
0.000	***
14-1 [180.0000	***
1954.358	***

P 6		
at 7 { 6	197.44500	***
R.O.	198.2214	***
14	179.3644	***
8	359.2802	***
at 8 { 7	179.28020	***
R.O.	358.3715	***
9	358.1208	***
13	353.3352	***
at 9 { 8	178.12080	***
R.O.	186.4302	***
15	359.4401	***
10	359.4350	***
at 10 { 9	179.43500	***
11	0.2860	***
at 11 { 10	180.29000	***
12	268.1547	***

P 1		
7 [2238.104	***	1
-1.918	***	2
2	***	4
4	***	359.2802
359.2802	***	1834.784
1834.784	***	8 [4072.809
4072.809	***	-18.979
-18.979	***	3
3	***	4
4	***	353.3352
353.3352	***	254.147
254.147	***	13 [4325.354
4325.354	***	-47.465
-47.465	***	2
2	***	4
4	***	358.1208
358.1208	***	1728.685
1728.685	***	9 [5800.643
5800.643	***	-73.211
-73.211	***	3
3	***	4
4	***	359.4401
359.4401	***	1183.472
1183.472	***	15 [6984.102
6984.102	***	-78.714
-78.714	***	2
2	***	4
4	***	359.4350
359.4350	***	2278.035
2278.035	***	10 [8078.653
8078.653	***	-83.924
-83.924	***	

0.2900	***
1567.376	***
11 [9645.973	***
-70.702	***
268.1547	***
6.010	***
12 [9645.791	***
-76.709	***
2	***
5	***
15 [6984.102	***
-78.714	***
12-15 [180.0235	***
2661.689	***
P 2	
1	***
15 [6984.102	***
-78.714	***
180.0235	***
90.0000	***
13 [4325.354	***
-47.465	***
2658.749	***
33.247	***
4325.354	***
-80.712	***
1	***
14 [1954.358	***
0.000	***
0.0000	***
270.0000	***
13 [4325.354	***
-47.465	***
2370.996	***
47.465	***
4325.354	***
0.000	***

1	***
16 [0.000	***
0.000	***
2	***
4	***
90.0000	***
1476.025	***
17 [0.000	***
1476.025	***
82.3619	***
1176.463	***
18 [151.416	***
2642.703	***
2	***
5	***
0.000	***
0.000	***
18-16 [266.4315	***
2647.038	***



decided to traverse from the stone at SE cor. 36-15-1W and use my Cartersburg traverse network bearing system and coordinate origin. Computations start over again.

BELOW THIS LINE E² MILE STONE 36-15-1W = 20,000.00, 20,000.000 and $\angle$ NE⁴ 36 = 0°00'00" $\angle$.

Point 52 on the Trivett system = 12 on the Bowman system and has no equivalent number on the Cartersburg system. But the coords. of 12 on the Cartersburg system as found on the Trivett survey =

$$\begin{aligned} &22,659.685, 14,699.930. \\ &[22,659.724, 14,699.941]^2 \end{aligned}$$

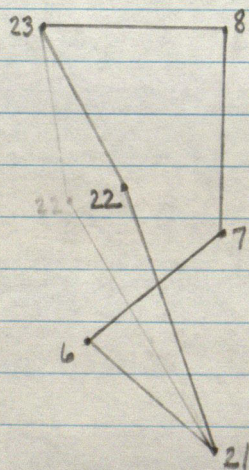
Also, 4 on Trivett = 15 on Bowman =

$$\begin{aligned} &19,997.953, 14,707.881. \\ &[19,997.992, 14,707.871]^2 \end{aligned}$$

$$12-15 = 179^\circ 49' 44'' \quad 2661.744' \text{ (Trivett survey)} \leftarrow \text{USE}$$

$$12-15 = 180^\circ 02' 35''^* \quad 2661.689' \text{ (Bowman ")}$$

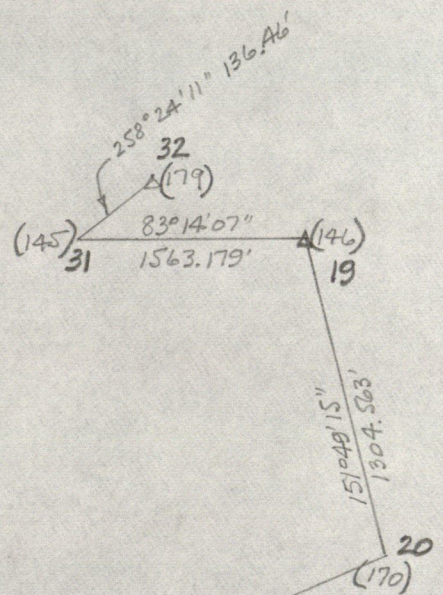
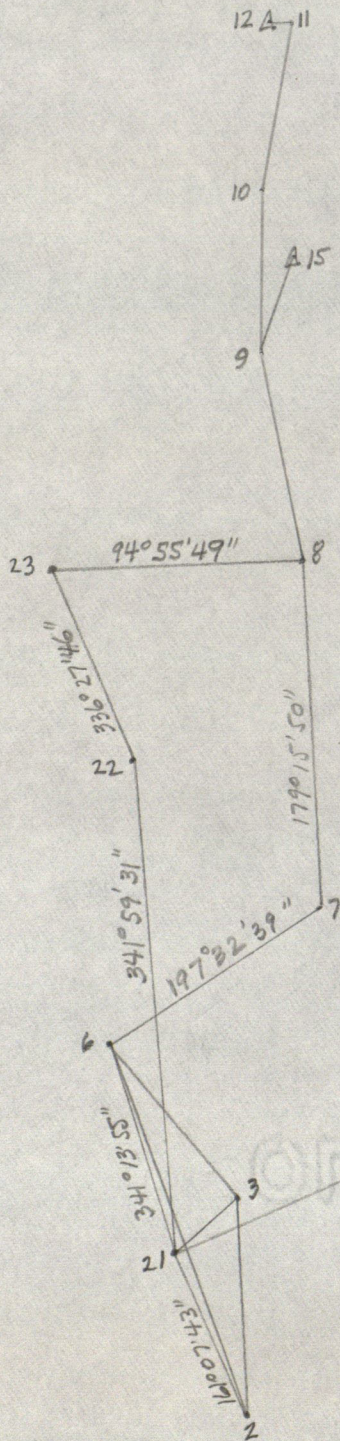
$$\text{diff.} = \frac{0^\circ 12' 51''}{0.055'}$$



21	359 14 24		359 14 24
22	185 31 46	-1"	185 31 45
23	61 31 58	-1	61 31 57
8	95 40 00	-1	95 39 59
7	161 43 12	-1	161 43 11
6	216 18 45**	-1	216 18 44
	<u>1080 00 05</u>		<u>1080 00 00</u>

* old system using 1-14 = 0°00'00"
 ** Calc. from adj. figures on p. 6

2 If the 15-side circuit on the McClelland survey had been adj. by compass method, the coords. would have been there.



250°49'48" 70°49'48"

20% SECTION CONTENT

OLD DEERFIELD BOND

WITNESS EATTS

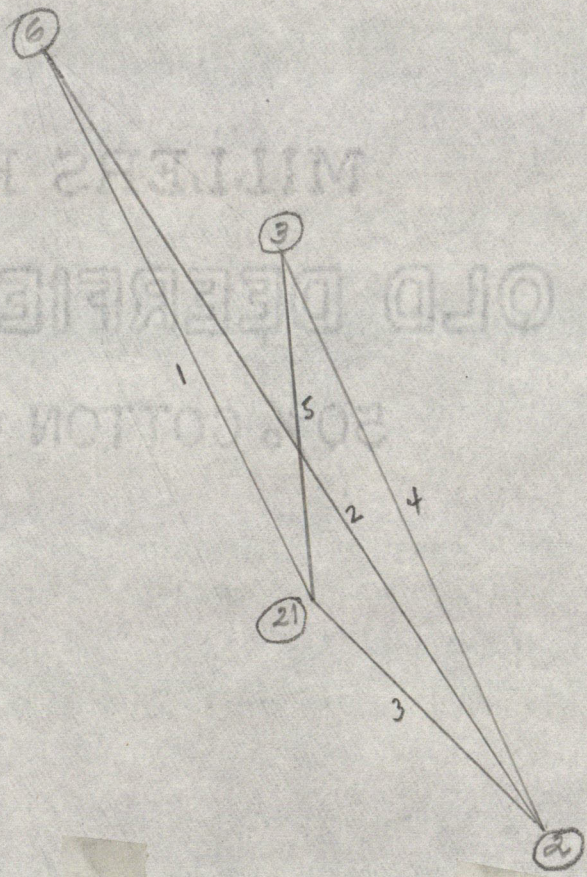
P 1

	1	***
	from	
32	[17350.451	***
	20002.266	***
	2	***
	4	***
	258.2411	***
	136.460	***
31	[17323.019	***
	19868.592	***
	83.1407	***
	1563.179	***
19	[17507.150	***
	21420.888	***
	151.4915	***
	1304.563	***
20	[16357.210	***
	22036.942	***
	250.4948	***
	7777.614	***
21	[13803.258	***
	14690.609	***
	3	***
	4	***
	161.0743	***
	290.585	***
2	[13528.293	***
	14784.597	***
	349.0734	***
	82.453	***
3	[13884.231	***
	14675.055	***
	2	***
	4	***
	341.1355	***
	558.391	***
6	[14331.959	***
	14510.954	***
	2	***
	5	***
2	[13528.293	***
	14784.597	***
6-2	[161.1148	***
	848.976	***
3	[13884.231	***
	14675.055	***
2-3	[342.5338	***
	372.413	***

848.992'
meas.

372.422'
meas.

$\angle 6-2-3 =$
 $1041' 50''$ calc.
 $1041' 43''$ meas. — use in Δ closure calc.



	1	***
21	[13803.258	***
	14690.609	***
	2	***
	4	***
	341.1355	***
	558.391	***
6	[14331.959	***
	14510.953	***
	161.1148	***
	848.992	***
2	[13528.277	***
	14784.601	***
	341.0743	***
	290.585	***
Closure on 21	[13803.242	-0.016
	14690.613	+0.004
	3	***
	5	***
21	[13803.258	***
	14690.609	***
	345.5547	***
error	[0.016	***

	1	**
21	[13803.258	**
	14690.609	***
	2	***
	4	***
	161.0743	***
	290.585	***
2	[13528.293	***
	14784.597	***
	342.5331	***
	372.422	***
3	[13884.236	***
	14675.040	***
	169.0734	***
	82.453	***
Closure on 21	[13803.263	+0.005
	14690.595	-0.014
	2	***
	5	***
21	[13803.258	***
	14690.609	***
	110.0608	***
error	[0.015	***

Simultaneously adjust the above triangles by the method of least squares. There being no correlation in said method between corrections to the Northings and the Eastings, each will be adjusted separately.

Letting $l_1, l_2, \text{etc.}$, be the most probable corrections to the latitudes of lines 1, 2, etc.,

$$\begin{aligned} l_1 + l_2 + l_3 &= +0.016 \\ -l_3 + l_4 + l_5 &= -0.005 \end{aligned}$$

Assuming all lengths were measured with equal care, the correlates are as follows:

	1	2	l
1	+1		+0.005
2	+1		+0.006
3	+1	-1	+0.005
4		+1	+0.000
5		+1	+0.000

Normal Eq.

	1	2	η
1	+3	-1	= +0.016
2	-1	+3	= -0.005

Solving,

$$C_1 = +0.00538$$

$$C_2 = +0.00012$$

Letting $d, d_2, \text{etc.}$, be the most probable corrections to the departures of lines 1, 2, etc.,

$$\begin{aligned} d_1 + d_2 + d_3 &= -0.004 \\ -d_3 + d_4 + d_5 &= +0.014 \end{aligned}$$

Felling

Correlate Eq.

	1	2	d
1	+1		+0.000
2	+1		+0.000
3	+1	-1	-0.004
4		+1	+0.005
5		+1	+0.005

Normal Eq.

