

THIRD ORDER LEVELS
SEA LEVEL DATUM OF 1929

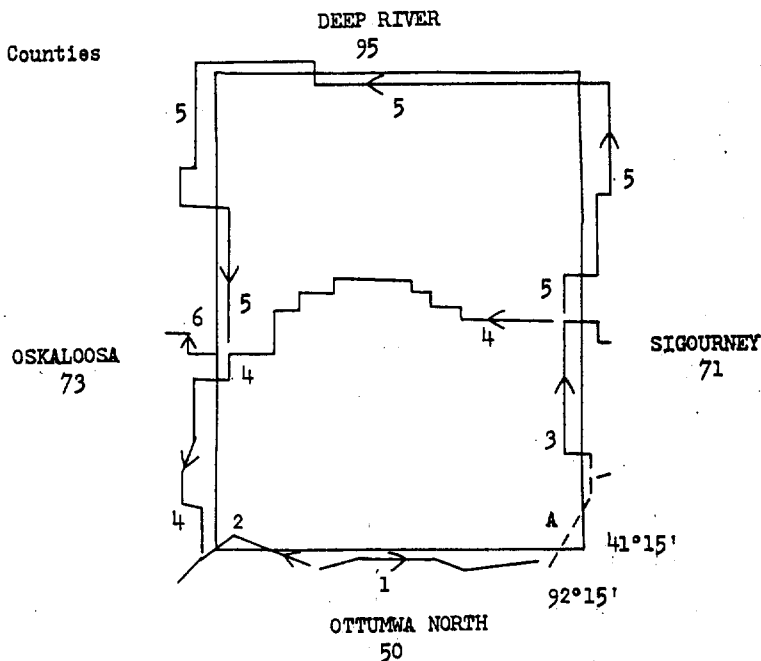
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WHAT CHEER QUADRANGLE
72 - IOWA
N4115-W9215/15
DIAGRAM NK 15-8
DES MOINES, IOWA

Keokuk and Mahaska Counties

Edition of 3/19/65

PR: MLC:vdc



USACGS LEVELING
A. No. 410922

LINE 1

Feet

<u>WEST ALONG SOUTH BORDER (M.V. Thompson, 1955; CV 694) OTTUMWA NORTH QUAD. - 50</u>	
6.9 UE, spike in transformer power pole at fence corner on W. side of rd., at center of 90° turn,	825.79
7.4 UE, spike in power pole, 40 ft E. of rd., at 90° turn	841.36
7.9 UE, spike in power pole, 30 ft E. of rd., and 80 ft N. of fence corner	836.79
8.3 Fremont, 1.5 mi N., and 1.0 mi E. of; 368 ft S. of a T-rd. W.; near quarter cor. sec. 1 and 12; T. 74 N., R. 14 W., 30 ft E. of center of rd., 3 ft S. and 1 ft W. of fence corner, in a concrete post; standard tablet stamped "TT 33 MT 1955 802"	801.748
8.3 Reference mark, spike in power pole; 30 ft E. of rd., and 80 ft N. of tablet	796.89
8.9 UE, copper nail and washer in center of wooden floor of steel fram bridge;	721.11
9.5 UE, spike in telephone pole; in SE. corner of crossroads	726.64
9.8 UE, copper nail and washer at NE. end of SW. wingwall of bridge	705.49
10.2 UE, spike in power pole at SE. corner of crossroads;	772.36
10.8 Fremont, 2.5 mi N. and 2.0 mi E. of; 419 ft W. of a T-rd. S.; at cor. secs. 5, 6, 31 and 32; Tps. 74 and 75 N., R. 13 W., 39 ft S. of center of rd., 12 ft E. of center of wire gate, 3 ft N. of fence, 2 ft NW. of power pole; in a concrete post; a standard tablet stamped "TT 42 MT 1955 728"	727.955

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<u>LINE 1 (Cont'd)</u>	<u>OTTUMWA NORTH QUAD. -- 50</u>	<u>Feet</u>
10.9 Reference mark, spike in power pole; 60 ft SW. of crossroads; 400 ft E. of tablet		763.60
11.5 UE, spike in transformer power pole, 30 ft S. of rd. at farm house, painted 808.3		808.18
11.9 UE, spike in E. post of wooden gate, 40 ft N. of T-rd. S.		773.85
13.2 Reference mark, spike in power pole; 30 ft W. of center of rd., and 260 ft N. of tablet		811.92
13.3 Hedrick, 4.7 mi N. and 3.0 mi W. of; at 90° rd. turn near center of S $\frac{1}{2}$ sec. 4, T. 74 N., R. 13 W., 140 ft SW. of center of rd., on curve, 7 ft N. and 1 ft E. of fence corner and gate post for wooden gate, and in concrete post; standard tablet stamped "TT 41 MT 1955 804"		803.800
13.8 UE, spike in power pole 40 ft SE., of T-rd. S.		816.31
14.3 UE, spike in power pole, 50 ft SW. of center of E.-W. rd. at field entrance N.-S., 1000 ft W. of farm bldg.,		753.82
14.8 UE, spike in power pole, 70 ft SW. of T-rd. W.		723.50
15.5 UE, spike in power pole; 80 ft SE. of crossroads		803.89
15.8 Reference mark, spike in telephone pole, 30 ft N. of rd., 60 ft N. of tablet		804.83
15.5 Hedrick, 4.0 mi N. and 1.5 mi W. of; 1400 ft E. of crossroads at quarter cor. secs. 10 and 11, T. 74 N., R. 13 W., 76 ft W. of center of driveway to farmhouse, 12 ft W. of concrete sidewalk; 41 ft S. of center of rd., 1 ft N. of fence; 1 ft S., and 2 ft W. of power pole; in concrete post; standard tablet stamped "TT 40 MT 1955 804"		803.835
16.3 UE, spike in power pole; 30 ft S. of T-rd. N.; painted 794.6"		794.55
17.1 Hedrick, 4.0 mi N. of; near center of E $\frac{1}{2}$ sec. 12, T. 74 N., R. 13 W., 0.5 mi E. of T-rd. S.; 0.2 mi W. of T-rd. W.; 37 ft N. of center of rd., 17 ft E. of center of wooden gate; 1 ft S. of fence; in a concrete post; a standard tablet stamped "TT 39 MT 1955 681"		680.834
17.2 Reference mark, E. end of S. curb rail on concrete bridge, 200 ft W. of T-rd. W., and 780 ft E. of tablet; chiseled square		679.87
17.9 UE, copper nail and washer in floor at center of steel truss bridge over Skunk River		674.66
18.5 UE, copper nail and washer in RR. tie at S. end of RR. bridge 306, 0.2 mi N. of milepost 15		672.74
18.9 UE, copper nail and washer in tie at S. end of RR. bridge 1-304, 0.5 mi S. of milepost 16		670.64
19.4 Hayesville, about 1.8 mi SW. along the Chicago, Milwaukee St. Paul and Pacific RR. from the station at; at milepost 16, 39 ft SE. of the center of public rd. crossing, 14 ft S. of center of rd., 8 ft W. and 1 ft N. of right-of-way fence corner, and about level with rail; a USC&GS standard disk stamped "R 86 1934" and set in top of a concrete post		691.160

