

THIRD-ORDER LEVELS
SEA LEVEL DATUM OF 1929

Harrison and Woodbury
Counties

Final Adjustment of 1971
except as noted

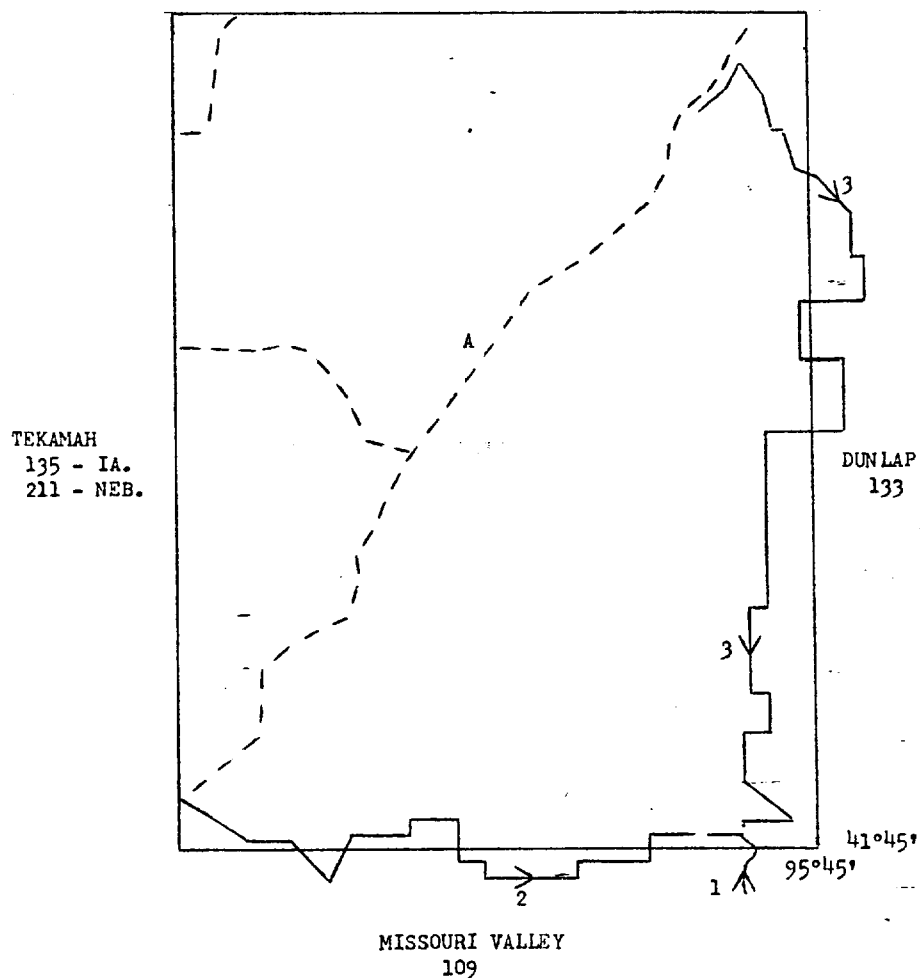
PR: AKH/PH/cb

Edition of: 11-11-71

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MOOREHEAD QUADRANGLE
134 - IOWA
N4145-W9545/15
DIAGRAM NK 15-7
OMAHA

MAPLETON - 159



N.G.S. VERTICAL CONTROL DATA

A. Quadrangle No. 410954

134 C

FEET

LINE 1

G.D. Scroggins, 1965; Book CV-1914

MISSOURI VALLEY QUAD. - 109

10.4 UE 10 GDS C, about 1.5 mi N. and 0.5 mi NW. from tablet, about 415 ft W. of county rd. D., 38 ft S. of centerline of gravel rd., on top and in center of a 8 by 8 ft concrete box culvert, a chiseled square 1202.12

MOORHEAD QUAD. - 134

11.3 Reference mark GDS 1965, 60 ft N. of tablet, 20 ft S. and 21 ft E. of crossroads, on top of S. end of an 18-in. corrugated metal culvert; a punch mark 1250.4