	1	2	n
1	+3	-1	= -0.004
2	-1	+3	= +0.014

Solving

$$C_1 = +0.00025$$

$$C_2 = +0.00475$$

Sta	Orig. N	Corrections	Adj. N	Orig. E	Corrections	Adj. E
2	13528.277	+0.005 +0.006	13528.288	14784.601	0	14784.601
3	13884.236	-0.005	13884.231	14675.040	+0.004 +0.005	14675.049
6	14331.959	+0.005	14331.964	14510.953	0	14510.953

	1	***
21	[13803.258	***
	[14690.609	***
	3	***
	5	***
	[13528.288	***
2	[14784.601	***
	161.0742	***
21-2	[290.591	***
	[14331.964	***
6	[14510.953	***
	341.1355	***
21-6	[558.396	***

	2	***
	5	***
	[13884.231	***
3	[14675.049	***
	349.0721	***
21-3	[82.454	***
	[13528.288	***
2	[14784.601	***
	162.5334	***
3-2	[372.421	***
	[14331.964	***
6	[14510.953	***
	341.1147	***
2-6	[848.987	***

Adjust circuit 21-22-23-8-7-6-21:

(7)

21 [N1=13,803.2580
E1=14,690.6090
AZ=341.5931
HD=2,625.7900

22 [N2=16,300.4186
E2=13,878.8442
AZ=336.2746
HD=979.2100

23 [N3=17,198.1591
E3=13,487.8018
AZ=94.5549
HD=1,295.2720

8 [N4=17,086.8390
E4=14,778.2813
AZ=179.1550
HD=1,834.7840

7 [N5=15,252.2064
E5=14,801.8532
AZ=197.3239
HD=965.1570

6 [N6=14,331.9438
E6=14,510.9154
AZ=161.1355
HD=558.3960

Closure
on 21 [N7=13,803.2384
E7=14,690.5725

ΣHD=8,258.6090
AREA=1,959,228.041
CLOSURE
AZ=61.4800
HD=0.0414

21 [N8=13,803.2580
E8=14,690.6090

22 [N ADJ=16,300.4248
E ADJ=13,878.8558

23 [N ADJ=17,198.1676
E ADJ=13,487.8177

8 [N ADJ=17,086.8506
E ADJ=14,778.3030

7 [N ADJ=15,252.2224
E ADJ=14,801.8830

6 [N ADJ=14,331.9621
E ADJ=14,510.9494

21 [N ADJ=13,803.2580
E ADJ=14,690.6090

21 [1 13803.258 ***
2 14690.609 ***

6 [2 14331.962 ***
5 14510.949 ***
21-6 [341.1354 ***
558.396 ***

7 [15252.222 ***
14801.883 ***
6-7 [17.3238 ***
965.154 ***

8 [17086.851 ***
14778.303 ***
359.1549 ***
7-8 [1834.780 ***

7-8 = 6 359.1549 ***

8-9 = 9 178.4406 ***
357.5955 ***

9-10 = 9 181.3142 ***
359.3137 ***

10-11 = 9 180.4510 ***
0.1647 ***

11-12 = 9 87.4647 ***
268.0334 ***

8-9 = 6 357.5955 ***
9 181.3153 ***
9-15 = 359.3148 ***

8 [1 17086.851 ***
14778.303 ***

2 357.5955 ***
4 1728.685 ***

9 [18814.481 ***
14717.931 ***

3 359.3148 ***
4 1183.472 ***

15 [19997.914 ***
14708.223 ***

2 359.3137 ***
4 2278.035 ***

10 [21092.439 ***
14699.123 ***

0.1647 ***
1567.376 ***

11 [22659.796 ***
14706.775 ***

268.0334 ***
6.010 ***

12 [22659.593 ***
14700.768 ***

2 19997.914 ***
5 14708.223 ***

15 [179.5022 ***
2661.689 ***

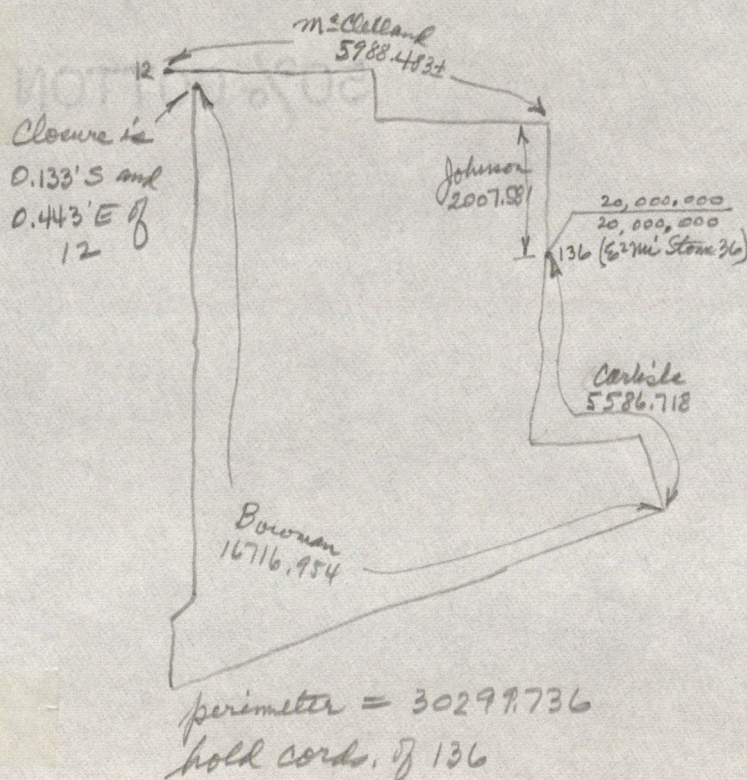
12-15 [179.5022 ***
2661.689 ***

Closure on 12 has greater error than expected. (8)
 Reobserved in full the traverse from 9 to 12 with the following results:

8-9	357.5955	6	***
		9	***
	181.3121		***
9-10	359.3116	9	***
		9	***
	180.4639		***
10-33	0.1755	9	***
		9	***
	86.0349		***
33-12	266.2144	6	***
		9	***
8-9	357.5955	9	***
		9	***
	181.3132		***
9-15	359.3127		***

9	[18814.481	***
	14717.931	***
	3	***
	4	***
	359.3127	***
	1183.472	***
15	[19997.913	***
	14700.102	***
	2	***
	4	***
	359.3116	***
	2278.035	***
10	[21092.437	***
	14698.891	***
	0.1755	***
	1567.600	***
33	[22660.016	***
	14707.061	***
	266.2144	***
	6.690	***
12	[22659.591	***
	14700.384	**
	2	**
	5	***
15	[19997.913	***
	14700.102	***
	179.5002	***
12-15	[2661.689	***

A general readjustment of the Cartersburg net, including traverses on the McClelland, Johnson, Carlisle, Potts, & Bowman jobs, is appropriate, however, since insufficient time prevents that, only the McClelland, Johnson-Potts, Carlisle & Bowman main loop will be adjusted by the compass method.



$$\frac{5988.483 + 2007.581}{30299.736} = 0.2639$$

$$12 \text{ (from p. 2)} \quad 22659.724 \quad 14699.941$$

$$0.2639 \times 0.133 = - \frac{0.035}{14700.058} + \frac{0.117}{14700.058} = 0.2639 \times 0.443$$

$$[\text{adjusted } 12 = 34 = 22659.759]$$

BOWMAN ESTATE
***** JOB # 84
COORDINATE FILE 0241WA
LENGTH = 500 POINTS
TIME ON FILE: 0 00 00

***** FIELD TRAVERSE *****

136	20,000.000	20,000.000
NA 180 45 42		
784.161		
137	19,215.963	19,989.576
NA 179 39 03		
930.202		
140	18,285.724	19,995.245
NA 210 31 13		
296.433		
142	18,030.362	19,844.703
NA 175 22 40		
187.709		
143	17,843.263	19,859.830
NA 180 54 11		
184.636		
144	17,658.650	19,856.920
NA 178 00 28		
335.835		
31 145	17,323.013	19,868.595
NA 83 14 07		
1563.179		
19 146	17,507.149	21,420.891
NA 151 49 13		
1304.563		
20 170	16,357.209	22,036.945
NA 250 49 43		
7777.614		
21	13,803.257	14,690.612
NA 341 13 54		
558.396		
6	14,331.962	14,510.953
NA 17 32 33		
965.154		
7	15,252.223	14,801.885
NA 359 15 49		
1834.780		
8	17,086.851	14,778.304
NA 357 59 55		
1728.685		
9	18,814.482	14,717.932

From Carlisle survey

NA 359 31 16
2278.035
10 21,092.437 14,698.892

NA 0 17 53
1567.600
33 22,660.016 14,707.062

NA 266 21 44
6.690
34 22,659.591 14,700.386

22,659.759 14,700.058
CORRECT
21
(TO HOLD 21-6 GOOD) -558.396
6

HORIZONTAL CLOSURE
NW 62 54 52

363 CLOSING LINE
21,745.276 DIST TRAV
59,105.289 PRECISION

COMPASS ADJUSTMENT

136 20,000.000 20,000.000

SW 0 45 45
784.155
137 19,215.914 19,989.564

SE 0 20 54
930.195
140 18,285.737 19,995.219

SW 30 31 16
296.433
142 18,030.377 19,844.673

SE 4 37 17
187.707
143 17,843.280 19,859.797

SW 0 54 14
184.635
144 17,658.668 19,856.884

SE 1 59 29
335.832
31 145 17,323.039 19,868.554

NE 83 14 05
1563.157
19 146 17,507.182 21,420.827

SE 28 10 43
1304.545
20 170 16,357.252 22,036.861

Adj. rotated 0°00'03" CW to fit
adj. main traverse:

(10)

	SW 70 49 51	
	7777.705	
21	13,803.360	14,690.411

HELD	NW 18 46 05	
	558.396	
6	14,332.065	14,510.751

	NE 17 32 35	
	965.157	
7	15,252.303	14,801.669

	NW 0 44 14	
	1834.794	
8	17,086.976	14,778.061

	NW 2 00 38	
	1728.699	
9	18,814.620	14,717.663

	NW 0 28 47	
	2278.053	
10	21,092.553	14,698.588

	NE 0 17 32	
	1567.612	
33	22,660.183	14,706.735

	SW 86 21 46	
	6.690	
34	22,659.759	14,700.058

TIME FOR THIS RUN:		0 27 47
TOTAL TIME ON FILE:		0 27 47

COORDINATES STORED

Inverse traverse using coordinates
adjusted on p. 7:

	1	***
21	[13803.258	***
	[14690.609	***
	2	***
	5	***
22	[16300.425	***
	[13878.856	***
21-22	[341.5932	***
	[2625.792	***
	[17198.168	***
23	[13487.818	***
	[336.2747	***
22-23	[979.210	***
	[17086.051	***
8	[14778.303	***
	[94.5548	***
23-8	[1295.277	***

***** FIELD TRAVERSE *****

21	13,803.360	14,690.411

	NA 341 59 35	
	2625.792	
22	16,300.508	13,878.694

	NA 336 27 30	
	979.210	
23	17,198.236	13,487.669

	NA 94 55 51	
	1295.277	
35	17,086.953	14,778.152

	17,086.976	14,778.061

HORIZONTAL CLOSURE
NW 76 08 10

.034 CLOSING LINE
4,900.279 DIST TRAV
52,048.677 PRECISION

COMPASS ADJUSTMENT

21	13,803.360	14,690.411

	NW 18 00 38	
	2625.819	
22	16,300.500	13,878.645

	NW 23 32 13	
	979.221	
23	17,198.303	13,487.602

	SE 85 04 10	
	1295.252	
35	17,086.976	14,778.061

TIME FOR THIS RUN: 0 15 21
TOTAL TIME ON FILE: 0 43 08

COORDINATES STORED

AZIMUTHS

P 6

et3 { 2 162.53330 ***
4 107.4409 ***
5 78.0013 ***

et7 { 6 197.32350 ***
R.O.#1 198.0959 ***
14 179.2429 ***
28 206.5503 ***
25 0.0938 ***
26 359.5521 ***
R.O.#2 211.2721 ***

et23 { 22 156.27470 ***
R.O. 207.5323 ***
R.O. 0.5912 ***
8 94.55450" ***
24 275.4409 ***
16 275.5426 ***