LINE 2GENERALLY WEST AT SOUTHWEST CORNER (M.V. Thompson, 1955; CV 694) OTTUMWA NORTH - 72

0.0 "UE 726.8" (described in Line 1) 726.64

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<u>LINE 2 (Cont'd)</u>	<u>OTTUMWA NORTH QUAD. - 72</u>	<u>Feet</u>
C.5 UE, spike in telephone pole at fence corner, 30 ft N. of rd., 100 ft E. of house on top of hill		812.80
1.0 Reference mark, spike in telephone pole; 30 ft N. of rd., 210 ft W. of crossroads, and 200 ft NE. of tablet		787.99
1.1 Fremont, 2.5 mi N. and 0.5 mi W. of; 332 ft W. of crossroads, at quarter cor. secs. 2 and 35; T. 74 N., R. 14 W., 35 ft S. of center of rd., 15 ft W. of fence corner; 1 ft N. of fence 2 ft NW. of telephone pole; in a concrete post; a standard tablet stamped "TT 32 MT 1955 778"		778.340
1.6 UE, painted square on S. end of 4 ft concrete pipe culvert; 25 ft S. of center of rd., and 30 ft E. of T-lane N., painted "751.3"		751.1

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2.2 UE, copper nail and washer in center of top of S. rail, small wooden bridge; 300 ft E. of T-rd. E.	746.63
3.0 UE, spike in telephone pole, 30 ft S. of rd. opposite white house, 0.3 mi W. of rd. turn, 700 ft E. of T-rd. N.	840.02
3.4 Fremont, 3.0 mi N. and 2.0 mi W. of; 580 ft E. of T-rd. S.; at center of sec. 33 T. 75 N., R. 14 W., 33 ft N. of center of rd., 18 ft W. of center of wooden gate 1 ft S. of fence, in concrete post; standard tablet stamped "TT 31 MT 1955 836"	836.370
3.5 Reference mark, spike in power pole at T-rd. S.; 30 ft N. of center of E.-W. rd., 25 ft W. of chute into cattle pen, 580 ft W. of tablet	837.06
4.0 UE, spike in power pole; 100 ft SW. of T-rd. E.	833.33
4.5 UE, spike in power pole at W. end of sharp rd. curve, 30 ft N. of rd. and 40 ft W. of extended tangent of center of driveway to S.	836.21
5.1 UE, spike in guy pole in ditch, 30 ft S. of rd. at driveway to farmhouse N.	841.91

COALFIELD QUAD. - 51

5.4 Fremont, 2.7 mi N., and 3.5 mi W. of; 470 ft E. of rd. forks near cor. secs. 5, 6, 31 and 32; Tps. 74 and 75 N., R. 14 W., 29 ft S., of center of rd., 97 ft E. of fence corner, 1 ft N. of fence; 2 ft SW. of telephone pole; in concrete post; standard tablet stamped "TT 30 MT 1955 847"	846.739
5.4 Reference mark, spike in telephone pole in ditch, 30 ft S. of rd. and 115 ft E. of center of grass triangle at T-rd. E.; 330 ft W. of tablet	843.76

LINE 3

<u>NORTH FROM SOUTHEAST CORNER (D.W. Ephlin, 1964; CV 1774)</u>	<u>SIGOURNEY QUAD. - 71</u>
1 62 0.0 Havesville, 1.4 mi NE. along the C. M. St. P. & P. RR. from the station at; 8 poles NE. of milepost 19, at public rd. crossing, 40 ft N. of the center of track; 27 ft NE. of the center of rd., 2 ft E. and 10 ft S. of right-of-way fence corner, and 2 ft lower than rail; a USC&GS standard disk stamped "P 86 1934" set in top of concrete post	761.724
0.9 UE P 86 A, 0.9 mi NW. of tablet; 22 ft N., 26 ft W. and 1.8 ft higher than T-drive W. to farmhouse; in the N. end of a 16-in. metal culvert; a punched hole; painted "UE 725.1"	725.08
63 1.8 UE P 86 B, 1.8 mi NW. of tablet; 30 ft N., 31 ft W. and 1.1 ft lower than T-rd. S.; in a power pole; 60 d spike nail; painted "UE 702.2"	702.23