11.3 Woodbine, about 1.0 mi N. and 4.0 mi W. of, T. 80 N., R. 42 W., near center of sec. 7, 74 ft S., 30 ft E. and 0.7 ft higher than T-rd. S., 4.3 ft E. of right-of-way fence, 3.0 ft S. of a standard metal witness post; in top of a concrete post; a standard tablet stamped "11 GDS 1965" 1251.459

11.9 UE 11 GDS A, about 0.5 mi along rd. from tablet, at centerline of rd. at driveway S. to farmhouse 1120.4

12.9 UE 11 GDS B, about 1.5 mi W. along rd. from tablet, 22 ft N., 21 ft W. and 1.7 ft lower than T-rd. N., on top of W. end of 30-in. corrugated metal culvert, a punched hole 1115.06

LINE 2

J.H. Betz, 1965; Book CV-1916

BLAIR - 178 NEBR. - 110 - IA.

0.0 Modamin, 2.9 mi N. along the Chicago and North Western RR. from the station, 3.7 mi S. along the Chicago and North Western RR. from the station at River Sioux, set in the top of the W. end of the N. abutment of RR. bridge 520 over the Soldier River, 66.0 ft E. of the centerline of U.S. Hwy. 75 (measured from the center of the N. end of a hwy. bridge), 8.0 ft W. and 5.0 ft lower than the W. rail, 1.6 ft E. of the W. end of the N. abutment. A US&GS standard disk stamped "Z 129 1948" 1032.983

0.8 - UE Z 129 A, about 0.8 mi S. along U.S. Hwy. 75 from disk; on the SE. wingwall of concrete bridge; a metal rivet 1027.55

2.1 UE Z 129 B, about 0.8 mi S., 1.0 mi E., 0.25 mi N. of disk; at a T-rd. E., a RR. spike set flush with bituminous pavement 1027.01

- MISSOURI VALLEY QUAD. - 109 IA.

3.3 UE Z 129 C, about 0.8 mi S. along hwy. 75 thence 1.0 mi E., thence 0.25 mi N., thence 0.5 mi E. thence 0.25 mi N., thence 0.5 mi E., along graveled rds. to a cut ditch and a dim T-rd. S., on the N. end of a 36-in. concrete culvert; a chiseled square 1023.72

4.2 Reference mark No. 1, 570 ft N. of tablet, in the center of T-rd. W., a RR. spike set flush with the pavement of hwy. 183 1045.35

4.3 Modamin, 2.5 mi N. and 2.5 mi E. of; T. 80 N., R. 44 W., near $\frac{1}{4}$ cor. between secs. 9 and 16; 570 ft S. and 21 ft E. of; and 9.4 ft higher than T-rd. W. set in the headwall of a concrete culvert under hwy. 183; a standard tablet stamped "1 JHB 1965" 1054.780

LINE 2 (Cont'd)

MOOR HEAD QUAD. - 134 IA.

