

THIRD ORDER LEVELS
SEA LEVEL DATUM OF 1929

FINAL ADJUSTMENT OF 1970

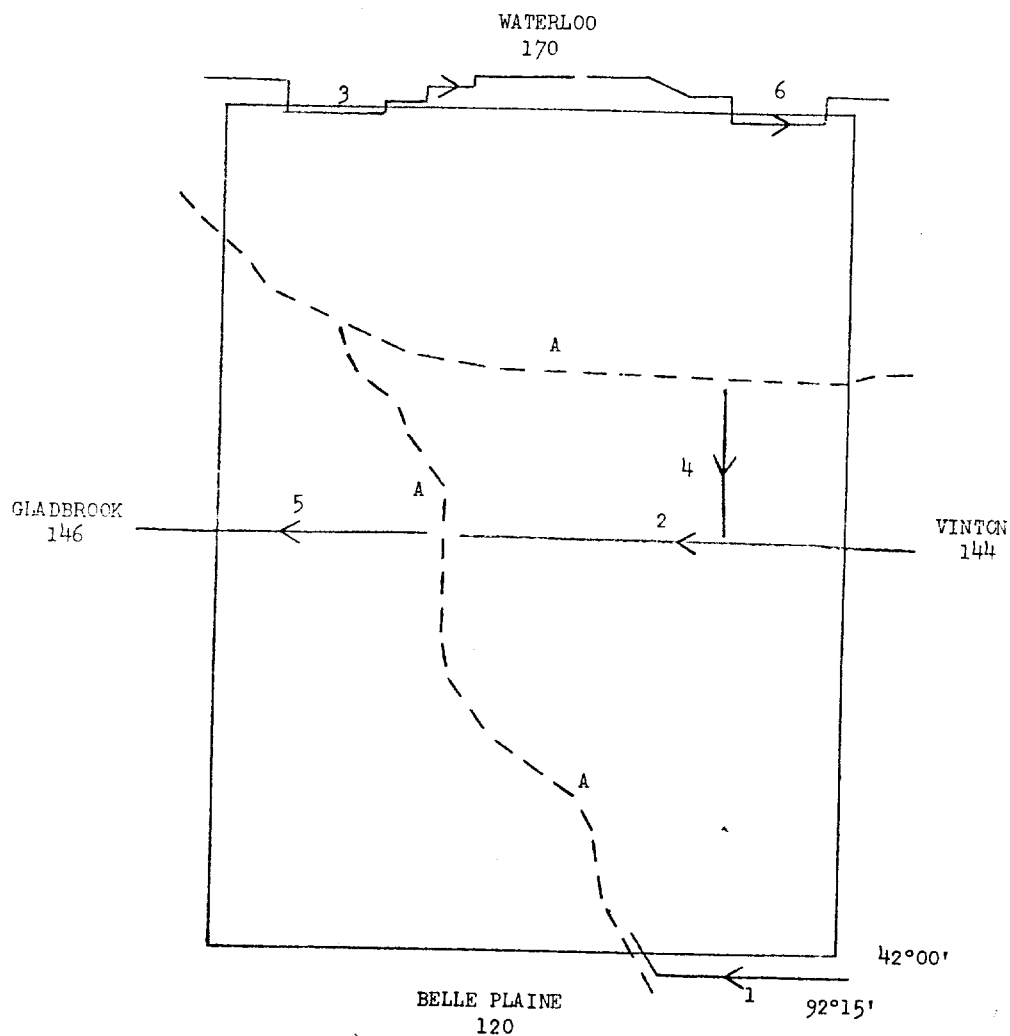
Benton and Tama Counties

Edition of 10/9/70

PR:ADP/ph/gh

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

TRAER QUADRANGLE
145 - IOWA
N4200-W9215/15
DIAGRAM NK 15-5
WATERLOO



USC&GS VERTICAL CONTROL DATA
Quadrangle 420922

145 B

LINE 1

FEET

C. L. Crutchfield, 1970; Book CV 2506

MARENGO QUAD. - 119

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|---------------------------------|-----|--|---|---------|
| 2 | 3 | 0.0 | Keystone, 0.5 mi S. and 2.0 mi W. of; T. 83 N., R. 12 W., near cor. secs. 15, 16, 21 and 22, 38 ft N. and 32 ft W. of center of crossroads, 2 ft E. of W. right-of-way fence, in top of a concrete post; a standard tablet stamped "14 GHC 1964 918" painted "BM 918.2" | 918.244 |
| <u>BELLE PLAINE QUAD. - 120</u> | | | | |
| 3 | 1.0 | UE 14 1 A, | 1.0 mi W. along a county rd. from tablet; center of crossroads, painted "UE centerline" | 933.0 |
| 4 | 2.0 | UE 14 1 B, | 2.0 mi W. along a county rd. from tablet, center of crossroads, painted "UE centerline" | 943.2 |
| 5 | 2.6 | Elberon, 1.0 mi S. and 1.5 mi E. of; near the center of secs. 18 and 19, T. 83 N., R. 12 W., 15 ft N. and 245 ft W. and 4.2 ft lower than center of E.-W. rd. at N.-S. fence, in the center of the N. headwall of a concrete box culvert; a standard tablet stamped "1 CLC 1970 911" | | 911.358 |
| 6 | 2.6 | Reference mark, 30 ft S. and 1.7 ft lower than tablet, in the center of the S. headwall of a concrete box culvert; a chiseled square, painted "RM" | | 909.6 |
| 7 | 2.9 | UE 1 A, 0.4 mi W. along a county rd. from tablet, center of crossroads; a RR. spike, painted "UE centerline" | | 920.04 |
| 9 | 4.2 | UE 1 B, 1.7 mi W. along a county rd. from tablet, center of crossroads; painted "UE centerline" | | 842.5 |