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<u>LINE 3 (Cont'd)</u>	<u>WHAT CHEER QUAD. - 72</u>	<u>Feet</u>
1 64 2.7	UE P 86 C, 2.7 mi NW. of tablet; 55 ft S., 70 ft E. and 4.4 ft higher than center of N.-S. gravel rd. at field entrance E.; in twin oak trees; a 60 d spike nail; painted "UE 750.6"	750.58
65 3.1	Sigourney, 1.7 mi S. and 2.75 mi W. of; T. 75 N., R. 12 W., approx. 0.1 mi S. of quarter cor. between secs. 8 and 9; 70 ft N., 19 ft E. and 1.9 ft higher than center of N.-S. gravel rd. at RR. crossing; 6 ft NW. of a power pole; in concrete post standard tablet "20 DWE 1964" painted "EM 688.1"	688.105
3.1	Reference mark, 79 ft S. of tablet; in the S. end of an 18-in. metal culvert; a punched hole	683.04
66 3.8	UE 20 DWE A, 0.7 mi N. of tablet; 30 ft S., 36 ft W. and 2.2 ft lower than crossroads; in power pole; a 60 d spike nail painted "UE 752.8"	752.82
68 4.8	UE 20 DWE B, 1.7 mi N. of tablet; 138 ft S., 31 ft E. and 2.7 ft lower than crossroads; in a power pole; a 60 d spike nail; painted "UE 760.0"	759.97
69 5.8	UE 20 DWE C, 2.7 mi N. of tablet; 59 ft S., 29 ft W. and 1.1 ft lower than T-rd. S.; (offset crossroads) in the S. end of a metal culvert; a punched hole; painted "UE 777.1"	777.15
70 6.2	Sigourney, 1.4 mi N. and 2.75 mi W. of; T. 76 N., R. 12 W., approx. 0.1 mi S. of quarter cor. between secs. 28 and 29; 29 ft N., 27 ft E. and 0.8 ft lower than center of N.-S. gravel rd. at T-drive W. to farmhouse; 5 ft N. of a power pole; in a concrete post; a standard tablet stamped "21 DWE 1964" painted "EM 783.9"	783.911
6.2	Reference mark, 84 ft NW. of tablet; in N. end of 12-in. metal culvert; a punched hole	778.78
72 6.9	UE 21 DWE A, 0.8 mi N. of tablet; 18 ft N., 16 ft E. and 0.3 ft higher than center of N.-S. gravel rd. at T-drive E. to farmhouse; in the N. end of a metal culvert; a punched hole; painted "UE 730.8"	730.84
7.5	UE 21 DWE B, 1.4 mi N. of tablet; 27 ft S., 29 ft E. and 1.3 ft higher than T-rd. E.; in a power pole; a 60 d spike nail; painted "UE 737.2"	737.23
<u>SIGOURNEY QUAD. - 71</u>		
73 8.3	UE 21 DWE C, 2.1 mi NE. of tablet; 36 ft N., 38 ft W. and 2.4 ft higher than T-rd. N.; in power pole; a 60 d spike nail; painted "UE 782.8"	782.81
74 9.1	UE 21 DWE D, 2.8 mi NE. of tablet; 19 ft S., 23 ft E. and 2.4 ft lower than T-rd. E.; on S. end of concrete culvert; a chiseled square; painted "UE 770.1"	770.16
75 9.7	Sigourney, 2.3 mi N. and 1.5 mi W. of; T. 76 N., R. 12 W., in NE ¹ SE ¹ sec. 22, 33 ft N., 191 ft E. of T-drive N. to farmhouse; 4 ft S. of a fence corner post in a concrete post; a standard tablet stamped "22 DWE 1964" painted "EM 807.0"	807.048
9.7	Reference mark, 139 ft SE. of tablet; in a power pole; a 60 d spike nail	807.28

LINE 4

<u>WEST THRU CENTER OF QUAD. (D.W. Ephlin, 1964; CV 1774)</u>	<u>WHAT CHEER QUAD. - 72</u>	
2 44 0.0	"UE 21 DWE B" (described in Line 3)	737.23
0.6	UE 21 DWE K, 1.1 mi N. of tablet; center of N.-S. gravel rd. at Trd. W.; painted "UE centerline 716.6"	716.60

<u>LINE 4 (Cont'd)</u>	<u>WHAT CHEER QUAD. - 72</u>	<u>Feet</u>
2 45 1.0	UE 21 DWE L, 1.0 mi N. and 0.75 mi W. of tablet; 72 ft S., 23 ft E. and 3.9 ft lower than crossroads; in the S. end of a metal culvert; a punched hole; painted "UE 774.9"	774.98
46 2.0	UE 21 DWE M, 1.0 mi N. and 1.75 mi W. of tablet; 31 ft S., 34 ft W. and 1.3 ft lower than T-rd. S.; in a power pole; a 60 d spike nail; painted "UE 823.8"	823.81
47 2.7	UE 21 DWE N, 1.0 mi N. and 2.5 mi W. of tablet; 38 ft S., 18 ft W. and 4.6 ft lower than T-drive N. to farmhouse; in a power pole; a 60 d spike nail; painted "UE 790.0"	789.94
48 3.2	What Cheer, 2.0 mi S. and 2.0 mi E. of; T. 76 N., R. 13 W., near quarter cor. between secs. 23 and 24; 38 ft N., 44 ft E. and 4.0 ft lower than crossroads; 3 ft S. of a gate post; in a concrete post; a standard tablet stamped "33 DWE 1964" painted "BM 801.5"	801.592
3.2	Reference mark, 87 ft SW. of tablet; on the W. end of a concrete culvert; a chiseled square	805.90
49 3.7	UE 33 DWE A, 0.5 mi W. of tablet; at the center of E.-W. gravel rd. at T-rd. S.; painted "UE centerline 747.0"	747.09
50 4.2	UE 33 DWE B, 1.0 mi W. of tablet; 30 ft S., 36 ft E. and 4.9 ft lower than T-rd. N., in a power pole; a 60 d spike nail; painted "UE 767.1"	767.15
51 4.4	UE 33 DWE C, 1.25 mi W. of tablet; center of E.-W. gravel rd. at T-rd. S.; painted "UE centerline 792.2"	792.29
5.2	UE 33 DWE D, 2.0 mi W. of tablet; 28 ft S., 51 ft E. and 5.8 ft lower than crossroads; on the S. end of a concrete culvert; a chiseled square; painted "UE 800.4"	800.48
53 6.2	What Cheer, 2.0 mi S. and 1.0 mi W. of; T. 76 N., R. 13 W., near quarter cor. between secs. 20 and 21; 72 ft S., 32 ft W. and 3.7 ft higher than T-rd. E.; 1 ft SE. of a fence corner post; in a concrete post; a standard tablet stamped "34 DWE 1964" painted "BM 799.0"	799.066
6.2	Reference mark, 110 ft N. of tablet; in a power pole; a 60 d spike nail	791.35
54 7.0	UE 34 DWE A, 0.8 mi NW. of tablet; 30 ft S., 42 ft E. and 1.8 ft lower than center of E.-W. gravel rd. at drain crossing; in a power pole; a 60 d spike nail; painted "UE 741.8"	741.85
55 7.4	UE 34 DWE B, 1.7 mi NW. of tablet; 29 ft N., 32 ft E. and 2.7 ft higher than T-rd. E., in a power pole; a 60 d spike nail; painted "UE 801.0"	802.07
56 7.6	UE 34 DWE C, 1.5 mi NW. of tablet; 23 ft S., 27 ft W. and 0.7 ft lower than T-rd. W.; in the S. end of a metal culvert; a punched hole; painted "UE 783.9"	784.00
57 8.6	UE 34 DWE D, 2.5 mi NW. of tablet; 3 ft N., 40 ft W. and 2.6 ft lower than T-rd. E.; in a power pole; a 60 d spike nail; painted "UE 780.6"	780.75
58 9.0	UE 34 DWE E, 2.8 mi NW. of tablet; center of N.-S. gravel rd. at T-rd. W.; painted "UE centerline 831.1"	831.23
59 9.1	What Cheer, 1.1 mi S. and 3.2 mi W. of; T. 76 N., R. 14 W., in SE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13; 22 ft N., 48 ft E. and 1.4 ft higher than T-rd. S.; 5 ft W. of a power pole; in a concrete post; a standard tablet stamped "35 DWE 1964" painted "BM 823.4"	823.472
9.1	Reference mark, 69 ft SW. of tablet; in the W. end of a metal culvert; a punched hole	821.04