FEET

- | | | |
|------|---|----------|
| 4.7 | UE 1 A, about 0.4 mi N. of tablet; in the centerline of T-rd. E., a RR. spike set vertically in the pavement | 1053.14 |
| 5.7 | UE 1 B, about 0.4 mi N. and 1.0 mi E. of tablet; 303 ft N. and 24 ft E. of and 1.3 ft lower than Y-rd. N.; on the S. end of a 24-in. metal culvert under field entrance E., a punched hole | 1138.3 |
| 7.1 | UE 1 C, about 0.4 mi N. and 2.4 mi E. of tablet; 14 ft N. of and 220 ft W. of T-rd. W.; on the NE. piling of bridge over "Steer Creek", a RR. spike driven flush with the top of the piling | 1105.51 |
| 7.9 | Modamin; 2.8 mi N. and 4.7 mi E. of; T. 80 N., R. 44 W.; near one-sixteenth cor. between secs. SW $\frac{1}{4}$ of sec. 11; 16.4 ft N. and 10 ft E. of T-rd. N.; set in the NE. curbing of bridge over "Steer Creek" a standard tablet stamped "2 JHB 1965" | 1120.040 |
| 7.0 | Reference mark no. 2-1, 60 ft SW. of tablet; on the SW. curbing of bridge over "Steer Creek", a chiseled square; painted red - square is also reference mark for gaging station | 1120.02 |
| 7.9 | Reference mark no. 2-2, 55 ft S. of tablet; on the SE. curbing of bridge over Steer Creek a chiseled square painted red - R.M. is chiseled square is also R.M. for gaging station | 1119.99 |
| 7.9 | Reference mark 2-3, 21 ft W. of tablet; on the NW. curbing of bridge over "Steer Creek", a chiseled square painted red - chiseled square is also R.M. gaging station | 1120.02 |
| 8.4 | UE 2 A, about 0.25 mi N. and 0.3 mi E. of tablet; in the NW. piling of a small wooden bridge; driven flush a RR. spike | 1131.67 |
| 9.3 | UE 2 B, about 0.25 mi N. and 1.1 mi E. along graveled rd. from tablet; at a T-rd. E., 11 ft S. and 206 ft E. of T-rd. on the SW. piling of a small steel truss bridge; a RR. spike driven flush with the top of the piling | 1145.67 |
| 9.9 | UE 2 C, about 0.25 mi N. and 1.6 mi E. along rd. from tablet; 25 ft N. and 27 ft W. of the 1.2 ft lower than T-rd. N.; on the N. end of a 6 ft metal culvert; a punched hole | 1156.7 |
| 10.4 | -Reference mark, 331 ft W. of tablet; 17 ft N. and 364 ft W. of tablet; on the N. end of a 6 ft metal culvert | 1223.28 |
| 10.4 | Magnolia, 4.5 mi N. and 0.9 mi W. of; T. 80 N., R. 43 W., in the SE. cor. of the NW $\frac{1}{4}$ of sec. 7, 38 ft N. and 33 ft W. of and 2.5 ft higher than T-rd. W.; set in pasture; 3 ft N. and 2 ft W. of fence corner, in top of a concrete post; a standard tablet stamped "3 JHB 1965" | 1243.958 |
| 11.2 | UE 3 A, about 0.8 mi S. and E. along rd. from tablet, near farm of Mr. Rex Coffman; 25 ft N. and 10 ft W. and 1.3 ft lower than centerline of rd. at Coffman driveway; on the W. end of a 24-in. metal culvert under field entrance to N.; a punched hole | 1255.4 |

MISSOURI VALLEY - 109 IOWA

- | | | |
|------|---|----------|
| 11.9 | Magnolia, 3.3 mi N. of; T. 80 N., R. 43 and 44 W., in NW. cor. of sec. 17, 402 ft N. and 14 ft W. of T-rd. E. set in the SW. curbing of concrete bridge over "Allen Creek" a standard tablet stamped "4 JHB 1965" | 1157.366 |
| 11.9 | Reference mark, 338 ft SSE. of tablet; 64 ft N. and 16 ft E. of T-rd. E.; on the head-wall of a 10 by 12 concrete box culvert; a chiseled square | 1153.36 |
| 12.8 | UE 4 A, about 0.85 mi E. along graveled rd. from tablet; 18 ft S. of center of rd. at low spot; on the S. end of a 24-in. metal culvert; a punched hole | 1260.0 |
| 13.3 | UE 4 B, about 1.3 mi E. along graveled rd. from tablet; 19 ft N. of and 24 ft E. and 4.5 ft lower than crossroads on the E. end of a 36-in. metal culvert, a punched hole | 1228.0 |

LINE 2 (Cont'd)

MISSOURI VALLEY QUAD. - 109 1A.