P 6

et9 { 8 177.59520 ***
15 359.3124 ***

***** COGO *****

ENTER & ASSIGN

31	17,323.039	19,868.554
19	17,507.182	21,420.827
20	16,357.202	22,036.861

START

31	17,323.039	19,868.554
----	------------	------------

TRAV NE 78 24 14

136.460

32	17,350.469	20,002.229
----	------------	------------

START

21	13,803.300	14,690.411
----	------------	------------

S.S. NW 18 46 06

558.396

6	14,332.065	14,510.751
---	------------	------------

S.S. NW 10 52 40

82.454

3	13,884.333	14,674.851
---	------------	------------

TRAV SE 18 52 19

290.591

2	13,528.350	14,784.404
---	------------	------------

S.S. NW 18 48 14

848.987

6	14,332.065	14,510.751
---	------------	------------

INV NW 17 06 27

372.420

3	13,884.333	14,674.851
---	------------	------------

S.S. SE 72 15 31

140.756

4	13,841.454	14,808.917
---	------------	------------

TRAV NE 78 08 13

136.580

5	13,912.410	14,808.514
---	------------	------------

INV SE 0 19 32

70.957

4	13,841.454	14,808.917
---	------------	------------

INV NW 0 19 32

70.957

5	13,912.410	14,808.514
---	------------	------------

START

7	15,252.333	14,801.669
---	------------	------------

S.S. SE 0 35 31

283.753

14	14,968.535	14,804.601
----	------------	------------

S.S. NW 73 04 37

714.758

28	15,460.324	14,117.842
----	------------	------------

S.S. NE 0 09 38

213.427

25	15,465.759	14,802.267
----	------------	------------

TRAV NW 0 04 39

628.345

26	15,880.678	14,800.819
----	------------	------------

START

23	17,198.333	13,487.602
----	------------	------------

S.S. NW 84 05 34

1362.309

16	17,338.509	12,132.527
----	------------	------------

TRAV NW 84 15 31

1418.859

24	17,340.137	12,075.847
----	------------	------------

S.S. SE 88 23 07

56.703

16	17,338.509	12,132.527
----	------------	------------

INV NE 89 55 30

7926.389

32	17,350.439	20,002.229
----	------------	------------

START
9 18,814.620 14,717.663

TRAV NW 0 28 36
1183.472
15 19,998.05105 14,707.81733

S.S. NW 0 10 31
2661.720
34 22,659.739 14,700.058

START
2 13,528.390 14,784.404

TRAV SE 3 01 15
514.857
1 13,014.249 14,811.536

INV NW 0 12 12
1954.359
14 14,968.595 14,804.601

OFFSETS FROM A LINE
1 13,014.249 14,811.536
BASE BRG NW 0 12 12

POINT BASE DIST OFFSET
4 827.210 0.316
5 898.166 0.165

START
28 15,460.324 14,117.842

D-D NW 1 27 32
414.934
27 15,875.125 14,107.339

D-D NE 89 32 28
693.502
26 15,880.678 14,800.819

*error 130 on line 9590. Coordinates
would not store; data cannot be
retrieved from disk.*

TIME FOR THIS RUN: 0 28 51
TOTAL TIME ON FILE: 1 12 00

1 ***
26 [15460.324 ***
14117.842 ***
2 ***
5 ***
25 [15465.759 ***
14802.267 ***
89.3242 ***
28-25 [684.447 ***

***** COGO *****

LIST

6	14,332.665	14,510.751
7	15,252.333	14,801.669
8	17,086.976	14,778.061
9	18,814.620	14,717.663
10	21,092.593	14,698.588
21	13,803.350	14,690.411
22	16,300.530	13,878.645
23	17,198.333	13,487.602
11 33	22,660.133	14,706.735
12 34	22,659.739	14,700.058
35	17,086.976	14,778.061
41 136	20,000.000	20,000.000
42 137	19,215.914	19,989.564
43 140	18,285.737	19,995.219
44 142	18,030.377	19,844.673
45 143	17,843.230	19,859.797
46 144	17,658.668	19,856.884
31 145	17,323.639	19,868.554
19 146	17,507.132	21,420.827

Procedure for allowing for the latitudinal curve of the
 cong. twp. line as req'd. in P.S. 21 of The Manual of
 Instructions for the Survey of the Public Lands, 1973.

The offset in feet to the curve from a tangent laid off 90°
 to a meridian at the P.T.

$$= \frac{d^2 \tan \phi (1 - e^2 \sin^2 \phi)^{\frac{1}{2}} \times 5280}{2a}$$

where d = distance from the P.T. in miles

ϕ = Latitude

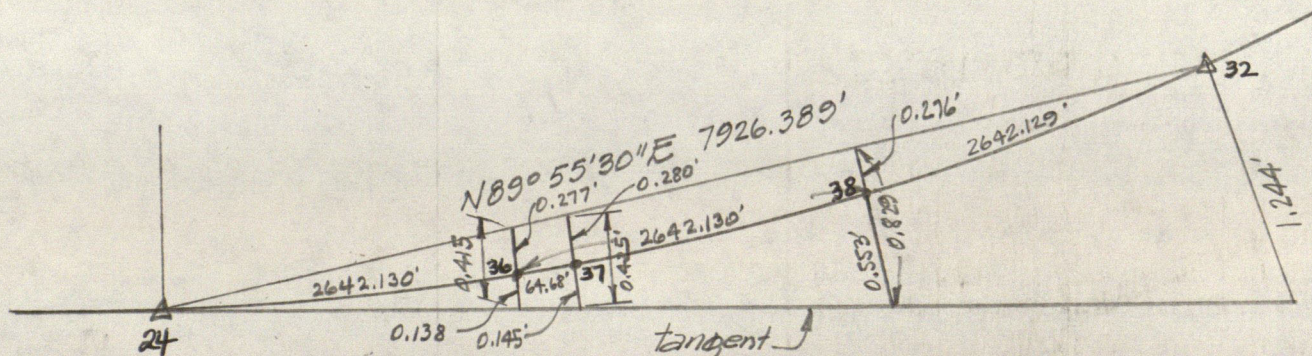
e = eccentricity of Clark's ellipsoid of 1866

a = semimajor axis of 716 ellipsoid in miles

For the latitude of the Twp. line,

$$\tan 39^\circ 41' 16'' \sqrt{1 - e^2 \sin^2 39^\circ 41' 16''} = 0.828709568$$

$$\text{so the offset (feet)} = 0.552013035d^2$$



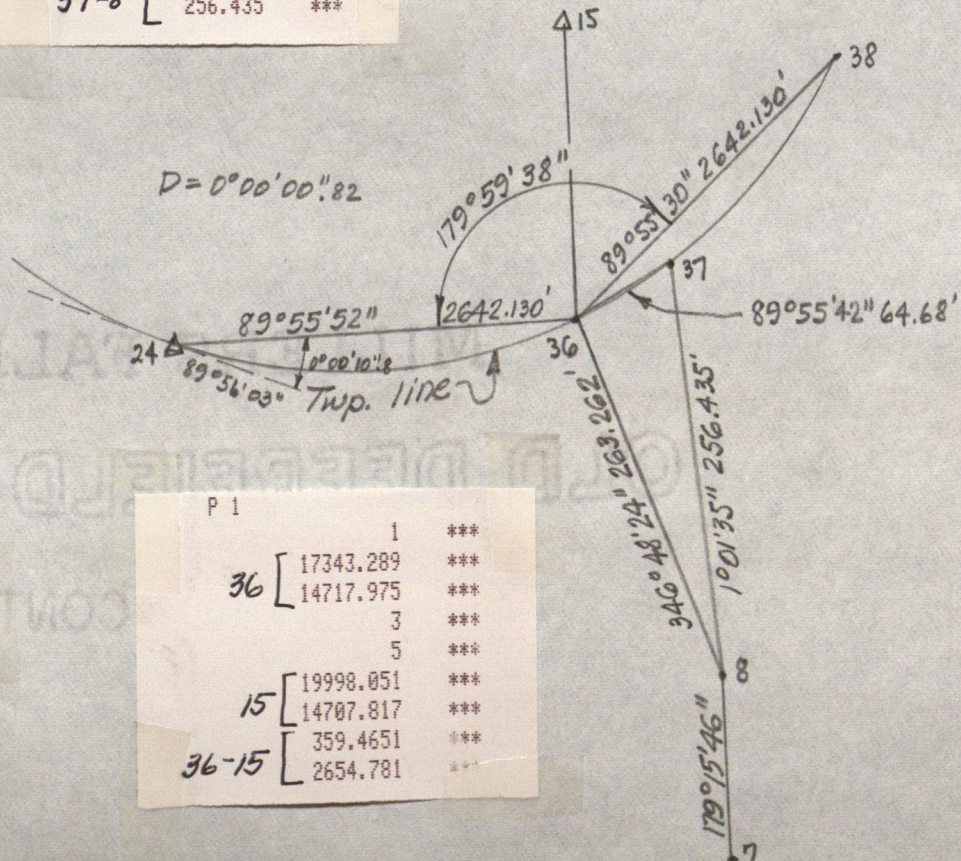
Sta.	d (dist. ft.)	d (miles)	d (miles) ²	offset (feet)
24	0.000	0.0000	0.000	0.000
36	2642.130	0.5004	0.2504	0.138
37	2706.810	0.51265	0.2628	0.145
38	5284.260	1.0008	1.0016	0.553
32	7926.389	1.5012	2.2536	1.244

1	***
24	[17340.107
	[12075.847
2	***
4	***
89.5530	***
2642.130	***
17343.566	***
14717.975	***
3	***
4	***
179.5530	***
0.277	***
36	[17343.289
	[14717.975
2	***
4	***
89.5530	***
64.680	***
17343.650	***
14782.655	***
3	***
4	***
179.5530	***
0.280	***
37	[17343.370
	[14782.655
2	***
4	***
89.5530	***
2577.450	***
17347.024	***
17360.102	***
3	***
4	***
179.5530	***
0.276	***
38	[17346.748
	[17360.103
2	***
4	***
89.5530	***
2642.129	***
closure on 32	[17350.483
	[20002.229

1	***
24	[17340.107
	[12075.847
2	***
5	***
36	[17343.289
	[14717.975
24-36	[89.5552
	[2642.130
3	***
5	***
8	[17086.976
	[14778.061
36-8	[166.4824
	[263.262
38	[17346.748
	[17360.103
36-38	[89.5530
	[2642.130
2	***
5	***
37	[17343.370
	[14782.655
36-37	[89.5542
	[64.680
8	[17086.976
	[14778.061
37-8	[181.0135
	[256.435

1	***
14	[14960.595
	[14804.601
2	***
5	***
37	[17343.370
	[14782.655
14-37	[359.2814
	[2374.876

P 2	
1	***
28	[15460.324
	[14117.842
	[89.3242
	[179.2814
14	[14960.595
	[14804.601
28-29	[682.186
29-14	[497.168
29	[15465.741
	[14800.007



P 1	
1	***
36	[17343.289
	[14717.975
3	***
5	***
15	[19998.051
	[14707.817
36-15	[359.4651
	[2654.781

P 3

6 ***
29 [15465.741 ***
14800.007 ***
4 ***
0.3146 ***
359.2814 ***
414.870 ***
30 [15880.593 ***
14796.173 ***
3 ***
89.3242 ***
269.3242 ***
688.860 ***
27 [15875.123 ***
14107.335 ***
2 ***
1.2702 ***
178.3258 ***
414.930 ***
28 [15460.326 ***
14117.839 ***
1 ***
89.3242 ***
89.3242 ***
682.190 ***
29 [15465.743 ***
14800.007 ***
0.002 ***
2.900-04 ***
7.1303 ***
0.002 ***
2200.850 ***
953455 ***
284397.440 ***
6.529 AC. ***
4 ***

P 1

1 ***
27 [15875.125 ***
14107.339 ***
3 ***
4 ***
89.3242 ***
100.000 ***
40 [15875.919 ***
14207.336 ***
2 ***
4 ***
178.3258 ***
100.000 ***
39 [15775.157 ***
14109.870 ***
2 ***
5 ***
40 [15875.919 ***
14207.336 ***
44.0250 ***
39-40 [140.187 ***

P 3

6 ***
27 [15875.125 ***
14107.339 ***
2 ***
1.2702 ***
178.3258 ***
100.000 ***
39 [15775.157 ***
14109.870 ***
1 ***
44.0250 ***
44.0250 ***
140.190 ***
40 [15875.921 ***
14207.338 ***
3 ***
89.3242 ***
269.3242 ***
100.000 ***
27 [15875.127 ***
14107.341 ***
0.002 ***
0.002 ***
44.0415 ***
0.003 ***
340.190 ***
130010 ***
4970.573 ***
0.114 AC. ***
3 ***

P 1 EASEMENT

1 ***
NW cor. [0.000 ***
0.000 ***
2 ***
4 ***
179.0444 ***
100.000 ***
S cor. [-99.987 ***
1.608 ***
1 ***
NW cor. [0.000 ***
0.000 ***
2 ***
4 ***
90.0428 ***
100.000 ***
E cor. [-0.130 ***
100.000 ***
2 ***
5 ***
-99.987 ***
1.608 ***
SE line [224.3436 *** N44°34'36"E
140.187 **

P 1

1 ***
36 [17343.289 ***
14717.975 ***
2 ***
5 ***
32 [17350.469 ***
20002.229 ***
89.5520 ***
36-32 [5284.259 ***

P 4

1 ***
24 [17340.107 ***
12075.847 ***
tan to curve 89.5603 ***
2 ***
16 [17338.509 ***
12132.527 ***
56.678 ***
Sta./offset [1.663 ***