| 10 | 4.5 | UE 1 C, 2.0 mi W. along a county rd. from tablet, center of E.-W. gravel and old RR. bed, painted "UE centerline" | | 824.6 |

TRAER QUAD. - 145

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|--|-----|--|---------|
| | 4.7 | 11 /Elberon, Tama County, 1.0 mi S. along the Chicago & North Western RR. from the station at; 4 poles N. of milepost 8, at bridge 22, in the N. end of the E. headwall, and about 2 ft lower than the rail; a monel metal rivet designated "8 (C&NW RY.)" | 814.805 |
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LINE 2

C. L. Crutchfield, 1970; Book CV 2506

VINTON QUAD. - 144

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|--------------------------|-----|---|--|---------|
| 2 | 25 | 6.5 | Garrison, 1.5 mi S. and 5.0 mi W. of; near the cor. secs. 3, 4, 33 and 34, Tps. 84 and 85 N., R. 12 W., 200 ft S. and 35 ft W. and 3.0 ft lower than crossroads, 1 ft E. of a N.-S. fence, 0.5 ft E. of a witness sign; a copper coated steel rod driven to a depth of 15 ft; a standard brass tablet crimped to rod, set flush with the ground and stamped "3 CLC 1970 942" | 942.119 |
| 26 | 6.5 | Reference mark, 20 ft S. and 43 ft W. and 2.6 ft lower than crossroads, top of the S. end of a metal corrugated culvert; a punched hole painted "RM" | | 942.45 |
| <u>TRAER QUAD. - 145</u> | | | | |
| 27 | 7.5 | UE 3 A, 1.0 mi W. along a county rd. from tablet, center of T-rd. N.; painted "UE centerline" | | 909.2 |
| 28 | 8.5 | UE 3 B, 2.0 mi W. along a county rd. from tablet, center of crossroads, painted "UE centerline" | | 925.8 |
| 29 | 8.9 | UE 3 C, 2.4 mi W. along a county rd. from tablet, center of concrete bridge; a chiseled square, painted "UE centerline" (water 10.0 ft lower than center of bridge) | | 891.7 |
| 30 | 9.5 | UE 3 D, 3.0 mi W. along a county rd. from tablet, center of T-rd. W.; a RR. spike in pavement, painted "UE centerline" | | 927.4 |