FEET

- | | | |
|------|--|----------|
| 13.9 | UE 4 C, about 1.9 mi E. along graveled rd. from tablet; 12 ft S. and 197 ft E. of crossroads; on the SE. piling of a steel truss bridge over "Huffman Creek", a RR. spike set vertically in piling | 1152.28 |
| 14.6 | UE 4 D, about 2.6 mi E. along rd. from tablet; at a steel truss bridge; on the SW. piling, a RR. spike set flush with top of the piling | 1175.81 |
| 15.1 | Magnolia, 3.3 mi N. and 2.4 mi E. of; T. 80 N., R. 43 W., near the NW. cor. of sec. 14; 71 ft N. and 40 ft E. of 7.2 ft higher than T-rd. E.; 35 ft N. and 2 ft E. of fence cor.; 3 ft E. of power pole; in the top of concrete post; a standard tablet stamped "5 JHB 1965" | 1232.876 |
| 15.8 | UE 5 A, about .07 NE. along rd. from tablet; at a T-rd. E.; 31 ft S. and 50 ft E. of and 1.3 ft lower than T-rd. E.; in the W. side of a 30-in. elm tree; a RR. spike | 1142.49 |
| | <u>MOORHEAD QUAD. - 134</u> | |
| 16.5 | UE 5 B, about 1.3 mi NE. along graveled rd. from tablet, 20 ft N. and 80 ft E. of; and 4.7 ft lower than T-rd. S. on the NW. end of a 72-in. metal culvert; a punched hole | 1132.0 |
| 16.6 | UE 11 GDS B, 1.5 mi W. along rd. from tablet, 22 ft N., 21 ft W. and 1.7-ft lower than T-rd. N. on top of W. end of a 30-in. corrugated metal culvert; a punched hole | 1115.06 |

LINE 3

R.M. Brown, Book CV-2670, 1971

LINE LEVELED TWICE

MOORHEAD QUAD. - 134

Unadjusted mean elevation published here.

- | | | | | |
|----|-----|-----------------|--|----------|
| 1 | 3 | 0.0 | Soldier; about 1.2 mi SW. of, along hwy. 183; in NE. quarter sec. 25, T. 83 N., R. 43 W., 14 ft S. of, 60 ft E. of and 0.2 ft higher than centerline of hwy. bridge, stamped "F 95 1935" (Drain 27.4 ft lower) | 1129.296 |
| 3 | 1.1 | UE, | 1.1 mi NE. of tablet near village of Soldier centerline junction of state hwy. 183 and 37- | 1140.352 |
| 4 | 1.4 | Reference mark, | 28.3 ft NE. of tablet, in center of concrete bridge curb, a chiseled square | 1139.652 |
| 5 | 1.4 | Soldier, | about 0.3 mi SE. of along State Hwy. 37; at Hwy. bridge over the Soldier River, 14.2 ft SE. of, (normal) and 0.7 ft higher than centerline of bridge; in center of SW. concrete curb, a standard tablet, stamped "1 RB 1971" | 1139.652 |
| 7 | 2.7 | UE, | 1.3 mi SE. of tablet, near the W. sixteenth cor. between secs. 29 and 32, T. 83 N., R. 42 W., 68 ft S. of, 35.5 ft W. of, and 3.3 ft lower than crossroads; in concrete sign base, flush with ground; a chiseled square | 1320.779 |
| 9 | 3.7 | Reference mark, | 30 ft NE. of tablet, in center of concrete bridge curb, a chiseled square | 1165.605 |
| 10 | 3.7 | Soldier, | about 2.6 mi SE. of along State Hwy. 37, in SE $\frac{1}{4}$ sec. 32, T. 83 N., R. 42 W., 15 ft SW. of (normal) and 0.8 ft higher than centerline of hwy. bridge; in center of SW. concrete bridge curb, a standard tablet stamped "2 RB 1971" (Drain 35.8 ft lower) | 1165.583 |

DUNLAP QUAD. - 133

- | | | | | |
|----|-----|-----|--|----------|
| 12 | 4.8 | UE, | 1.1 mi S. and E. of tablet, along State Hwy. 37; in sec. 4, T. 82 N., R. 43 W.; 44 ft NE. of (normal) and 2.5 ft lower than hwy. at a rd. fork W., on the SE. end of concrete tube culvert; a painted square | 1332.444 |
| 13 | 5.4 | UE, | 1.7 mi SE. of tablet, near SE. cor. sec. 4, and NE. cor. sec. 9, T. 82 N., R. 43 W., centerline of crossroads; (Hwy. 37 and E.-W. rd.) | 1370.313 |

LINE 3 (Cont'd)