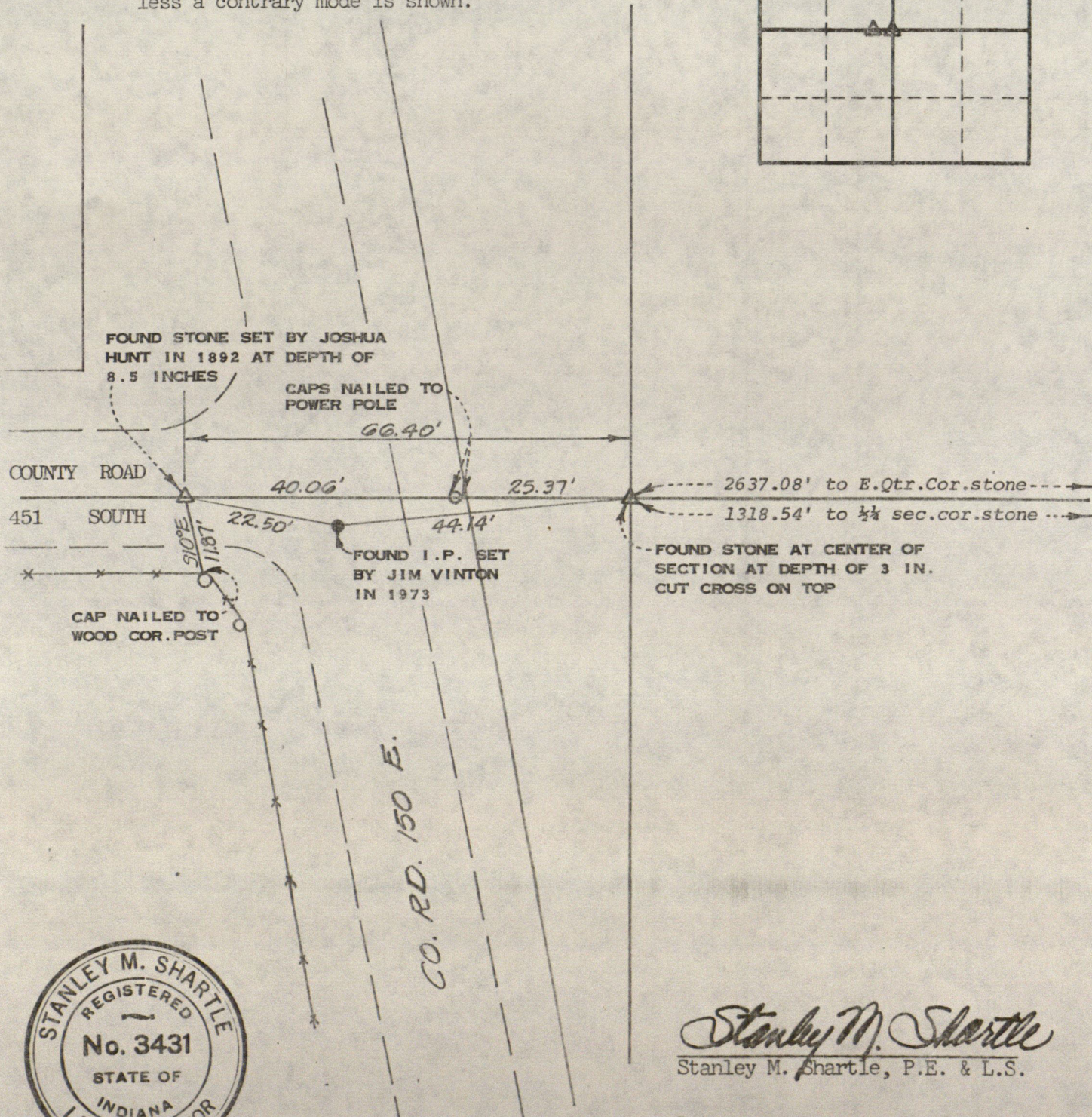
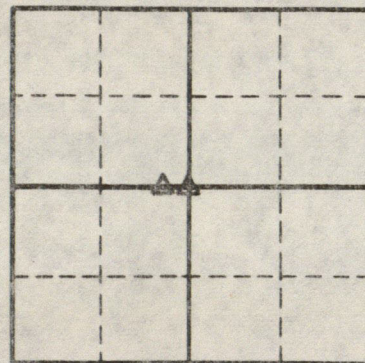
STANLEY M. SHARTLE

LOCATION OF MONUMENT: SECTION 35, T. 15 N., R. 1 W.

Found: ☒ Set: ☐ Depth: see below

Description: see below

Bearings to reference objects are magnetic unless a contrary mode is shown.



Stanley M. Shartle
Stanley M. Shartle, P.E. & L.S.

Date: December 23, 1982

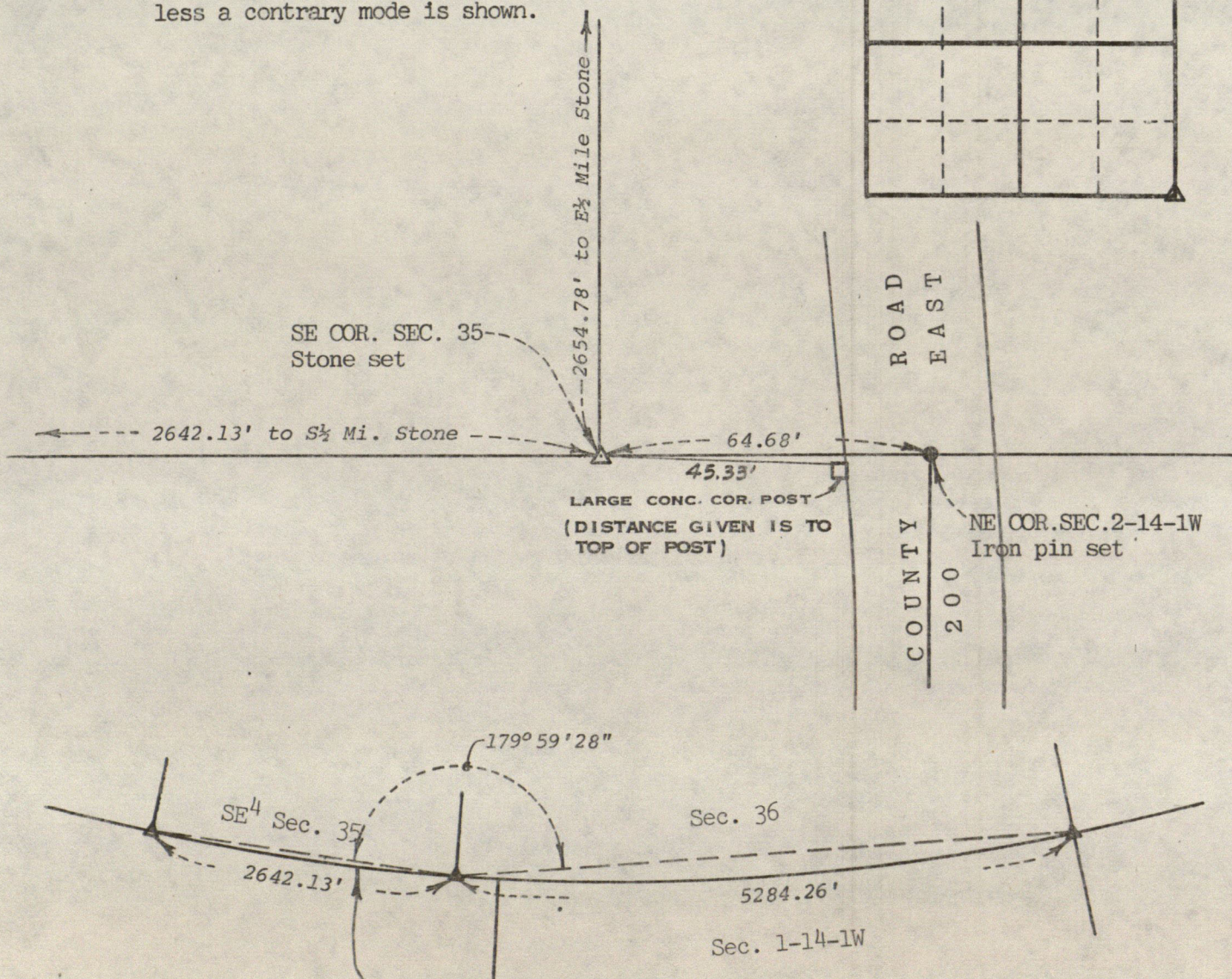
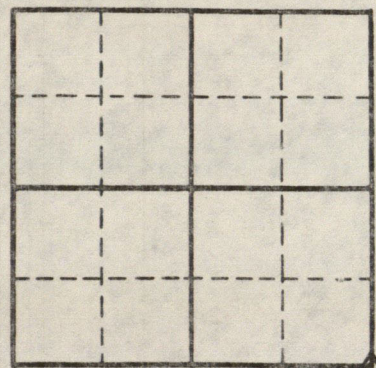
RECORD OF CORNER

LOCATION OF MONUMENT: SECTION 35, T. 15 N., R. 1 W.

Found: Set: ✓ Depth: showing 2 inches

Description: + on stone 14x21x29 inches

Bearings to reference objects are magnetic unless a contrary mode is shown.



The congressional township line is a latitudinal curve adjusted to the mean bearing between the south quarter corner of Sec. 35 and the southeast corner of Sec. 36, both of which were found, and the lost southeast corner of Sec. 35 was restored on that curve by a single proportionate measurement. Radius of curve = 25,251,577.01'.



Stanley M. Shartle
Stanley M. Shartle, P.E. & L.S.

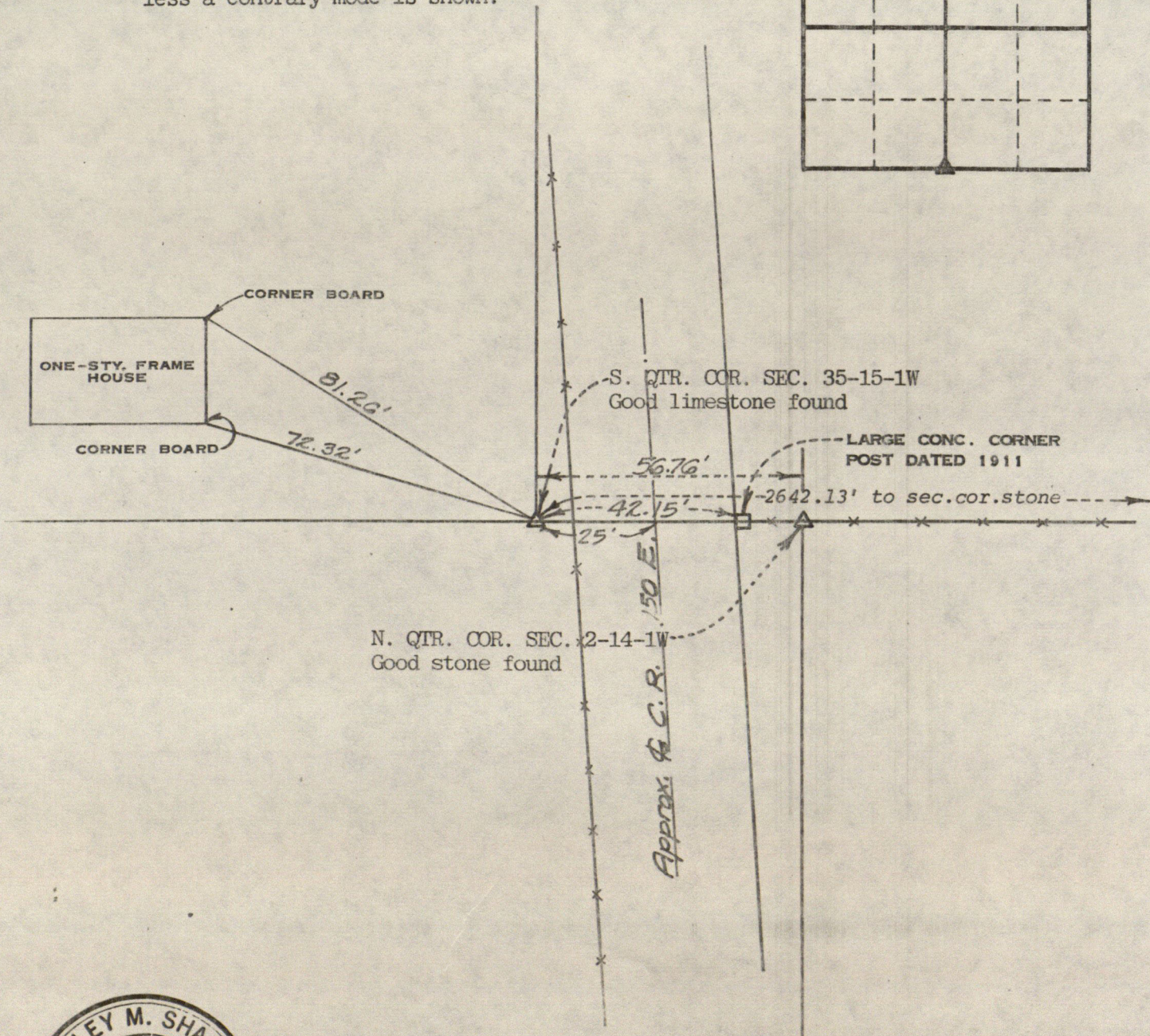
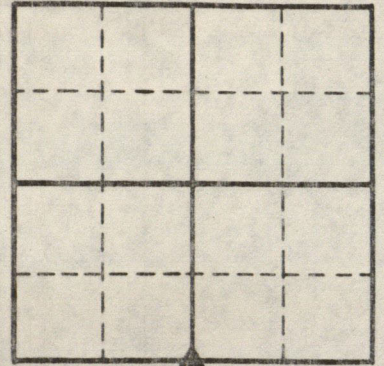
Date: June 23, 1984

RECORD OF CORNER

LOCATION OF MONUMENT: SECTION 35, T. 15 N., R. 1 W.

