

20#29-16-2E COUNTY

TRI-pod

12-22-92

T @ N¹/₂, NE¹/₄, NW¹/₄, Sec. 29-16-2E

B.S. NW COR, Sec. 29-16-2E

X's Right

	HOR X	DIST.
NW COR Sec. 29 =	00-00-00	1994.11'

N ¹ / ₂ , NE ¹ / ₄ Sec. 29 =	180-05-31	1994.82'
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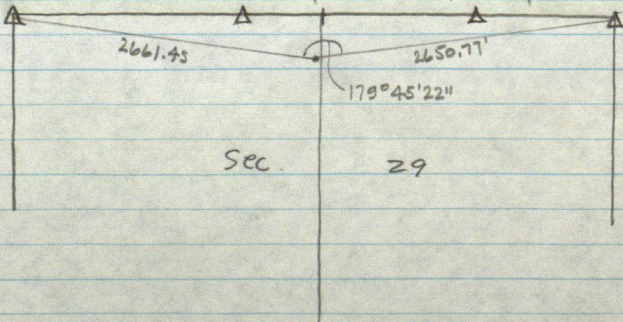
NE COR Sec. 29 =	179-59-15	3318.01'
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STONE
NW COR

STONE
N¹/₂, NE¹/₄, NW¹/₄

STONE
N¹/₂ NE¹/₄

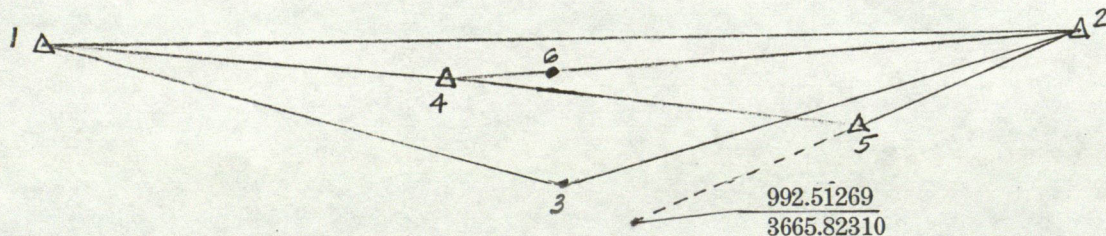
STONE
NE COR



For Hend. Co., Dec. 1992

#N29.DAT - Traverse to restore the obliterated north quarter corner of 29-16-2E.

C	1	1000.00000	1000.00000	!	!
C	4	1000	2994		
C	3	994	3661		
C	5	997	4989		
B	1-2	N90-00-00E		!	
D	1-3		2661.45		
D	1-4		1994.11		
D	5-2		1323.14		
TB	1				
T	3	179-45-22	2650.77		
TE	2				
TB	1				
T	4	179-59-15	3318.01		
M	4-1-5	180-05-31	1994.82		
TE	2				



- 1 Stone found at the northwest corner of Section 29.
- 2 Stone found at the northeast corner of Section 29.
- 3 Spurious axle found deep for the north quarter corner.
- 4 Trotter's stone No. 3 of the U. G. Ballard estate (ca. 1890) in 20-16-2E found.
- 5 Eldred Huff's 1/2 1/4 section corner stone of 1852 found.
- 6 Quarter section corner restored January 6, 1993.

County Surveyor Eldred Huff "relocated" the North Quarter Corner of Section 29 in 1852 "by measurement" and, at that time, set the Center North of the Northeast Quarter. (Book C, page 94.) Digging on June 30, 1947, and in December 1992 has failed to uncover his North Quarter Corner but his stone at the Center North of the Northeast Quarter was found. County Surveyor John W. Trotter's stone No. 2 of his survey in 20-16-2E of the U. G. Ballard estate about 1890 was not found but his stone No. 3 was uncovered. No stone was found for the Center North of the Northwest Quarter of 29-16-2E. After carefully examining the evidence and weighing the reasons for and against a single proportionate measurement between the section corner stones to restore the quarter corner, I chose to employ a single proportionate measurement between Trotter's stone No. 3 and Huff's stone at the Center North of the Northeast Quarter based on Trotter's measurements. The corner was restored in the straight line connecting Stone No. 3 and the northeast corner of the section. Considering the aggregate of the evidence, conflicting as it may be, I believe that no other method would have restored the corner nearer to its original position. The restored corner is (1) about two feet west of the alignment of the former fence to the south, not the present chain link type fence; (2) 0.22 feet south and 3.01 feet east of the midpoint between the section corners; (3) 5.44 feet north and 2.32 feet west of a spurious axle found; (4) and 7.27 feet north and 6.73 feet west of the west end of the reproduction westward of the bearing and length of the north line of the East Half of the Northeast Quarter of Section 29.