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<u>LINE 4 (Cont'd)</u>		<u>WHAT CHEER QUAD. - 72</u>	<u>Feet</u>
2 60 10.0	UE 35 DWE A, 0.9 mi W. of tablet; 62 ft N., 48 ft W. and 0.2 ft higher than T-rd. E.; (offset crossroads) in a power pole; a 60 d spike nail; painted "UE 807.2"		807.31
61 11.1	UE 35 DWE B, 1.9 mi W. of tablet; 32 ft N. of center of gravel rd. at W. point of 90° curve; in power pole; a 60 d spike nail painted "UE 778.2"		778.34
62 11.8	UE, 35 DWE C, 2.7 mi W. of tablet; center of large steel and wood bridge over North Skunk River		721.3
63 12.0	UE 35 DWE D, 2.9 mi W. of tablet; 71 ft SW. along gravel rd. from T-rd. NW., 12 ft SE. normal to rd. and 1.0 ft higher than T-rd.; on the SW. headwall of a wooden bridge; a copper nail and washer; painted "UE 716.8"		716.94
12.3	What Cheer, 1.5 mi S. and 5.75 mi W. of; T. 76 N., R. 14 W., near W. sixteenth cor. between secs. 15 and 22; 18 ft N., 37 ft W. and 1.8 ft higher than T-rd. W., 1 ft S. and 5 ft W. of a fence corner post; in a concrete post a standard tablet stamped "36 DWE 1964" painted "BM 768.6"		768.702
12.3	Referencemark, 35 ft SW. of tablet; in S. end of a metal culvert; a punched hole		765.33
64 13.1	UE 36 DWE A, 0.8 mi W. of tablet; 35 ft S., 34 ft W. and 5.3 ft higher than crossroads; in a power pole; a 60 d spike nail; painted "UE 811.6"		811.74
65 13.6	UE 36 DWE B, 0.8 mi E. and 0.5 mi S. of tablet; center of N.-S. gravel rd. at T-rd. E.; painted "UE centerline 811.0"		811.16
66 14.1	UE 36 DWE C, 0.8 mi W. of and 1.0 mi S. of tablet; 21 ft S., 30 ft E. and 4.0 ft higher than T-rd. W.; in a power pole; a 60 d spike nail; painted "UE 799.0"		799.20
67 15.1	UE 36 DWE D, 1.8 mi W. and 1.0 mi S. of tablet; center of E.-W. gravel rd. at T-rd. N.		767.3
68 15.3	What Cheer, 2.5 mi S. and 7.75 mi W. of; T. 76 N., R. 14 W., near W. sixteenth cor. between secs. 20 and 29; 38 ft S., 33 ft E. and 2.1 ft lower than Trd. S., 3 ft S. of a power pole; in the concrete post; a standard tablet stamped "37 DWE 1964" painted "BM 777.4"		777.528
15.3	Referencemark, 61 ft E. of tablet, on the W. end of a concrete culvert; a chiseled square		772.61
69 15.8	UE 37 DWE A, 0.5 mi S. of tablet; the center of N.-S. gravel rd. at T-rd. E.; painted "UE centerline 728.0"		728.2

OSKALOOSA QUAD. - 73

70 16.4	UE 37 DWE B, 1.1 mi S. of tablet; in SW. corner of church yard; in a power pole; a 60 d spike nail; painted "UE 803.2"	803.37
71 16.9	UE 37 DWE C, 1.6 mi S. of tablet; center of N.-S. gravel rd. at T-rd. E.; painted "UE centerline 800.4"	800.62
72 17.1	UE 37 DWE D, 1.8 mi S. of tablet; 30 ft N. 28 ft E. and 1.2 ft lower than crossroads; in a power pole; a 60 d spike nail; painted "UE 811.0"	811.14
73 18.1	Reference mark, 184 ft N. of tablet; in a power pole; a 60 d spike nail	741.10
18.1	Rose Hill, 0.5 mi N. and 2.5 mi W. of; T. 75 N., R. 14 W., near NE. cor. NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 6, 161 ft S., 36 ft W. and 7.0 ft lower than crossroads; 3 ft E. of a fence corner post; in a concrete post; a standard tablet stamped "38 DWE 1964"	730.924

<u>LINE 4 (Cont'd)</u>	<u>OSKALOOSA QUAD. - 73</u>	<u>Feet</u>
2 74 18.9 UE 38 DWE A, 0.8 mi S. of tablet; 31 ft E. of center of gravel rd. at field entrance W. at crest of hill; in a power pole; a 60 d spike nail; painted "UE 797.8"		798.02
75 19.5 UE 38 DWE B, 1.3 mi S. of tablet; 50 ft N., 26 ft W. and 7.9 ft lower than T-rd. N.; on the W. end of a concrete culvert; a chiseled square; painted "UE 687.6"		687.78
76 20.0 UE 38 DWE C, 1.8 mi S. of tablet; 89 ft S., 29 ft W. and 7.8 ft lower than T-rd. S.; in the NE. end of a metal culvert; with flood gate; a punched hole		685.97
20.4 UE 38 DWE D, 2.2 mi S. of tablet; 2 ft S., 38 ft W. and 2.2 ft lower than T-rd. W.; in the N. end of a concrete culvert; a chiseled square; painted "UE 694.9"		695.07
77 21.1 UE 38 DWE E, 2.9 mi S. of tablet; 36 ft N., 22 ft W. and 0.5 ft lower than crossroads; in a power pole; a 60 d spike nail; painted "UE 749.0"		749.21
78 21.6 Reference mark, 162 ft S. of tablet; in a power pole; a 60 d spike nail		808.17
21.6 Rose Hill, 2.5 mi S. and 3.0 mi W. of; T. 75 N., R. 14 W., near SW. cor. SE 1/4 NW 1/4 sec. 19, 129 ft N., 28 ft E. and 2.1 ft higher than T-rd E., 2 ft W. of a fence; 7 ft S. of a power pole; in a concrete post; a standard tablet stamped "39 DWE 1964" painted "EM 813.7"		813.921
79 22.6 UE 39 DWE A, 1.0 mi S. of tablet; 21 ft N., 27 ft E. and 0.9 ft lower than T-rd. N.; in the N. end of a metal culvert; a punched hole; painted "UE 820.2"		830.43
80 23.1 UE 39 DWE B, 1.5 mi S. of tablet; center of E.-W. gravel rd. at Trd. S. opposite field rd. N.; painted "UE centerline 838.4"		838.63
23.6 UE 39 DWE C, 2.0 mi S. of tablet; 55 ft S., 33 ft W. and 1.0 ft lower than T-rd. S.; in a power pole; a 60 d spike nail; painted "UE 840.4"		840.65
3 74 24.2 UE 39 DWE D, 2.6 mi S. of tablet; 11 ft S., 31 ft E. and 1.1 ft lower than T-rd. E. to farmhouse; in a power pole; a 60 d spike nail; painted "UE 846.1"		846.32
75 24.9 UE 39 DWE E, 3.2 mi S. of tablet; center of N.-S. gravel rd. at T-rd. E.		846.34