Found: ☒ Set: Depth: showing 6 inches
+ in lead plug in top of
Description: large limestone well set

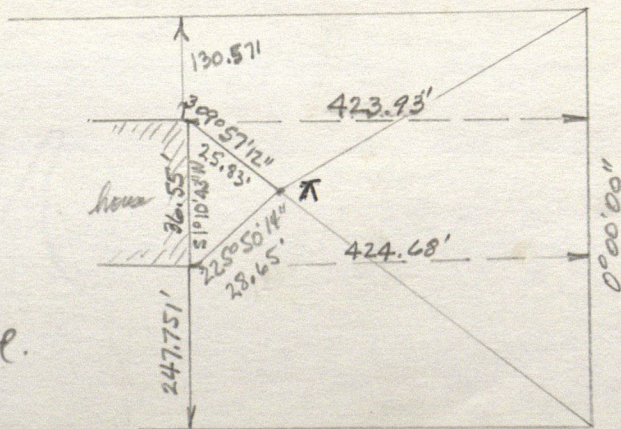
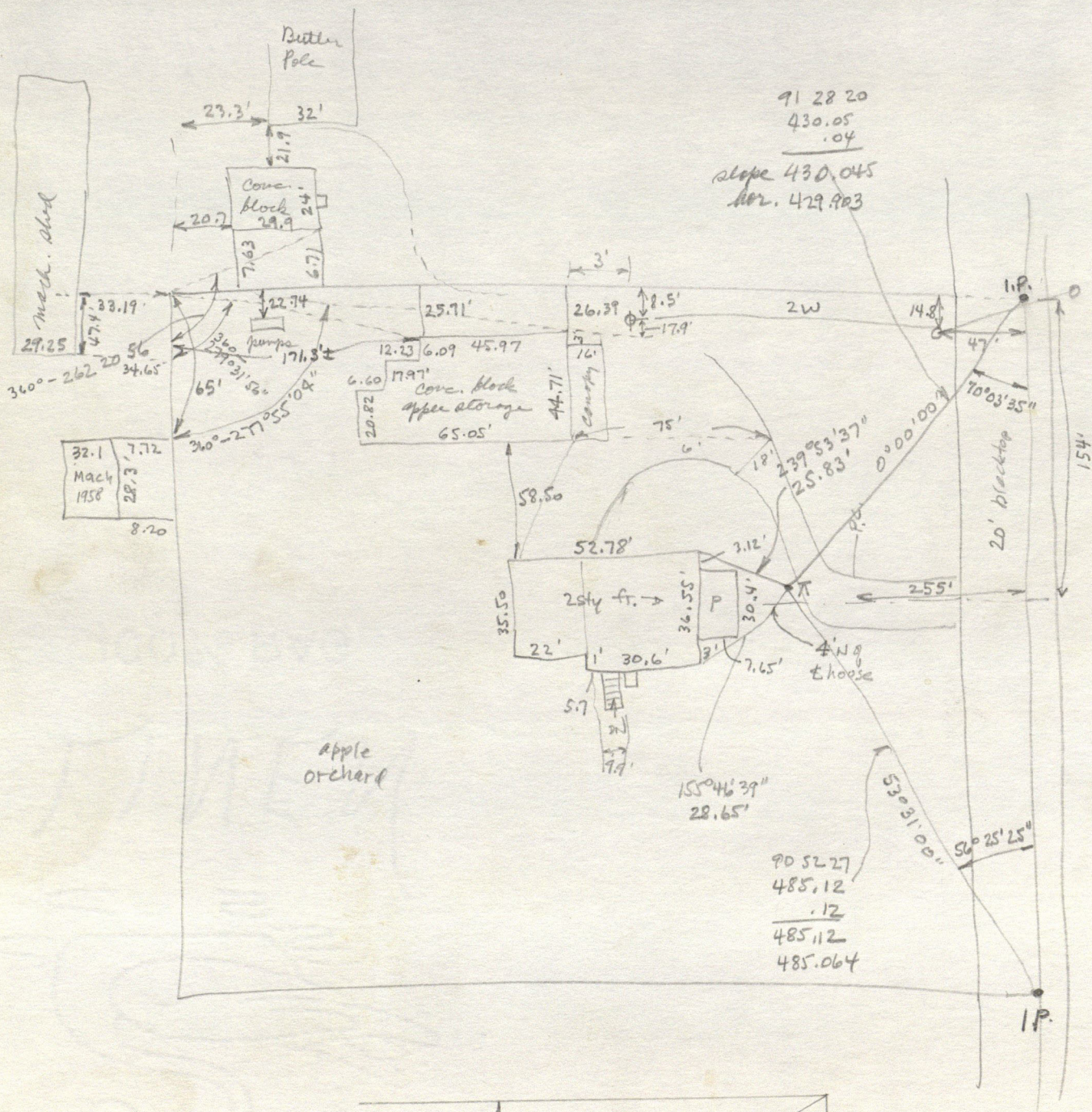
Bearings to reference objects are magnetic unless a contrary mode is shown.



Stanley M. Shartle
Stanley M. Shartle, P.E. & L.S.

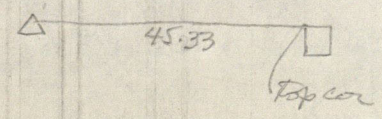
Date: June 12, 1984

Stanley M. Shurtle
Stanley M. Shurtle, Registered Land
Surveyor No. 3431, State of Indiana



310 W. Jump Rd.
P field 46168

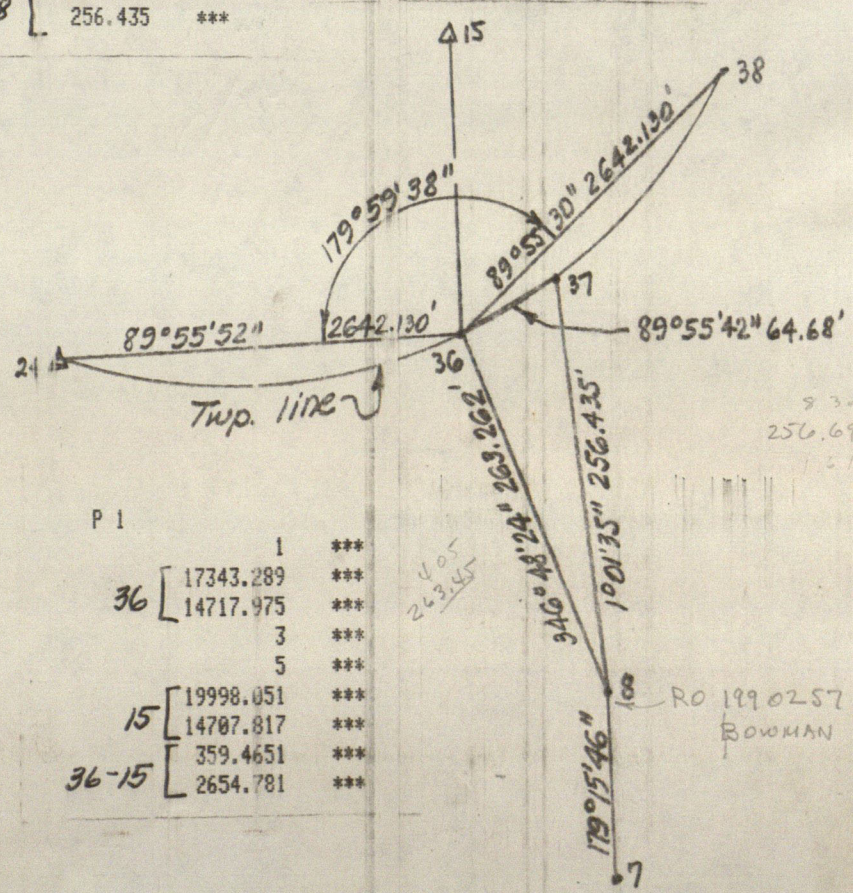
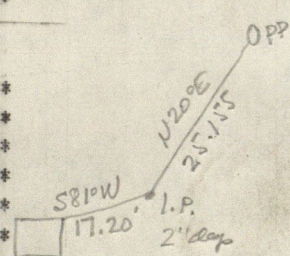
14x21x29



1	***
24 [17340.107	***
12075.847	***
2	***
4	***
89.5530	***
2642.130	***
17343.566	***
14717.975	***
3	***
4	***
179.5530	***
0.277	***
36 [17343.289	***
14717.975	***
2	***
4	***
89.5530	***
64.680	***
17343.650	***
14782.655	***
3	***
4	***
179.5530	***
0.280	***
37 [17343.370	***
14782.655	***
2	***
4	***
89.5530	***
2577.450	***
17347.024	***
17360.102	***
3	***
4	***
179.5530	***
0.276	***
38 [17346.748	***
17360.103	***
2	***
4	***
89.5530	***
2642.129	***
17350.483	***
20002.229	***

1	***
24 [17340.107	***
12075.847	***
2	***
5	***
36 [17343.289	***
14717.975	***
89.5552	***
24-36 [2642.130	***
3	***
5	***
8 [17086.976	***
14778.061	***
166.4824	***
36-8 [263.262	***
17346.748	***
38 [17360.103	***
89.5530	***
36-38 [2642.130	***
2	***
5	***
37 [17343.370	***
14782.655	***
89.5542	***
36-37 [64.680	***
17086.976	***
8 [14778.061	***
181.0135	***
37-8 [256.435	***

1	***
14 [14968.595	***
14804.601	***
2	***
5	***
37 [17343.370	***
14782.655	***
359.2814	***
14-37 [2374.876	***
2	***
1	***
28 [15460.324	***
14117.842	***
89.3242	***
179.2814	***
14 [14968.595	***
14804.601	***
28-29	682.186
29-14	497.168
29 [15465.741	***
14800.007	***



P 1	1	***
36 [	17343.289	***
	14717.975	***
	3	***
	5	***
15 [	19998.051	***
	14707.817	***
36-15 [	359.4651	***
	2654.781	***

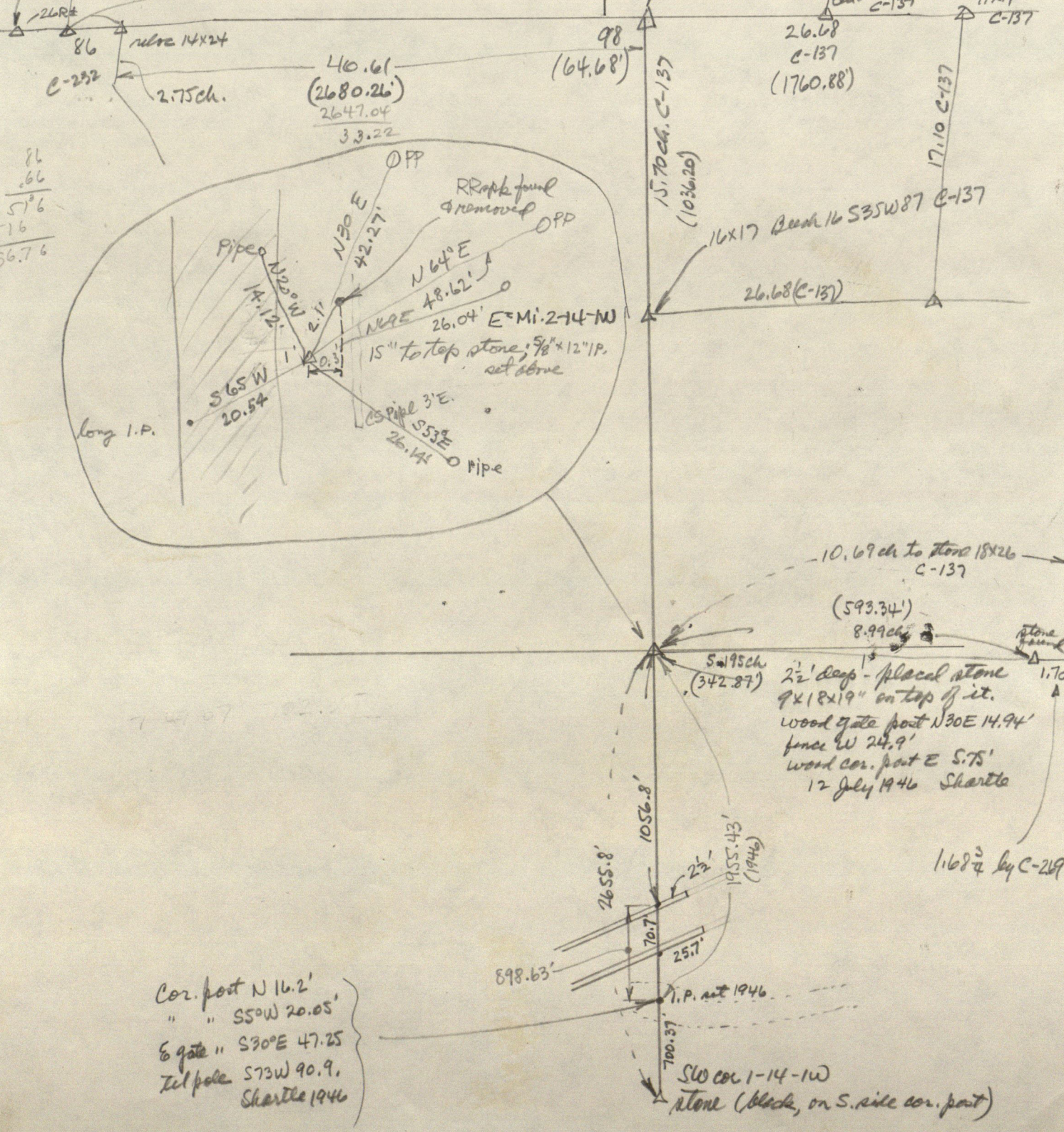
C-17, 19, 23

limestone 16x32
Hick 18 N57E81
beech 12 N45W164

cen E SE 35
18x26
C-232
B oak 14 S71E147
B oak 12 S46W164
C-165
Rogers 700.02 Dec. 1858

reloc. from meas. 16x24
B. oak 4 N46W141
Beech 3 S22W57 1/2
C-137
Johnson
ca. 1856
or Rogers