<u>LINE 2 (Cont'd)</u>		<u>TRAER QUAD. - 145</u>	<u>FEET</u>
2 31 9.6	Dysart, 3.0 mi S. and 0.5 mi E. of; 0.1 mi N. of the cor. secs. 31, 36, 1 and 6, Tps. 84 and 85 N., Rs. 12 and 13 W., 580 ft N. and 22 ft E. and 13.8 ft lower than T-rd. W., in the center of the E. headwall of a concrete box culvert; a standard tablet stamped "4 CLC 1970 914"		913.510
32 9.6	Reference mark, 45 ft W. and 1.3 ft higher than tablet, in the center of the W. headwall of a concrete box culvert; a steel rivet		914.78
34 10.7	UE 4 A, 0.1 mi S. and 1.0 mi W. along a county rd. from tablet, center of crossroads, painted "UE centerline"		948.1
35 11.7	UE 4 B, 0.1 mi S. and 2.0 mi W. along a county rd. from tablet, center of crossroads, painted "UE centerline"		926.1
36 12.3	UE 4 C, 0.1 mi S. and 2.6 mi W. along a county rd. from tablet, center of wooden bridge; a copper nail and washer, painted "UE centerline (water 9.0 ft lower than bridge)		880.44
37 12.5	Dysart, 3.0 mi S. and 2.2 mi W. of, 0.2 mi E. of the cor. of secs. 3, 4, 33 and 34, Tps. 84 and 85 N., R. 13 W., 32 ft N. and 10 ft E. and 2.1 ft lower than center of E.-W. rd. at field entrance N., 3 ft N. and 3 ft W. of the E. corner of gate post, 2 ft S. of a witness sign; a copper coated steel rod driven to a depth of 15 ft; a standard brass tablet crimped to rod set 0.1 ft below ground and stamped "5 CLC 1970 914"		913.947
38 12.5	Reference mark, 6 ft S. and 20 ft W. and 1.0 ft lower than tablet, on the W. end of a metal corrugated culvert; a punched hole, painted "RM"		912.97
39 12.7	UE 5 A, 0.2 mi W. along a county rd. from tablet, center of crossroads, painted "UE centerline"		915.3
40 13.7	UE 5 B, 1.2 mi W. along a county rd. from tablet, center of T-rd. S., painted "UE centerline"		970.0
41 14.7	UE 5 C, 2.2 mi W. along a county rd. from tablet, center of crossroads; a chiseled square in concrete hwy., painted "UE centerline"		911.9
42 15.4	UE 5 D, 2.9 mi W. along a county rd. from tablet, center of E.-W. rd.; top of E. rail		894.0
43 15.5	Clutier, Tama County, 3.3 mi NW. along the Chicago & North Western RR. from the station at; 13 poles S. of milepost 19, at a public-rd. crossing, 28 ft S. of the rd., 42 ft W. of the center of the track, 6 ft E. and 1 ft S. of a right-of-way fence corner, and 2 ft lower than the rail; a USC&GS standard disk stamped "H 82 1934" and set in the top of a concrete post		892.413

LINE 3

C. L. Crutchfield, 1970; Book CV 2506

REINBECK QUAD. - 171

2 47 0.0	Hudson, 10.5 mi S. and 2.75 mi W. of, T. 86 N., R. 14 W., near W. sixteenth cor. between secs. 17 and 20, 38 ft N. and 2 ft W. of center of rd. at fence N., 4 ft N. of N. right-of-way fence in SE. corner of a pasture; standard tablet in a concrete post, set flush with ground, and stamped "ET 5 JA 1961"	997.488
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WATERLOO QUAD. - 170