COAL FIELD QUAD. - 51

24.9 "T1 30 ME 1955" (described in Line 2)	846.739
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LINE 5

NORTH, WEST THENCE SOUTH FROM CENTER OF EAST BORDER (D.W. Ephlin, 1964; CV 1774)

WHAT CHEER QUAD. - 72

3 2 0.0 "UE 21 DWE B" (described in Line 3)	737.23
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SIGOURNEY QUAD. - 71

3 0.9 UE 21 DWE X, 2.3 mi N. of tablet; 19 ft S., 33 ft W. and 5.6 ft lower than T-rd. W.; in the S. end of a metal culvert; a punched hole; painted "UE 746.5"	746.51
5 2.0 UE 21 DWE Y, 3.4 mi N. of tablet; 33 ft N., 45 ft E. and 0.5 ft lower than Trd. N.; in a power pole; a 60 d spike nail; painted "UE 819.2"	819.28
6 3.0 Sigourney, 5.0 mi N. and 2.25 mi W. of; T. 76 N., R. 12 W., near quarter cor. between secs. 4 and 9; 32 ft N., 33 ft E. and 0.2 ft higher than T-rd. W.; 4 ft W. of a fence; 3 ft SW. of a power pole; in a concrete post; standard tablet stamped "23 DWE 1964" painted "EM 847.5"	847.322

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WHAT CHEER QUADRANGLE
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<u>LINE 5 (Cont'd)</u>		<u>SIGOURNEY QUAD. - 71</u>	<u>Feet</u>
3 6 3.0	Reference mark, 91 ft SW. of tablet; in a power pole; a 60 d spike nail		845.01
7 4.0	UE 23 DWE A, 1.0 mi N. of tablet; 39 ft S., 30 ft E. and 3.2 ft lower than T-rd. S.; in the E. end of a metal culvert; a punched hole; painted "UE 838.5"		838.55
8 4.5	UE, 23 DWE B, 1.5 mi N. of tablet; in center of E.-W. gravel rd. at T-rd. S.; (offset crossroads) painted "UE centerline 845.7"		845.73
10 5.1	UE 23 DWE C, 2.0 mi N. of tablet; 15 ft S., 34 ft W. and 0.8 ft lower than center of N.-S. gravel rd. at T-drive W. to abandoned farmhouse in a power pole; a 60 d spike nail; painted "UE 851.7"		851.76
11 6.1	Keswick, 0.5 mi S. of; T. 77 N., R. 21 W., near quarter cor. between secs. 27 and 28; 27 ft S., 58 ft E. and 1.8 ft lower than center of N.-S. blacktop rd. at field entrance E.; 4 ft N. of a power pole; in a concrete post; a standard tablet stamped "24 DWE 1964" painted "BM 870.4"		870.412
6.1	Reference mark, 172 ft N. of tablet; in power pole; a 60 d spike nail		870.54
12 7.1	UE 24 DWE A, 1.0 mi N. of tablet; 33 ft S., 53 ft E. and 0.9 ft higher than T-drive E. to farmhouse; in a power pole; a 60 d spike nail; painted "UE 856.8"		856.79
13 8.1	UE 24 DWE B, 2.0 mi N. of tablet; 77 ft S., 42 ft W. and 0.7 ft higher than T-drive W. to farmhouse; in a power pole; a 60 d spike nail; painted "UE 821.6"		821.56
14 9.2	Keswick, 2.6 mi N. of; T. 77 N., R. 12 W., approx. 0.1 mi N. of quarter cor. between secs. 9 and 10; 98 ft N., 52 ft W. and 1.3 ft higher than center of N.-S. gravel rd. at T-drive W. to abandoned farmhouse; 33 ft NE. of NE. corner of house; 4 ft NE. of fence corner post; in a concrete post; a standard tablet stamped "25 DWE 1964" painted "BM 887.9"		887.910
9.2	Reference mark, 162 ft NE. of tablet; in a power pole; a 60 d spike nail		886.26
15 9.5	UE 25 DWE A, 0.3 mi N. of tablet; 27 ft N., 42 ft E. and 2.3 ft lower than T-rd. E.; (offset crossroads) in the N. end of a metal culvert; a punched hole; painted "UE 885.3"		885.35
		<u>WHAT CHEER QUAD. - 72</u>	
16 10.6	UE 25 DWE B, 0.3 mi N. and 1.0 mi W. of tablet; 22 ft N., 28 ft W. and 1.4 ft lower than crossroads; on the N. end of a concrete culvert; a chiseled square; painted "UE 879.7"		879.72
17 10.8	Keswick, 3.0 mi N. and 1.25 mi W. of; T. 77 N., R. 12 W., near SW. cor. SE $\frac{1}{4}$ sec. 5, 39 ft N., 105 ft E. and 5.3 ft higher than center of rd. at T-drive S.; 1 ft S. of E.-W. fence and metal witness post; a standard tablet stamped "ET 15 DHE 1964" set in concrete post; flush with ground		892.512
10.8	Reference mark, 135 ft SW. of tablet; on the W. end of a concrete culvert; chiseled square		888.62
19 12.3	UE, 25 DWE C, 0.3 mi N. and 2.0 mi W. of tablet; 17 ft S., 29 ft W. and 0.3 ft lower than crossroads; on the S. end of a concrete culvert; a chiseled square; painted "UE 879.9"		879.93
20 12.5	Keswick, 3.0 mi N. and 2.75 mi W. of; T. 77 N., R. 12 W., near W. sixteenth cor. between secs. 6 and 7; 35 ft S. of center of E.-W. gravel rd. at T-drive SE $\frac{1}{4}$; and 0.5 ft lower than T-rd.; 6 ft W. of W. gatepost to barn yard, 2 ft N. of a fence; in a concrete post; a standard tablet stamped "26 DWE 1964" painted "BM 882.6"		882.619