12x14
Willow 7 N15E42
beech 24 S18W69
C-2104



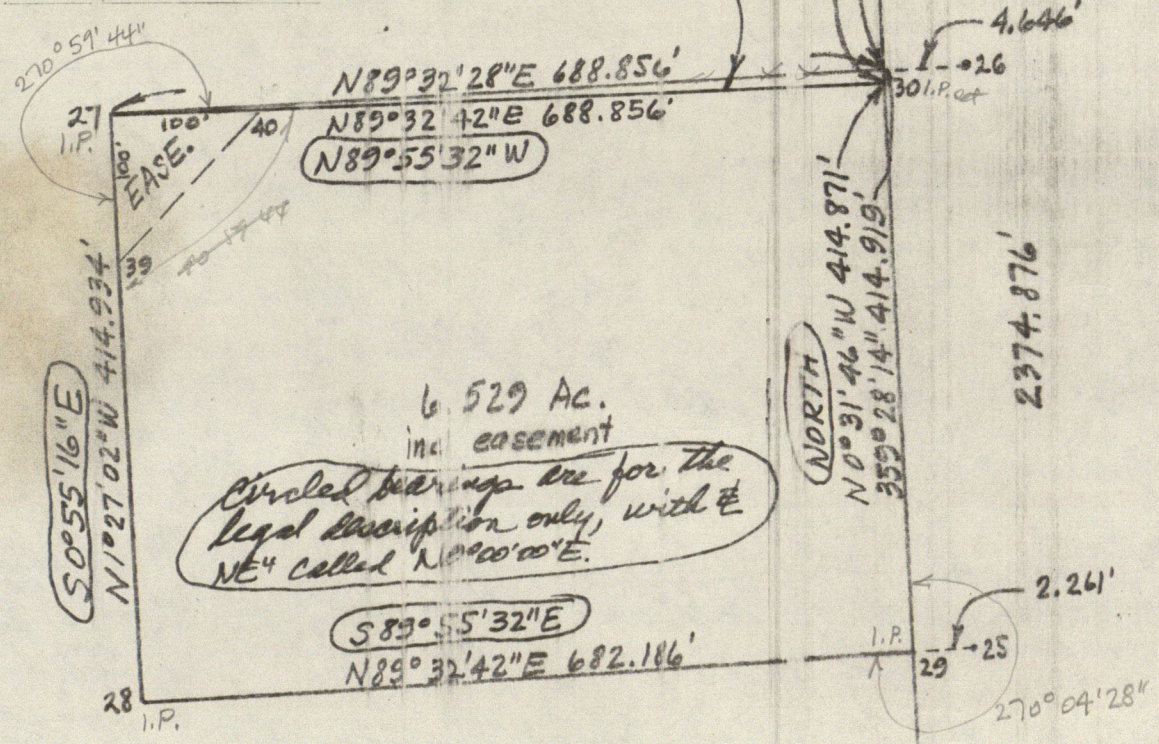
86
.66
516
56.76

Cor. post N 16.2'
" " S50W 20.05'
E gate " S70E 47.25
Tel pole S73W 90.9,
Sharple 1946

	1	***
27	[15875.125	***
	[14107.339	***
	[89.3228	***
	[179.2814	***
14	[14968.595	***
	[14804.601	***
27-30	688.856	***
30-14	912.086	***
30	[15880.642	***
	[14796.173	***

89 32 42
1 27 02
90 59 44
180
270 59 44
270 89 13

line rev. to form trapezoid



Circled bearings are for the legal description only, with NE⁴ called N 0°00'00\"E.

	1	***
29	[15465.741	***
	[14800.007	***
	[2	***
	[5	***
30	[15880.642	***
	[14796.173	***
29-30	[359.2814	***
	[414.919	***

OBSELETE

0241WA

STANLEY M. SHARTLE
REGISTERED PROFESSIONAL ENGINEER
REGISTERED LAND SURVEYOR

SHEET 1 OF Job Bowman Est.Date 6-11-84Hg. Temp. At

Point	Direction	ZA	Observed slope distance	Mean	Hor. distance
2	1 160°00'00"	89 58 58	514.89 .85 .85 .88 .83 .84	.857	514.857
	R.O. 327 27 06	WARN/NG	.	.	
	3 325 54 44	90 17 57	372.41 .43 .44 .43	.427	372.422
	6 324 13 01	90 26 11	849.01 .01 .03	.017	848.992
3	2 145 54 44		.	.	
	4 90 45 20	91 33 30	140.82 .80 .79 .82	.808	140.756
	5 61 09 24	91 47 58	136.64 .65 .65	.647	136.580
			.	.	
6	2 144 13 01		.	.	
	R.O. 359 45 26	LIMIT	.	.	
			.	.	
	7 0 33 54	90 15 16	965.18 .16 .16	.167	965.157
11			.	.	
	DIR		.	.	
	10 0 00 00		.	.	
	12 87 46 47		.	.	6.01'
8	7 0 00 00	89 24 52	1834.90 .89 .90	.897	1834.784
	R.O. 179 09 13 belt lead		.	.	
	9 178 44 06	90 24 00	1728.74 .70 .74	.727	1728.685
	13 174 05 50	91 51 24	254.28 .28	.28	254.147
7	6 0 00 00		.	.	
	R.O. 0 37 24 E window		.	.	
	14 341 51 54	91 10 38	283.81 .82 81	.813	283.753
	8 161 43 12		.	.	
9	8 0 00 00		.	.	
	R.O. 8 30 54 NE cor cornice		.	.	
	15 181 31 53 *	90 46 28	1183.57 .59 .58	.58	1183.472
	10 181 31 42	90 19 48	2278.09 .06 .07	.073	2278.035

* See p. 3

STANLEY M. SHARTLE
REGISTERED PROFESSIONAL ENGINEER
REGISTERED LAND SURVEYOR

SHEET 2 OF

Job Bowman Est.

Date 6-12-84

Hg.

Temp.

At

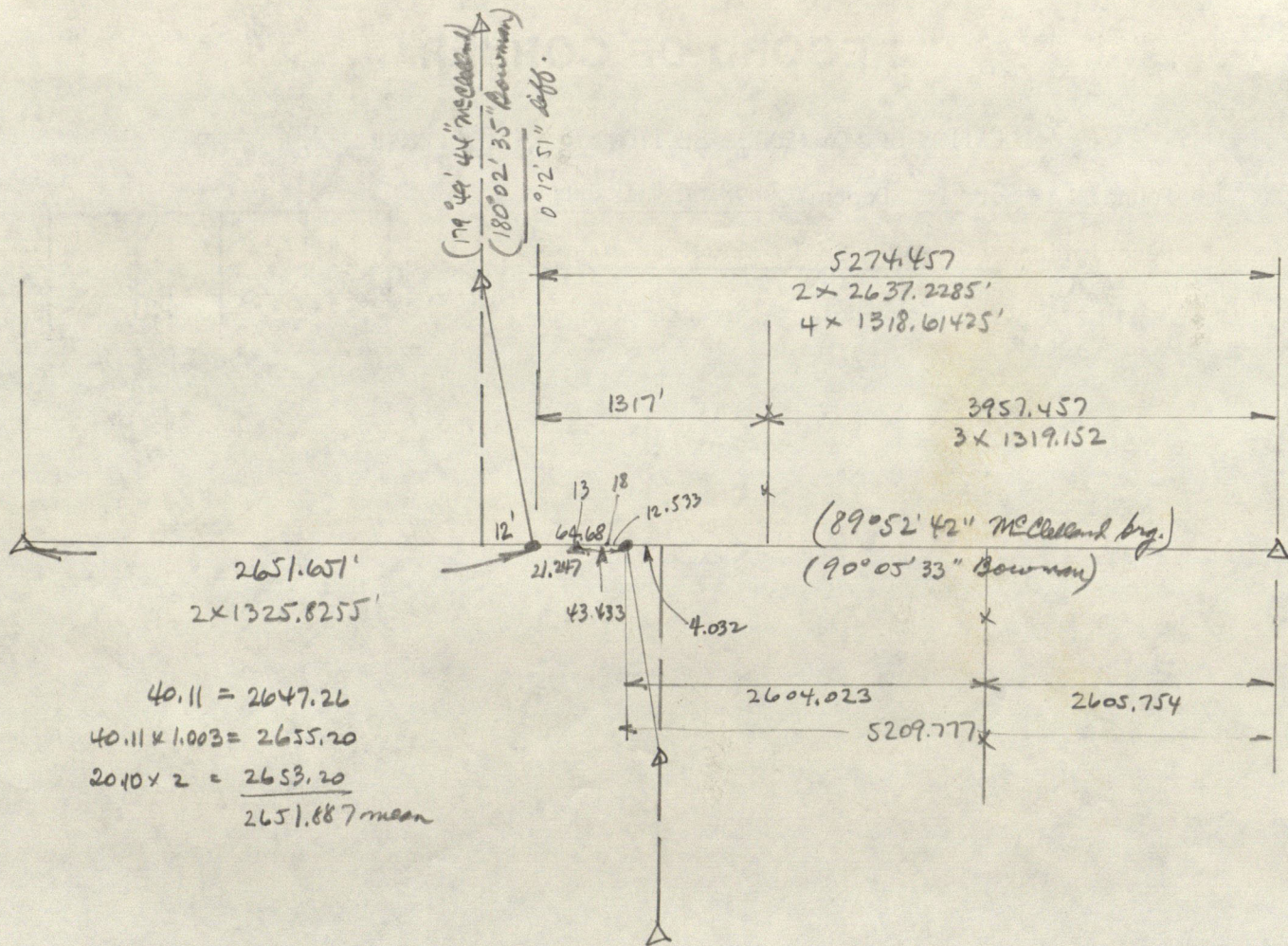
Point	Direction	ZA	Observed slope distance	Mean	Hor. distance
10 { 9	0°00'00		.	.	
10 { 11	180 45 10	90 12 50	1567.39.39.38	.387	1567.376
17 { 16	0 00 00	90 08 34	1476.04.02	.03	1476.025
17 { 18	172 36 19	90 59 40	1176.63.65	.64	1176.463
	13-18 = 30.9'		.	.	
20 { 21	0 00 00	89 11 54	7778.37.38	.375	7777.614
20 { 19	80 59 32	90 05 35	1304.59.57	.58	1304.578
	4 323 57 49 80 59 27 (USE)		.	.	
20 { 22	0 00 00	90 00 00	2625.79.78.80	.79	2625.790
20 { 20	88 50 17 20		.	.	
	4 355 21 05 88 50 16 (USE 17")		.	.	
21 { 6	359 14 24	90 28 19	558.41.42.40	.41	558.391
21 { 3	7 08 03	90 05 40	82.46.46.44	.453	82.453
21 { 2	179 08 12+	89 47 27	290.59.58.59	.587	290.585
22 { 21	0 00 00		.	.	
22 { 23	174 28 14		.	.	
	R.O. 177 25 18 airplane pivot stop conc. post 		.	.	
23 { 22	0 00 00	89 58 05	979.19.21.22.22	.21	979.210
	R.O. 131 25 36 barn roof gable end		.	.	
	R.O. 204 31 25 airplane pivot		.	.	
23 { 8	298 28 01 04 02	90 43 52	1295.39.37.37	.377	1295.272
23 { 24	119 16 21 27 20 24	90 12 20	1418.82.84.86.87.87.87	.868	1418.859
23 { 16	119 26 42 39 37 39	90 15 27	1362.33.32.32	.323	1362.309
			.	.	
			.	.	
			.	.	