Stan Shartle
January 6, 1993

STAR*NET Adjustment Program
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 Serial Number 10270

4 5 S89-54-00.96E 1994.8494
 4 2 N89-59-43.13E 3318.0070
 1 2 N90-00-00.00E 5312.1443

Horizontal Traverse Closures of Unadjusted Observations
 (Beginning and Ending on ADJUSTED Stations)

STAR*NET V4.065
 Run Date : Wed Dec 23 15:15:19 1992
 Number of Observations = 10
 Number of Unknowns = 8
 Degrees of Freedom = 2

TRAVERSE # 1
 Begin at 3, Backsight Bearing to 1 = N89-52-41.87W

Data Type	Count	Weighted Residuals	Error Factor
Distances	6	8.87	2.72
Angles	3	0.00	0.02
Directions	0	0.00	0.00
Az/Bearings	1	0.00	0.00
Stations	5	0.00	0.00
Total	15	8.87	2.11

From To Unadj Bearing Unadj Dist
 3 2 N89-52-40.13E 2650.7700

Horizontal Precision 1:83398 2650.7700 T
 Misclosures -0.000 N 0.0318 E

TRAVERSE # 2
 Begin at 4, Backsight Bearing to 1 = N89-59-31.92W

From To Unadj Bearing Unadj Dist
 4 2 N89-59-43.08E 3318.0100

Horizontal Precision 1:1083621 3318.0100 T
 Misclosures 0.001 N 0.0030 E

Adjustment fails the Chi Square test at 5% level

Adjusted Angle Observations

At	From	To	Adj Angle	Residual	StdErr	StdRes
3	1	2	179-45-21.97	-0-00-00.03	4.17	0.0
4	1	5	180-05-30.95	-0-00-00.05	4.30	0.0
4	1	2	179-59-15.05	0-00-00.05	4.21	0.0

Elapsed time = 00:00:00

Adjusted Distance Observations [US Feet]

At	To	Adj Dist	Residual	StdErr	StdRes
1	3	2661.4181	-0.0319	0.023	1.4
1	4	1994.1373	0.0273	0.022	1.3
5	2	1323.1659	0.0259	0.020	1.3
3	2	2650.7382	-0.0318	0.023	1.4
4	5	1994.8494	0.0294	0.022	1.4
4	2	3318.0070	-0.0030	0.025	0.1

Adjusted Azimuth/Bearing Observations

From	To	Adj Bearing	Residual	StdErr	StdRes
1	2	N90-00-00.00E	0-00-00.00	FIXED	0.0

Adjusted Bearings and Horizontal Distances

From	To	Bearing	Distance
1	3	S89-52-41.87E	2661.4181
1	4	S89-59-31.92E	1994.1373
5	2	N89-50-16.41E	1323.1659
3	2	N89-52-40.10E	2650.7382

ADJUSTED COORDINATES

1	1000.00000	1000.00000
2	1000.00000	6312.14432
3	994.34683	3661.41213
4	999.72857	2994.13728
5	996.25635	4988.98370
6	999.78295	3659.08708

1-2
 Gov. 1870 ± Huff 1852 Haydon (for Shurtle 1992)
 79.52 (5248.32') 79.87 (5271.42') 5312.1443'
 CCF 1.012 16090 1.007 72549 1.000 00000

ATW
Stan Shurtle

PROJ. NO.