DUNLAP QUAD. - 133

FEET

- | | | | | |
|----|-----|-----|--|----------|
| 1 | 16 | 6.7 | UE, 3.0 mi S. of tablet, near cor. secs. 9, 10, 15 and 16, T. 82 N., R. 42 W., 34 ft N. of, 38 ft W. of and 0.6 ft lower than T-rd. W. in N. side of telephone pole, a lag bolt | 1372.043 |
| 18 | 7.3 | | Dunlap, about 4.0 mi N. and 0.5 mi W. of the SE $\frac{1}{4}$ of sec. 16, T. 82 N., R. 42 W., 44 ft SE. of, 35 ft NE. of and 2.5 ft lower than a T-rd. NE.; county rd. E-54 and gravel rd. N.; 13 ft SE. of and 1.0 ft SW. of a fence cor., on rod support, a standard tablet, stamped "3 RB 1971" | 1385.363 |
| 19 | 7.4 | | Reference mark, 51.5 ft W. of tablet, in centerline of T-rd.; a chiseled square | 1387.844 |

MOORHEAD QUAD. - 134

- | | | | | |
|----|-----|--|--|----------|
| 20 | 8.3 | | UE, 1.0 mi W. of tablet, near quarter cor. between secs. 16 and 17, T. 82 N., R. 42 W., centerline of T-rd. S. | 1372.636 |
| 21 | 8.8 | | UE, 1.0 mi W. and 0.5 mi S. of tablet, near cor. secs. 16, 17, 20 and 21, T. 82 N., R. 42 W.; 25 ft N. of, 15 ft W. of and 1.6 ft lower than crossroads; on W. end of an iron pipe culvert; a punch mark | 1346.953 |
| 23 | 9.6 | | UE, 1.0 mi W. and 1.2 mi S. of tablet, near the S. sixteenth cor. between secs. 20 and 21, T. 82 N., R. 42 W., 92 ft N. of, 22 ft E. of and 6.1 ft lower than a T-rd. E. on E. end of an iron pipe culvert; a punched mark | 1306.787 |

DUNLAP QUAD. - 133

- | | | | | |
|----|------|--|--|----------|
| 25 | 10.5 | | UE, 3.2 mi S. and W. of tablet, in sec. 28, T. 82 N., R. 42 W., 19 ft NW. of, 27 ft SW. of and 1.1 ft lower than private drive SW. to a white farm house, on NW. end of an iron pipe culvert, a painted square | 1275.523 |
| 26 | 10.8 | | UE, 3.5 mi S. and W. of tablet, near center of sec. 28, T. 82 N., R. 42 W., 31 ft N. of, 22 ft W. of and 0.8 ft higher than rd. at fence W.; in E. side of a telephone pole, a lag bolt | 1268.578 |
| 27 | 11.6 | | Reference mark, 35 ft SE. of tablet, on SE. end of an iron pipe culvert, a punch mark | 1258.768 |
| 28 | 11.6 | | Dunlap, about 1.0 mi N. and 7.0 mi W. of, in N. central portion of sec. 33, T. 82 N., R. 42 W.; 28 ft NW. of, 32 ft SW. of and 0.2 ft higher than rd. at a private drive SW.; 9.6 ft NW. of and 1.0 ft NE. of a gate post, on rod support, standard tablet stamped "4 RB 1971" | 1261.504 |

MOORHEAD QUAD. - 134

- | | | | | |
|----|------|--|---|----------|
| 30 | 12.5 | | UE, 1.0 mi W. of tablet, near quarter cor. between secs. 29 and 32, T. 82 N., R. 42 W.; 41 ft N. of, and 6.8 ft lower than rd. opposite in concrete culvert, headwall; a chiseled square (upstream, drain 6.5 ft lower) | 1274.875 |
| 31 | 13.3 | | UE, 1.7 mi W. of tablet, near cor. secs. 29, 30, 31 and 32, T. 82 N., R. 42 W., in centerline of bridge, copper nail and washer. (Drain 26.4 ft lower) | 1218.226 |
| 34 | 14.4 | | UE, 2.8 mi S. and W. of tablet, near cor. secs. 5, 6, 31 and 32, Tps. 81 and 82 N., R. 42 W.; 37 ft S. of, 33 ft W. of and 1.2 ft higher than crossroads, in E. side of power pole, a lag bolt | 1352.614 |