47 0.7	UE 5 1 A, 0.7 mi E. along a county rd. from tablet, center of concrete bridge over a small drain; a chiseled square, painted "UE centerline" (water 10.0 ft lower than center of bridge)	933.6
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LINE 3 (Cont'd)

WATERLOO QUAD. - 170

FEET

- 2 48 1.3 UE 5 1 B, 1.3 mi E. along a county rd. from tablet, center T-rd. W., painted "UE centerline" 978.8
- TRAER QUAD. - 145
- 49 1.8 UE 5 1 C, 1.3 mi E., thence 0.5 mi S. along a county rd. from tablet, center of crossroads; a chiseled "X" in concrete hwy., painted "UE centerline" 988.9
- 50 2.3 UE 5 1 D, 1.8 mi E. thence 0.5 mi S. along a county rd. and hwy. from tablet, center of crossroads; a chiseled square, in concrete hwy. painted "UE centerline" 985.8
- 62 2.3 USGS ET BUCK Triangulation Station 1970 (description not available) 994.110
- 51 2.8 UE 5 1 E, 2.3 mi E., thence 0.5 mi S. along a county rd. and hwy. from tablet, 6 ft W. and normal to crossroads; a chiseled square in center of concrete hwy. at the W. edge of U.S. 63, painted "UE centerline" 966.0
- 52 3.6 Buckingham, 1.0 mi S. of; near center sec. 23, T. 86 N., R. 14 W., 21 ft S. and 50 ft W. and 3.6 ft lower than center of concrete bridge over a small drain, on the SW. wingwall; a standard tablet stamped "6 CLC 1970 882" 882.151
- 53 3.6 Reference mark, 21 ft N. and 50 ft E. and 3.6 ft higher than tablet, center of concrete bridge over a small drain; a chiseled square, painted "RM" 885.79
- 54 4.3 UE 6 A, 0.7 mi E. along a county rd. from tablet, center of T-rd. W.; painted "UE centerline" 884.6

WATERLOO QUAD. - 170

- 55 5.4 UE 6 B, 1.7 mi ENE. along a county rd. from tablet, center of rd. at a 90° turn N.-W., center of rd. at curve; a RR. spike, painted "UE centerline" 889.11
- 56 5.8 UE 6 C, 2.1 mi ENE. along a county rd. from tablet, center of T-rd. N.; a RR. spike, 0.2 ft above ground; painted "UE centerline" 901.45
- 57 6.6 UE 6 D, 2.8 mi E., NE. along a county rd. from tablet, center of T-rd. W.; a RR. spike, painted "UE centerline" 873.11
- 58 7.0 Buckingham, 0.25 mi S. and 2.5 mi E. of; near the center of secs. 17 and 18, T. 86 N., R. 13 W., 35 ft S. and 81 ft E. and 3.6 ft lower than center of new crossroads, in the center of the S. headwall of a new concrete box culvert; a standard tablet stamped "7 CLC 1970" 880.622
- 59 7.0 Reference mark, 60 ft N. and 0.5 ft higher than tablet, in the center of the N. end of a new concrete box culvert; a chiseled square, painted "RM" 881.14
- 60 8.1 UE 7 A, 1.0 mi E. along a county rd. from tablet, center of T-rd. N., new rd.; RR. spike, painted "UE centerline" 884.1
- 61 8.1 Hudson, 10.0 mi S. and 4.3/8 mi E. of, T. 86 N., R. 13 W., near center of NE 1/4 SW 1/4 sec. 16, 195 ft N. and 18 ft E. of center of rd. at driveway NNW., 1 ft N. and 30 ft W. of the SW. corner of corn crib, 3 ft SW. of a powerline pole with meter on pole; a standard tablet in concrete post, set 1 in. below the surface of ground and stamped "ET 6 JA 1961 913" 912.538