LINE

PAGE OF

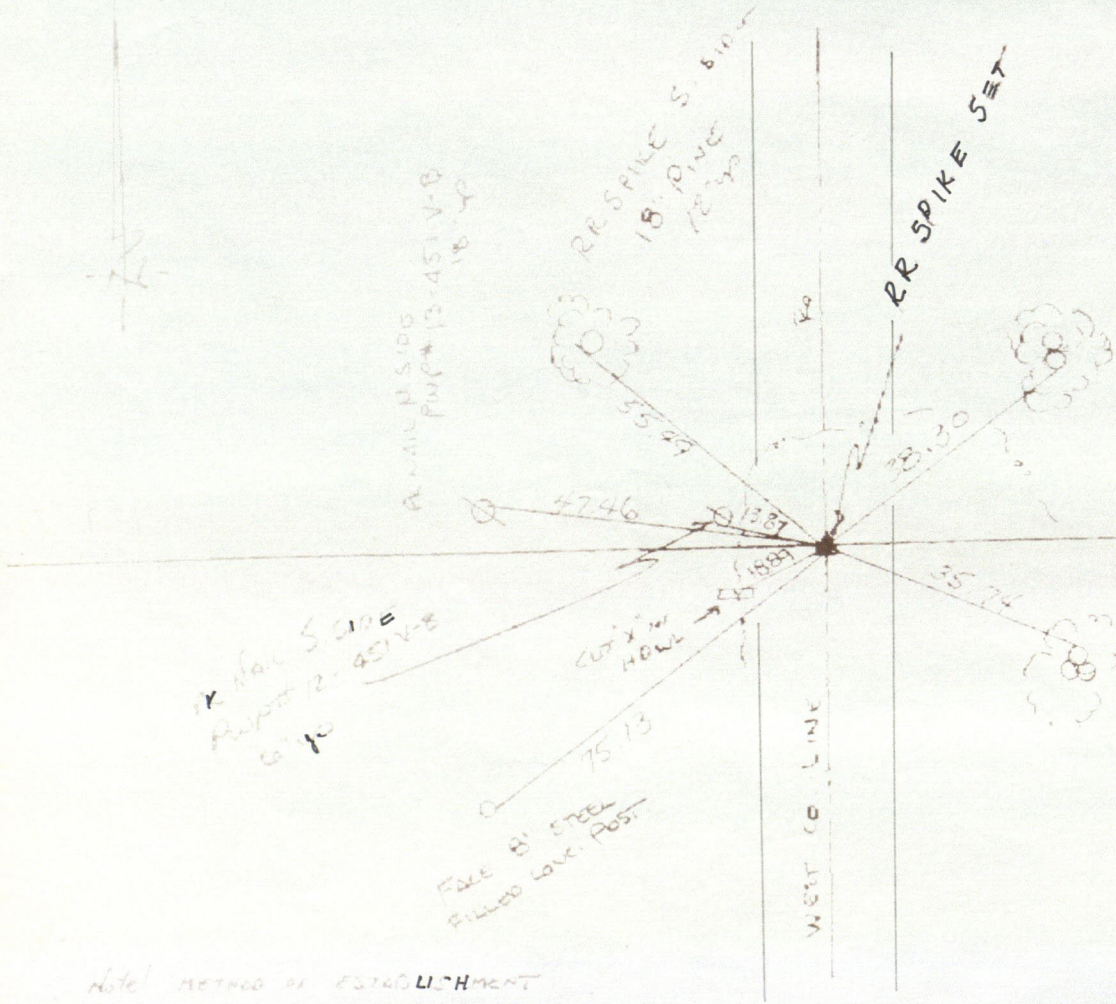
W 1/4 COR
28-16-2

RR SPIKE S SIDE
TWIN COTTONWOOD
15' 40"

LINE OF 25th ST

R.R. SPIKE N SIDE
TRIPLE SILVER MAPLE
15' 40"

NOTE! R.R. SPIKE SIDE
34 S 6 16 E
PO HUB ON 8'
29 S 2 22 E



NOTE! METHOD OF ESTABLISHMENT
WAS BY LEASE SURVEY DIST IN
MARION + HENRICKS CO.