<u>LINE 5 (Cont'd)</u>	<u>WHAT CHEER QUAD. - 72</u>	<u>Feet</u>
3 20 12.5	Reference mark, 147 ft NW. of tablet; in a power pole; a 60 d spike nail	882.34
21 13.1	UE 26 DWE A, 0.1 mi W. of tablet; center of E.-W. gravel rd. at crossroads; painted "UE centerline 865.7"	865.7
22 13.6	UE 26 DWE B, 1.1 mi W. of tablet; 43 ft S., 33 ft E. and 6.3 ft lower than T-rd. S.; (offset crossroads) a power pole a 60 d spike nail; painted "UE 840.3"	840.24
23 14.6	UE 26 DWE C, 2.1 mi W. of tablet; 40 ft N., 54 ft W. and 1.4 ft lower than crossroads; in a power pole; a 60 d spike nail; painted "UE 866.5"	866.45
24 15.6	Gibson, 1.0 mi N. and 2.0 mi E. of; T. 77 N., R. 13 W., near cor. secs. 3, 4, 9 and 10; 41 ft S., 58 ft E. and 4.5 ft lower than crossroads; 5 ft N. of a power pole; 4 ft NW. of a fence corner post; in a concrete post; a standard tablet stamped "27 DWE 1964" painted "EM 885.4"	885.357
15.6	Reference mark, 183 ft NW. of tablet; in power pole; a 60 d spike nail; painted "RM"	887.88
26 16.6	UE 27 DWE A, 0.1 mi W. of tablet; 23 ft N., 4 ft E. and 0.9 ft lower than T-rd. S.; in the E. end of a metal culvert; a punched hole; painted "UE 818.4"	818.36
27 17.1	Gibson, 1.0 mi N. and 0.5 mi E. of; T. 77 N., R. 13 W., 22 ft N. and 150 ft E. of quarter cor. secs. 5 and 8; 22 ft N. of center of E.-W. rd., 2 ft S. and 2 ft E. of E. gate post to field entrance N.; 2 ft S. of a metal witness post; a standard tablet stamped "ET 14 DHB 1964" set in concrete post extending 4 in. above ground level; painted "EM 890.8"	890.779
28 17.6	UE 27 DWE B, 2.0 mi W. of tablet; 31 ft S., 68 ft W. and 1.5 ft higher than crossroads; in a power pole; a 60 d spike nail; painted "UE 884.9"	884.91
29 18.3	Gibson, 1.0 mi N. and 0.9 mi W. of; T. 77 N., R. 13 and 14 W., approx. 0.1 mi E. of cor. secs. 1, 6, 7 and 12; 32 ft N., 18 ft W. and 1.4 ft higher than T-drive N. to farmhouse; 2 ft S. of a white board fence, 4 ft SW. of a power pole; in a concrete post; a standard tablet stamped "28 DWE 1964" painted "EM 896.0"	895.977
18.3	Reference mark, 67 ft S. of tablet; in a power pole; a 60 d spike nail	891.35
30 18.7	UE 28 DWE A, 0.4 mi W. of tablet; center of E.-W. gravel rd. a RR. crossing; painted "UE centerline 905.2"	905.16
19.0	UE 28 DWE B, 0.7 mi W. of tablet; center of E.-W. gravel rd. at T-rd. S. painted "UE centerline 902.0"	901.94
19.6	UE 28 DWE C, 1.2 mi W. of tablet; 29 ft S., and 0.5 ft lower than T-rd. N. in a power pole; a 60 d spike nail painted "UE 900.5"	900.50
31 20.3	UE 28 DWE D, 2.0 mi W. of tablet; center of N.-S. gravel rd. at T-rd. E. painted "UE centerline 900.0"	900.01
<u>DEEP RIVER QUAD. - 95</u>		
32 20.5	UE 28 DWE E, 2.0 mi W. and 0.25 mi N. of tablet; near center of 90° bend in rd. in a power pole; a 60 d spike nail; painted "UE 902.5"	902.48
33 21.5	Barnes City, 0.75 mi S. and 0.25 mi E. of; T. 77 N., R. 14 W., near center of SW $\frac{1}{4}$ sec. 3, 26 ft S., 34 ft E. and 1.9 ft lower than T-drive S. to farmhouse; at E. point of 90° bend in rd., 2 ft W. of a power pole; in a concrete post a standard tablet stamped "29 DWE 1964" painted "EM 819.3"	819.220

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WHAT CHEER QUADRANGLE
72 - IOWA