SEEING BAD

SHEET 3 OF

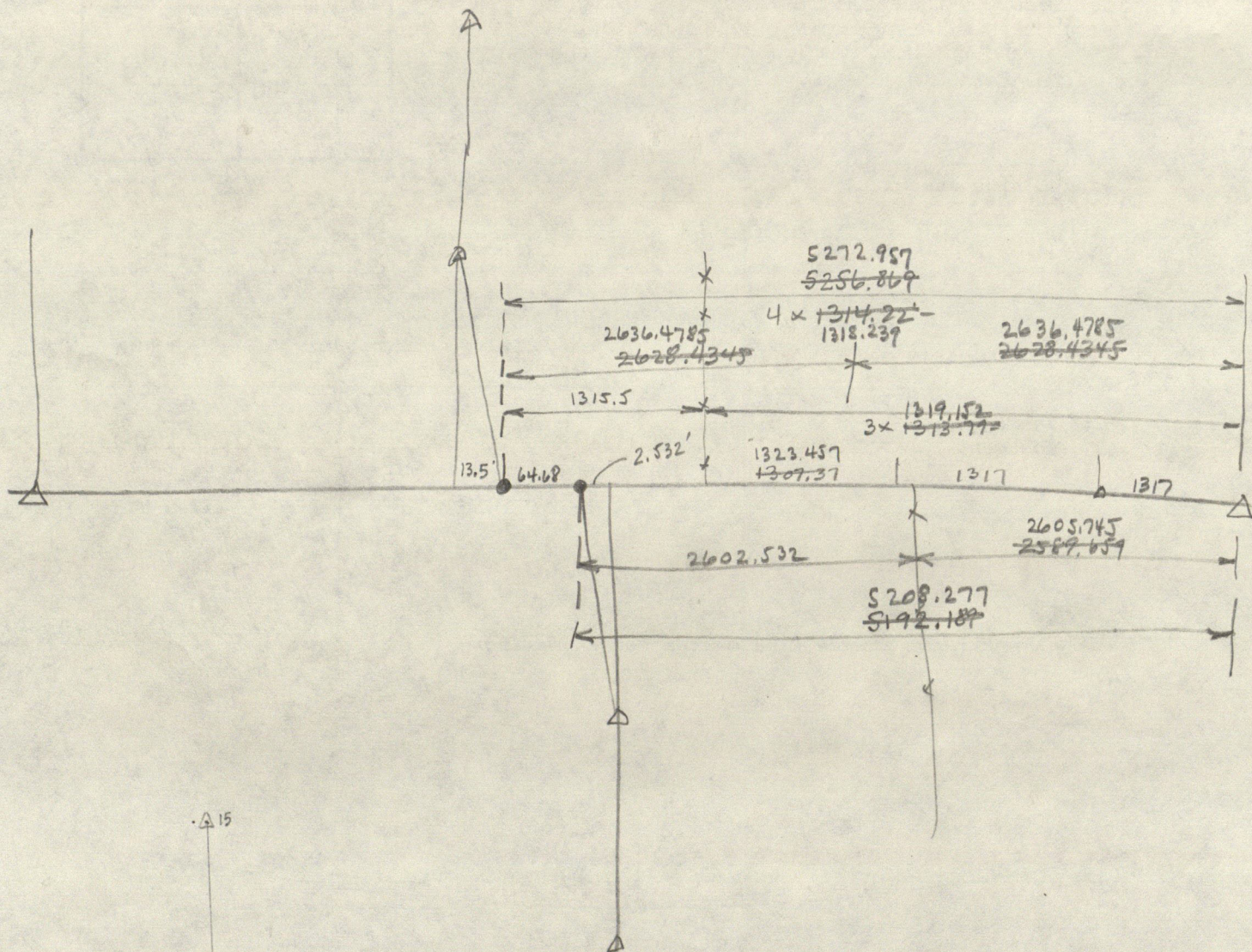
At _____

SEEING BAD (at 7 8 27)



$$\begin{aligned}
 40.11 &= 2647.26 \\
 40.11 \times 1.003 &= 2655.20 \\
 2010 \times 2 &= \frac{2653.20}{2651.887 \text{ mean}}
 \end{aligned}$$

Experimental - not used



Experimental - not used

~~137/353~~~~132/6(7)~~

147/438-9(?)

119/242

103/302

109 / 538
549

$\frac{89}{52}$ Frank W. Martin Com. to all REJ. Harry L. Hammond Case No. 7282 # CC.
to Jas. W. Buckingham 19 Feb. 1906

$\frac{70}{2}$ Geo. W. Hammond to John Hammond S² SE⁴ 35 20 Aug. 1889

$\frac{78}{425}$ to demand (see)

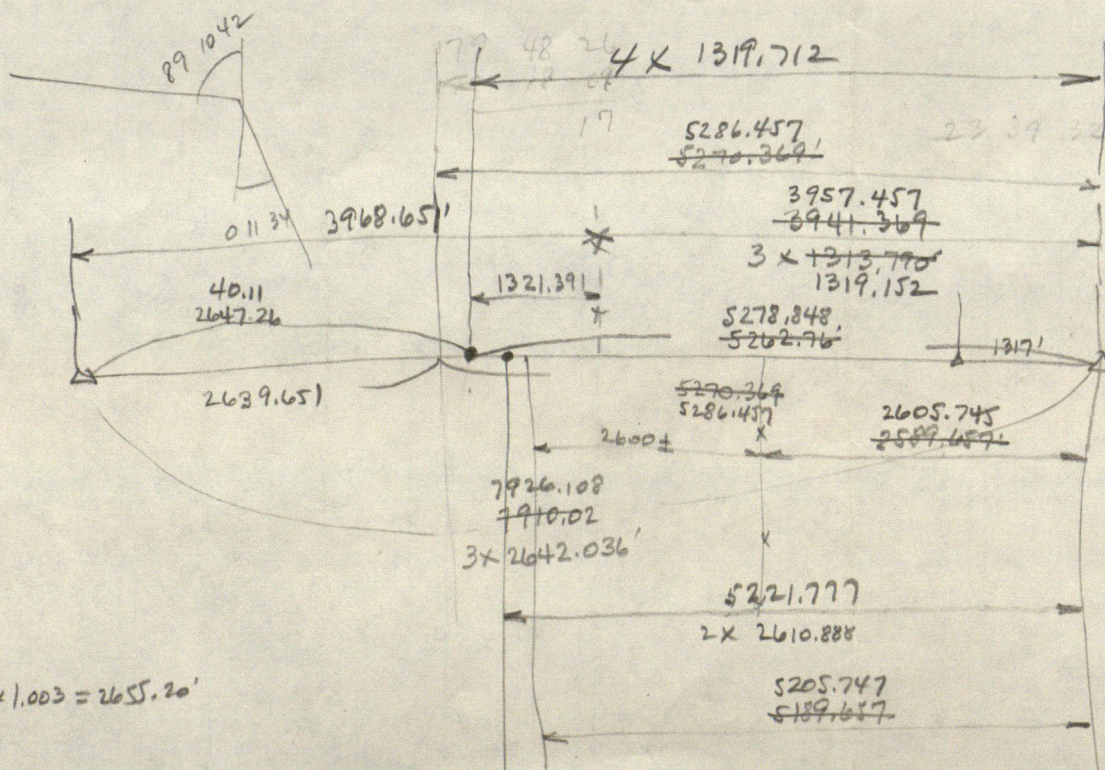
129 48 09
0 11 34

129 59 43
17

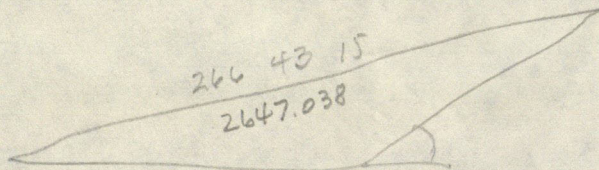
2-19

270 49 01

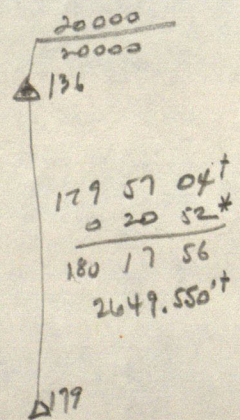
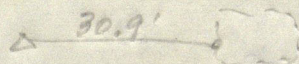
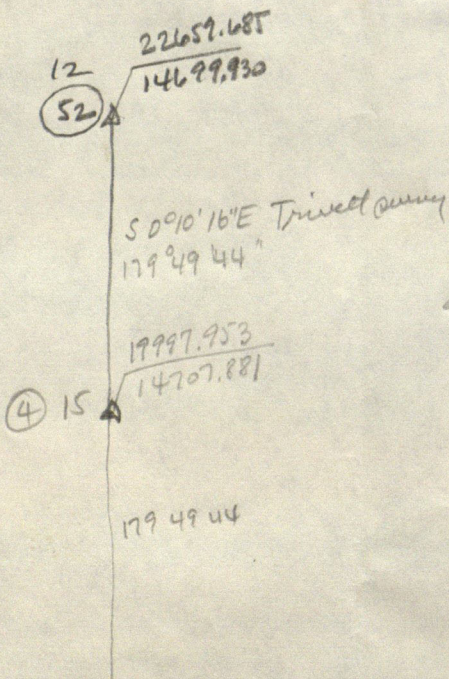
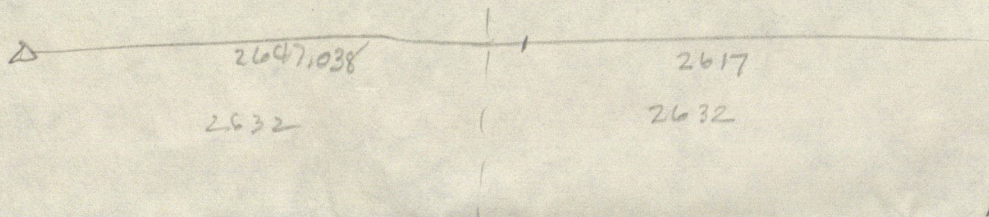
18 89 10 49 W


$$40.11 \times 1.003 = 2655.20'$$

Experimental - not used



$$\begin{array}{r} 47 \\ 17 \\ \hline 264 \\ 32 \end{array}$$



* p. 7 Carlson survey calc.
† p 10 " " "

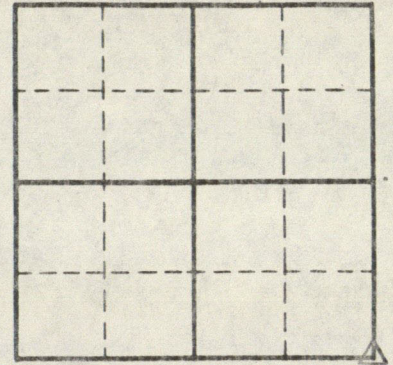
STANLEY M. SHARTLE

LOCATION OF MONUMENT: SECTION 26, T. 5 N., R. 1 W.

Found: ☒ Set: Depth: 27 3/4 inches to stone

Description: Railroad spike set above stone (see description below)

Bearings to reference objects are magnetic unless a contrary mode is shown.