HENRICKS CO by John O. KRIM Co-SURVEYOR
1911 1913 GOT INFO FROM
STAN SHURTLE

new tie : M. C. Surveyor 2-16-95

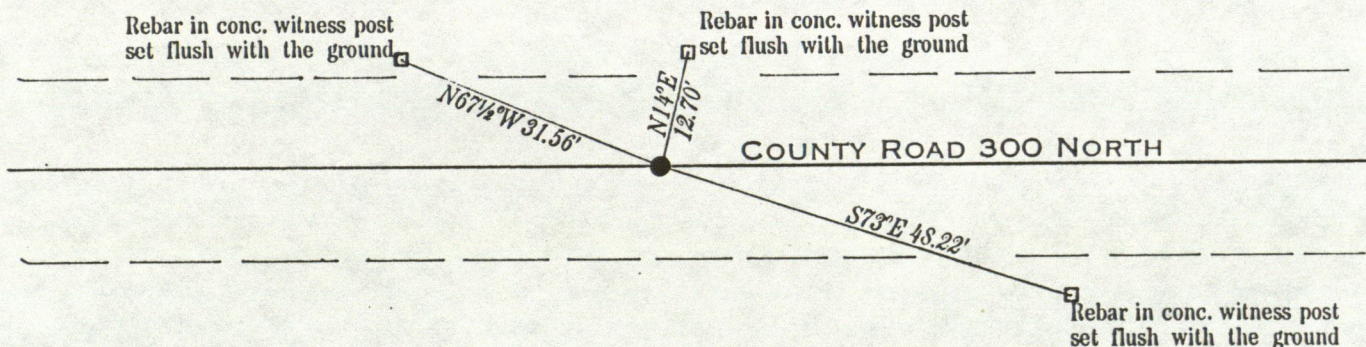
RECORD OF CORNER

LOCATION OF MONUMENT: SECTION 29, T. 16 N., R. 2 E.

Found: _____ Set: Depth: _____ See below _____

Description: _____ See below _____

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



County Surveyor Eldred Huff "relocated" the North Quarter Corner of Section 29 in 1852 "by measurement" and, at that time, set the Center North of the Northeast Quarter. (Book C, page 94.) Digging on June 30, 1947, and in December 1992 has failed to uncover his North Quarter Corner but his stone at the Center North of the Northeast Quarter was found. County Surveyor John W. Trotter's stone No. 2 of his survey in 20-16-2E of the U. G. Ballard estate about 1890 was not found but his stone No. 3 was uncovered. No stone was found for the Center North of the Northwest Quarter of 29-16-2E. After carefully examining the evidence and weighing the reasons for and against a single proportionate measurement between the section corner stones to restore the quarter corner, I chose to employ a single proportionate measurement between Trotter's stone No. 3 and Huff's stone at the Center North of the Northeast Quarter based on Trotter's measurements. The corner was restored on the straight line connecting Stone No. 3 and the northeast corner of the section. Considering the aggregate of the evidence, conflicting as it may be, I believe that no other method would have restored the corner nearer to its original position. The restored corner is (1) about two feet west of the alignment of the former fence to the south, not the present chain link type fence; (2) 0.22 feet south and 3.01 feet east of the midpoint between the section corners; (3) 5.44 feet north and 2.32 feet west of a spurious axle found; (4) and 7.27 feet north and 6.73 feet west of the west end of the reproduction westward of the bearing and length of the north line of the East Half of the Northeast Quarter of Section 29.