<u>LINE 5 (Cont'd)</u>		<u>DEEP RIVER QUAD. - 95</u>	<u>Feet</u>
3 33 21.5	Reference mark, 47 ft W. of tablet; in W. end of a metal culvert; a punched hole		820.17
34 22.5	UE 29 DWE A, 1.0 mi NW. of tablet; near SW. cor. city park in Barnes City, 14 ft S. of center of E.-W. street, in the W. end of a metal culvert; a punched hole; painted "UE 904.5"		904.44
35 23.0	UE 29 DWE B, 1.5 mi NW. of tablet; 80 ft S., 21 ft E. and 0.7 ft lower than T-rd. W.; in a power pole; a 60 d spike nail; painted "UE 899.3"		899.28
36 23.8	UE 29 DWE C, 2.4 mi NW. of tablet; 27 ft S., 16 ft W. and 1.1 ft lower than T-rd. N.; in a power pole; a 60 d spike nail; painted "UE 900.3"		900.30
		<u>MONTEZUMA QUAD. - 96</u>	
37 24.8	Barnes City, 0.5 mi S. and 2.0 mi W. of; T. 77 N., R. 14 W., near quarter cor. between secs. 5 and 6; 253 ft S., 31 ft W. and 18.8 ft higher than crossroads; 11 ft S. of and 31 ft W. of center of N.-S. gravel rd. at field entrance W.; 3 ft E. of a fence in a concrete post; a standard tablet stamped "ET 13 DHB 1964" painted "BM 890.6"		890.586
		<u>OSKALOOSA QUAD. - 73</u>	
38 25.7	UE 13 DHB A, 0.9 mi S. of tablet; 26 ft S., 26 ft W. and 2.6 ft lower than T-rd. W.; in the S. end of a metal culvert; a punched hole		808.69
39 26.2	UE 13 DHB B, 1.5 mi S. of tablet; 60 ft S., 20 ft W. and 1.5 ft lower than crossroads; on the W. end of a concrete culvert; a chiseled square; painted "UE 829.7"		829.69
41 27.2	Barnes City, 3.0 mi S. and 2.0 mi W. of; T. 77 N., R. 14 W., near cor. secs. 17, 18, 19 and 20; 31 ft N., 26 ft W. and 1.4 ft higher than crossroads; 3 ft E. of a fence, 4 ft SE. of a power pole; in a concrete post; a standard tablet stamped "30 DWE 1964" painted "BM 855.0"		854.901
27.2	Reference mark, 82 ft SE. of tablet; on the W. end of a concrete culvert; a chiseled square		851.99
42 27.7	UE 30 DWE A, 0.5 mi S. of tablet; center of N.-S. gravel rd. at crossroads; painted "UE centerline 764.5"		764.4
43 28.2	UE 30 DWE B, 1.0 mi S. of tablet; 20 ft N., 16 ft E. and 1.5 ft higher than center of N.-S. dirt rd. at fence lines E. and W.; on the N. end of a concrete culvert; a chiseled square; painted "UE 734.7"		734.63
44 29.2	UE 30 DWE C, 1.9 mi S. of tablet; at 90° bend in dirt rd. in W. gatepost at fence corner; a 60 d spike nail; painted "UE 739.1"		739.00
45 29.9	Barnes City, 5.25 mi S. and 7.25 mi W. of; T. 77 N., R. 14 W., near center of NE 1/4 sec. 31; 56 ft N., 16 ft E. and 0.8 ft lower than T-rd. N.; 2 ft W. of a fence, 4 ft S. of a power pole; in a concrete post; a standard tablet stamped "31 DWE 1964" painted "BM 762.4"		762.380
29.9	Reference mark, 84 ft S. of tablet; in a power pole; a 60 d spike nail		763.04
		<u>WHAT CHEER QUAD. - 72</u>	
46 30.4	UE 31 DWE A, 0.5 mi E. of tablet; 23 ft N., 17 ft W. and 1.8 ft lower than T-rd. S.; in the W. end of a metal culvert; a punched hole; painted "UE 748.2"		748.15

<u>LINE 5 (Cont'd)</u>	<u>WHAT CHEER QUAD. - 72</u>	<u>Feet</u>
3 47 31.1	UE 31 DWE B, 1.2 mi SE. of tablet; 33 ft S., 39 ft W. and 2.4 ft higher than T-rd. W.; in a power pole; a 60 d spike nail; painted "UE 758.1"	758.02
48 31.4	UE 31 DWE C, 1.5 mi S. of tablet; center of N.-S. gravel rd. at T-rd. E.; painted "UE centerline 785.5"	785.4
32.1	UE 31 DWE D, 2.2 mi S. of tablet; 74 ft N., 30 ft W. and 3.0 ft higher than T-rd. N.; in a power pole; a 60 d spike nail; painted "UE 811.9"	811.84
49 32.4	Barnes City, 7.0 mi S. and 1.75 mi W. of; T. 76 N., R. 14 W., near quarter cor. between secs. 5 and 8; 52 ft N., 5 ft W. and 1.3 ft higher than T-rd. S.; 7 ft E. of a power pole; in a concrete post; a standard tablet stamped "32 DWE 1964" painted "BM 790.0"	789.92
32.4	Reference mark, 192 ft S. of tablet; on the N. end of the W. headwall of a large concrete box culvert; a chiseled square	779.59
50 33.1	UE 32 DWE A, 0.7 mi S. of tablet; 3.4 ft N., 31 ft E. and 0.6 ft lower than crossroads; in a power pole; a 60 d spike nail; painted "UE 831.9"	831.84
51 33.7	UE 32 DWE B, 1.2 mi S. of tablet; center of N.-S. gravel rd. at crossroads; painted "UE centerline 809.4"	809.32
52 34.2	UE 32 DWE C, 1.8 mi S. of tablet; 58 ft N., 29 ft E. and 0.1 ft lower than T-rd. SE.; in a power pole; a 60 d spike nail; painted "UE 787.9"	787.80
53 34.5	Rose Hill, 3.7 mi N. and 1.7 mi W. of; T. 76 N., R. 14 W., approx. 0.2 mi N. of center of sec. 20, 12 ft N., 30 ft E. and 0.2 ft higher than center of N.-S. gravel rd. at field entrance E.; 2 ft W. of a fence, 4 ft NW. of a gate post in a concrete post; a standard tablet stamped "ET 12 DHB 1964" painted "BM 819.8"	819.688
54 35.6	"37 DWE 1964" (described in Line 4)	777.528

LINE 6

WEST NEAR CENTER OF WEST BORDER (D.W. Ephlin, 1964; GV 1774)

WHAT CHEER QUAD. - 72

4 2 0.0	"37 DWE 1964" (described in Line 4)	777.528
<u>OSKALOOSA QUAD. - 73</u>		
2 0.6	UE 37 DWE K, 0.6 mi W. of tablet; 19 ft S., 14 ft W. and 1.2 ft lower than crossroads; in the S. end of a metal culvert; a punched hole; painted "UE 766.5"	766.50
3 1.3	UE 37 DWE L, 1.3 mi W. of tablet; 33 ft N., 41 ft E. and 0.6 ft higher than center of E.-W. gravel rd. at T-rd. N.; in a power pole; a 60 d spike nail; painted "UE 790.7"	790.88
4 2.3	UE 37 DWE M, 2.3 mi NW. of tablet; 21 ft N., 13 ft W. and 0.5 ft lower than T-rd. S.; on the W. end of a concrete culvert; a chiseled square painted "UE 815.1"	815.30
5 2.8	UE 37 DWE N, 2.8 mi NW. of tablet; center of E.-W. gravel rd. at T-rd. N.	813.75
6 3.0	Lacey, 1.5 mi S. and 5.3 mi E. of; T. 76 N., R. 15 W., near W sixteenth cor. between secs. 13 and 24; 39 ft N., 9 ft E. and 4.0 ft higher than center of E.-W. gravel rd. at field entrance N.; 1 ft S. and 5 ft W. of a fence post; bearing a standard witness mark sign, in a concrete post a standard tablet stamped "42 DWE 1964" painted "BM 786.9"	787.122
3.0	Reference mark 152 ft W. of tablet, in a power pole and a 60 d spike nail	783.32

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WHAT CHEER QUADRANGLE
72 - IOWA

LINE 7

Feet

GENERALLY NORTH THRU CENTER OF NORTH PORTION OF QUAD. (D.W. Ephlin, 1964, CV1774)

NOTE: Leveling performed by Fourth Order Methods. No bench marks established and line is not shown on diagram.