LINE 4

L. L. Crutchfield, 1970; Book CV 2506

TRAER QUAD. - 145

- 2 66 0.0 At Dysart, Tama County, at the city water tower, and in the N. corner of the NW. concrete footing; a USC&GS standard disk stamped "Y 81 1934" 971.622

LINE 4 (Cont'd)

TRAER QUAD. - 145

FEET

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|----|-----|---|---|-------|
| 2 | 66 | 0.7 | UE Y 81 A, 0.5 mi SSE. along a county rd. and streets from tablet, center of N.-S. State Hwy. 21 and E.-W. county rd.; a nail and washer, painted "UE centerline" | 947.4 |
| 67 | 1.7 | UE Y 81 B, 1.5 mi SSE. along a county rd. and State Hwy. 21 from tablet, center of N.-S. hwy. and gravel rd. E.; a nail and washer, painted "UE centerline" | 944.53 | |
| 68 | 2.7 | UE Y 81 C, 2.5 mi SSE. along a county rd. and State Hwy. 21 from tablet; center of crossroads; a nail and washer, painted "UE centerline" | 946.0 | |
| 69 | 3.6 | "4 CLC 1970" (described in Line 2) | 913.510 | |

LINE 5

C. L. Crutchfield, 1970; Book CV 2506

TRAER QUAD. - 145

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|----|-----|--|--|---------|
| 3 | 2 | 0.0 | USC&GS "P 82 1934" (described in Line 2) | 892.413 |
| 2 | 0.3 | UE P 82 A, 0.3 mi W. along a county rd. from tablet, center of crossroads; painted "UE centerline" | 930.9 | |
| 3 | 1.3 | UE P 82 B, 1.3 mi W. along a county rd. from tablet; center of T-rd. S.; painted "UE centerline" | 945.6 | |
| 4 | 1.8 | UE P 82 C, 1.8 mi W. along a county rd. from tablet; center of crossroads, painted "UE centerline" | 917.2 | |
| 5 | 1.8 | Traer, 4.5 mi S. and 1.0 mi E. of; near center of secs. 2 and 35, Tps. 84 and 85 N., R. 14 W., 35 ft N. and 34 ft W. and 3.9 ft lower than crossroads, at a concrete slab corner fence post; a standard tablet flush with the ground; stamped "8 CLC 1970 913" | 913.261 | |
| 6 | 1.8 | Reference mark, 9 ft W. and 0.4 ft lower than tablet, top of a concrete slab for brace of corner fence post flush with ground; a chiseled square, painted "RM" | 912.83 | |
| 7 | 2.3 | UE 8 A, 0.5 mi W. along a county rd. from tablet, center of crossroads, painted "UE centerline" | 887.1 | |
| 8 | 2.8 | UE 8 B, 1.0 mi W. along a county rd. from tablet, center of T-rd. N., painted "UE centerline" | 927.8 | |
| 9 | 3.3 | UE 8 C, 1.5 mi W. along a county rd. from tablet, center of crossroads, painted "UE centerline" | 990.1 | |
| 10 | 4.3 | Traer, 4.5 mi S. and 1.5 mi W. of; near cor. secs. 4, 5, 32 and 33, Tps. 84 and 85 N., R. 14 W., 10 ft S. and 61 ft W. and 0.1 ft higher than crossroads, top of the SE. wheel guard; a standard tablet stamped "9 CLC 1970 926" | 925.980 | |
| 11 | 4.3 | Reference mark, 6 ft S. and 38 ft W. and 0.2 ft lower than tablet, top of the SW. wingwall; a chiseled square, painted "RM" | 925.82 | |