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

Date: January 6, 1993

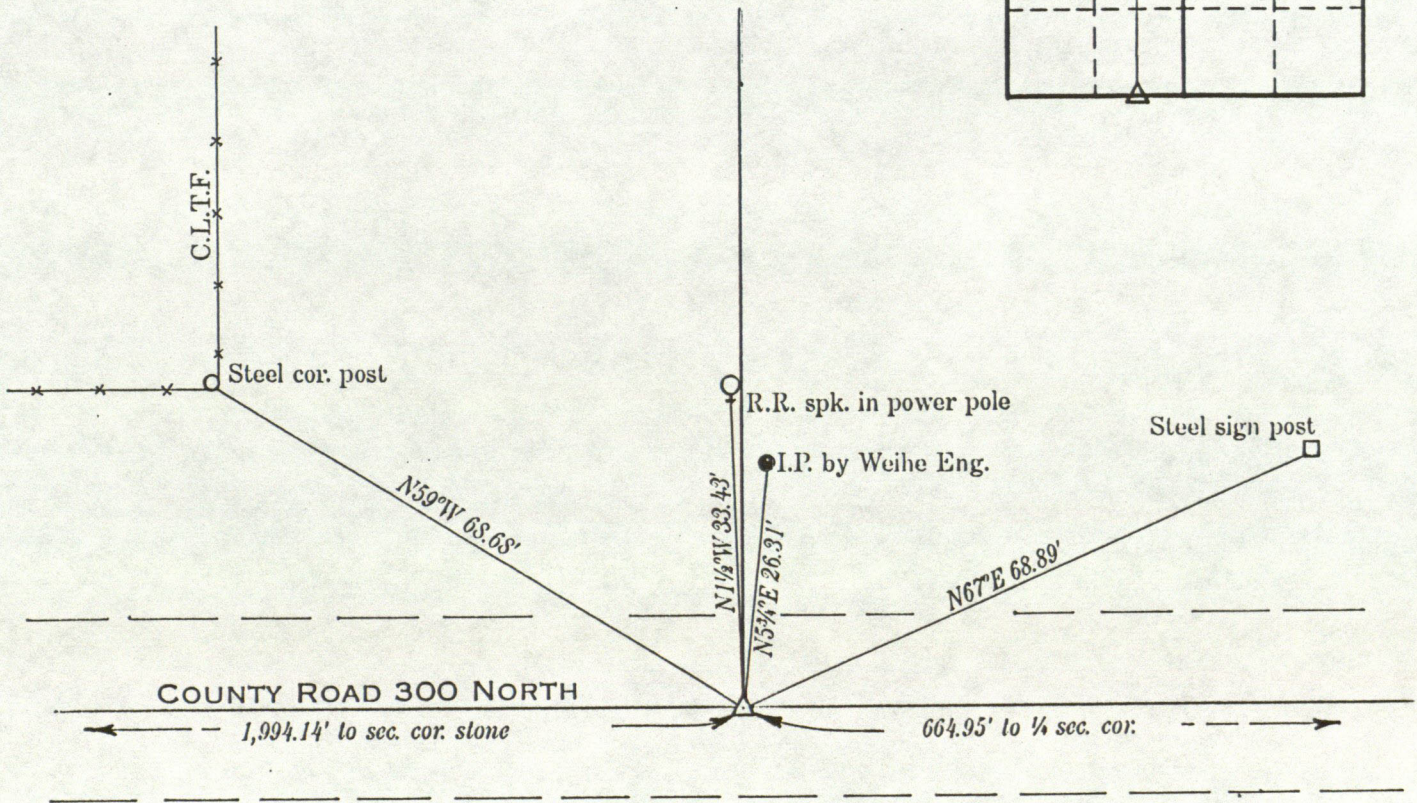
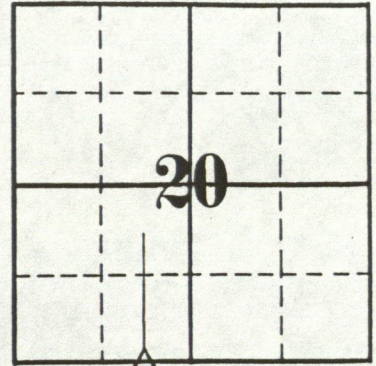
RECORD OF CORNER

LOCATION OF MONUMENT: SECTION 20, T. 16 N., R. 2 E.

Found: Set: Depth: See below

Description: See below

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



This corner stone, found about eight inches deep, was set about 1890 by County Surveyor John W. Trotter as his corner No. 3 in his survey of the estate of U. G. Ballard, deceased. No surface mark was placed over the stone.



Stanley M. Shartle
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Date: January 6, 1993