WHAT CHEER QUAD. - 72

5 29 0.0	UE 27 DWE A (described in Line 5)	818.36
1.0	T. 77 N., R. 13 W., near cor. secs. 8, 9, 16 and 17; center of E.-W. paved rd. at T-rd. S.; (offset crossroads) painted "centerline 889.1"	889.06
30 1.3	T. 77 N., R. 13 W., approx. 0.1 mi N. of quarter cor. between secs. 16 and 17; center of N.-S. gravel rd. at RR. crossing; painted "centerline 894.9"	894.9
2.0	T. 77 N., R. 13 W., near cor. secs. 16, 17, 20 and 21; center of N.-S. gravel rd. at crossroads; painted "centerline 876.4"	876.4
2.9	T. 77 N., R. 13 W., near cor. secs. 20, 21, 28 and 29; center of N.-S. gravel rd. at crossroads; painted "centerline 841.1"	841.2
31 4.0	T. 77 N., R. 13 W., near cor. secs. 28, 29, 32 and 33; center of N.-S. gravel rd. at crossroads; painted "centerline 851.5"	851.5
32 4.9	Tps. 76 and 77 N., R. 13 W., near cor. secs. 4, 5, 32 and 33; center of E.-W. dirt rd. at T-rd. N.; painted "centerline 769.0"	769.0
33 6.0	T. 76 N., R. 13 W., near cor. secs. 4, 5, 8 and 9; center of N.-S. gravel rd. at crossroads; painted "centerline 839.7"	839.8
34 6.5	T. 76 N., R. 13 W., near quarter cor. between secs. 8 and 9; center of N.-S. gravel rd. at T-rd. E.; painted "centerline 809.4"	809.4
35 7.0	T. 76 N., R. 13 W., near cor. secs. 8, 9, 16 and 17; center of N.-S. gravel rd. at crossroads; painted "centerline 830.4"	830.4
36 8.0	T. 76 N., R. 13 W., near cor. secs. 16, 17, 20 and 21; center of N.-S. gravel rd. at T-fences E. - W.; painted "centerline 790.6"	790.7
37 8.5	T. 76 N., R. 13 W., near N. sixteenth cor. between secs. 20 and 21; center of N.-S. gravel rd. at T-rd. W.; painted "centerline 797.7"	797.7
8.6	"Reference mark for "34 DWE 1964" (described in Line 4)	791.35

LINE 8

GENERALLY SOUTH THRU CENTER OF SOUTH PORTION OF QUAD. (D.W. Ephlin, 1964; CV 1774)

NOTE: Leveling performed by Fourth Order methods. No bench marks were established and line is not shown on diagram.

WHAT CHEER QUAD. - 72

5 39 0.0	"34 DWE 1964" (described in Line 4)	799.066
0.6	T. 76 N., R. 13 W., approx. 0.1 mi S. of cor. secs. 20, 21, 28 and 29; center of N.-S. gravel rd. at drain crossing; painted "centerline 735.8"	732.3
40 1.5	T. 76 N., R. 13 W., near cor. secs. 28, 29, 32 and 33; the center of E.-W. gravel rd. at T-rd. N.; painted "centerline 787.5"	784.1

<u>LINE 8 (Cont'd)</u>	<u>WHAT CHEER QUAD. - 72</u>	<u>Feet</u>
5 41 1.7	T. 76 N., R. 13 W., near W. sixteenth cor. between secs. 28 and 33; center of E.-W. gravel rd. at T-rd. S.; painted "centerline 788.8"	785.4
2.7	Tps. 75 and 76 N., R. 13 W., near W. sixteenth cor. between secs. 4 and 33; center of E.-W. paved rd. at T-rd. N.; painted "centerline 810.3"	806.9
42 2.9	Tps. 76 and 75 N., R. 13 W., near cor. secs. 4, 5, 32 and 33; center of E.-W. paved rd. at T-rd. S.; painted "centerline 810.2"	806.7
4.0	T. 75 N., R. 13 W., near cor. secs. 4, 5, 8 and 9; center of N.-S. gravel rd. at crossroads; painted "centerline 766.7"	763.3
43 4.3	T. 75 N., R. 13 W., near N. sixteenth cor. between secs. 8 and 9; center of N.-S. gravel rd. at RR. crossing; painted "centerline 711.4"	707.9
4.8	T. 75 N., R. 13 W., in SE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8, center of N.-S. gravel rd. at drain crossing; painted "centerline 701.0"	697.6
44 5.1	T. 75 N., R. 13 W., near E. sixteenth cor. between secs. 8 and 17; center of E.-W. gravel rd. at T-rd. NW.; painted "centerline 780.4"	776.9
45 5.5	T. 75 N., R. 13 W., near W. sixteenth cor. between secs. 9 and 16; center of N.-S. gravel rd. at T-drive E. to farm house; painted "centerline 740.3"	736.9
46 6.4	T. 75 N., R. 13 W., near W. sixteenth cor. between secs. 16 and 21; center of N.-S. gravel rd. at crossroad; painted "centerline 802.4"	799.0
47 7.5	T. 75 N., R. 13 W., near W. sixteenth cor. between secs. 21 and 28; center of E.-W. gravel rd. at T-rd. N.; painted "centerline 767.1"	763.7
48 8.0	T. 75 N., R. 13 W., near E. sixteenth cor. between secs. 20 and 29; center of E.-W. gravel rd. at T-rd. S.; painted "centerline 726.1"	722.6
49 9.0	T. 75 N., R. 13 W., near E. sixteenth cor. between secs. 29 and 32; center of N.-S. dirt rd. at E.-W. fence line; painted "centerline 677.6"	674.16
51 9.7	Tps. 74 and 75 N., R. 13 W., near E. sixteenth cor. between secs. 5 and 32; center of E.-W. gravel rd. at T-rd. N.; painted UE centerline 799.2"	795.7
10.5	"Reference mark, 400 ft E. of "TT 42 MT 1955" (described in Line 1)	763.60