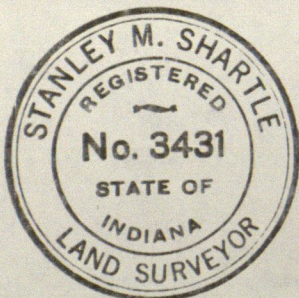
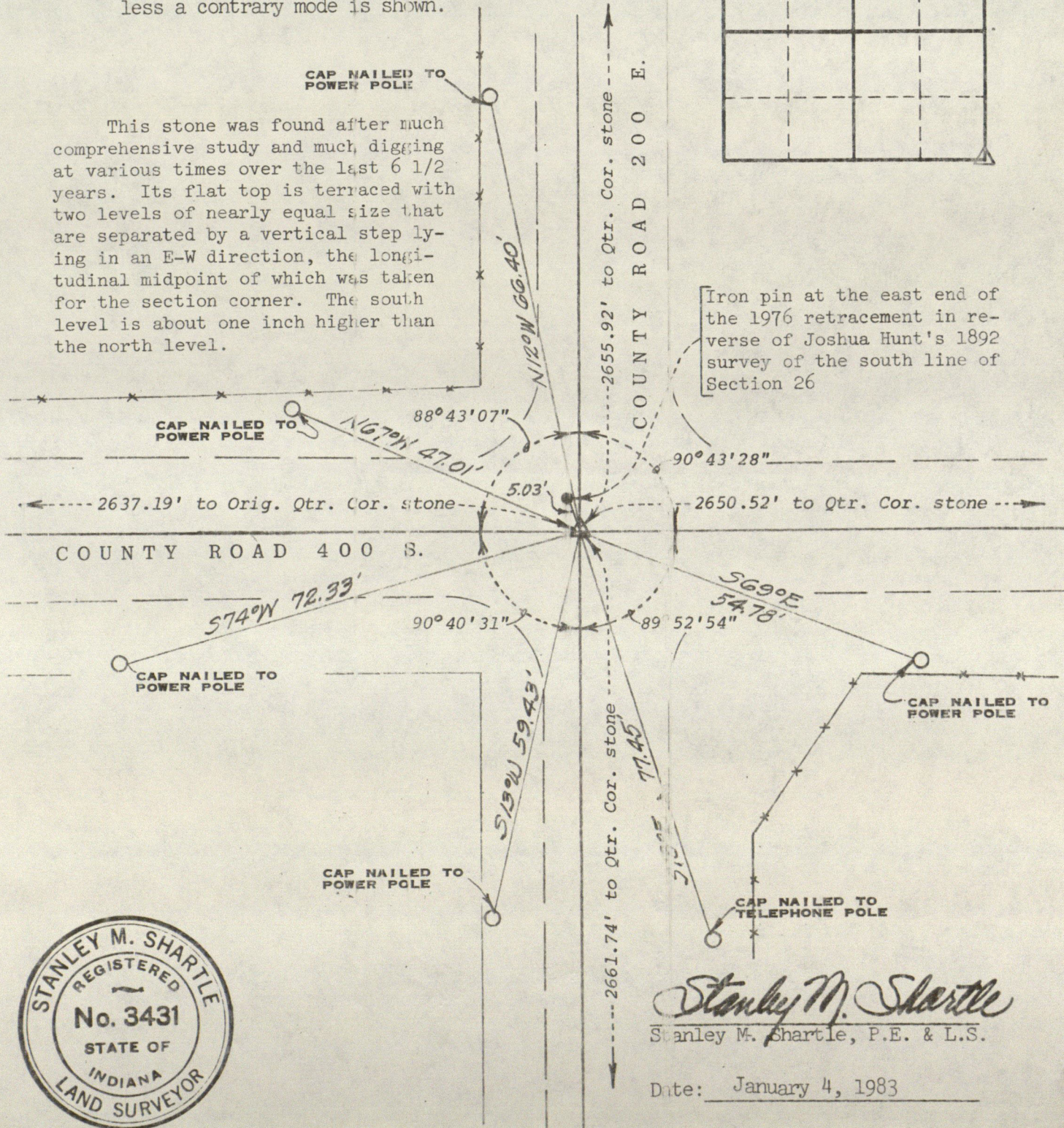


This stone was found after much comprehensive study and much digging at various times over the last 6 1/2 years. Its flat top is terraced with two levels of nearly equal size that are separated by a vertical step lying in an E-W direction, the longitudinal midpoint of which was taken for the section corner. The south level is about one inch higher than the north level.

CAP NAILED TO POWER POLE

COUNTY ROAD 200 E.

[Iron pin at the east end of the 1976 retracement in reverse of Joshua Hunt's 1892 survey of the south line of Section 26]



Stanley M. Shartle
Stanley M. Shartle, P.E. & L.S.

Date: January 4, 1983

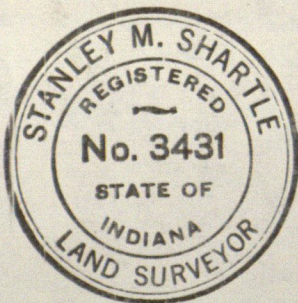
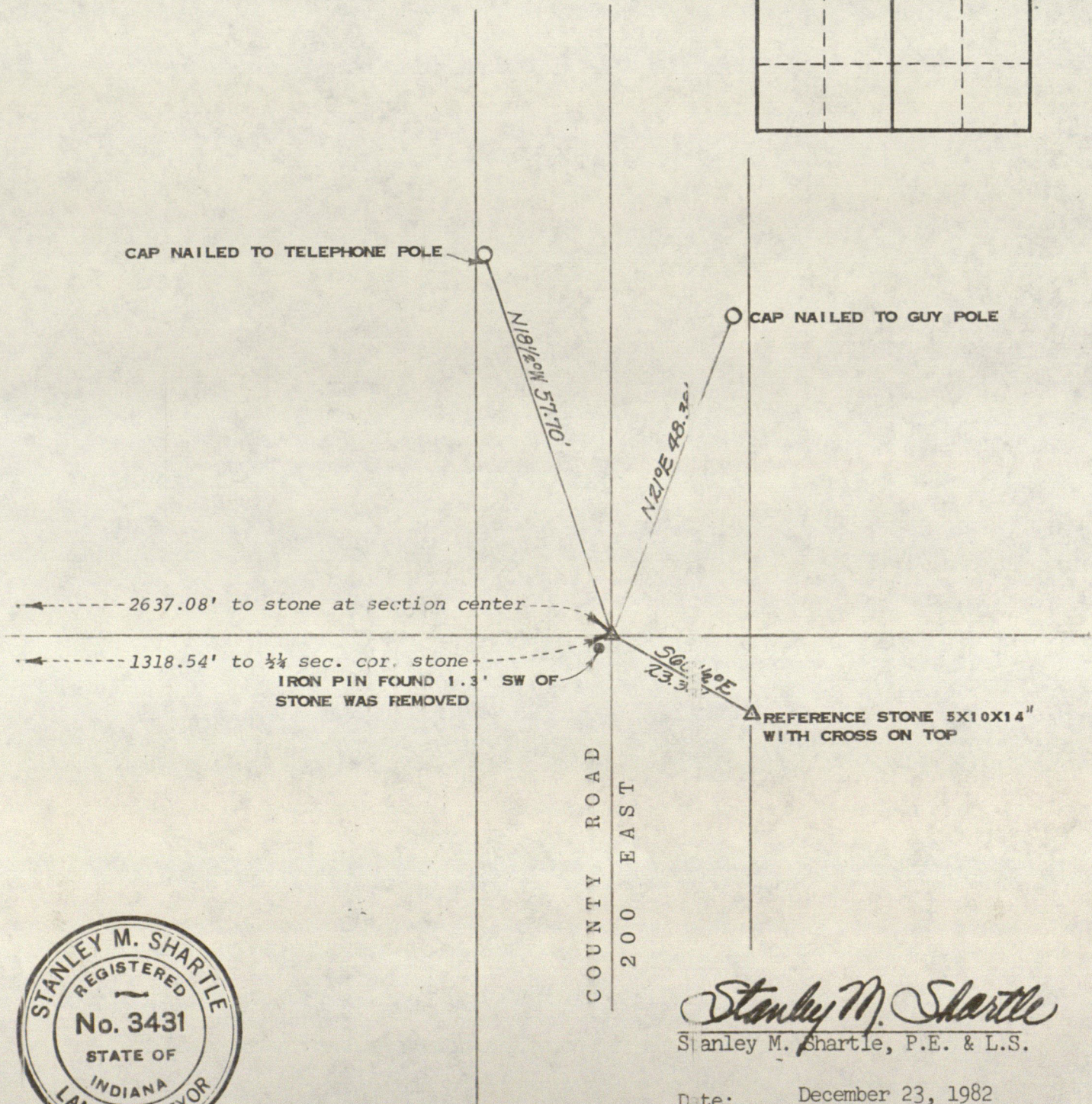
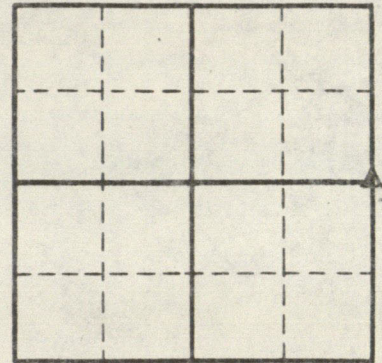
STANLEY M. SHARTLE

LOCATION OF MONUMENT: SECTION 35, T. 5 N., R. 1 W.

Found: ☒ Set: ☐ Depth: 12 inches

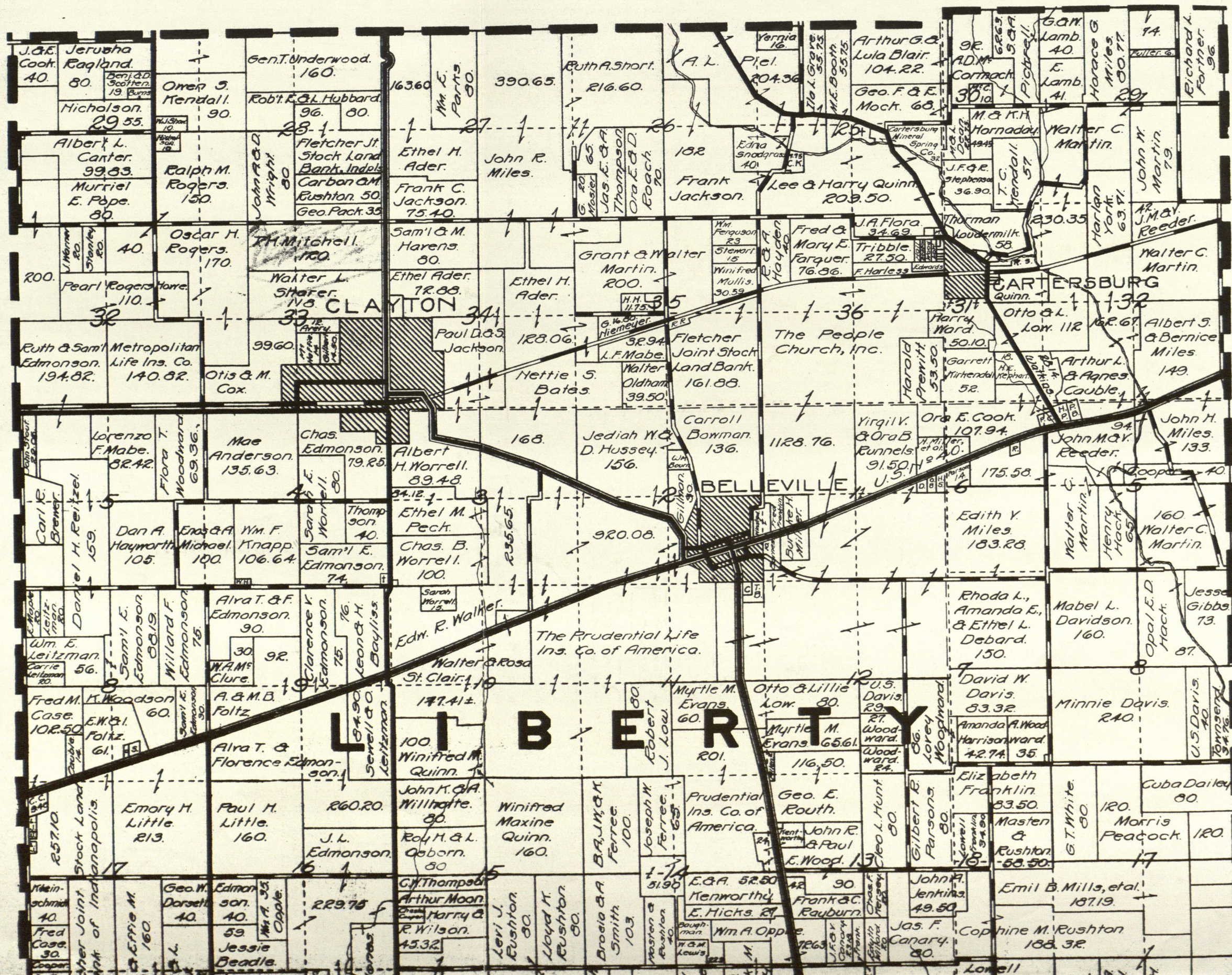
Description: stone with railroad spike set above

Bearings to reference objects are magnetic unless a contrary mode is shown.



Stanley M. Shartle
Stanley M. Shartle, P.E. & L.S.

Date: December 23, 1982



STANLEY M. SHARTLE

REGISTERED PROFESSIONAL ENGINEER
REGISTERED LAND SURVEYOR

R. R. 1, BOX 38
STILESVILLE, IND. 46180

PHONE 317-539-6225

June 26, 1984

Mr. Mike Bowman
310 West Jessup Road
Plainfield, Indiana 46168

RE: Parting off 6.53 acres from the Bowman land

Dear Mike:

Here are copies of the plat and legal descriptions of the 6.53 acres and the proposed easement, together with my bill.

Because of the several unexpected difficulties encountered, the cost is much higher than anticipated. It would have been much higher yet, but I was able to persuade Mr. Al Huntsman, County Surveyor, to include the two missing section corners in his program for restoration. He is paying for more than 9 hours of field time and for all the drafting work for the corner stone plats (copies of which are included herewith for your records). Also, Mike, because of your help in the field, several more hours of work were saved. If Jones and I had been without your help we could not have done the job nearly so quickly. You and I did all we could to do an accurate survey in the shortest time possible.

If you have any questions or need anything else, just call me.

Sincerely,

Stan