LINE 3 (Cont'd)

MOORHEAD QUAD. - 134

FEET

1	37	15.4	Dunlap, about 0.5 mi S. and 9.0 mi W. of, near cor. secs. 5, 6, 7 and 8, T. 81 N., R. 42 W., 147 ft S. of (normal) and 7.0 ft higher than rd. at a private drive E., to a small white farm house; 1.6 ft S. of a power pole; on rod support, standard tablet, stamped "5 RB 1971"	1321.779
	38	15.4	Reference mark, 20.0 ft W. of tablet, on SW. end of iron pipe culvert, a punch mark	1318.946
	39	15.9	UE, 0.5 mi S. of tablet, near the quarter cor. between secs. 7 and 8, T. 81 N., R. 42 W.; in centerline of T-rd. E., driven flush with pavement, a RR. spike (not painted)	1398.726
	40	16.5	UE, 1.2 mi S. of tablet, near cor. secs. 7, 8, 17 and 18, T. 81 N., R. 42 W.; in centerline of Y-rd. W.; driven flush with pavement, a RR. spike (not painted)	1371.654
	42	17.5	UE, 2.1 mi S. of tablet, near the W. sixteenth cor. between secs. 17 and 20, T. 81 N., R. 42 W., 89 ft N. of, 36 ft W. of and 0.6 ft lower than a T-rd. W.; in W. side of power pole, a lag bolt	1355.278
	44	18.2	UE, 2.1 mi S. and 0.8 mi W. of tablet, near the quarter cor. between secs. 18 and 19, T. 81 N., R. 42 W., 19 ft N. of, 11 ft W. of and 3.8 ft lower than T-rd. S., on N. end of an iron pipe culvert, a punch mark	1253.952
	46	19.2	Woodbine, about 4.5 mi N. of and 4.0 mi W. of, near the quarter cor. between secs. 19 and 20, T. 81 N., R. 42 W.; 34 ft N. of, 18 ft W. of and 0.9 ft lower than a T-rd. W.; in concrete culvert, headwall, a standard tablet, stamped "6 RB 1971"	1242.988
	47	19.3	Reference mark, 84.3 ft SW. of tablet, in W. side of power pole, a lag bolt	1242.955
	48	20.2	UE, 0.9 mi SE. of tablet, in SE $\frac{1}{4}$ sec. 30, T. 81 N., R. 42 W., 18 ft S. of, 106 ft E. and 4.8 ft lower than a T-rd. S.; in W. side power pole, a lag bolt	1167.003
	49	21.0	UE, 1.7 mi generally S. of tablet, near the quarter cor. between secs. 31 and 32, T. 81 N., R. 42 W., centerline of T-rd. N., (not painted)	1146.103
	5I	21.5	UE, 2.2 mi S. and W. of tablet, near center sec. 31, T. 81 N., R. 42 W., 36 ft N. of (normal) and 1.6 ft higher than a T-rd. S., in W. side of a power pole, a lag bolt	1251.192
	53	22.6	Reference mark, 25 ft N. of tablet in center of concrete bridge curb, a chiseled square	1132.458
	54	22.6	Woodbine, about 2.0 mi N. and 4.0 mi W. of, near center sec. 6, T. 80 N., R. 42 W., 12.5 ft S. of (normal) and 0.8 ft higher than centerline of hwy. bridge; in center of S. concrete bridge curb, a standard tablet, stamped "7 RB 1971" (drain 43.0 ft lower)	1332.472
	56	23.8	UE, 1.1 mi SE. of tablet, in sec. 6, T. 80 N., R. 42 W., in centerline of Y-rd. N., a chiseled square	1297.334
	57	24.1	UE, 1.5 mi SE. of tablet, in sec. 6, T. 80 N., R. 42 W., in centerline of T-rd. SW., a chiseled square	1231.046
	60	25.2	USGS BM "11 GDS 1965" (Described in Line 1)	1251.066

ESTAB. ELEV.	1251.459
THIS ELEV.	1251.066
CLOSURE	-.393