GLADBROOK QUAD. - 146

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| 12 | 5.3 | UE 9 A, 1.0 mi W. along a county rd. from tablet, center of crossroads; a RR. spike painted "UE centerline" | 999.6 |
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<u>LINE 5 (Cont'd)</u>	<u>GLADBROOK QUAD. - 146</u>	<u>FEET</u>
3 13 6.3 UE 9 B, 2.0 mi W. along a county rd. from tablet, center of crossroads; a RR. spike, painted "UE centerline"		1014.2
14 7.3 UE 9 C, 3.0 mi W. along a county rd. from tablet, center of T-rd. S.; a RR. spike, painted "UE centerline"		1018.5

LINE 6

<u>R. S. Heglin, 1961; Book CV 1382</u>	<u>WATERLOO QUAD. - 170</u>	
15.7 "ET 6 JA 1961 913" (described in Line 3)		912.538
15.7 Reference mark, 146 ft SE. of tablet, 30 ft N., 118 ft E. and 3.8 ft lower than rd. at drive N.; RR. spike in power line pole		905.92
16.5 UE 6 JA A, T. 86 N., R. 13 W., near center of SW $\frac{1}{4}$ sec. 15, 25 ft S., 23 ft E. and 1.3 ft lower than rd. at drive N. to Geneseo School; RR. spike, in power line pole		891.61
17.5 UE 6 JA B, T. 86 N., R. 13 W., near quarter cor. between secs. 14 and 15, 29 ft S., 87 ft W. and 0.8 ft lower than T-rd. S.; RR. spike in powerline pole		898.22
18.4 UE 6 JA C, T. 86 N., R. 13 W., near cor. secs. 13, 14, 23 and 24, 30 ft S., 170 ft W. and 4.8 ft lower than rd. at drive N., RR. spike in power line pole		873.95
.1 Reference mark, 522 ft WSW. of tablet, 32 ft S. and 320 ft W. of rd. at drive S.; RR. spike in power line pole		936.16
19.1 LaPorte City, 4.0 mi S. and 6.0 mi W. of; T. 86 N., R. 13 W., near quarter cor. between secs. 13 and 24, 26 ft N., 42 ft E. and 0.5 ft lower than rd. at drive N., 5 ft NW. of SW. corner of cemetery fence corner, in concrete post; a standard tablet stamped "8 RSH 1961 922"		921.880
20.1 UE 8 RSH A, T. 86 N., Rs. 12 and 13 W., near quarter cor. between secs. 19 and 24, 33 ft S., 44 ft W. and 0.2 ft lower than T-rd. E.; RR. spike in telephone pole		869.12
21.0 UE 8 RSH B, T. 86 N., R. 12 W., near quarter cor. between secs. 19 and 20, 34 ft N., 265 ft W. and 13.3 ft lower than N.-S. rd. in line with rd. W.; RR. spike, in power line pole		905.19
21.9 UE 8 RSH C, T. 86 N., R. 12 W., near W. sixteenth cor. between secs. 17 and 20, 14 ft S., 9 ft W. and 0.3 ft lower than center of small bridge; chiseled square on top of SW. wingwall		848.42
22.5 UE 8 RSH D, T. 86 N., R. 12 W., near cor. secs. 16, 17, 20 and 21, 19 ft N., 24 ft W. and 1.2 ft higher than crossroads; chiseled square on top of NW. headwall of concrete culvert		875.17
23.0 Reference mark, 124 ft NE. of tablet, 96 ft N., 31 ft E. and 2.4 ft lower than rd. at field entrance W.; RR. spike in telephone pole		943.06
23.0 Dysart, 5.0 mi N. and 2.5 mi E. of; T. 86 N., R. 12 W., near quarter cor. between secs. 20 and 21, 10 ft S. and 32 ft W. of center of rd. at field entrance W., 3 ft SE. of S. gate post; a standard tablet in a concrete post stamped "ET 7 JA 1961 944"		943.987

LA PORTE QUAD. - 169

4.5 UE 7 JA A, T. 86 N., R. 12 W., near cor. secs. 15, 16, 21 and 22, 34 ft S., 33 ft W. and 2.4 ft lower than crossroads; RR. spike in powerline pole	911.59
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